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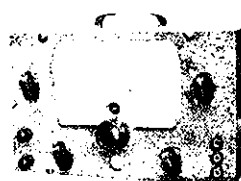
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OUR COVER

A new layout and a typical photo
of Amateur Radio!

Happy New Year to all from the
Publications Committee.

COMMENT

★

THE NEW YEAR—1962

This is the month of January and another year dawns; a year in which we will look forward to an increased interest in Amateur Radio. 1962 and the sunspot cycle promises unattractive conditions generally on the higher frequency bands, but improving conditions on the lower frequency bands. 1962, with a growing interest in s.s.b. transmissions from all over the globe, pointing up the future trend for Amateurs in order to accommodate the growing population of the Amateur Service. 1962, the year of the British Empire Games to be held in Perth, Western Australia, and the year the Wireless Institute of Australia will hold its first Federal Convention for three years.

Yes, there is something about a New Year which makes all of us look forward to the ensuing months of the year to come with a hope of achieving something. In the field of Amateur Radio there are many things to achieve—new antennae, new rigs, that first try at a simple s.s.b. outfit, the mobile equipment, the emergency equipment, new audio gear to perhaps serve as the family high fidelity set-up as well as a modulator; one or some of these things, and many other cherished hopes, come to mind at the commencement of another year.

At Headquarters there are many things to be done, too, the most urgent being the organisation for the forthcoming Federal Convention in Perth next Easter. It is proposed to design and produce a new handsome Membership Certificate that everyone should feel proud to display on the wall of his shack. A new certificate to replace the old National Field Day Certificate is on the drawing board. The new Remembrance Day Contest Certificate will be available.

The new "Handbook for the Guidance of Operators of Wireless Stations in the Amateur Service" will be printed by the Postmaster-General's Department and available to members complete with a number of amendments and deletions designed to simplify the interpretation of regulations. This book is not the law, but it is means by which we can regulate the sensible operation of our own stations in our limited frequency space. Take time off to brush up on the contents of this Handbook once every year.

And finally, on the DX bands remember you are virtually an ambassador for Australia. Your operating procedure, technique and manners are as important as the appearance and operation of your equipment—both should be good. Every signal that goes out of Australia should carry that "Goodwill Unto Man" which so characterises Amateur Radio all over the world.

Hearty Seasonal Greetings for the New Year to Amateurs wherever they may be situated from the gang at Headquarters.

FEDERAL EXECUTIVE, W.I.A.

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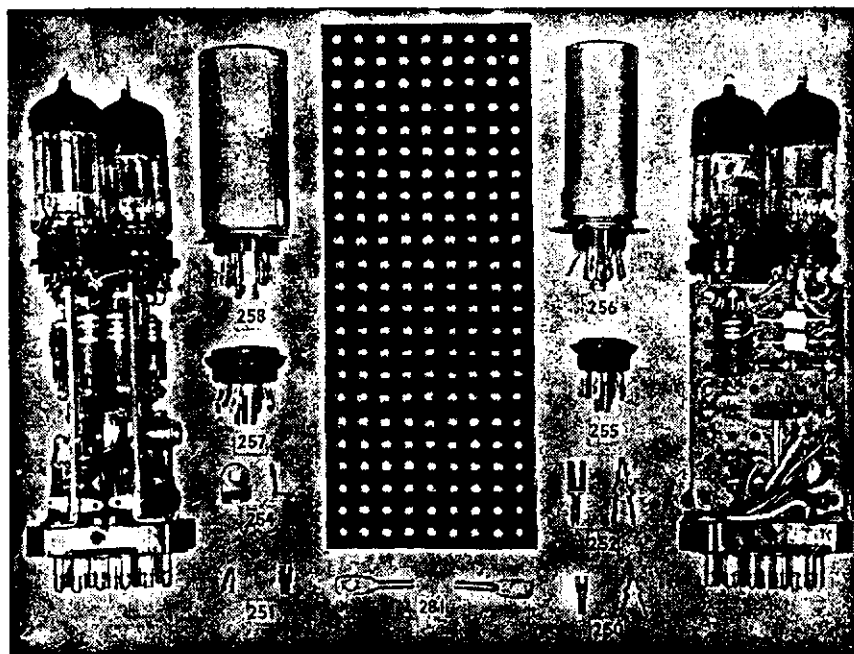
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MOBILE WHIP—WITH FERRAMIC CORE

CLEM J. MALOOF,* VK2AMA

Now that spring is here and a young man's fancy turns to 40 metre mobileering, here is a short discussion on, and a design for, a more highly efficient, strong and durable "firing-stick" easily assembled from available items and which will even radiate the OM's pride and joy in having his own mobile gear at last.

It has a novel design in that the loading coil has a ferramic core which markedly reduces losses, increases Q and selectivity, and hence efficiency of radiation.

Without entering into a lot of antenna theory, which is readily available elsewhere, certain principles manifest themselves and it is there we shall discuss in non technical terms.

Fundamentally a shortened resonant whip may be considered as in Fig. 1. The inductance and capacitance of course cancel each other as in any resonant circuit.

Now for a given circulating r.f. current, the most power will be dissipated in the resistance of highest value, all resistances being in series except R-base. This will shunt the whole radiating system but poses no problem since even the poorest of insulators will have an impedance of many times the R-total of 30 ohms approx.

From this our prime objective is to make R-rad. as large as possible with respect to the R-total of the system, for the power developed here is the effective radiated power. The power developed in all the other positions is simply converted to heat and wasted.

Radiation resistance can be increased in two practical ways:

- (1) To make the overall size of the antenna as long as possible;
- (2) To raise the loading coil as high above the feed point as efficiency allows. (The coil cannot be raised right to the top because its losses mount alarmingly as it is necessary to add more turns to maintain resonance.)

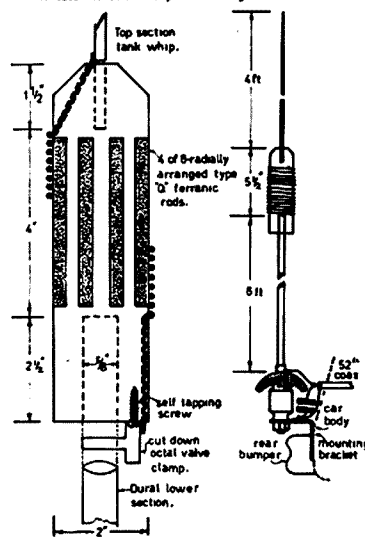
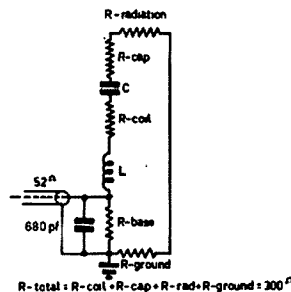
We can also tackle the problem by reducing as much as practicable all other resistances. Let us consider them individually, starting from the feed point.

R-coil depends on the number of turns and the resistivity of the conductor. The ratio of reactance to resistance must be high, i.e. high Q. As an example, an air-wound coil of high Q in the vicinity of 300 has a resistance of the order of 6 ohms at the centre of the whip. Using 2" diam. coil dimensions, this would amount to about 45 turns at the centre and considerably more at the higher position of our loading coil, together with a corresponding increase in resistance. Here is where the ferramic takes over and reduces turns to 19, having resistance of the order of 2½ to 3 ohms, neglecting the small losses within the core itself. (N.B. Be careful to use the correct Q1 type ferramic.)

This saving in coil losses allows the higher position of the loading coil, thus increasing the radiation resistance over the usual centre loaded whip and raising the circulating r.f. current point higher above ground. (It has been shown that high r.f. current points radiate more than lower current points.)

R-capacitor is very small since the antenna is air-spaced from the chassis and therefore may be neglected.

R-ground includes the electrical resistance of large parts of the car body to each other and in particular to the connection of the feedline braid to chassis. The magnitude of this resistance is vague but one authority quotes



as much as 12 ohms at 4 megs. Having in mind the total input resistance of our antenna is of the order of 30 ohms, this is very significant. This loss must be reduced by:

- (1) Earthing feedline braid as close to whip base as possible, taking care to use large areas of contact and ensuring that paint, rust and foreign bodies are completely removed, giving good metal to metal contact. Here also avoid metals which may corrode in contact with each other, e.g. brass and aluminium.
- (2) Bonding doubtful sections of the car body to feed-line braid and to each other.

Finally, to complete the discussion, there is a very simple method for matching the 52 ohm co-ax line to the 30 ohm input impedance of the loaded whip almost perfectly. This is to shunt the termination of the line with a 680 pF. mica capacitor. The advantage here is not to simply reduce s.w.r. losses which are so minor that they don't matter, but to simplify coupling line to final p.a. and to avoid retuning every time the v.f.o. is shifted.

Indeed, for the mobileer on 40 metres only, there is much to be said in using the simple "old fashioned" link coupling which requires no band switching or any other controls, compared to our modern multi-controlled pi-coupler finals.

In summary, the efficiency of mobile whips for 40 metres is very very low, no matter which way we look at it. Therefore even the slightest improvement will give enormously more r.f. radiation than say the peaking up of a half wave doublet which is extremely efficient to start with.

CONSTRUCTION OF WHIP

The whip to be described is conveniently made in two sections for easy storage and quick assembly, taking less than five seconds. It is mechanically rigid, yet elastic enough to accommodate road shocks and its streamlined appearance will blend into any vehicle's contour. One section consists of tank whip and loading coil as an integral unit, the other section being simply the 6 ft. of ⅝" dural forming the main radiator.

For the construction you will need:

- 6 ft. of ⅝" heavy gauge dural tubing,
- 4 ft. top section of tank whip,
- 8" of 2" diam. polystyrene rod,
- 4 x 8" type Q1 ferramic rods,
- 1 pt. Ethylene Dichloride.
- 1 octal valve clamp (surplus). This has a lever action and an adjustable tension screw. As originally used it is bolted to chassis at one point and by flicking the lever, the octal valve is locked in or released.
- Aerial base (any surplus). This has a long ground spike and the insulation is of ebonite solidly encased in brass. It seats perfectly the ⅝" dural tubing and mine cost only ½ db.
- 10 ft. of 12 gauge tinned copper wire.

The task requiring most ingenuity is to machine the poly. rod as indicated. This was done using a lathe for turning the end sockets and a vertical drill and jig to mill out the slots for the rods. These ferramic rods are filed in the centre and gently snapped in half. Each half is then radially countersunk into the poly. rod and secured with poly. cement applied in layers. This job takes about two days since each layer must dry before the next is applied. The poly. cement is made by dissolving

(Continued on Page 9)

GETTING TO KNOW THE OSCILLOSCOPE

PART TWO

J. L. K. MATCHETT,* B.A., B.Sc., B.Ed., VK3TL

Obviously the demonstration model described will need a high voltage power supply. A glance at c.r. tube characteristics will show that the A2 voltages are not uncommonly 2,000. However, it is possible to illustrate electron beam deflection with voltages as low as 350 using many common c.r. tubes. Such a power supply may be easily constructed by the teacher, or, for the sum of about ten shillings, an old radio receiver may be bought and this will provide the power needed. In order to help you trace the wiring of the power supply of a radio receiver, or construct one of your own, a circuit is given (Fig. 5). T is the power transformer. The primary is connected to 230 or 240 v.a.c. of the mains supply. Employ an earth lead and solder it by means of a lug to the chassis. The bottom of a power transformer may look like as shown in Fig. 6.

Usually the wires of the transformer are brought out to solder lugs, but occasionally they are not marked. To identify each one, it is necessary to use an ohmmeter or multimeter; the thickest wires will be the filament leads. Always test for resistance before connecting any leads to the a.c. mains in order to get some idea of turns ratio and therefore voltage output of the windings. An ordinary torch globe will act as a fuse and save both transformer windings and rectifier plates just in case there is a short across the output. The valve is any common rectifier, e.g. 80, 5Y3, 5V4, 5R4, 5Z3, 5U4 (all of these require five volts across their filaments), but some modern ones, e.g. 6X4, 6X5, 6V4 require 6.3 volts. In all cases make certain that the valve filament winding is quite a separate one from that of the c.r. tube filament.

Ch = filter choke. Due to its high inductance it provides impedance to a.c. at 50 c.p.s., and so brings about some smoothing of ripple. In modern radio sets, this is a separate component (usually 8 henries at a 50 mA. rating), but in old radio sets you will see, if you trace the wiring, that the choke is a part of the dynamic speaker. In fact it provides the field for the speaker. (Modern speakers are of the permagnetic type and thus need no field coil.)

C1, C2 = electrolytic capacitors, usually about 8 μ F. or 16 μ F. With old sets you may find they take the form of aluminium cans. Pull any old capacitors (or condensers as they used to be called) out and replace with good modern ones of 600v. rating. Obviously, since they depend for their action upon electrolysis, their correct polarity must be observed. The red end is connected to the choke, i.e. positive side, and the metal end firmly soldered by means of tinned copper wire to ground, i.e. chassis.

So that the capacitors may discharge after the power pack is shut off, they may be made to discharge through a large value resistor (about 30,000 to 50,000 ohms), placed across the h.t. output. Its wattage rating will, of

course, depend upon the p.d. across it, but a usual value is 5 watts. Such a bleeder resistor has a safety function, but it also provides a little voltage regulation. The power pack will, with condenser input filtering as shown in Fig. 5, give about 400 to 430 volts d.c. output. Owing to the very small current drawn from it by the c.r.o., the actual voltage under load will not be much lower than this. In most cases this will be adequate for the requirements of the teacher but there are many other ways of obtaining higher voltages if needed.*

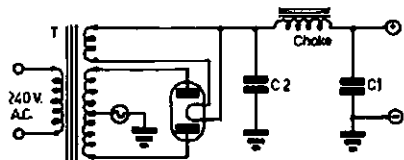


Fig. 5.

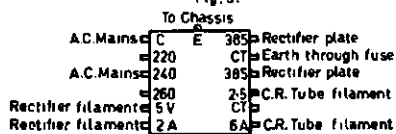


Fig. 6.

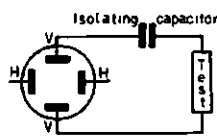


Fig. 7.

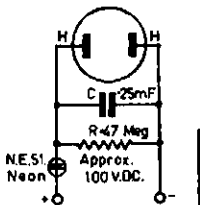


Fig. 9.

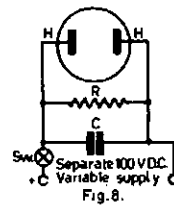


Fig. 8.

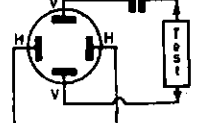


Fig. 10.

The next step in the demonstration is to show the c.r.o. in action. Apply an alternating voltage to the vertical plates through an isolating capacitor, leaving all other connections in place. Such a capacitor should have 600v. or better still, a 1,000v. rating; it will normally be of the paper type. This serves to isolate any d.c. of the c.r.o. from the test. Three sources of a.c. which show up well on the screen are a P.M.G. bell generator (available cheaply at disposals), a power transformer (in this case the a.c. voltages

* Space does not permit full accounts of other methods, but these are available in most electronic handbooks. Amongst the most popular are the r.f. (radio frequency) power supply which gives very high voltages and is safe, and the practice of connecting power transformers in series. (Make sure that all components are insulated for about 1,000v. and that your electrolytics are rated appropriately.) Exercise the greatest of care with all power supplies.

applied may be compared by measuring the vertical displacement of the electron beam), and the output of an audio oscillator. One of the great advantages of using a low voltage power supply is that one requires a much lower test voltage to cause deflection of beam across the screen.

The teacher may now go on to provide his c.r.o. with a horizontal sweep. That is, he will cause the electron beam to sweep across the screen. This introduces one of the finest practical applications of the capacitor. Set up the circuit as shown in Fig. 8.

A note on the d.c. adjustable power supply is given in the Appendix. With no test voltage across the vertical plates, close the switch. The capacitor charges up and the beam is sent across the screen in one direction which depends upon the connection to the d.c. supply. When the switch is released, it will discharge through the large resistor and so the beam is brought back to its starting point but at a slower rate.

Now add one or more capacitors of total capacitance about 6 μ F. (oil filled capacitors of good voltage rating are available from disposals). Repeat the experiment. Note how the time constant of the C-R system has increased and the beam will return very slowly across the screen. By rapid making and breaking of the switch, the beam will be observed to form a straight line across the screen. You have made a simple horizontal sweep which will lead to much discussion on behalf of the pupils.

Taking the c.r.o. a little further, we can make a continuous horizontal sweep or time base. All we need to do is to replace the switch in Fig. 8 with a neon lamp (see Fig. 9). The NE51 is fairly readily available, but try to obtain its special socket when you buy the lamp. (Price of both is about 4/-.)

All neons have the property of "striking", i.e. conducting when a certain voltage across them is reached. They continue to conduct even when the p.d. across them has fallen below their striking voltage until the extinguishing voltage is reached. In this circuit the lamp strikes as the capacitor builds up, but fails when the latter discharges through the resistor. By carefully adjusting the d.c. voltage, the lamp may be set flashing. (If the voltage is too high the lamp will remain alight all the time.) The frequency of the lamp flashes is dependent upon the lamp characteristics as well as the values of the capacitor and resistor, but each time it is seen to flash, the beam will be swept forward and then backwards across the c.r. tube screen. Remember that the adjustable power supply mentioned is one in addition to the power supply delivering h.t. to the deflecting plates through the cables.

Thus provided with a time base, we may return to examine our test voltage. Apply the latter as usual to the vertical

plates and the time base to the horizontal plates (see Fig. 10).

Provided that the frequency of the "test" is not too great compared with that of our T-B, a series of wave forms may be observed. The wave forms will not be pure for a reason to be explained later. This wave formation may be compared with a person drawing a line vertically on a wall (test voltage) whilst walking along horizontally (time base). Obviously a wave pattern will be seen on the wall.

The above description will probably suffice to show pupils some of the practical aspects of the physics that they learn, and will not be beyond the demonstration powers of most teachers at this level of instruction. The following notes are brief and are accompanied by semi-diagrammatic sketches which will serve to complete the description of the c.r.o.

In many c.r.o.'s, a "soft" or gas-filled valve has a function of a relaxation oscillator. A simple one for the home constructor is the EN31 or the 884 triode. Its function is similar to that of the neon tube, the gas in it ionizing and so conducting when a certain voltage across it is reached.

Note how the value of the capacitor in the circuit (Fig. 11) may be altered by switching. This forms the "coarse frequency" adjustment in the front panel of the c.r.o., the frequency of the T/B being changed for the various frequencies of the test under investigation. Note too, that the resistor across the switched-in capacitor is made variable and so provides the c.r.o. with its "fine frequency" adjustment.

Unfortunately in the circuit of Fig. 11 there is no guarantee that each sweep of the T/B will occur at exactly the same part of the cycle of input current under investigation, and so it will not be surprising to see a series of wave patterns overlapping each other on the screen. To prevent this, we must feed back a little of the test current to the grid of our T/B oscillator. The frequency of the T/B being approximately a sub-multiple of the test, it will be "locked" to it.

The control in Fig. 12 will be the "synchronisation adjustment" ("synch" as it is called) in front of the c.r.o. The block diagram of the c.r.o. will now look as shown in Fig. 13.

Amplifiers (which must be very carefully designed so that there will be no loss of gain at higher frequencies) are used both for the vertical and horizontal plates, so that very small input voltages may be examined. The general scheme of such an amplifier is shown in Fig. 14.

It is not a difficult task to adapt an ordinary r.f. amplifier from a disused radio for this purpose. The theory is only one step from the theory of a triode once the function of the two new electrodes and the meaning of dropping resistor are pointed out.

Better quality c.r.o.'s, as well as having good amplifiers, possess the property of suppressed fly-back. By applying a voltage of certain phase from the plate of the sweep generator to the intensity grid of the c.r. tube, the return trace of the electron beam to its starting point may be blanked out and only the wave form trace observed. After all these improvements, the schematic diagram of the c.r.o. may appear as shown in Fig. 15.

The front panel of the c.r.o. and its connections may look something like that shown in Fig. 16. All the controls shown with an arrow are adjustable; the shaded ones are insulated terminals.

Intensity.—If you use low voltages you will find that this intensity or brilliance control will need to be turned full up.

Focus.—If the beam is fully out of focus, you may be able to see on some c.r. tubes the shadow of one or more of the deflecting plates upon the screen. Thus the plates may take the place of the conventional Maltese Cross of the Crookes tube. If you wish to demonstrate the movement of a "spot" on the screen do not allow it to remain on the screen for a long period in any one position or else it may "burn" the screen. De-focus the beam and then re-focus when ready.

X Shift.—Used to alter the position of the spot or wave pattern in a horizontal direction. Illustrates electrostatic deflection.

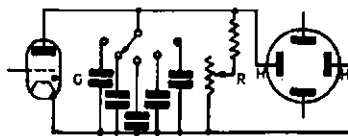


FIG. 11.

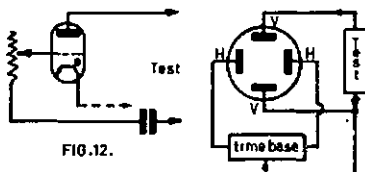


FIG. 12.

FIG. 13.

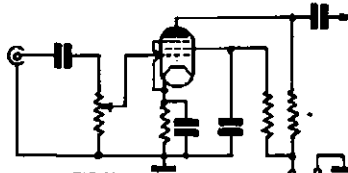


FIG. 14.

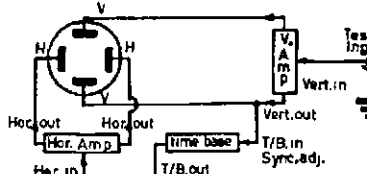


FIG. 15.

One of the vertical and horizontal amplifier output terminals is usually earthed except in the case where push-pull amplification is used.

Y Shift.—Used to alter the position of the spot or wave pattern in a vertical direction.

Coarse Freq. and Fine Freq.—Used to bring about a suitable wave pattern upon the screen. Adjustment will depend upon the frequency of the test.

Synch. Adj.—The synchronisation adjustment. This control brings about a stationary pattern on the screen.

E = earth. In the simplest of c.r.o.'s this will also be one of the leads to the vertical amplifier, and so one of the leads from the "test" will be connected to it.

V. In.—Vertical amplifier input. This is the remaining terminal to which the "test" is connected.

Vert. Amp.—This is the gain control of the vertical amplifier. Just connecting the test to the E and the V. In. terminals will result in a vertical line being shown on the screen whose height may be controlled by the vertical amplifier gain control. If the test is a d.c. source then the line will only show up momentarily owing to the presence of the blocking capacitor, unless there is provision made to connect the test directly to the c.r.t. plates.

V. Out.—Vertical amplifier output. In the simplest c.r.o. the other output terminal will be earth.

T/B In.—Time base input. Normally a time-base will be used and so the output of the vertical amplifier must be connected by means of a "jumper" (usually a piece of copper wire) to the T/B input terminal. This is shown in Fig. 16.

T/B Out.—The time base output. Where the T/B is used, its output is amplified and so the latter is connected to the H. In.

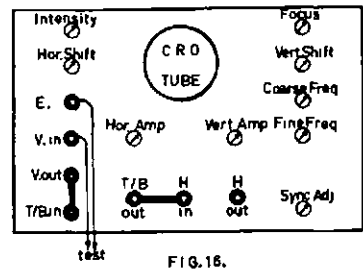


FIG. 16.

H. In.—Horizontal amplifier input terminal. The jumper used is also shown in Fig. 16.

H. Out.—Horizontal amplifier output. Behind the front panel this terminal is connected to one of the horizontal plates of the c.r.o.

Hor. Amp.—The horizontal amplifier gain control. With no test connected to the c.r.o., the length of the horizontal sweep across the c.r. screen will be made greater with this gain control.

With such an arrangement of terminals on the front panel, the amplifiers may be used independently of the c.r. tube and also other time bases or the ordinary 50 c.p.s. household current may be used as an "external" horizontal sweep. Another advantage is that the T/B may be disconnected from the amplifiers and sources of alternating current connected to the two sets of amplifiers to give Lissajous Figures. A separate article would be necessary to give some of the other uses that could be made of this wonderful instrument—the cathode ray oscilloscope.

We have followed through the development of the c.r.o. from elementary principles and some of these principles have been demonstrated. The thing to remember is that any complicated electronic device may be split up into sections which conveniently lend themselves to study. My advice to prospective constructors is to start off with the simplest of circuits and add to them. Most teachers of science at the matriculation standard are capable of building their own equipment; the only difficulties seem to be the matter of time and

(Continued on Page 9)

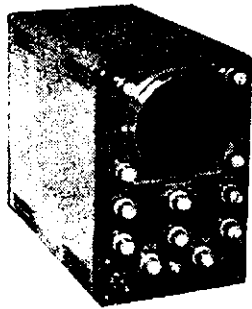


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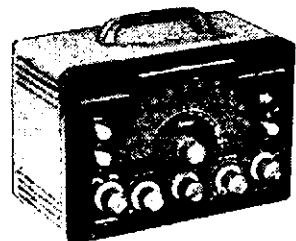
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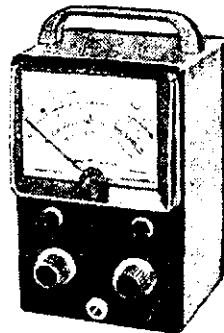
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HINTS AND KINKS

MODIFICATION TO No. 122 SET

It is a very simple task to modify the ever-popular No. 122 Set to allow independent tuning of the receiver while maintaining the same carrier frequency.

This is done by disconnecting the v.f.o. section of the tuning gang and replacing it with the netting trimmer which now becomes v.f.o. control.

To have optimum bandwidth, the capacity of the netting trimmer C26A must be increased from maximum of 11 pF. to 50 pF., which allows complete coverage of 40 and 80 metres. The altered v.f.o. circuitry is now resonated on to the Amateur bands by adjusting fixed capacity across C26A. This can be conveniently made up of trimmers C29A and C29B connected in parallel.

Should the transceiver be required to transmit outside Amateur frequencies, as in an emergency, it is a simple task to add a single throw double pole toggle switch in the crash level position which disconnects the shunt capacity across C26A and re-connects the original v.f.o. tuning gang, thus re-establishing locked rx and v.f.o. tuning.

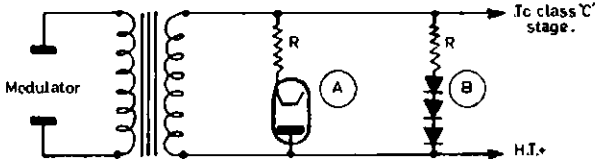
Incidentally, mechanical stability of the v.f.o. is greatly improved by this manoeuvre, which should interest those intending to mobile. Further mechanical bandwidth may be obtained by mounting a small planetary drive on C26A.

—Clem Maloof, VK2AMA.

SPLATTER!

This form of interference is probably the most common one and probably the most exasperating, for we manufacture it in our own various ways and are often most offended and incredulous when some sufferer, who can no longer tolerate it, brings it to notice!

There is no need to delve into the theory regarding splatter here, for it has already been amply covered in various articles in other publications, and specific reference is made to "CQ," Jan. '59, p. 46, in this regard. The title is "Negative Cycle Loading" and describes symptoms and treatment, the latter being comparatively simple.



For those unable to obtain that article for perusal, a brief summary of the circuit is shown herewith.

Two types of rectifiers are shown, A being a vacuum type and B silicon diodes in series. Either one can be used.

The resistor R shall have a value of half the impedance of the Class C stage and power rating of one-fourth the input.

The diode can be any rectifier which has sufficient current and inverse voltage rating.

A simple approach is to put some silicon rectifiers in series with the resistor, across the modulation transformer secondary, saving weight, space and heat.

From personal experience "N.C.L." can be very strongly recommended for use in all a.m. transmitters, so why not do the modification now and avoid needless interference to others using the band?

—Jim Herd, VK3JK.

A CLOCK FOR THE SHACK

A handy electric clock can be made by modifying the face of the small clock from a clock radio. I used a piece of grey laminex 8" x 8" on which was placed a paper template of a clock face 7" in diameter. The minute impressions in the laminex were made by several turns of a small drill, and the hour positions by a large one. The template was then removed, the minute impressions filled with black, and the hour with red enamel.

The hands were removed from the clock and the movement mounted on the rear of the laminex, the centre spindle for the hands passing through a hole (to size) in the centre.

The small hands were extended by soldering a piece of 16 gauge copper wire on each to the required size to suit the face. On the sweep hand, a piece of 1/029 was used.

Numbers of a suitable size were cut from a calendar and fixed in position. An outside cover made, and another piece of useful equipment for the shack.

The controls for use with a radio, which protrude, have to be removed to allow for the longer hand movement, also the alarm at the rear which can easily be cut away.

—C. Abernathy, WIA-L2211

CQ CQ CQ

ATTENTION BLIND AMATEURS

At the recent Victorian State Convention of the W.I.A. the matter of aid to blind Amateurs was brought up by Cyril Minns, VK3AM. It was proposed by Ken VK3TL that an ad hoc committee be formed to investigate the ways in which other Amateurs may help their blind friends.

After talking over this matter with Cyril, himself a blind Amateur, and having obtained some experience in recording for him, it was felt that the following points should be brought out before any nation-wide or state-wide tape exchange and recording network be set up.

Firstly, the number of blind Amateurs and their location in Australia must be established. Would those Amateurs please send in the following details: Name of Blind Amateur, Call Sign, Postal Address, Make and Model of Tape Recorder available (if any), Speed (or speeds) of machine, details of tracks.

Please forward this information as soon as possible to Ken Matchett, 69 Atkinson Street, Templestowe, Victoria. Would the readers of this article do all they can to bring this to the notice of those concerned? We know you'll help if you are able.



1962 A.R.R.L. INTERNATIONAL DX COMPETITION

All Amateur Radio operators throughout the world are invited to participate in the 28th A.R.R.L. International DX Competition. You may earn a certificate of performance award issued to the top Phone and C.w. scorer in each country. In addition, you might QSO new States for the W.A.S. award, or Canadian Provinces for the W.A.V.E. award.

This 1962 DX Contest will be held over two week-ends for c.w. and two week-ends for phone, as follows:

PHONE—February 2-4 and March 2-4.

CW—February 16-18 and March 16-18.

The starting time in each instance is 2400 GMT Friday and ends 2400 GMT Sunday. Phone and c.w. are separate contests.

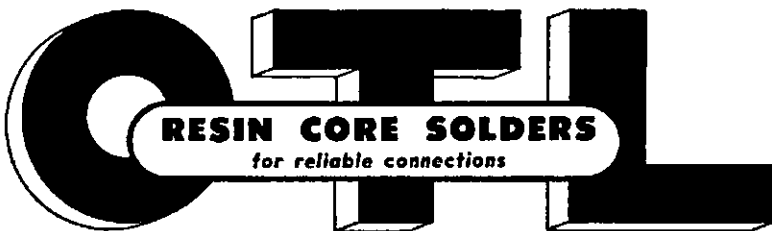
Object: The rules are unchanged from last year. Try to QSO as many W-K-VE-VO-KH6-KL7 stations as possible during the contest in as many different call areas possible per band.

Exchanges: DX stations send RS or RST report followed by a three-digit number representing power input. For example, on c.w. you might send 579050, which means RST 579 and power input 50 watts. U.S.A.-Canada stations will send you a number consisting of RS or RST report followed by the name of their State or Province.

Scoring: Repeat QSOs on additional bands are permitted. Your multiplier is the total call areas (not states) QSOed on each band (maximum of 21 per band). Each completed QSO counts three (3) points. Incomplete contacts count two (2) points. Final score is the number of QSO-points times the multiplier.

Free log forms are available on request from A.R.R.L. You don't have to use these forms. Logs should contain calls, dates, times, bands, exchanges, and points. Send your log with summary data to A.R.R.L. DX Contest, 38 Lasalle Rd., West Hartford 7, Conn., U.S.A. Your entry must be postmarked by April 28, 1962, to be eligible.

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MOBILE WHIP—WITH FERRAMIC CORE

(Continued from Page 3)

poly. shavings in the solvent and adjusting to a suitably thick consistency.

When the slots are sealed up and the ferramic rods are snugly tucked away, the valve clamp is cut down to fit the $\frac{3}{8}$ " dural and finally secured to the bottom of the poly. rod with a $\frac{3}{8}$ " self tapping screw, providing a low resistance and efficient clamp to hold it rigidly in place.

The aerial base is mounted on an angle bracket simply by cutting off all of its stem excepting 2" which then has a thread turned on to it and which may be bolted in place firmly.

The lowest $1\frac{1}{2}$ " of the tank whip is now roughened with a file, moistened with poly. cement and thrust firmly into the top of the poly. rod where it is allowed to set hard for two hours.

All is now set for winding the inductance. At each of its ends a tunnel is drilled through the poly. to the positions of attachment by soldering. (Drilling poly. must be taken slowly since heating may cause melting. If this occurs the bit must be withdrawn and scraped with a keen knife.) The top of the coil is soldered to bottom of tank whip, while bottom of coil goes to the clamp.

ADJUSTING THE WHIP

The complete whip is now assembled on the vehicle and is tuned by adjusting the bottom turn of the coil. This

is best performed using a g.d.o. and an accurately calibrated receiver tuned to 7.1 meg.—being the centre of the phone band. The g.d.o. is coupled into a one-turn link between antenna base and the 680 pF. capacitor whose other end is earthed. This loop has negligible detuning effect; in fact it took an extra 4 ft. of bottom section to shift resonance 50 kc.

A more sensitive method of adjustment may follow the above. This is to fire up on 7.1 megs. (N.B. regulations) and, using an s.w.r. indicator in the transmitter end of the co-ax, adjust the bottom turn on the loading coil very slightly until s.w.r. approximates closely 1:1, which it will do with no trouble. The power handling capability was found to exceed 40w. r.f. input to the antenna base.

The performance of the whip has been excellent, having been in use eight months with a 122 set delivering 4 watts of r.f. output.

Its mechanical and electrical stability is f.b. and despite a 2,000 mile mobile holiday into VK4 through all weathers, the resonance point did not shift more than 10 kc. Two mobile scrambles found us co-winner in one and runner-up in the other, so at least nothing has been lost in this design as compared to more orthodox ones.

A word of warning, however, is to jealously guard the loading coil from the influence of stray magnetic fields. These are likely to alter its characteristics, necessitating a retuning job—ugh! After all that poly. has set hard too! ●

NAT. FIELD DAY 1962

ADDITIONAL RULE 6A

Entrants to Section C for Multiple Operator Stations can set up separate transmitters to work on different bands at the same time. All such units of a Multiple Operator Station must be located within an area that can be encompassed by a circle not greater than half a mile diameter.

For each transmitter of a Multiple Operator Station a separate log shall be kept with serial numbers starting from 001 and increasing by one for each successive contact. All logs of a Multiple Operator Station shall be submitted by the Operator under whose Call Sign the transmitters are working. No two transmitters of a Multiple Operator Station are permitted to operate on the same band at any time.



KNOW THE OSCILLOSCOPE

(Continued from Page 5)

one of getting started. Have a try and you will find it less difficult than you at first thought. You will learn a lot as well as getting a lot of fun out of your work.

APPENDIX

"An Adjustable Power Supply"

The following is a short account of an easy-to-make unit used to demonstrate the horizontal sweep of the c.r.o. It will find many uses in the laboratory where the load drawn is low. All its parts are from disused radio sets and cost next to nothing. The circuit is shown in Fig. 17.

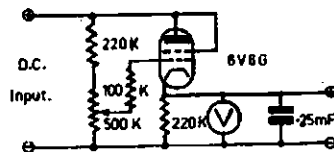


FIG. 17

The adjustor is seen to be a cathode follower. A tetrode of the p.a. type, e.g. 6L6, 6F6, 6V6, EL33, EL34, EL41 with high current-carrying capacity and high mutual conductance is used. The 6V6 is a common output valve in radio receivers, and the 500K pot. is commonly a receiver volume control. The less negative the grid becomes, the greater the plate current and so the greater the current through the cathode resistor. The output voltage is developed across this. Disposals voltmeters of about 0-40 v.d.c. are cheap and may be made into 0 to 400v. f.s.d. meters by altering their scale markings and adding a multiplier. Voltages from about 40 to 400 volts are available, the current being restricted by the components used (usually not much more than about 100 mA.). ●

* The original article and construction details, if needed, will be found in "Radio and Electrical Review," May 1956.

CRYSTALS

Crystals and Accessories, made by International Crystal Mfg. Co. of U.S.A., for Amateur and Commercial use are now available in Australia in the following types and frequencies.

TYPE FA-5 and FA-9: Height 0.765", width 0.750", tolerance 0.01%.

TYPE FM-9: A new miniaturised series. Height 0.510", width 0.400", tolerance 0.01%.

FREQUENCIES

Operation	Type FA-5 and FA-9	Type FM-9
Fundamental	1000 Kc. to 20 Mc.	8000 Kc. to 19.99 Mc.
3rd Overtone	10 Mc. to 59.99 Mc.	20 Mc. to 59.99 Mc.
5th Overtone	60 Mc. to 99.99 Mc.	60 Mc. to 110 Mc.
7th Overtone	100 Mc. to 137 Mc.	Not Available

PRICES: Vary according to Frequency and Type:—

Type FA-5 and FA-9 range from £3/10/0 to £9/12/0.

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PRICES: Depending on tolerance and frequency, range from £3/18/0 to £16/0/0.

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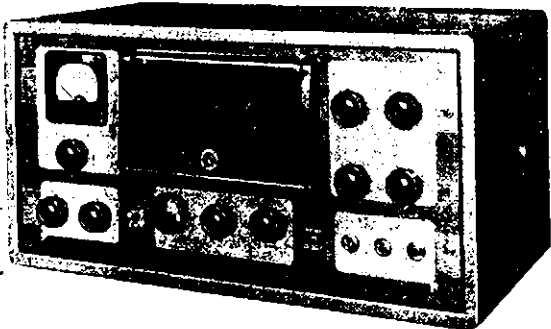
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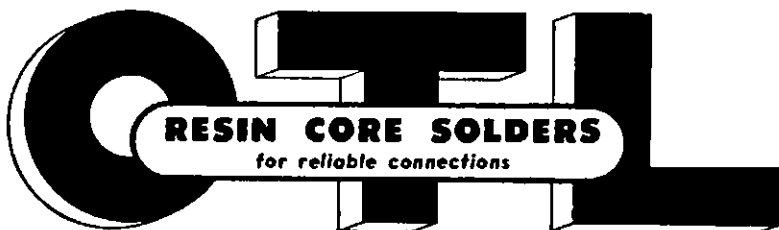
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AUSTRALIAN DX CENTURY CLUB AWARD

OBJECTS

- 1.1 This Award was created in order to stimulate interest in working DX in Australia and to give successful applicants some tangible recognition of their achievements.
- 1.2 This Award, to be known as the "DX Century Club" Award, will be issued to any Australian Amateur who satisfies the following conditions.
- 1.3 A certificate of the Award will be issued to the applicants who show proof of having contacted one hundred countries, and will be endorsed as necessary, for contacts made using only one type of emission.

REQUIREMENTS

- 2.1 Verifications are required from one hundred different countries as shown in the Official Countries List.
- 2.2 The Official Countries List will be published annually in "Amateur Radio" and will be amended from time to time as required. Should a country be deleted from the Countries List at any time, members and intending members will be credited with such country if the date of contact was before such deletion.
- 2.3 The commencing date for the Award is 1st January 1946. All contacts made on or after this date may be included.

OPERATION

- 3.1 Contacts must be made in the H.F. Band (Band 7) which extends from 3 to 30 Mc., but such contacts must only be made in the authorised Amateur Bands in Band 7.

- 3.2 All contacts must be two-way contacts on the same band. Cross band contacts will not be allowed.
- 3.3 Contacts may be made using any authorised type of emission for the band concerned.
- 3.4 Credit may only be claimed for contacts with stations using regularly-assigned Government call signs for the country concerned.
- 3.5 Contacts made with ship or aircraft stations will not be allowed, but land-mobile stations may be claimed provided their specific location at the time of contact is clearly shown on the verification.
- 3.6 All stations must be contacted from the same call area by the applicant, although if the call sign is subsequently changed, contacts will be allowed under the new call sign providing the applicant is still in the same call area.
- 3.7 All contacts must be made when operating in accordance with the Regulations laid down in the "Handbook for the Guidance of Operators of Amateur Wireless Stations" or its successor.

VERIFICATIONS

- 4.1 It will be necessary for the applicant to produce verifications in the form of QSL cards or other written evidence showing that two-way contacts have taken place.
- 4.2 Each verification submitted must be exactly as received from the station contacted, and altered or forged verifications will be grounds for disqualification of the applicant.

- 4.3 Each verification submitted must show the date and time of contact, type of emission and frequency band used, the report and the location or address of the station at the time of contact.
- 4.4 A check list must accompany every application setting out the details for each claimed station in accordance with the details required in Rule 4.3.

APPLICATIONS

- 5.1 Applications for membership shall be addressed to the Awards Officer, Box 2611W, G.P.O., Melbourne, Vic., accompanied by the verifications and the check list with sufficient postage enclosed for their return to the applicant, registration being included if desired.
- 5.2 A nominal charge of 2/6, which shall also be forwarded with the application, will be made for the issue of the certificate to successful applicants who are non-members of the Wireless Institute of Australia.
- 5.3 Successful applicants will be listed periodically in "Amateur Radio". Members of the D.X.C.C. wishing to have their verified country totals, over and above the one hundred necessary for membership, listed will notify these totals to the Awards Officer.
- 5.4 In all cases of dispute, the decision of the Awards Officer and two members of the Federal Executive of the W.I.A. in the interpretation and application of these Rules shall be final and binding.
- 5.5 Notwithstanding anything to the contrary in these Rules, the Federal Council of the W.I.A. reserves the right to amend them when necessary.

AUSTRALIAN V.H.F. CENTURY CLUB AWARD

OBJECTS

- 1.1 This Award has been created in order to stimulate interest in the V.H.F. bands in Australia, and to give successful applicants some tangible recognition of their achievements.
- 1.2 This Award, to be known as the "V.H.F. Century Club" Award, will be issued to any Australian Amateur who satisfies the following conditions.
- 1.3 Certificates of the Award will be issued to the applicants who show proof of having made one hundred contacts on the V.H.F. bands, and will be endorsed as necessary, for contacts made using only one type of emission.

REQUIREMENTS

- 2.1 Contacts must be made in the V.H.F. Band (Band 8) which extends from 30 to 300 Mc., but such contacts must only be made in the authorised Amateur Bands in Band 8.
- 2.2 In the case of the authorised bands between 30 and 100 Mc., verifications are required from one hundred different stations at least seventy of which must be Australian. The Amateur Bands 50 to 54 Mc. and 56 to 60 Mc. will be counted as one band for the purposes of the Award.
- 2.3 In the case of the authorised Amateur Band between 100 to 200 Mc. and any authorised band between 200 to 300 Mc., verifications from one hundred different stations for each band is required.
- 2.4 It is possible under these rules for one applicant to receive three certificates, one for each of the authorised Amateur Bands nominated in Rules 2.2 and 2.3.
- 2.5 The commencing date for the Award is 1st June, 1948. All contacts made on or after this date may be included.

OPERATION

- 3.1 All contacts must be two-way contacts on the same band, and cross band contacts will not be allowed.
- 3.2 Contacts may be made using any authorised type of emission for the band concerned.
- 3.3 Fixed stations may contact portable/mobile stations and vice versa, but portable/mobile station applicants must make their contacts from within the same call area.
- 3.4 Applicants, when operating either portable/mobile or fixed, may contact the same station licensee, but may not include both contacts for the same type of endorsement.
- 3.5 Applicants may only count one contact for a station worked as a limited licensee with a Z call sign who is subsequently contacted as a full A.O.C.P. holder.
- 3.6 All stations must be contacted from the same call area by the applicant, although if the applicant's call sign is subsequently changed, contacts will be allowed under the new call sign providing the applicant is still in the same call area.
- 3.7 All contacts must be made when operating in accordance with the Regulations laid down in the "Handbook for the Guidance of Operators of Amateur Wireless Stations" or its successor.

VERIFICATIONS

- 4.1 It will be necessary for the applicant to produce verifications in the form of QSL cards or other written evidence showing that two-way contacts have taken place.
- 4.2 Each verification submitted must be exactly as received from the station contacted, and altered or forged verifications will be grounds for disqualification of the applicant.
- 4.3 Each verification submitted must show the date and time of contact, type of emission and frequency band used, the report and the location or address of the station at the time of contact.

- 4.4 A check list must accompany every application setting out the following details:—
 - 4.4.1 Applicant's name and call sign, and whether a member of the W.I.A. or not.
 - 4.4.2 Band for which application is made, and whether special endorsement is involved.
 - 4.4.3 Where applicable, the date of change of call sign and previous call sign.
 - 4.4.4 Details of each contact as required by Rule 4.3.
 - 4.4.5 The applicant's location at the time of each contact if portable/mobile operation is involved.
 - 4.4.6 Any relevant details of any contact about which some doubt might exist.

APPLICATIONS

- 5.1 Applications for membership shall be addressed to the Awards Officer, Box 2611W, G.P.O., Melbourne, Vic., accompanied by the verifications and the check list with sufficient postage enclosed for their return to the applicant, registration being included if desired.
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- 5.4 In all cases of dispute, the decision of the Awards Officer and two members of the Federal Executive of the W.I.A. in the interpretation and application of these Rules shall be final and binding.
- 5.5 Notwithstanding anything to the contrary in these Rules, the Federal Council of the W.I.A. reserves the right to amend them when necessary.

AUSTRALIAN D.X.C.C. COUNTRIES LIST

	Phone	C.W.		Phone	C.W.
AC3	Sikkim		*FF8	French West Africa	
AC4	Tibet		TU2 (fr. 7/8/60)	Ivory Coast R.	
AC5	Bhutan		TX2 (fr. 5/8/60)	Voltaic Rep.	
AP	East Pakistan		TY2 (fr. 1/8/60)	Dahomey Rep.	
AP2	Pakistan		TZ2 (from 20/6/60)	Mali Rep.	
BV (C3)	Formosa		5U7 (from 3/8/60)	Niger Rep.	
BY (C)	China		6T5 (from 20/6/60)	Mauritania	
C9	Manchuria		6W8 (fr. 20/6/60)	Senegal Rep.	
CE	Chile		FG7	Guadeloupe	
CE9, KC4, LU-Z, VK0, VP8, ZL5	etc., Antarctica		FH8	Comoro Is.	
CE0A	Easter I.		FI8 (prior 20/7/55)	Fr. Indo China	
CE0Z	J. Fernandez Arch.		FK8	New Caledonia	
CM, CO	Cuba		FL8	Fr. Somaliland	
CN2 (prior 1/7/60)	Tangier		FM7	Martinique	
CN2, 8, 9	Morocco		FN (prior 1/11/54)	French India	
CP	Bolivia		FO8	Clipperton I.	
CR4	Cape Verde Is.		FO8	Fr. Oceania	
CR5	Portuguese Guinea		FP8	St. Pierre & Miq. Is.	
CR5	Principe, Sao Thome		*FQ8	Fr. Equatorial Africa	
CR6	Angola		TL8 (fr. 13/8/60)	Cen. Afric. R.	
CR7	Mozambique		TN8 (from 15/8/60)	Congo Rep.	
CR8	Goa (Port. India)		TR8 (from 17/8/60)	Gabon Rep.	
CR9	Macao		TT8 (from 11/8/60)	Chad Rep.	
CR10	Port. Timor		FR7	Reunion I.	
CT1	Portugal		FS7	Saint Martin	
CT2	Azores		FU8, YJ1	New Hebrides	
CT3	Madeira Is.		FW8	Wallis & Futuna Is.	
CX	Uruguay		FY7	Fr. Guiana & Inini	
DJ, DL, DM	Germany		G	England	
DU	Philippine Is.		GC	Channel Is.	
EA	Spain		GD	Isle of Man	
EA6	Balearic Is.		GI	Northern Ireland	
EA8	Canary Is.		GM	Scotland	
EA9	Ifni		GW	Wales	
EA9	Rio de Oro		HA	Hungary	
EA9	Spanish Morocco		HB	Switzerland	
EA0	Spanish Guinea		HC	Ecuador	
EI	Rep. of Ireland		HC8	Galapagos Is.	
EL	Liberia		HE	Liechtenstein	
EP, EQ	Iran		HH	Haiti	
ET2	Eritrea		HI	Dominican Rep.	
ET3	Ethiopia		HK	Colombia	
F	France		HK0	Arch. of San Andres and Providencia	
FA	Algeria		HK0	Bajo Nuevo	
FB8	A'dam & St. Paul Is.		HK0	Malpelo Is.	
FB8	Kerguelen Is.		HL	Korea	
FB8	Tromelin I.		HP	Panama	
FC	Corsica		HR	Honduras	
FD	Togo		HS	Thailand	
FE8	French Cameroons		HV	Vatican	
			HZ	Saudi Arabia	
			II, IT1	Italy	

*Fr. West Africa and Fr. Equatorial Africa: Only contacts dated prior to when the particular area obtained separate listing (as shown) will count.

	Phone	C.W.		Phone	C.W.
I1 (prior 1/4/57)	Trieste		PK5	Neth. Borneo	
I5 (prior 1/7/60)	It. Somaliland		PK6	Celebes & Molucca Is.	
IS1	Sardinia		PX	Andorra	
JA, KA	Japan		PY	Brazil	
JT1	Mongolia		PY0	Fernando de Noronha	
JY	Jordan		PY0	Trindade & Martin Vaz Is.	
JZ0	Neth. New Guinea		PZ1	Netherlands Guiana	
K, W	U.S.A.		SL, SM	Sweden	
KA0, KG6I	Bonin & Volcano Is.		SP	Poland	
KB6	Baker, Howland and American Phoenix Is.		ST2	Sudan	
KC4	Navassa I.		SU	Egypt	
KC6	Eastern Caroline Is.		SV	Crete	
KC6	Western Caroline Is.		SV	Dodecanese	
KG4	Guantanamo Bay		SV	Greece	
KG6	Marcus I.		TA	Turkey	
KG6	Mariana Is.		TF	Iceland	
KH6	Hawaiian Is.		TG	Guatemala	
KH6	Kure I.		TI	Costa Rica	
KJ6	Johnston I.		TI9	Cocos I.	
KL7	Alaska		TL, TN, TR, TT	(see after FQ8)	
KM6	Midway Is.		TU, TX, TY, TZ	(see after FF8)	
KP4	Puerto Rico		UA1, 2, 3, 4, 6	Eur. R.S.F.S.R.	
KP6	Palmyra Group, Jarvis I.		UA1	Franz Josef Land	
KR6	Ryukyu Is.		UA2	Kaliningrad Region	
KS4B	Serrana Bank and Roncador Cay		UA9, 0	Asiatic R.S.F.S.R.	
KS4	Swan Is.		UA0 (prior 1/9/60)	Wrangel I.	
KS6	American Samoa		UB5	Ukraine	
KV4	Virgin Is.		UC2	White Russian S.S.R.	
KW6	Wake I.		UD6	Azerbaijan	
KX6	Marshall Is.		UF6	Georgia	
KZ5	Canal Zone		UG6	Armenia	
LA	Jan Mayen		UH8	Turkoman	
LA	Norway		UI8	Uzbek	
LA	Svalbard		UJ8	Tadzhik	
LU	Argentina		UL7	Kazakh	
LX	Luxembourg		UM8	Kirghiz	
LZ	Bulgaria		UN1 (prior 1/7/60)	Kar-Fin.Rep.	
M1	San Marino		UO5	Moldavia	
MP4	Bahrein		UP2	Lithuania	
MP4	Qatar		UQ2	Latvia	
MP4	Trucial Oman		UR2	Estonia	
OA	Peru		VE, VO	Canada	
OD5	Lebanon		VK	Australia	
OE	Austria		VK2	Lord Howe Is.	
OH	Finland		VK4	Willis Is.	
OH0	Aland Is.		VK9	Christmas I.	
OK	Czechoslovakia		VK9	Cocos Is.	
ON4	Belgium		VK9	Nauru I.	
OX, KG1	Greenland		VK9	Norfolk I.	
OY	Faeroes		VK9	Papua Terr.	
OZ	Denmark		VK9	Terr. of New Guinea	
PA0, PI1	Netherlands		VK0	Heard I.	
PJ	Neth. West Indies		VK0	Macquarie I.	
PJ2M	Sint Maarten		VO (prior 1/4/49)	Newf./Lab.	
PK1, 2, 3	Java		VP1	British Honduras	
PK4	Sumatra		†VP2 (prior 1/6/58)	Leeward Is.	
			VP2	Anguilla	
			VP2	Antigua, Barbuda	

† One contact with each group formerly known as "Leeward Is." and "Windward Is." dated prior to 1/6/58 may be credited, in which case no further credit as a separate listing, as from 1/6/58, will be given those particular islands.

	Phone	C.W.		Phone	C.W.
VP2	Br. Virgin Is.		YU	Yugoslavia	
VP2	Montserrat		YV	Venezuela	
VP2	St. Kitts, Nevis		YV0	Aves I.	
‡VP2 (prior 1/6/58)	Windw'd Is.		ZA	Albania	
VP2	Dominica		ZB1	Malta	
VP2	Grenada & Deps.		ZB2	Gibraltar	
VP2	St. Lucia		ZC4	Cyprus	
VP2	St. Vincent & Deps.		ZC5	Br. North Borneo	
VP3	British Guiana		ZC6	Palestine	
VP4	Trinidad & Tobago		ZD1	Sierra Leone	
VP5	Cayman Is.		ZD3	Gambia	
VP5	Jamaica		ZD6	Nyasaland	
VP5	Turks & Caicos Is.		ZD7	St. Helena	
VP6	Barbados		ZD8	Ascension Is.	
VP7	Bahama Is.		ZD9	Tristan da Cunha and	
VP8	Falkland Is.			Gough I.	
VP8, LU-Z	South Georgia		ZE	Southern Rhodesia	
VP8, LU-Z	South Orkney Is.		ZK1	Cook Is.	
VP8, LU-Z	South Sandwich Is.		ZK1	Manihiki Is.	
VP8, LU-Z, CE9	Sth. Shet. Is.		ZK2	Niue	
VP9	Bermuda Is.		ZL	Chatham Is.	
VQ1	Zanzibar		ZL	New Zealand	
VQ2	Northern Rhodesia		ZL1	Kermadec Is.	
VQ4	Kenya		ZL4	Auckland and Campbell Is.	
VQ5	Uganda		ZM6	British Samoa	
VQ6 (prior 1/7/60)	Br. Somali'd		ZM7	Tokelaus	
VQ8	Cargados Carajos Shs.		ZP	Paraguay	
VQ8	Chagos Is.		ZS1, 2, 4, 5, 6	Union of S. Africa	
VQ8	Mauritius		ZS2	Prince Ed. and Marion I.	
VQ8	Rodriguez I.		ZS3	South-West Africa	
VQ9	Seychelles		ZS7	Swaziland	
VR1	British Phoenix Is.		ZS8	Basutoland	
VR1	Gilbert & Ellice Is.		ZS9	Bechuanaland	
	and Ocean I.		3A	Monaco	
VR2	Fiji Is.		3V8	Tunisia	
VR3	Fanning & Christmas Is.		3W8, XV5	Vietnam	
VR4	Solomon Is.		4S7	Ceylon	
VR5	Tonga Is.		4W1	Yemen	
VR6	Pitcairn I.		4X4 (from 14/5/48)	Israel	
VS1 (from 1/4/46)	Singapore		5A	Libya	
VS4	Sarawak		5H3	Tanganyika	
VS5	Brunei		5N2	Nigeria	
VS6	Hong Kong		5R8	(Madagascar) Malagasy	
VS9	Aden & Socotra		5U7 (see after FF8)		
VS9	Kamaron Is.		6O1, 6O2 (from 1/7/60)		
VS9	Maldivo Is.			Somalia Rep.	
VS9	Sultanate of Oman		6T5 (see after FF8)		
VU2	India		6W8 (see after FF8)		
VU4	Laccadive Is.		7G1 (from 1/10/58)	Rp. of Guinea	
VU5	Andaman & Nicobar Is.		9G1, ZD4	Ghana	
XE, XF	Mexico		9K2	Kuwait	
XE4	Revilla Gigedo		9K3	Kuwait-Saudi Arabia Neutral Zone	
XW8	Laos		9M2	Malaya	
XZ2	Burma		9N1	Nepal	
YA	Afghanistan		9Q5 (previously OQ5-0)	Rep. of The Congo	
YI	Irak		9S4 (prior 1/4/57)	Saar	
YK	Syria		9U5 (from 1/7/60)	Ruanda-Urundi	
YN, YN0	Nicaragua		—	Aldabra Is.	
YO	Roumania		—	Cambodia	
YS	Salvador				

DX

VP4, OA4, BV, ZM7, 7G1, FP, AC5, MP4, ZC6, TY2

Sub Editor: ALAN SHAWSMITH, VK4SS, (Phone 4-6526-7 a.m.-4 p.m.)

35 Whynot St., West End, Brisbane, Qld.

ADDRESS CORRESPONDENCE FOR THIS PAGE DIRECT TO THE SUB EDITOR

There has been less local activity this month. The DX has been patchy on all bands, but good at odd times. 7 Mc. has held up well. 14 Mc. has been fair, although not quite as lively as expected, especially in the early evenings. 21 Mc. shows up to advantage one day and then lays lifeless the next.

It has been possible to work Europe in the early mornings on 7 Mc. This band has been the most consistent, but suffers in that there is a lack of activity from those countries that have few Hams. 14 Mc. remained very quiet in the afternoons and evenings up to around 2200 E.A.S.T. It livened up after this but was uncertain with frequent dead periods. 21 Mc. let the Europeans through on odd occasions, but it was mostly Ws with the odd rare prefix peaking through.

A general assessment of the bands would be to say that they have been fair at least, but not as good as this time last year.

Old Father Time surely has lengthened his stride this month. It seems only yesterday that I completed last month's notes. Anyway here goes.

NOTES AND NEWS

S.s.b. activity in the Caribbean area is growing. VP3YG is active now and after this FY7, FM7, VP2, VP1 and PJ2ME are expected to show up in that order. They will be using an HB9TL rig and passing it on from one to the other. (News by courtesy K6CQM.)

Moves are afoot to endeavour to get AP5CP on the air daily between 1030-1200 GMT. Expects to operate around 14040 Kc.

VK0VX tells me that there is a possibility of a Ham signal emanating from Heard Is. next January.

KJ6BV is active on s.s.b. (14280 and 14300 Kc.), also on c.w.

If you haven't worked VP8GE on South Georgia Is. as yet, then keep the ear glued to the rx as he's due to QRT sometime around Xmas or a little later.

N.C.D.X.C. members have carried out a popularity poll and asked Danny Weil to sail his Yasme to the following Pacific prefixes. In order of favouritism, they are VK4 (Willis Is.), CR10, FW8, ZL (Kermadec), VK9 (Cocos-Keeling), VK9 Christmas Is.), ZK1 (Manihiki), VK9 (Nauru), KG6 (Marcus Is.), ZL (Campbell Is.), VR5 (Tonga), VK (Lord Howe), KG6 (Iwo Jima), ZM7 (Tokelau), VR1 (Br. Phoenix Is.), ZM6 (Br. Samoa), VR1 (Gilbert and Ellice Is.), VS5 (Brunel), KS6 (American Samoa), VK9 (Norfolk Is.), KJ6 (Johnston Is.), and about a dozen other places. (By courtesy of K6CQM.)

VR1B will be QRT and leaving for home in VK next March. He is mostly on now s.s.b. around 14020 Kc.

TA2AR says that he is the only legal Ham on air at present. However amended laws are under way and it is expected that within three months several TA stations will be active. (By courtesy of K6CQM.)

ZC4SG works 7 Mc. regularly and is looking for VKs. QSL via W2CTN. Listen around 1900-2100 hrs. GMT.

ZS2MI has been heard from Marion Is. (no more news available).

Remember XW8AI? He is now FG1XF. He works both 7 and 14 Mc. QSL via W2CTN. He works 14 Mc. c.w. around 2000 hrs. GMT.

Bob of KH6EDY, QSLs via WSQK and Jim, also of KH6EDY, QSLs via VE7ZM.

MP4BDN is G3LMT on Bahrain. He QSLs by air mail.

HVICN now seems to be active on 7 Mc. c.w. around 2000z. So many calling, a QSO would be like winning the casket.

For those Hams who are connected in some way to Scouting Groups, it may be of interest to note that the Hong Kong Scouts are putting a station on the air for a few days from 27th Dec. The call will be VS6AJ/A and the frequencies will be 7025, 14025 Kc. mainly.

ACTIVITIES

Ted VK5JE, who works a lot of 7 Mc. DX, sends in this list: 7 Mc. c.w. wkd.: MP4BDN (2100z), who is G3LMT on Bahrain, QSLs by air mail; ZC4IP (2045z), O.T., QSL air mail; VS9AAC (2100z), HA3KGC (2050z), KX6AJ (1015z), UA0EH (0955z), ZEEJJ (2110z), K2DGT (2035z), OH7NF (2040z), LZ2KBA (2100z), LA2B (0835z), VS1KG (1300z), UA4HM (1845z), SP-7HX (1850z), OK1BP (1940z), OK1KIR (1950z), UBSUW (2030z), YV2BJ (1100z), K2EGI (1895z),

K1DMG (2015z), W2KQT (2020z), G5RI (2025z), VJ5XK/9 (Norfolk Is., 0615z), YU5FS (2015z), DK2AA (2035z), KW8P (1035z), W. JA, VE-7 Mc. c.w. hrd.: I1ZZQF, UR8AU, UC, SV0WC, QSLs red.: Z54IP, MP4BDN, VR1B, HP1IE, 5N2LKZ, EPIAD, Ted's rig is 60w., an 807, folded dipole with centre 33 ft. vertical, and it really gets out.

Arch VK5KK/VK9 (Norfolk Is.) says he's having an enjoyable holiday and not chasing DX. However, he had already wkd. YO1Q, YU4CI, 96Z0 and many others, when I QSOed him. Says it is a great spot for Amateur Radio and a holiday (whos next?).

Geoff VK3ZMS heard the following, during Nov.: 21 Mc. a.m.: VKs. ZL, JA3CKV, KR6AC, KH6BJU, 14 Mc. a.m.: VR2DK, VR2EA, VS-1KP, UC2, 14 Mc. a.w.: VR4CB, JA2XR, JA-2AJV, KR60G, ZP5BC, KR60H, HM1AX, I1SMM, LUIDAB, VK0FZ, 14 Mc. s.s.b.: KC-4USP/MM, KN6BU, KX6V0, VR1B, KC4CP, OA4K, LZ1AMZ, KA2JL, KA7TB, WA6MFY, ZK1BS, UA3AT/P, 14 Mc. a.m.: BV1US, 3.5 Mc. s.s.b.: KP4AX, PJ2AA. Thanks Geoff, please send in some more, and G.L. with the c.w. exam.

Hal VK4DO, who says the bands have been patchy this month, has QSO'd the following: 14 Mc. c.w. wkd.: K, KH6, W, JA, DL6FF, HB9KO, HC1JU, HK7UL, JTK1AA, KL7JDO, KP4OC, KH6EDY (Kure Is.), KZ5MQ, OH2CU, OK2LE, VR2DK, VS4RM, VS4RS, VS8MB, UA-4IF, UA4SM, UA6LO, YJ1MA, 5N2LKZ, 14 Mc. c.w. hrd.: AP5CP, BV3HPT, DJ1FW, DJ6EM, HA8CF, HA9CS, HP1IE, HS1X, HS2M, I1WLF, JZ0ML, M1/HB1EA, OESLX, OH3PC, PAOZZ, PY2GDB, SM5AQX, SM7CN, SP8KAF, UA1FJ, UA3GJ, UA3KCM, UA6KAA, UB5JM, UB5KIE, UB5NP, UC2BS, UO6BN, UZ2KAF, VR4CV, VU2CK, VU2GE, XZ2TH, YO2BU, YO3RI, YV-5AE, ZC4TX, 4S7NE, 4X4OH, 4X4MZ, T8AT (Henri, Tchad), 14 Mc. phone wkd.: KH6EDY, 14 Mc. phone hrd.: PJ2AA, VR4CB, UGCK-21 Mc. c.w. wkd.: DL7JA, HB9KO, JA6FY, KL7JD, O1COC, VS1FW, VS4RS, 21 Mc. c.w. hrd.: DL1EE, DJ6TN, DJ7CL, DL7JA, DL7FE, EA4CR, HA0DA, HA1KSA, HB7EW, HB9UL, I15M, I1ZL, KC6BD, KX6AT, LZ1KNB, ON-41, SP8SG, UB5CC, UB5MN, UL7KKB, VS-9AAC, VS9AG, YO6XJ, ZC4FS, 9M2FK, 21 Mc. phone wkd.: HB9KO, JA4HM, 21 Mc. phone hrd.: AP2MR, DJ2JA, ZK1AR, 9M2GV.

Rick VK3ARX recently wkd. on 14 Mc.: 5N2LKZ 0740 GMT AC5FN 1140z, CN2BK 0835z, VQ5GJ 2135, OD5CT 0500, VS9KPH (Kermadec Isld.), SV0WC 2015, HM1AS 0920, MP4BDN 2015. Cards have been received from AP5CP, FO8AQ, VR4CV, VS9RZ, KJ6BV, HP15B, VP-5BL, XE1RY. (I hope your three-band quad works out OK, Dick OB.)

Eric BERS195 heard this DX: 3.5 Mc. c.w.: VK and ZL, including ZL111/MM, 7 Mc. c.w.: DM2AMG, G6FF, HA3KGC, HB9AG, KC6BJ, LZ2KBA, OESBF, MP4BDN, OK3KOX, SP8ACK, UA2AB, UA8PP, UB5KKE, UO6KAA, YOK6BA, YU2AAE, ZC4FB, SV18AU/MM, 14 Mc. c.w.: AP5CP (1300z), BV1US, CR7Z, CR9AH, K2UNO/HL, JTK1AA (1130z, Zone 23), JZ0BM, KC8BD, KW6DG, KZ5AU, MP4BDN, T12CAH, UG8KAA, UJ8KAA, VK0TC, VR2BZ, VS4RM (1200z), ZS6AXU (1515z), W5CES/MM, K0GVB/MM, QSLs redvd.: AP5CP, ET2US, HP1IE, KH-8EDY, OA4BW, T12CFM, UA0KYA (Zone 23), U18KAD, UJ8AC, VS8EY (Zone 2), VQ4DW, VS1FW, 9N1GW, SM3AE/MM, VP5BH/MM.

Eric also handled these QSLs for the VK3 Bureau, this month: UA1KED (Franz Josef Land), KH6EDY, AP5CP, H18DGC, XE1VI, HM4AQ, HM1AS, HK4EB, PJ3AJ, KV4CI, OA-4EY, BV1USE. (Eric has had QSL from 125 countries this year.)

Frank VK2QL, who always seems to be in touch, records these: 3.5 Mc. c.w. wkd.: KW-6DG, HClAGI, JA6AK, and Wa. 7 Mc. c.w. wkd.: VS9AAC, UC2CD, DJ4DN and hrd MP-4BDN, FA8RJ, CN8RP, CE1AD, 14 Mc. c.w. wkd.: FY7FY, EP2BB, AP5CP, MP4BDN, CR-7IZ, KH6EDY, HS2M, HS1X, HK0QQ, M1/HB1EO, PJ3AD, 5N2LKZ, FR7ZD, YJ1MA, HM4AQ, etc. 21 Mc. c.w. wkd.: VS9AAC, VS-4RS, and hrd. HVICN.

Yours truly, VK4SS, found 7 Mc. just good enough to stay on it. The best wkd. were UA9DN, UA9WF, UTSBK, UA4YU, UA1NZ (Archange), UW0FB, UH8KBB, UA0KJA, UA-9KOA, UA0KAI, 4X4WF, PAOPN, OK1US, OK-2KZG, OK1FV, VE4BDN (Central Arctic), VE-3C5Y, KC6BD (Truk Is.), 9M2GJ, ZS4SG, ZC4IP, K3FAS, G6FF, LA5HE/HZ, SP7HX,

SP9DT, SP8HU, SP3KCC, SP9RF, UA3KND, DUGIV, ZEEJJ, EP2BB, XZ2TH, VK0VK, VK-5XK/VK9 (Norfolk Is.), DL9ZN, DL5RA, DL-5DC, DJ4OP, DJ2XF, HB9ABB, HB9EU, U-2AAE, YO9CN, HA5KFR, W3SQX and VE LP at 2000z.

Stop Press on VK5KK/VK9. Arch has given me a further list as he will be QRT in a couple of days. 14 Mc. c.w. wkd.: VR4CV, YJ1MA, YV4CI, HK3AH, LU3HL, LU5AQ, LU8FBH, JZ0QI, LU6DJX, HB9MO, VQ4IN, HB9J, HB-9MQ, PY5OD, PY1ARZ, PY1ADA and many others. (Using a doped-up Mk. 3 and a single wire antenna, and about 18 watts input, I for one would like to say that from a DX point of view Arch's holidays have been very successful.) He also requests that 73 be sent to VK5PS. (That's the only way Pansy's call can get on this page!—Editor.)

Please note.—I still want more activity reports and QTHs, etc. If letter writing is too much of a chore, you can find me each Sunday on sked for any DX news or traffic. 14 Mc. c.w. at 220z and 7 Mc. c.w. at 2230z. Low end of band. So please call me and give me what you have.

ADDRESSES

AP5CP—Mr. Mohd, Dacca Signals, Dacca No. 6, East Pakistan.

OA4BW—K. R. Wille, Box 681, Lima, Peru.

VE8YD (Zone 2)—Al Conner, Melville Pen., C/o. Fed. Elec. Corp., Airport, Winnipeg, Manitoba, Canada.

SUMMARY

Prediction for January: 21 Mc. should be at its best this month, but this remains to be seen. 14 Mc. should be good to the West and the L.P. to W land may open around 2030 hrs. GMT. 7 Mc. I expect will turn out to be rather quiet especially during the early evenings and then gradually improve as the night lengthens. The West L.P. circuit to W land should occur at any time now, and probably would be best for a short time only around 2030 hrs. GMT at this QTH.

I have been reading the lists of DX worked by some of the top W boys. These show that by far the large majority of choice DX is worked on 14 Mc. c.w. Next most popular mode and frequency would be 14 Mc. s.s.b. The latter may be on the increase but won't overtake c.w. DX for a long time (if ever).

Looking through QSLs and other info, it is obvious that a large part of world DX is worked by low power men (Ws excepted). Many of the well known operators on any or all bands run less than 100 watt rigs. The obvious conclusion is that relatively speaking the antenna is the most important link in communication (and often the most neglected).

Here in VK the QRP men excel themselves. In fact they compile the majority of DX worked that I receive in the mail each month. A more efficient antenna is unquestionably better than doubling your power.

Bob K6CQM, Editor DX'er, has a word or two to say on the issuing of awards. Although he points the finger at no one specifically, he claims that there are so many awards now being made available by so many clubs, countries and associations, etc., that the motive for some is for profit as the cost in I.R.C.'s is more than the award is worth. This descent into commercialism would soon obviously render the certificate worthless. As Bob points out, the latter should be offered free of charge (except for minimum costs such as postage, etc.) as an award for attaining a certain goal. Our N.C.D.X.C. Editor says that he refuses to buy his way to the top of the C.H.C. honor roll with a bunch of worthless pieces of paper.

You may have heard of the young Ham's wife, whose son needed a change of shirt and pants each day on his arrival home from kindergarten, so grimy did he become during play. Hearing a scuffle on the back steps at his usual arrival home time, she called out a little impatiently, "Hurry up, come inside and change your clothes." Angered at the following silence, she flung open the door to find framed in it a very fat, sweaty and slightly apprehensive greengrocer.

Here's wishing you all every happiness and success in the coming 1962. Let's make "A.R." a bigger and better affair than ever before. From a DX point of view I believe the year will be kind enough notwithstanding the low solar predictions. 73, Al, VK4SS.

Hello fellow short wave listeners, this is your new scribe for these notes, so I will introduce myself to you. My name is Robert Young (no relation to the famous film star), WIA-L3076 (address as above), Secretary of the S.w.l. Group, Victorian Division of the W.I.A. Ian Woodman, WIA-L3006, Assistant Secretary, is also helping to compile the notes with me.

Firstly, I would like to thank our past Secretary, Maurie Cox, for his outstanding service as Secretary and writer for the S.w.l. notes. Unfortunately Maurie is forced to lock up his rx, haul down his antenna, and nuckle down to study for his leaving examination, so I wish you all the best Maurie in your studies.

This being our first attempt at writing notes of this nature, I hope you will bear with us and help in making these notes in the magazine a success. So please write either to myself or to Ian with news from your Groups as to what you are doing and future activities. Please don't forget to write. I will answer your letters either personally or in the notes.

VKS NEWSREEL

As Maurie said we have had no news from Federal Executive about the awards. We have had quite a few very keen s.w.l. coming in to the construction night on the second Friday of each month with their rx's and partly-built rx's for the technical staff to either line-up or find out why they are not operating. We would be very pleased if any Amateur could assist in the technical side for this night. Ian Woodman was the only Amateur there to assist and I am afraid he did not know whether he was coming or going.

Sorry to hear about your home-brew rx playing up on 20 mx Mac, think of all the DX you are missing. Also Maurie may get a few new countries out of this unfortunate incident. Someone was telling me about Noel Harrison's 50 ft. mast, breaking in half just above the guy wires. You will have to mix some more of that patented cold water glue up Noel to stick it together again. Ian Thomas seems to have been concentrating on his swatting for his examinations and also along the lines of hi-fi. Have you found that fault in your audio amplifier yet, Ian? Hope you succeed in building up that 6 mx tx that I saw lying idle on the shelf.

Yours truly is seriously considering buying a 40 ft. self-supporting windmill tower with prop. pitch motor, etc., and I am hoping to mount a multi-band quad on the top, but the trouble is I will have to get a better rx to fit in with the antenna—a Q6er would fit in nicely. Maurie Cox is still listening hard on s.s.b. after getting over a bit of 2nd detector trouble in his rx; it's marvellous what a new valve will do.

In regard to the S.w.l. Convention, to be held at Warrambool on 2nd of March, all s.w.l. are welcome to attend. If anyone is interested, let me know so accommodation arrangements, etc., can be made. Eric Trebilcock suggested to have a tour over the Fletcher Jones' factory at Warrambool (we may get a few free samples). Their factory is very well planned out with trees, shrubs and lawns; it should be an interesting sight, Eric.

SOUTH AUSTRALIA

Colin says that things are very quiet in the South East due mainly to the s.w.l.'s studying for the A.O.C.P. exams in January. There will be four or five of them sitting for the Limited licence Dale L5025, who sat for the last exam, has received word that he has passed the Limited licence, but as yet has not applied for his call sign. Listening at Dale's QTH is limited due to study and the construction of a 2 mx converter, the line-up on 2 mx is a xtal locked converter feeding into a No. 19 rx with a tunable i.f. of 3-7 Mc. The antenna for 2 mx is a 10 el. beam on a 12 ft. boom and 55 ft. high.

Les Dicker, L5038, is busy sorting out his equipment as he has recently moved QTH. His rx set-up sounds quite good, it consists of a home-brew rx originally built by Howard 5XA, consisting of 9 tubes tuning 550 Kc. to 22 Mc. The antenna is a 40 mx dipole, 87 ft. long. At present Les is building converters to cover 28, 50, 144 and 288 Mc., using a 6J6 as a mixer and osc. to feed in at 7 Mc.

The VK5 S.w.l.'s in Mount Gambier are considering publishing a magazine. They received a letter from the President of the South Aus-

tralian Division of the W.I.A. regarding the publication of such a magazine. He is all in favour of the move to create interest in the S.w.l. Groups, but as yet the President has not heard the views from other members. Official notice will be received as soon as it is confirmed.

Gary L5026 has modified a 522 rx for 2 mx and is very pleased with the results so far. Col 5CJ gave Gary a call so that he could find the band and peak up the coils, but as yet he has not heard any other stations. The antenna at present is only a four element, just above the roof of the shack.

RADIO MAIL

I wish to thank the following for their letters: Chas. Abernathy, Peter Drew, Dave Jenkins, John Kennedy, Don Grantley, Harry Major, Colin Hutcheson, and Eric Trebilcock.

Eric Trebilcock—Here is that man again, with his best cards received in Nov. (to 15/11/61): AF5CP (QSL No. 273), ET2US, HP1IE, KH6EDY/Kure, OA4BW, T12CMF, UA0KYA (Zone 23), UC2AG, U18KAD, UJ8AC, UQ2KAE, VE8YD (Zone 2), VK0JM and LUZZR (Antarctica), VK0WH (Macquarie Is.), VQ4DW, VS1FW, 9N1GW (Nepal). Best loggings for past month include KH6EDY, JT1KAA (Zone 23), AF5CP (East Pakistan), UG6KAA, VS4RM, VR4CV, KZ5AU, UA2AB, CR1Z, KC6BJ. Thanks for the above information Eric.



Noel Harrison, WIA-L3101, in his shack.

Chas. Abernathy has not received his rx back as yet due to some slight modifications to it, however he has received a 50 Mc. card from VK6ZDS owing from 3/1/61, also cards from W0JYW, XE1JP, ZK1AR, G3EQL, VE5BO, VK9AM and FK8AU, who doubled up and sent two cards. During the absence of his rx Chas. has been listening to DX on 144 Mc., 100 miles being the best DX heard. Chas. has just completed a power supply with three outlets, one for a 50 Mc. converter and another for 144 Mc., with one for the volts for his S meter, which is quite handy in saving the extra drain on the supply from the rx. Chas. claims that they have had rain up in VK2 for the past week (RAIN, he says), and has not been doing anything on the week-ends except catch up with his mail.

John Kennedy has tried out Peter Vernon's method of tuning in s.s.b. with two dual wave rx's. He managed to tune in a W6HLH on 20 mx (what has happened to the old b.f.o.!). John has also been listening to some DX on a AR88, which is the property of 3TA. Stations heard on 14 and 21 Mc. were ZS1CD, VR1G and VK0RF. These stations were heard during the Jamboree of the Air and the bands were very crowded.

Peter Fields has dropped me a few lines describing his rig. It consists of a 13-tube unknown make rx (who cares as long as it works) and two ex-R.A.F. converters covering 21, 28 and 50 Mc. The rx itself without converters covers 1.5, 3.5, 7, and 14 Mc. The only antenna Peter has up at present is a coax-fed 7 Mc. dipole up 30 ft. in the air. It is used on all bands including 6 mx. Peter has heard

some good DX on 6 mx; they were VKs 2ZLP, 4NG, 2AQI, 2ZER, 2ZGL, 4ZCD, 7AI, 7AQ and also Peter thinks 8AV. Every station was running a 5 by 8 except 8AV. (DX sounds very good over in VK3 land). Some of the latest QSLs received by Peter are HB1KU, JA1BIR, VR4CE, VR5RZ, JA2KX, W5BJZ/KH6, W8WT and XE2TF.

Sorry to hear that Harry Major has not been able to attend our meetings as he hoped, but will make a special effort to attend the Xmas break-up on 8th Dec. Harry uses for a rx a 3-tube short wave set and is fed with a 20 ft. indoor wire running north and south across the room. It brings in many of the bigger overseas short wave stations, besides a number of the Australian stations. Harry received a card from Switzerland a few weeks ago, but it is of very poor design. This station is heard regularly on Saturday afternoons about 3 p.m. on 7 Mc.

Now a few words from the "Ears of Netherlands". Peter's rx set-up on 80 mx is a home brew 3-tube regenerative, the antenna is a 30 ft. long wire, 7 ft. high. For s.s.b. on 80 Peter uses a dual wave rx in conjunction with the regenerative rx for c.w. and s.s.b. (no, not another one). 40 mx rx is a 6-valve dual wave (1935 model) which has no r.f. stage. Antenna is a half wave 40 mx dipole about 20 ft. high which is fed with twin flex (about 120 ohms). For 20 mx the same dual wave rx is used, so that is the rx set-up of Peter's and how he receives all the DX I will never know; perhaps he has a very good location. Peter also has a 10 transistor dual wave rx which covers 20 and 40 metres.

Dave L3039 has not been very active on the listening side, because he has to milk the cows, etc., and turn around and prepare his own meals. Dave has heard some Europeans on 7 Mc. and occasionally on 3.5 Mc. c.w. first thing in the morning. The DX total is 141 countries heard and 10 confirmed. Dave says that he has not got around to sending out any QSLs but hopes to very soon when things settle down on the farm. A start has been made on the construction of a converter covering 14, 21 and 28 Mc. using transistors with an r.f. stage. Dave finds a few signals on 14 Mc. from Europe in the mornings between 0530 hrs. to 0600 hrs. E.S.T., also a few Ws come through at night around 2200 hrs.

Don L3088 has been hearing some terrific DX up on the border. He has heard in Nov. to date 48 stations. Don heard CT3AB and also VS9AAC early one morning.

Well that's it chaps for this issue, so I would like to wish you all a Happy and Prosperous New Year. 73, and the best of DX, Robert L3076.

DX LADDER

	Countries Conf.	Hrd.	Zns. Conf.	S.s.b. Conf.	S.s.b. Hrd.	W. Stat.
E. Trebilcock	274	280	—	—	—	50
D. Grantley	91	234	37	—	—	—
A. Wescott	78	157	31	31	72	—
M. Hilliard	65	207	33	5	99	11
M. Cox	35	209	20	4	114	13
C. Abernathy	30	57	21	—	—	13
P. Drew	28	170	17	6	64	4
P. Fields	26	133	—	—	—	—
N. Harrison	20	34	17	—	—	22
D. Jenkin	10	141	7	—	—	—
N. Fisher	3	38	3	—	—	—



UNUSUAL CONTACT

It may perhaps interest readers of the magazine if I report the details of a three-way contact last night (28th Nov.), using 14 Mc. phone.

At 2115 hrs. E.A.S.T. VK4XE/MM, ZL1A0V/Aero Mobile, and my own station VK2APL were in communication with each other. VK4XE/MM was on a small vessel 150 miles north of Cairns, and ZL1A0V/Aero Mobile was flying from Darwin to Brisbane, en route to New Zealand. The ship was QSA5 S8 and the aircraft QSA5 S6.

My transmitter was running 50w. input and my antenna was a 135 ft. window.

I feel that possibly this QSO was unique in VK Amateur Radio, and submit these details for general information.

—Neville A. Loffman, VK2APL.

V.h.f. Amateurs, like lower band operators, are more or less divided into those who like rag-chewing, the DX enthusiast, the mobileer, the experimenter, and so on. Judging by the increasing amount of activity in the USED sections of our v.h.f. bands, it would appear to be about time some system of segregation and operating procedure was introduced on a basis similar to that found on the lower bands in various parts of the world. How many times have you attempted to copy a weak DX signal buried beneath a local station? How many times has an unsuspecting local rag-chewer come up on top of the DX signal in the middle of your contact? How many times have you tried to copy a weak fluttery mobile signal right alongside the sidebands of a strong local? How many times . . . and so on.

These, and many other instances of unnecessary interference, could perhaps be partially prevented if the v.h.f. bands were voluntarily divided into segments to provide reasonably clear channels for c.w., DX skeds, mobile, etc.

The two-bands mainly concerned are 6 and 2 metres where most of the activity is crammed into the lower megacycle.

Does the v.h.f. activity in your State warrant further thought on this subject? If so, how about acting promptly, and helping to diminish the increasing amount of unnecessary interference on the v.h.f. bands?

As you can see, the v.h.f. notes this month are published as presented by the v.h.f. scribes in each State. If you feel that news from your area is not included in these notes because you are isolated from the V.h.f. Group in your State, how about appointing yourself a news correspondent and forwarding any items of interest to your Divisional V.h.f. Group?

This, of course, applies to everybody. The scribes cannot make the news and they cannot monitor the bands all the time. Therefore these notes can only be as informative and interesting as you, the active v.h.f. Amateur, cares to make them. Remember, the fact that there is no news from your area is your own fault.

By this time the Ross Hull Contest will be in full swing. I hope that a greater number of contestants enter logs this year than last year. Even if you realise you don't have much chance of winning a section, still enter a log.

Also this season, with two active VK8 stations on 6 metres in 8AV and 8AU (I hope you did receive that call, David), there should be quite a number of Amateurs qualifying for the 6 mx W.A.S. award.

NEW SOUTH WALES

VK2WI, the N.S.W. Divisional station at Dural, has, since mid-November, been operating on the 6 mx band. The morning and evening broadcasts are being done on 50.16 Mc. The rig at the moment is a 5763, 2E26, 832A, running 20 watts to a dipole 35 ft. high, running almost east and west. Modulator is a pair of 807s, driven from the station audio network. It is expected in the near future to increase power to 100 watts, change frequency to a spot higher in the band, and erect a turnstyle antenna. Thanks go to members of the Dural Committee and the V.h.f. Group for this transmitter.

VICTORIA

After several months of very low activity, 6 metres is becoming more popular with several openings to incite the interest. Very weak VK4 signals were heard on the afternoon of 11th Nov., but I understand that the first contact was at lunch time on 13th Nov. when Jim 3ZHF worked 4ZAZ. The signals were not very strong and didn't hold up for very long.

On Friday, 17th Nov., 4BG was heard working 7ZAQ, and then a VK5, but faded out at 1755 hrs.

Then on Tuesday, 20th Nov., between 1800 and 2000 hrs., the first big break-through to VK4 occurred. The VK4 stations logged were 4NG, 4ZAZ, 4ZAW, 4ZDA, 4ZHG, 4LN and 4HG. Signals were of reasonable strength, but quite a bit of QSB. The thoughts of the VK3 operators were that, while they could hear the VK4 stations without any trouble, they had great difficulty in making contacts with them.

Graeme 3ZIX reports that on 24th Nov. at 1845 hrs. he worked Bob 4NG, 5 and 8 with QSB, and also heard 4PG. Then at 1900 hrs.

the same evening Graeme heard 8AV at Daly Waters working a VK5. Signals were 5 and 7 with heavy QSB. Unfortunately Graeme was unable to raise 8AV.

On 28th Nov. at 1915 hrs. and on 29th Nov. at 1830 hrs., several weak VK4 signals were heard but no contacts made. Again on 1st Dec. at 1900 hrs., 4PG was heard very weakly.

On the morning of 2nd Dec. several weak ZL signals were heard, but no contacts made. Then at 1730 hrs. the same day, the northern VK4 stations were worked; signals peaking up to S9, with heavy QSB. But at 1750 hrs. the skip shifted south and the southern VK4 stations came through with possibly the strongest signals ever heard from them—9 plus, plus. This state of affairs only lasted for ten minutes then the skip shifted back to the northern stations again.

Ian 3ALZ has now erected his 30 ft. long yagi for 6 mx and intends to be right amongst the DX this season. George 3ZCG, at Morwell, commenced tropospheric skeds with 4ZAZ on 1st Dec. and will be keeping these skeds at 1945 and 2345 hrs. nightly.

A new station on 6 mx in Melbourne is Mervyn 3ZMC, located at Frankston. He is running 10w. input to a VT501 and uses a 4 el. yagi. The usual 3-tube xtal locked converter is used for receiving.

The final 6 mx scramble in the series of six was held on 26th Nov. with 3ZGP as control station. Nineteen stations participated. John 3ZJV at Olinda was the winner with 17 contacts. The overall winner for the series was Peter 3ZDO with a total score of 84 contacts, second was Ivan 3ASG, 76 contacts; and third was David 3QV with 66 contacts. The next 6 mx scramble will be held on Sunday, 28th Jan., commencing at 1945 hrs. Keep the date and time in mind.

Activity on 2 mx appeared to drop off quite a bit during Nov. but there were still some interesting contacts made. At 2000 hrs. on 5th Nov. 3ZCG at Morwell worked 7LZ and 7BQ; 3ZDP at Sale worked 7LZ, 7PF and 7BQ; and 3DY at Maffra also worked 7LZ and 7BQ. On 6th Nov. conditions were still very good and 3ZCG worked 3FO at Maldon with 5 & 9 sigs. 3ZAQ at Warragool worked 3FO and 3ZIK at Castlemaine. On 7th Nov. 3ZAQ contacted 3JW at Bendigo, and on 12th Nov. 3ZDP at Sale heard 3JW but was unable to contact him.

On 10th Nov. 3ZDP had a field day, working Melbourne stations. 5AW's sigs were heard on the morning of 11th Nov. but no contacts made. 3ZLT had a contact with 5AW on the morning of 19th Nov. and the same evening heard 7WI/P on Mt. Wellington, but was unable to get his tx fired up before they closed down.

Several new stations appeared on 2 mx during the month including 3APJ, who operates portable from the Y.M.C.A., mainly on Tuesday evenings. 3AKJ has migrated from 80 mx and is using the ever-popular 522 on 144.162 Mc. Antenna is a 6 el. yagi up 24 ft. 3IX, at Essendon, an old-timer to Amateur Radio, has also appeared on the band using a 522 into a 5 el. yagi.

3ZLM (Sale) is now active on 144.165 Mc. and 3ZNK (Morwell) has appeared on 144.63 Mc., using a 32 el. phased array. 3ANS (Wangaratta) is no new face but is now fired up at Wangaratta using a 10 over 10 yagi and assures me that in the Melbourne direction there is a big gap in the hills. 3ALZ has re-built his antenna farm and will be using two stacked 30 ft. yagis on 2 mx. 3VL (Numurkah) is very interested in 2 mx and has heard Melbourne signals on a number of occasions. Each Wednesday evening from 2030 to 2130 hrs. he particularly looks for Melbourne contacts. Rex has also heard 2ZCI several times.

The 2 mx scramble on 12th Nov. resulted as follows: country section was won by 3AGV with 42 points; city section, 3ZCB first with 32 pts. In the overall scoring for the series, 3ABK was the country section winner with a terrific total of 190 pts., 3ZL at Ballarat was second with 55 pts.; city section: 3ZCB was the winner with 141 pts., 3AAD second with 130 pts. The next 2 mx scramble will be held on Sunday, 14th Jan. at 1945 hrs.

The Nov. 2 mx fox hunt was won by Tom 3AOG with only 6 pts. lost. The next hunt will be held on Wednesday, 10th Jan. commencing at 2000 hrs. from College Crescent at the rear of the University.

The definite highlight of the month was the v.h.f. field day on 19th Nov. This was voted

one of the most successful field days for some time. Most of the activity took place on 2 mx. The highest score for the day was returned by 3ZLT/P on Mt. Donna Buang, who worked 53 stations for 59 points, plus 10-pt. bonus for longest distance worked—362 miles to 7WI/P. 7WI/P worked five VK3 stations and greatly contributed to the interest and success of the field day.

The Jan. field day will be held on Sunday, 21st and once again 7WI/P will be on Mt. Wellington. Full rules for these field days appeared in the v.h.f. notes in "A.R." Sept. '61.

The Jan. meeting of the V.h.f. Group will be held on Wed., 17th, but you will have to listen to the Sunday 3WI broadcasts to find out the location.

Please note that because of a course of study which will consume most of my spare time for the next three years, I have reluctantly had to relinquish the job of Publicity Officer for the VK3 V.h.f. Group. Len 3ZGP will be filling in until the elections in May and I hope that you will keep him supplied with news items for both the broadcasts and these notes.—3ARZ.

QUEENSLAND

Brisbane: There were quite a number of openings on 6 mx during Nov. details as follows:

- To JA—25/11/61, 26/11/61.
- .. VK2—21/11/61.
- .. VK3—9/11/61, 21/11/61.
- .. VK5—15/11/61, 21/11/61, 24/11/61.
- .. VK7—16, 17, 18, and 21/11/61.

A new station on 6 mx is 4ZAW who runs 20w. input to a 2E26 in the final. Modulation is by a series screen method, and the antenna for transmitting is a four el. beam. Receiving is via a dipole, and a t.v. turret tuner fed into a Command rx.

Brian 4ZAP and his wife, Pam, have been in Dalby for a couple of weeks and returned to Brisbane on 19th Nov. While in Dalby, Brian operated portable with a 60w. tx and a 9 el. yagi. He worked the Brisbane boys regularly over a distance of 120 miles, even though the path was made difficult by the Great Dividing Range which inconveniently cuts between the two places.

The 2 mx hidden tx hunt was held on 3rd Nov. and took the form of a fox hunt. 4ZAX was the fox and after an interesting evening, finally stopped at the place where supper was to be held. Ten cars participated in the hunt.

Dane 4ZAX now has an excellent antenna system for this band, consisting of four yagis of 14 elements each at a height of 80 ft. He has been hearing signals on a frequency of 144.0025 Mc. via the medium of meteor trail reflections, and shortly will be connecting up a parametric r.f. stage.

The last V.h.f. Group meeting was held at the home of Ron 4ZEB and 17 people were present. A tape recording of the lecture by Ed Tikton W1HDQ, was played and also a tape of 4ZBY who achieved fame by working a JA with a tx running 17w. input attached to his motor cycle.

A visitor to Brisbane, Rick 4ZWL, who is on a three-weeks' holiday from Cairns, has been visiting various shacks. Rick is very impressed at the size and complexity of some of the rigs constructed by the v.h.f. gang.—4ZBT.

WESTERN AUSTRALIA

Well here we are again and unfortunately I have to apologise for no v.h.f. notes from VK6 appearing in last month's "A.R." This, however, was not because they were not written and posted in plenty of time to be published, but because the day after the notes were sent I was advised that David 3AAU had shifted QTH and obviously they did not catch up with him.

V.h.f. activity has taken a rise with many more stations being heard and worked on both 50 and 144 Mc. Several reasons could possibly be offered for this, however we are not really concerned as to why but very pleased that this is the case.

The DX on 6 mx seems as though it could prove quite interesting this year with three openings already to VK5. One very interesting point was that on 30th Nov. 3AAU was heard calling CQ on c.w. on 50.4 Mc. at 1700 hrs. W.A.S.T. However it would appear that his rx: was not as good as his tx as he did not

(Continued on Page 19)

Correspondence

Any opinion expressed under this heading is the individual opinion of the writer and does not necessarily coincide with that of the publishers.

GENTLEMEN'S AGREEMENT

Editor "A.R." Dear Sir,

I write re VK3BG's letter of October on the abolition of c.w. He refers to the "Gentlemen's Agreement" as "an agreement which, to most, never existed." Is he presenting the viewpoint of the non-gentlemen?

The rest of his repetitive letter—I refer to his earlier one on the same lines—was dealt with in previous correspondence.

—J. C. Redman, VK2JE.

Editor "A.R." Dear Sir,

I wish to protest against your action in printing the letter by Roth Jones in October "A.R."

You saw fit not to print a letter of mine in reply to Roth's previous correspondence on the abolition of c.w. from the Amateur bands, stating that "correspondence is now closed."

This I was prepared to accept, but I am not prepared to accept you permitting him to reopen the subject again under the guise of "abolition of the Gentlemen's Agreement" and uses it to raise the previous subject of the abolition of c.w., on which "correspondence is closed".

Unfortunately the Postal Department did not deliver my "A.R." until today, too late for material in Nov. "A.R." but I feel very strongly about this discrimination.

—F. T. Hine, VK2QL.

Editor "A.R." Dear Sir,

The Gentlemen's Agreement is recognised throughout the world and should only be altered after a world-wide investigation proves operating habits have changed away from c.w.

After operating a.m., s.s.b., and c.w., it appears that s.s.b. is replacing a.m. on some bands, but not replacing c.w. and should eventually take over more of the a.m. sections.

We have more room for phone here than in U.S.A. and when its Ham population of over 200,000 is considered no wonder many Ws, including new Hams, turn to c.w.

A point often overlooked in favour of telegraphy—it can be regarded as an international language enabling contacts with distant Hams who have not mastered sufficient English to use phone.

We should consider c.w. operators in other countries who are forced to use c.w. for many reasons and give them the opportunity to contact Australia, this would hardly be possible on 7 Mc. if local phone nets spread out all across the band.

Perhaps c.w. should be encouraged on bands such as 7 and 14 Mc. where we have so little room, s.s.b. requires the channel space of many c.w. stations and to ban c.w. would be one way of restricting the number of available operating channels. There should be room for all phases of our hobby.

Hand sent telegraphy may be on the way out for commercial traffic, but even here is often replaced by another form of telegraphy, such as teletype. C.w. still brings pleasure to thousands of Hams throughout the world and proves a reliable method for long distant work through interference. Take a listen any evening and compare the readable c.w. DX stations in the first 50 Kc. of the 7 Mc. band with so few readable Amateur DX stations getting through on phone throughout the remaining 250 Kc.

International DX contests usually show twice the number of c.w. logs are received to phone logs with the resulting higher scores. Check our DXCC list to find c.w. membership outweighs phone. To date it is hard to find any evidence that c.w. is outmoded. Yes there is still plenty of c.w. activity on 7 and 14 Mc. and no law to prevent us using a.m. or s.s.b. on the first few Kc.—only Good Manners.

—Les Brennan, VK4XJ.

Editor "A.R." Dear Sir,

In view of Mr. Roth Jones' remarks regarding c.w. operation in the Amateur bands, I feel it would be rather appropriate to quote an extract from the R.S.G.B. Bulletin, August 1961, page 75. The Bulletin says: "A recent survey by A.R.E.L. revealed that the preferred mode of operation of U.S. stations, expressed as a percentage of the total, was—c.w. 34%, a.m. 28%, s.s.b. 23%, r.t.t.y. 1.5%, f.m. 0.3%, and others including t.v. 0.6%." It would ap-

pear that 13.2% have no preferred mode of operation.

The Bulletin continues, "It is reported that there are now 217,102 current Amateur licenses in the U.S.A." 34% of 217,102 is 73,814. I suggest that 73,814 Amateurs is not inconceivable.

I feel little comment is necessary, except to suggest that his friend in the Australian Market Research Department could be more usefully employed elsewhere.

—Cyril Rylatt, VK5TC.

Editor "A.R." Dear Sir,

I feel that some comment should be made on the subject of dividing the bands into phone and c.w. sections.

Almost all the other Amateurs in the world are only allowed to use phone in certain sections of the various bands, under the terms of their licences. In this country a Gentlemen's Agreement only restricts the use of phone to sections other than the low frequency end of each high frequency band and so far this Gentlemen's Agreement has worked very well. It so happens that the divisions of our agreement fit in well with those in force overseas.

I think I am one who can claim to be neither a phone or c.w. man; I run skeds on both, I've won contests using each mode, and to me it is obvious that we are fortunate in being able to use either mode as we wish.

Phone is ideal for the homely side of Ham Radio—comparing notes with neighbours, idle nattering across town, and regular skeds with old friends. Given a good circuit it affords a more personal means of contact and a quick exchange of information.

C.w., unfortunately, requires the acquisition of a skill in operating—this does not only mean being a telegraphist, a whole lot of other qualities are required to be cultivated also—an appreciation of exactly when and on exactly which frequency to call—at which speed, and for how long, to send to the other operator, taking into account the band environment, propagation conditions at both ends of the circuit, and your judgment as to what he can cope with anyway.

C.w. will give a whole range of operating conditions from battling in an almost hopeless dogpile to peeling off a string of Yanks at whatever speed one chooses. For some reason or other, once proficiency has been achieved, it is a most relaxing pastime. The wide variety of operators and signals encountered lends flavour to a most satisfying experience. You can sense the wild excitement of the novice

at the other end as he works his first VK at five words per minute, or you can exchange snippets of "info" at breakneck speed with the "big guns". Somehow, on c.w., the inanities of the average contact don't seem so obvious, and QSOs are more business-like, certainly more complete. It is a great shame that most of our casual public listeners judge Amateurs in general by what they hear on phone.

To have to do without one mode or other would be a great loss, but it is inherently very difficult to work close to a phone station and so we should honour our Gentlemen's Agreement and keep out of the c.w. bands when on phone.

We should beware of "market surveys," "consumer polls" and the like, conducted by "business consultants" or "research agencies," and use our own judgment according to what we can hear with our own receivers. I am not suggesting, of course, that the figures quoted in your columns a few months ago were the normal "figures-to-suit-the-boss" that these people are so facile in producing.

Re-read, sir, your Editorial in the October issue, note the results of unilateral action by one Amateur body in this respect, and leave the bands alone.

Before anyone quotes a letter I wrote to you shortly after the war, and in which I wrote that "c.w. operators can be turned out like sausages, and from similar material," I must say that I was obviously a very immature little boy at that time.

—"Tubby" Vale, VK5NO.

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Sub Editor: BUD POUNSETT, VK2AQJ,

6 Alice Street, Queanbeyan, N.S.W.

ADDRESS CORRESPONDENCE FOR THIS PAGE DIRECT TO THE SUB EDITOR

SUGGESTED OPERATING RULES FOR SINGLE SIDEBAND WORKING

FROM ALAN H. REID, VK3AHR

OPERATING FACILITIES REQUIRED

- V.f.o. operation is essential.
- The v.f.o. must be stable.
- The station receiver must be reasonably well calibrated, sufficiently so to give a frequency reading preferably to within 1 Kc. Alternatively, a quickly-readable frequency meter is necessary.
- One switch operation, preferably of the "press-to-talk" type, is required. Vox operation is, of course, permissible, but by no means essential.
- Accurate and quick setting of the transmitter on to the receiver frequency is necessary.

PREFERRED OPERATING METHODS

- General Comments. Except under special circumstances, all stations taking part in the QSO should be on the one frequency. This is important as it leaves more channels clear, facilitates break-in of an additional station when desirable, and allows the operator to know almost everything that is going on right through the QSO.
- Use only the sideband (upper or lower) accepted as being standard for the particular band in use.
- Before first transmitting after a period of shut-down, select your channel carefully, after checking over the band. Listen on it for say half-a-minute before transmitting and, if the band is really busy, first say "Is this channel occupied?" or "Will I be causing any interference if I use this channel?" Look out for, and be agreeable to, any request to move after starting your first call.

(d) Calling CQ. "Hello CQ" three times, with your call once, followed by "listening" or "standing by" is an efficient and adequate call. Perhaps "listening on this frequency" or "standing by on this frequency" is slightly more desirable. If, for some special reason, you want the other man to answer on a different frequency, say "Listening on — Kc." Listen on the frequency for say 10 seconds before repeating. An answering station should give your call once, his call once and some such remark as "Do you copy?", immediately after you say "listening".

(e) Working a Station. Keep the overs short. Don't exceed say 15 seconds, without letting go the tx and having a listen, however brief, on the frequency. The other fellow will probably want to comment without delay on your remarks, or he may even not be copying you due to the arrival of QRM on the channel. Actually, the "over", meaning a series of comments with identification calls both before and after, is now redundant and should be scrapped.

Normally, never transmit more than, say, 30 seconds without letting the other fellow have a say. As in c.w., don't send "double", i.e. don't repeat your words, unless your report is Q4 or less, or you know that it will be appreciated by the other party.

Never cover more than one subject in one transmission. The old method of covering 20 subjects during a 5 or 10 minute single transmission, replied to by 20 corresponding comments, again during one transmission from the other party, should be dropped as it is completely antiquated in sideband working.

If you find a clear channel, initiate a call and are answered by someone, he should vacate the frequency to you when the QSO is finished. If, at the end of the QSO, someone comes on and calls him, he should say "let's move off this frequency to — Kc." Of course, if you announce that you are closing down, they will continue to use that channel if they wish to.

(f) Round-Table Operation. Although often very pleasant, I've heard many good two-way QSOs completely ruined by a break-in station. Never try and break-in to a QSO unless you can copy all parties to it Q5. Listen to the conversation for a short while to gauge if an addition to the QSO would really be welcome. For instance, don't try and break-in if they are in the middle of a subject of discussion, even if it means waiting for quite a while, or if they are two old friends obviously enjoying a private two-way chat. Don't break-in unless you can contribute something to the QSO. If you just break-in for a report, do so with due humility. This practice is, I suppose, admissible, but only if an appropriate moment in the QSO is selected and if it is made snappy. (Don't include an unsolicited, detailed description of your rig, your location, and a weather report.)

In a round table, it is generally desirable to say to whom you are "passing it", although good operators in a round-table just come in and out, without confusion, whenever they have something to contribute.

It is not your right to be acknowledged and allowed to enter an existing QSO. However, if the above rules are followed, you will usually be welcomed in by both parties.

Don't "Identify" unnecessarily. At the start and the finish of a QSO is mandatory, as well as at the intervals specified by the Regulations. There is usually no need to keep identifying every half-minute or so, unless conditions and your signal report suggest this as "tuning chatter", or you know someone else will be looking for you on the band and you wish to make it easier for him to find you. When finishing a QSO, don't linger! Two "finals" are, I suppose, natural, but three or more are unnecessary. You will naturally listen on the frequency for a few seconds after finishing a QSO and before switching off.

VHF NOTES

(Continued from Page 17)

acknowledge calls made to him, and his sigs eventually faded out, leaving a disappointed 6RY. From this it would appear that David's request to keep the first 100 Kc. segment of the band clear is a waste of time anyway because his rx does not hear stations, hi! This is just a shot at David for his comments in Oct. "A.R." notes.

VK6VV came through on 50 Mc. about a fortnight ago and this is only the second time he has broken through from Geraldton. These types of things most certainly keep the interest in the bands. Hope to hear you again very soon Brian.

The last tx hunt was on 6 mx and the antennae used were quite amusing. One ex-VK3 type rolled up with a comical quad perched on the front of his Minor, complete with mum's broom for a support. The winners were Lance 6ZBK and Gill 6ZBW, and although 6RY did not arrive on the scene until about third or fourth, was second in. Next hunt could prove to be interesting as it will be our Christmas outing and speculation as to what it will be is quite keen. It probably will be hand-held gear operated by XYLs and YLs without any assistance from other halves.

Well this is about all for now, except that we would like to congratulate Bob 6ZCY on his recent marriage. Please remember the v.h.f. expedition to Cape Naturaliste by Kevin 6ZCB and Stan 6ZAS during January.—6RY.

TASMANIA

Although rather belatedly, the 6 mx band finally did the right thing on 16th Nov. with an opening to VK4 and northern VK2. This opening was rather patchy, but some of the newer stations were able to contact their first DX. A repeat performance was staged on the next evening when, once again, we had things all our own way without the usual opposition from VK3.

Again, on 21st Nov., VK5 and VK2 (Sydney area) were worked and a lone VK6 heard. The highlight of the month was the Group's operation on 2 mx from Mt. Wellington, behind Hobart, elevation 4,166 ft. This is the first time we have been able to use this type of gear

and results were most gratifying. Five VK3 stations were contacted—four of these were portable field day stations—and four northern VK7 stations, who cannot be easily contacted from Hobart, provided interesting QSOs.

These contacts seem to be basic, ground-wave communication—distances of 350 miles do not seem to be excessive, especially when coupled with a total height advantage of 6,000 ft. The fact that no Melbourne stations were heard seems to support this.

Although we spent a worrying 80 minutes getting gear set up—everything possible seemed to go wrong—we were not perhaps so bad. Out host t.v. station had to go off the air to change four rectifiers, or perhaps we should not mention that!

Although we were in the next room to the t.v. gear, we did not effect it in any way and a half wave co-ax stub cleared up most of the interference we experienced on 2 mx band.

The effort was not, however, the easy proposition it might seem to others. This was brought home to us when, whilst lowering our 24 ft. long beam at 2030 hrs. in a howling, icy, 30 degree gale, a support-wire broke, sending beam and tower hurtling towards all and sundry.

However, after groping our way through a six ft. visibility mist for a half mile on the way home, we still considered it worth the effort. But we will definitely not be repeating this a couple of times per week as suggested.

Now, more than ever, we are determined to work out of Hobart over our mountains (not hills, if you please!) 7ZAI is working on a parametric amplifier and, in conjunction with 7ZBE, trying out passive repeaters. Believe that Col 7LZ in Launceston has either been hearing or working 3ZCG very consistently during mid-November.

New stations on 2 mx in the south are 7ZZ and 7KC, whose possible use of c.w. should prove quite advantageous.

The next meeting of the V.h.f. Group will be on 18th Jan. and all interested parties are invited, particularly any interstate visitors who happen to be in the "Holiday Isle".

Rumour has it that Bryan 7ZBE, our Secretary, has applied for a job in VK3, as yet result unknown.

Following the publicity given to 10,000 Mc. gear, interest in this is quite high in southern

Tasmania. One unit has been obtained and more are expected. The situation of some of our higher mountains seems to be ideal for work on this band.—7ZAO.

W.I.A. D.X.C.C.

Listed below are the highest twelve members in each section. New members and those whose totals have been amended will also be shown.

PHONE

Call	Cer. C'tnt- No. ries	Call	Cer. C'tnt- No. ries
VK5AB	45 266	VK6KW	4 206
VK6RU	2 256	VK3ATN	26 204
VK6MK	43 250	VK4HR	12 192
VK3AHO	51 232	VK4RW	23 184
VK4FJ	21 221	VK3BZ	3 176
VK3WL	14 211	VK3GB	50 171

C.W.

Call	Cer. C'tnt- No. ries	Call	Cer. C'tnt- No. ries
VK3KB	10 294	VK4HR	8 218
VK3CX	26 284	VK6RU	18 215
VK4FJ	29 264	VK3XU	48 213
VK3NC	19 250	VK7LZ	17 212
VK3FH	15 226	VK3YL	39 211
VK3BZ	6 222	VK9XK	41 204

Amendment:

VK3ARX	66 167	VK3AX	68 126
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OPEN

Call	Cer. C'tnt- No. ries	Call	Cer. C'tnt- No. ries
VK2ACX	6 289	VK3HG	3 241
VK6RU	8 271	VK3AHO	76 234
VK4FJ	32 267	VK4HR	7 233
VK3NC	77 255	VK3BZ	4 231
VK6MK	74 254	VK3JA	43 229
VK2AGH	83 245	VK3WL	45 225

Amendment:

VK2APK	82 145
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FEDERAL AND DIVISIONAL MONTHLY NEWS REPORTS

(SEND CORRESPONDENCE DIRECT TO DIVISIONAL REPORTER NAMED AT PARA. END)

FEDERAL

FIFTH JAMBOREE-ON-THE-AIR

20th and 21st OCTOBER, 1962

The following letter was received by F.E. from the Director, Boy Scouts' International Bureau, 77 Metcalfe Street, Ottawa 4, Canada: Dear Sirs,

As you will know, the 4th Jamboree-on-the-Air was held over the two days 21st and 22nd October, 1961, and, from the reports so far received from all over the world, it proved very successful indeed. The event has two objects, the first being to enable Scouts everywhere to make contact with other members of the Movement overseas, to talk to them and learn something of their problems and activities. The second object, perhaps the more interesting from your point of view, is to interest them in Amateur Radio, and I am glad to say that we know of quite a number of new Hams who first "caught the bug" at a previous Jamboree.

We fully realise that this annual event could not take place without the co-operation of the Amateur Radio fraternity, and Scouts everywhere owe them a great debt of gratitude for their willing co-operation and advice. Obviously I cannot thank each one personally and so I would like you, if you would, to pass on my sincere thanks through the medium of your journal.

As indicated above, we propose to hold the 5th Jamboree-on-the-Air over the week-end 20th and 21st October, 1962, from 0001 hours on the 20th to 2359 hours on the 21st, both times being Z time or GMT. I very much hope that this does not clash with any event being organised by your association. If it does, I should be grateful if you would advise me without delay.

with renewed thanks,

(Sgd.) D. C. SPRY, Director.

AUST. CAPITAL TERRITORY

Activity in the VK1 area has shown a considerable increase over the past few months—so much so that moves have been made for the A.C.T. to become the VK1 Division of the Wireless Institute of Australia. This has now been placed on the agenda for the Federal Convention in Perth at Easter and A.C.T. Amateurs are very pleased with the support they have received from the VK2 Division in sponsoring this move.

Action has also been taken to have VK1 as a separate call area for all awards and contests and A.C.T. Amateurs hope that the Federal Convention will agree to this move and allow the A.C.T. to take its proper place in these activities.

Canberra is the fastest-growing city in Australia these days and this growth is particularly noticeable amongst the Ham fraternity. Some of the new Amateurs are local lads who have completed their exams for the A.O.C.U. but a number are old Hams who have migrated here from VK2 and VK3. If the present growth continues, in twelve months' time there could well be twice the number of Amateurs that there were twelve months ago.

On behalf of the local lads a warm welcome is extended to these newcomers and it is to be hoped that they will soon become active and help eliminate the idea that VK1 is rare DX. Up to date information on local activity for the newcomers particularly, but also for anyone else interested, is available at 8.45 a.m. each Saturday on about 7050 Kc. when the VK1 weekly round-up operates and when it is quite usual to have up to a dozen VK1s and some VK2s from just across the border discussing and planning local activity.

It is proposed shortly to introduce a net possibly on Wednesday evenings on 2 mx and this should provide a stimulus to 2 mx enthusiasts in southern N.S.W. as well as in the A.C.T.

At the Annual General Meeting of the Canberra Radio Society, the annual report showed that there had generally, throughout the year, been a great increase in Amateur activity. In particular this is noticeable in the two new radio clubs in the Territory—VK1LS at Lyneham School and VK1BS at the Police Boys' Club. Operating under the direction of Education Officer, Ken VK1KM these clubs have about 60 active members who will, it is hoped, maintain their interest and eventually add to the local activity under their own call signs. The Society is particularly pleased with the local effort in the R.D. Contest when 18 VK1s were on the air and there are hopes that at least one of the top scorers will be a VK1. Next year, with the growth of activity it should be possible to have at least 25 VK1s in the Contest and as a separate call area and perhaps a separate Division, local enthusiasts could be rewarded with a win.

W.I.C.E.N. activity of VK2 Division has been supported during the year and it is expected that a VK1 W.I.C.E.N. group will commence operation shortly. The Government has proposed the establishment of an A.C.T. Civil Defence Organisation and local Amateurs will be taking part in this. Liaison will still be maintained with VK2 W.I.C.E.N. net because of the common interest.

The Society station, VK1ACA, was in operation during the Jamboree-on-the-Air and about 40 Scouts made contact with various parts of the world and exchanged views.

A high-powered 2 mx station is being built by the Society under the direction of Vice-President Eddie IVP. Shortly, it should be putting out a nice loud signal from a 12 element phased array and we have hopes of regular contacts with Sydney and perhaps with more distant places.

On the personal side we hear that Ted LAOF has taken an XYL. She has not been sighted at any Society activity as yet or heard over the air, but we live in hopes that this move has added yet another enthusiast and not lost us an Amateur.—IDG.

NEW SOUTH WALES

GENERAL MEETING

The monthly meeting of the N.S.W. Division was held at Science House, Gloucester St., Sydney, on Nov. 24 and despite the inclement weather, which has been experienced in Syd-

ney for some weeks, the attendance was satisfactory. The meeting was opened by the President, Bill 2YB at 8 p.m. and the necessary formalities were dispensed with.

The lecture arranged for the meeting was given by three members, Harold 2AAH, Syd 2SG, and Ted 2ACD; the subject being "Cubic Quads". The subject was dealt with from both the technical and the practical angles and a number of questions were posed by members of the audience. The vote of thanks was moved by Max 2GE.

ANNUAL CONVENTION

The 12th Annual Convention of the N.S.W. Division will be held on the Anniversary Week-end in January from 26th to 28th inclusive. The opening event will be the general meeting for January, which will be held at Science House, Gloucester Street, Sydney, commencing at 8 p.m. at which a topical interest lecture has been arranged. The lecturer will be Bob Wilson, of Stromberg-Carlson Ltd., and his subject, "Linear Amplifiers". We are expecting a large roll up on this occasion, especially those country visitors who are in town, so you will be well advised to come early.

On the following day, Saturday, a Dinner will be held at "Ivanhoe," 49 William Street, Hornsby. The charge for this Dinner will be 25/- per head and bookings are being received by Ted Whiting, 16 Loudon Street, Five Docks, N.S.W. Full details of the evening will be found in your Bulletin.

A Field Day will be held on the Sunday with features for all. This will be at Quarry Road, Dural, the home of VK2WI and events will be arranged for all—mobiles, v.h.f. enthusiasts, demonstrations, competitions and a heap of fun for all the family. Disposals will be there in force, also.

So fellows, make this week-end a must, bring the family and really have yourself a day, meeting the other fellow and winning some of the fabulous prizes which will be there for the winning. See you at the Convention?

Many thanks to those who have assisted in the compilation of material for these notes throughout 1961, and to all a very Happy New Year.

HUNTER BRANCH

Although no registered plumbers were present at the Nov. meeting, there was no shortage of pipes and fittings. I refer, of course, to the two metre lecture and the associated equipment. The man behind the beam was Major 2RU, ably assisted by Fred 2ALA and Bob Spears, all members of the Central Coast Radio Club. Local members were entertained and informed on some of the mysteries of v.h.f. A most impressive array of gear was there to be seen, including a miniature transistor power supply.

Although I forgot to state earlier, there were nine visitors, seven associates and sixteen members to watch all this hilarity. As if to add insult to injury, a vote was taken during the meeting as to the band to be used for Monday night broadcasts. After discussing the relative merits of 40, 80, 2, s.s.b., d.s.b. and the proverbial inverted ear trumpet, it was decided that Shannon, our friend from the Bay, be consulted on the matter. At this juncture, some uncouth wag from the two and nine suggested that the aforesaid gentleman be asked to do the broadcast and the others allowed to listen on what band they would. He said they'd still hear him. Whether or not this suggestion was put into practice I cannot say, but the latest broadcast I heard sounded like a mixture of the lot, and, after rapidly winding all about the place to follow proceedings, I gave up and listened to the wireless. So there. Ratio of work to listeners in this instance, 13.3 to 1.

Did I diverge? Well to get back to the meeting. The generous gift of no less than four 108 tx-rx's was acknowledged. These came to the Branch by courtesy of the Tamarang Shire Council where they had been used for bush fire working. Our good friend, Ray 2HC remembered the poor Hunter Branch and suggested that we use these to raise some money for our depleted funds. Some very spirited bidding ensued and the upshot was that, after a personal battle of the £ s. and d. between Foster and me, the final price was agreed upon and the display model went to yours truly. This finally came to the hands of one of the

FEDERAL QSL BUREAU

The expected activity by the Elizabeth Radio Club on Nov. 25 did not eventuate, due to the loss of several of the more active members and because other members did not complete rebuilding plans in time.

The Taiwan American Radio Club publicise their BV award. Non Asian stations must contact two BV stations after Jan. 1, 1961. New applicants must indicate they desire the basic certificate and submit certified log extracts, together with three I.R.C., to Taiwan American Radio Club, Box 24, U.S.T.D.C., A.P.O. 63, San Francisco, Calif.

The East Bay Section of A.R.R.L. announce their "SCM-73" award for contacting SCM's of A.R.R.L. after Jan. 1, 1960. The award is issued in six classes, the minimum being Class 5 for contacting 15 SCM's. Applications with either QSLs or certified list and I.R.C. to cover return postage to W6OJW, B. W. Southwell, SCM East Bay Section A.R.R.L., 200 S. Seventh St., Dixon, Calif., U.S.A.

The Award Hunters' Club reports steady growth in membership and plans to resume its monthly bulletins early in 1962. Each monthly bulletin will contain 20 sheets of award rules and details. The annual fee is 24 I.R.C. or the equivalent of three dollars. The Hon. Sec. is OH2VY, John Velamo, Isokauri 4 B 30, Laut-tasaari, Helsinki, Finland. Further information may be obtained from this Bureau.

A Russian Call Book has been published by the Polar Bears Radio Club (Sweden). It lists 1,000 stations from all rare U districts. Price is 20 I.R.C. or two dollars. The Club QTH is SL3ZO, Sven Eifving, Solgardsgatan 15, Ornskoldsvik, Sweden.

The PZK is staging the "Millennium SP Contest 1962" for c.w. from 2000z April 7 to 2000z April 8, 1962, and for phone 2000z April 14 to 2000z April 15, 1962. Further information from this Bureau.

A further change in the A.R.R.L. QSL set-up is W9MSG, Ray P. Birren, 702 Spring Road, Elmhurst, Ill., U.S.A. He replaces W9DSO and handles W9-K9 call area.

Ray Jones, VK3RJ, Manager.

Hamburgers, who no doubt will put it to good use. It's not every day that a philanthropist is detected in our midst. (Takes bow.) I am led to believe that the Toronto Rommel finally purchased one by private treaty.

At last our well informed brethren of the Publications Committee have realised that it is no use at all sending copies of "A.R." to the weak billiards players of the community. Latest member to be ostracised in this way is the Hon. member for West Walsend. Both he and an aforementioned billiards champion visited my humble abode this Saturday past for the express purpose of borrowing my magazine. Of course I always pay my fees on time. And while on the subject of fees, an innocent member approached ZZL at the meeting and asked what it was worth to have the low-down on "Getting My Gelooso Going". Our gentleman friend wishes it be known that any information if and when found, will be dispensed free, gratis and for nothing. There is absolutely no truth in the rumour that the January meeting is to include a lecture by Bill on signal shifters. Fact of the matter is that no January meeting is to be held. I did so want to hear how it (the t.v.) could be reduced.

The local antenna crew, Les, Bruce, Max and two others, who shall remain nameless, but who acted as the brains of the party, visited the Teralba QTH of Harry 2AFA and antenna poles, painted and re-erected his beam antenna poles. A large 20 mx signal from this location should be heard in distant places soon again. Harry also has donated some equipment to the Hamburgers and great has been the delight of those concerned. Thank you, Harry. Thanks also to Mrs. 2AFA for the refreshments enjoyed by the weary workers. Any antenna work swiftly and expertly executed by skilled personnel, apply to the undersigned. The rain has prevented work on Belmont Bob's farm as promised, but by the time this appears another mighty array should be visible to all travellers on the Pacific Highway. Anyone some red lights for sale?

A man who is purported to have once carried \$1,000 worth of test equipment in one of his cars to give a lecture demonstration will be visiting the branch meeting in February. No, he's not Santa, you've already had him. I'll let you in to more of the secret in the next notes. Suffice to say that the next meeting is in February, on the ninth to be exact, at the usual place, University College of N.S.W., Tighes Hill, at 8 p.m. As there will be another issue of these widely read notes by then, you may expect further details. And seeing that the mulberry leaf collector will have returned from the land of everything else by then, or even by now, you may expect a hearty welcome in his hostelry on the third Wednesday of each month from now on. Whether this includes January I know not, so listen around and you'll hear no doubt what's happening. Ta ta for now. 73, ZAKX.

BOORAGUL HIGH SCHOOL RADIO CLUB

The new components for the tx have arrived and, with the assistance of salvaged parts from two A75 rigs and sundry others, the new 40w. station should soon be on the air. Some of the boys are now working full time on this project. We have to thank all those who have so generously donated equipment for the club station and especially Chris 2PZ and Bill 2ZL. It is hoped that the signal emitted will reflect the generosity of our benefactors.

The long-awaited printing of QSLs has eventuated and cards have been sent to all those who have contacted the club. Should anyone have been missed, please let us know and we will correct the position.

In line with the offer by the Canberra School Club, Booragul also has various printed sheets available on theory. These include capacitors, a.c. theory, the motor principle and tuned circuit theory as well as some others. Any school club requiring any of this free material is asked to forward requirements to the station as per call book QTH. Best wishes for all school clubs during 1962. 73, 2ATZ.

VICTORIA

THE ROOMS AT VICTORIA PARADE

As you know by now, the application we made recently to the Board of Works for a permit to use the rooms was opposed by the Melbourne City Council and the board has seen fit to refuse our application.

Following the rejection of our application, an appeal was made to the Minister of Local Government towards the end of November. This appeal is the last course of action open to us and the office-bearers of the Institute have pursued a line of action with this ultimate

step in view. Whatever the outcome of this appeal we must realise that everything that could have been done has been done! Anyway, we await the outcome of this appeal and for the information of members the following summary of the proceedings at the appeal is published here.

The Wireless Institute of Australia, Victorian Division's appeal came on for hearing on Tuesday, 21st November, before Messrs. Campbell and Corrigan, two delegates appointed by the Minister to hear the appeal. Mr. B. M. Sneddon, instructed by Michael Owen, for Messrs. Pavey Willson Cohen and Carter, appeared for the Institute. Mr. Don Mack appeared for the Board of Works. There were no appearances by or on behalf of the Melbourne City Council or the three persons who had lodged objections to the Melbourne and Metropolitan Board of Works to a permit being granted to the Institute. Mr. Mack informed the Board that the City Council and the persons who had lodged objections, had been notified of the appeal. The Chairman stated that no correspondence had been received from either these persons, or the Council.

Mr. Mack stated that the Board was opposed to the permit being granted as it was a residential neighbourhood and zoned as such by the Board under the Planning Scheme. He stated, however, that he did not consider that parking was a relevant consideration in determining the appeal, as there was ample parking at the time it was needed by the Institute. He conceded also that there was some existing non-conforming use in the immediate neighbourhood.

Mr. Sneddon, for the Institute, submitted that the use sought was a beneficial one and referred to the improvements made to the land by the Institute. He outlined in detail the nature of the use, to which it was desired to put the premises. He further suggested that the nature of the locality (which consisted generally of houses with very small frontages having separate ownership) was such as to be unsuitable for residential purposes. He also relied on the presence of the Victoria Brewery, the adjacent Drill Hall, and the factory at the rear of the subject premises, in his argument.

Copies of the Institute's magazine, "Amateur Radio", the Institute's solicitor's original letter to the Board of Works, the Articles of Association and Memorandum of the Institute, and the results of a survey conducted by the Institute into parking in the immediate vicinity, were handed to the Board.

It is expected that the decision of the Minister will not be known for some time. Mr. Sneddon requested that the decision be expedited and referred to the heavy additional expenses incurred by the Institute as a result of these proceedings. The delegates of the Minister indicated that they would recommend that an early decision would be made.

GENERAL MEETING, 7th FEBRUARY, 1962

Two short films by Mullard, of exceptional interest, will be shown at this meeting. It is also intended to discuss at this meeting the proposed Articles and Memorandum of a Federal Company, advance notice of which was given at the State Convention. This is of considerable importance, as it affects the whole

Federal structure of the Institute. The proposed changes will be explained, and as many members as possible are urged to attend, in order that their views may be obtained.

JAMBOREE-ON-THE-AIR 1961

The Boy Scouts' Association, Victorian Branch, would like to sincerely thank all the Victorian Amateurs who so willingly co-operated with Scout Groups to make the 1961 Jamboree-on-the-Air such an outstanding success.

The number of Amateur Stations and Scout Groups participating exceeded all expectations, with the result that more people were "on the air" on the Amateur bands than ever before. In spite of the interference, static, and poor band conditions, the spirit pervading the event was wonderful. Sincere appreciation is expressed to those Amateurs who invited members of the Scout movement to their homes; the hospitality received will long be remembered. Special mention must be made of those Amateurs who were responsible for setting up portable stations in Scout Halls and Camps. Their efforts were well repaid by the interest shown, and it is hoped that this type of participation will set the pattern for future events. It is doubtful whether any previous event has provided more publicity, potential Hams, public relations, and population of the bands.

Participation:—

110 Amateur Stations were known to have been operating in Victoria, representing over 150 Scout Groups and Guide Companies.

109 log sheets were received giving details of 91 stations and 136 groups.

2285 members of the Scout Movement visited these 91 stations.

1181 contacts were made with other Amateur Stations.

1105 of these were Group to Group contacts.

122 overseas contacts were made.

37 different countries were contacted.

Most activity was inter and intra state. Amateurs who contacted overseas stations were disappointed that very few in other countries knew anything about the event. It is hoped that this will improve in the future.

The above figures show a wonderfully successful "Jamboree". The increasing interest is evident as, compared with last year, three times the number of Radio Amateurs took part, and they were visited by six times the number of members of the Scout Movement.

As State Co-ordinator for the Boy Scouts' Association, I would like to gratefully thank Lin 3ARL, Arthur 3AUL, Jim 3ZK, Ewan 3WC, Jim 3ABT, Bill 3AKW, and Gordon 3TH for their untiring help as assistant co-ordinators.

—John Woodburn, VK3AGD.

SOUTH WESTERN ZONE

The usual cry of no information from zone members. The main news is greater action on the v.h.f. bands in Ballarat and Warrnambool. 50 Mc. is the most active this end of the zone, why, I do not know, when good DX is going begging on 144 Mc. More beams should be turned this way as 3ZER is portable just north of Port Campbell, on a Soldier Settlement project. He is a sitter for me at 25 miles. The six metre gang are active most nights and have had a couple of break-throughs to VK4.

Bill 3WK is sporting anew call (formerly 3ZFG), also a new son, so Shirley is not such a wireless widow after all. John 3ARJ busy on the farm so radio is in second place. He will be on 2 mx before these notes are printed. Peter 3FX mobile happy after squash and table tennis. John 3ZDM back again; he would get more contacts if Julie stopped on the mike. Kevin 3AKR on six mx with a pair of 808s. How's the t.v. with it, Kev.? Eric 3ZL putting strong sigs down here on 2 mx, also heard 3CI on the last field day. Well that's it, hope Santa brought a bit more than you thought he would. 73, 3ANQ.

QUEENSLAND

With the coming of the Festive Season we wish all a Merry Christmas and a Happy New Year.

At the November Council meeting a letter of resignation from Bill 4WX was received. Bill, who handled capably the job of Secretary, was forced to resign due to ill health and is unable to take an active interest in Council without risk of further illness. In keeping with their policy of trying to even out the work on Council, the job of Secretary was taken over jointly by Peter 4PJ and Pat 4KB. It is with regret that we see Bill resign from Council as he was a very active member, but the reins are taken over by two enthusiastic members.

W.I.A., N.S.W. DIVISION

TWELFTH ANNUAL

CONVENTION



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NORTH QUEENSLAND

The Nov. general meeting was held in the usual rooms with more than 40 members attending. An interesting lecture on Radio Propagation was given by Dr. Thomas, of the University. This lecture was given in Ham language and was understood and enjoyed by all. Slides were shown to illustrate the different aerials used and the log periodic antenna evoked a lot of interest and queries. Raised also at the meeting was the ever recurring question of a permanent home for 4WI and club rooms of our own. Once again, no constructive move has been made. Applications were also called to members to fill positions on the P.M.G. Advisory Committee. A raffle of gear was conducted by Evan 4EF in his capacity as disposals officer.

A special Council meeting was also held on the general meeting night and at this meeting 4PJ and 4KB were appointed joint secretaries. Also Stan 4SA was appointed station manager with the placing of 4WI's Geloso tx at his home. It is with great pleasure that we see Stan in harness again and once more taking an active interest in 4WI activities.

Reports are still coming in on the Jamboree-on-the-Air and all praise the work done by the Amateurs. Further participants were 4CI, 4QJ and 4ZB. 21 Mc. appears to have been the best band for DX work during the event as 4ZB had 17 overseas QSOs out of 22 contacts on this band.

One tangible result of the Amateurs' participation in this event is that as a result of the enthusiasm shown by the Scouters, the Oakleigh Scout Group have formed a Radio Club with the station call sign of VKAOS. At present Gordon 4XG is the qualified operator, but a parent and a Scouter are doing a course to obtain the A.O.C.P. A boost was given to the club by two donations, one was the offer to provide a high quality s.w. rx from a group of parents, while one parent donated a high quality tx. Here is one station that will be on the air for the 1962 Scouts' Jamboree-on-the-Air.

Gordon 4GH went to some trouble to set up his station for the Jamboree, but unfortunately no Scouts turned up. Though the Jamboree was successful, it is apparent that closer liaison between the Amateurs and the Scouts before the next Jamboree will provide a full roll up at all participating Ham shacks.

SOUTH COAST

All Amateurs, no doubt, will be interested to hear that George 4GG has successfully broken into t.v. Having won a portable barbecue with a question for a quiz programme, he was flown to Sydney and appeared in a show there. He added further to his laurels by winning another prize—a custom-built suit. He is now the best dressed Ham on the band.

Holidaying down this way and mobilising as well is Brian 4UW. May the weather be the wonderful weather of the Gold Coast and that the family and yourself have a most enjoyable time.

Southport Radio Club, 4SR, is beginning to show more activity, new members being enrolled and classes starting again. The enthusiasm of a number of the younger members has had to be restrained on account of studies for school and university examinations. The President, Bob Kyle, is busy constructing mobile gear which he is planning to cover all bands. Bill 4WS is also on the mobile's band wagon and is busy constructing—with many curses thrown in—a transistorised power supply.

CAIRNS

Another member of 4ZW's class has passed his exam. Mickey Mackay was the lucky member in the last A.O.C.P. exam. Rick and Bill have now received the call signs of 4ZWL and 4ZWG. Rick 4ZWL is at present on holidays in Brisbane and from what I hear he might need a three-ton truck to take back gear from the big smoke.

Bazil 4ZW has been on the sick list and has been recovering on holidays spent at the Barron River. Let's hope the holiday did you a lot of good, Bazil.

A sad note has crept into this month's news. You will all remember the silent key of Andy 4BW. Well, as a mark of respect, the people of Mareeba had a collection taken up to create some sort of memorial to Andy. Now stands in the local hospital a water cooler with a small plate attached explaining the significance of it as a mark of respect to Andy. A touching gesture indeed.

The modern s.w.l. is better set up than the average Amateur. As an indication, S.w.l. Afton, at Atherton, uses a Hammarlund HQ170 fed into a Mosley beam on top of a 50 ft. tower. Arthur 4SM insists that he is 72 years young, and is still going strong. After daily contacts with 4ZN he spends his time sawing wood, fixing cars, tractors, and radio sets. 73, 4JE.

Well chaps, 4RW, who looks after the notes for North Queensland, has departed on a world tour and in his absence I will endeavour to keep you posted on the doings of the Ham fraternity up here. The weather has been extremely warm and makes me feel very lethargic. But I can still raise enough energy to turn a knob and hear what is going on.

Bob 4MF is muttering dark threats against a certain Italian gentleman. It seems that Bob has one of his rx's and said rx drifts a bit. Bob is reading all that he can about a rx called an S100. The other member of the condenser twins, to wit Frank 4PF, has finally finished the set to end all sets. This rx is said to have everything that opens and shuts. Coil switching is by turret, and it looks very nice indeed.

Ted 4EG has gone s.s.b. and from what I hear it is the goods. Although I do believe that his 813 took a dim view of s.s.b. and promptly went on the blink. Nick 4WT has been posted to Richmond. Dropped in to see me on his way south. Judging by the way he took off (he drives his like he does his Linc Bomber) it won't take him long to reach Sydney. Another Townsville Ham, 4LU, has also been posted to Richmond. Nick has been allowed to sit in the driver's seat of his planes again, and apart from the fact that he will be flying cargo planes, he is very happy about the whole deal.

Joe 4OJ was very active on c.w. for a while and ran up an impressive string of countries. At the present time he is busy settling in a new QTH and is hoping to be on with low power soon. Ross 4RO has an all-band rig finished and I am told that it looks very nice. Is having a bit of modulator trouble, although it seemed all right on the once occasion that I heard it. The Z boys here are very inactive, so I cannot say anything about them.

George 4GS is building a new rx and has all the bits and pieces to build a rig, and is sure that he will have it all going by Xmas. Didn't mention which Xmas though! Frank 4CW is very active on 20 and 40 mx with a converted AMT150 and a cubical quad. Doc 4DK is still inactive, but as I have recently moved QTH from almost next door to Doc, he may get back on again. I do believe that he is thinking of patronising an Italian gent and obtaining a complete tx and rx.

Your scribe has shifted QTH and now has plenty of room to put up aerials. Apart from intermittent power leaks, the new QTH seems better than the last one. Should have my quad up again this coming week-end, and I'll be able to join the merry throng chasing DX again.

A certain American gent in Townsville has a 250-watt s.s.b. rig and rx to match in his car. He is not a Ham, but that doesn't stop the Townsville gang from drooling over this very nice piece of equipment. I feel sure it wouldn't take them very long to get it on the Ham bands.

Well that's the lot for this issue chaps, so I'll wish you Merry Xmas and all the DX round the place for 1962.—4UX.

— . . . —

SOUTH AUSTRALIA

The monthly general meeting of the VK5 Division was held this month in the club rooms to the usual capacity house, and in the absence of our usual Chairman, John 5JC, owing to his not feeling too well, the meeting was opened by the acting chairman, Phil 5NN. The guest speaker for the night was Bob 5PU, who took for his subject Crystal Filters and Crystal Oscillators. Now at this point in these notes I usually try and give a potted version of the lecture, no not potty, potted, but our chairman had taken me aside and with the usual respect he gives my grey hair and portly figure, said politely, "Listen mug, this lecture will be sent to 'A.R.' (We hope!—Ed.) and therefore there will be no need to use it as padding to make your usual two-page opening in the notes of the meeting." So, in view of this request, which is in itself an order, I will content myself with saying that Bob has given many lectures to the VK5 meetings, and as he possesses that happy knack of catering for the landed gentry as well as the peasants, like myself, this particular lecture was equal to, if not better, than any of his previous efforts. The vote of thanks was ably proposed by that doyen of the v.h.f.s., Al 5ZCR, in a few and well-chosen words, and the applause which followed conveyed more than mere words of mine could ever do so.

Smoke-oh followed, and at the same time QSL cards were distributed by George 5RX, and then the few slow-coaches who left their exit a bit late were trapped for the business session which followed. Very little business, Federal or Divisional, or otherwise, came up, although Keith 5WI-5KH did give notice of

motion to the effect that a certain sum of money, consistent with the finances of the Division, should be allocated toward a building fund for a proposed club room. This will be discussed at length at the January general meeting, which gives a couple of months for everybody to digest this important notice of motion. Several agenda items were read out, but not discussed, and the meeting ended at 10.30 p.m. The accuracy of this report on the meeting is accurate to plus or minus 100 per cent., the reason being that I was unavoidably absent, probably the reason for such a quiet meeting.

Jack 5JS heard on 14 Mc. with c.w. signals loud and clear. He called several CQs at varying speeds and the final one was quite expressive as to his feelings on the band conditions.

Despite any rumors to the contrary, the University of Adelaide Radio Club has not entirely ceased to function. The club goes into hibernation at the beginning of the third term and proves itself by the final exam results, and with this in view, their silence on the air is self-explanatory. However, one or two of the members, those of weak morals and a fine disregard for final exams, made a few sporadic raids on the DX bands and in the process secured W.A.C. and a host of DX loggings. Jeff 5NQ has lured Jan 5ZDM into the hands of Morse and these two are probably the most active, although the addition of 811s to the modulator has increased 7 Mc. ASL activity.

The club's long-awaited QSL cards have arrived from the printer and the club is prepared, and I quote, "to despatch, on receipt of a report and a bottle of beer for the operator, a 'Monastrial' blue QSL card complete with a homespun homily from the E.E. Faculty."

As a threat and possible opposition to the above-mentioned club, rumor has it that the S.A. Institute of Technology (School of Mines to you) Radio Club has been heard on the air recently with c.w., causing the skeleton of the R.I. in the Uni. lift well to rattle perceptibly. Quite a lot of money could have changed hands in VK5 last month over a local court case in which a tow truck owner was charged with using a wireless receiver capable of receiving the v.h.f. frequencies in which the police tx operated. All the "experts" and the "non-experts" went off into hysterics when they read the charge in the newspaper, and as far as they were concerned, the tow truck owner was sitting pretty. Arguments waxed strong and heated, and eventually an opinion was sought from the right sources, the outcome of which only caused the said arguments to increase in intensity. Anyway, the case eventually came to an end with the tow truck owner being found guilty, fined, and his v.h.f. rx being confiscated. Which only goes to prove how wrong one can be through the years, and how near many of us have come at times to being hauled into the court. I shudder when I think of it, true as true I do!

Roy 5DA—"Buck to you—has again been on the sick list, but latest reports are re-assuring. Strangely enough my information came from a VK7, "Roop" 7RM to be exact, who is at the moment of writing still visiting our fair State. As an ex-VK5 (5RM) he has been visiting all of his old buddies and thus found out about Buck when he called on him at the A.B.C. As a matter of interest, very few are aware that 7RM's interest in radio goes back as far as working with Marconi on his yacht Electra, when it was in the New York harbour, and "Roop", as an employee of R.C.A., was sent down to the yacht to assist Marconi in any way desired.

Bill 5XB recently returned from an enjoyable sojourn in VK6. He took a mobile rig with him on his holiday and although he contacted Buck 5DA from Nundroo, where he spent a night, he was not successful in contacting any VK6s from VK6 itself.

Have you had a gander at the techniques being employed by the VK4 scribes to get sweet with Ye Ed.? "They have done it again, etc., etc." "The Sunshine State" etc., etc. I know what would happen to me if I tried it. Fancy me trying on "VK5, the moonlight State." "They have done it again, Fanny's ramblings to be enlarged." Oh yeah!! However, credit where credit is due, I thought that the write-up by 4PJ in the August "A.R." was one out of the box, although he did say Queensland (The Sunshine State) Division's Annual Convention. Nevertheless, he gets the Oscar for 1961. Oh, and by the way, if that hint from the Cairns scribe re the local P.O., opening with "S.A. please note," is fair dinkum, then I warn him that my blood pressure is rising and I am quite prepared to take on VK4 as well as VK2! (Let fighting season commence.—Ed.)

Congratulations go this month to John 5ZC who has announced to a waiting world that he had become engaged. Despite intense listening to the local gossip on my part I have not been able to dig up much information on the

matter, but I have discovered that he has his eyes on Aldgate for a QTH, his bundle of charm is named Beth, her uncle is a Radio Amateur (his call I do not know), and last but not least, in view of his reported appetite, he has not included a kitchen in the plans of the proposed domicile, but is settling for a field kitchen!

Peter 5FM came along to the meeting, and is in the midst of setting up a tower and a quad. Dave 5DS—Doctor Mac to you—was bemoaning the loss of his 7 Mc. antenna, plus one of his ground planes in the big blow this last month. It isn't "Donald, where's your trousers?" these days, it's Davie "where's your aerials?"

Joe 5JO, he who is newly married, and, incidentally, looking very well on it, is busy painting his house preparatory to carrying his bride over the threshold, and therefore is not very active on the air at the moment. Al 5MF noticed walking down one of our main streets at a very fast clip, minus hat and coat, and perspiring freely. I shadowed him for a block in the hope that I would find out just what was doing, but the pace was too fast for me. My last glimpse of him was as they put me in the ambulance! Frank 5MZ still in one piece, wonders will never cease, was noticed at a late hour recently coming home from a 21st birthday party, complete with a billy and a plastic bag full of cake; what a man!

Doc 5MD was on the sick list at the meeting night and therefore no minutes of the past meeting was to hand. No details available, and the wall is too high for me to snoop over! Ian 5QX, late of Elizabeth, heard from 5WC at Woemera on the Sunday morning 5WI call-back. John 5JC, whom I mentioned was not at the meeting to take the chair, tells me that he has had the uncle of all carbuncles. When I asked him if he was eating his meals off the mantelpiece, he became quite common and coarse, informing me in no uncertain manner that it was on his leg.

Luke 5LL is delving in the realms of tape recording with the idea of sending a tape to W land. So far he has been rubbing himself out and then putting himself back on the track with monotonous regularity. At least it has been highly educational for him, he now knows the difference between a single and double track machine. Doug 5DW has returned fit and enthusiastic about portable Amateur Radio from his recent sojourn at Lake Bonney. He told me in one of the contacts that I had with him that he supposed when he returned home he would lose his new-found enthusiasm for radio. How wrong can he be?

Now everybody in VK5 will tell you that we have a Divisional journal that comes out at frequent intervals. Everybody will tell you that it is a good one and that they read every word printed in it. Also, that Brian 5CA, who edits it, should be very proud of it, and yet every now and then up hobs the excuse that they have never noticed any reference to subscriptions being due to the Division. For the past couple of years, in an attempt to save the members postage money, the notice of annual subscription being due has been included in the journal which comes out round about February or March. Bearing this in mind, please read every page carefully, and please cough up your subs when notified in the journal. I thank-you. I thangyou!

Just in case by now there are any of my readers left who might feel like arguing the point or even betting on the accuracy of a previous paragraph on the tow truck owner in VK5, who was convicted for using a v.h.f. rx. I see by the paper this week that another conviction was recorded against a person for having maintained an appliance for the purposes of receiving wireless telegraphy messages. He admitted having affixed a converter to a broadcast rx which could then be used to listen in to a police message. An order was made by the magistrate to condemn the radio set, at the discretion of the Attorney-General. Incidentally, he was fined £10 with £4/2/0 costs, which is expensive listening in anyone's language. Still want to argue?

Well, here we are again. The old year on the way out and the new year on the way in. On behalf of the Council and members of the VK5 Division, may I extend to all Councils and members of all other Divisions, a Happy and Prosperous New Year. To those who have

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agreed with me, and even to those who have agreed to differ with me, I say, keep up the good work in 1962, and either I will convert you, or I will be converted by you. However always remember that whichever way the ball bounces, it must be made to bounce to the credit of our grand old hobby Amateur Radio.

Now for the payoff—VK4 please note. To that handsome, fairminded, astute, clearheaded man of letters, my palsy-walking, Editor, to say nothing of that hardworking, clearheaded, handsome specimens of manhood, the Publications Committee, may I thank you all for putting up with my humble efforts this year, and if you all could see your way clear to tack another nought on to my present salary, you would all continue to rise in my estimation. If that does not prove that I can crawl as well as VK4, then I will give the game away! 73, 5PS (PanSy to you). (Salary is now doubled.—Ed.)

WESTERN AUSTRALIA

The highlight of the October general meeting was the lecture given on the Mercury Project and Muchea tracking station by Mr. Jack Walker at the monthly meeting. This was most interesting and very ably given. Mr. Walker knows his subject backwards and seldom referred to notes during his hour and a half talk. It was greatly appreciated by a gathering of some 40 members.

Another very successful event for October was the VK6 section of the Scout Jamboree-on-the-Air, some 20 Amateurs taking part.

Conditions on 40 mx for October have been not so good and have caused some disorganisation of the Sunday news session. This is a pity as the WI news is becoming very popular on Sunday morning judging by the silence on the remainder of the band at that time. This is partly due to the very interesting technical talks by 6GH after the news. Reports come in from Albany in the south to Carnarvon in the north. Les 6LF in the north puts a very potent signal into this QTH with his grid modulated tx. Have not heard 6AH lately, but he is on very low power and many miles away—some 500 miles airline.

6WL is still in bother with t.v.i. and deserves much credit for the way he is trying to overcome it. Heard 6BU from his new QTH. I understand he is contemplating an antenna farm in his backyard. Good hunting Jack. 6PH put in a good effort for the Scouts with his crow's nest (sorry, cubical quad) in spite of interference from Wolfgang. 6XO is another who has been overworked or something directing rocket launchings at Katanning. We understand he worked himself to the stage when he could no longer take an interest in proceedings, but was aided by "All Baba"—or should I say hindered. VR2EB, ex-6CO, was heard here one night trying to contact VK6 on c.w. but all he could manage was VK3XL. Bob 6BE is back to his usual signal on 80 mx after shaking the moths out of the rig. The tx did not like the new QTH, Bob?

Twenty mx has been open quite often lately and 6CP, 6DR and others have been heard DXing. 73, 6ZCK, per 6LS.

TASMANIA

November 1961 was really a very busy month from the point of view of our hobby. Conditions for the "CQ" Contest on both 3.5 and 7 Mc. for the C.w. Section were very good indeed and much fun and enjoyment was had by those stations participating in the Contest. Then, the visit of Arch 5KK to Norfolk Island sparked off yet further activity, and it was very interesting indeed to listen on my frequency immediately after completing a most enjoyable QSO with Arch, just to see how many Ws could be crammed into ten kilocycles.

The V.h.f. Group also undertook some most interesting work on the 144 Mc. band on the 18th November from the top of Mount Wellington. Several VK3 stations were worked, over and above the northern VK7s. Mature consideration of the results of this effort could lead to advances in the art on this band.

Bob 7OM has been adding new experiences to his most interesting life, but the latest experience is one which most of us would shy clear of, namely, a shipwreck, or virtually so. Bob was on board the Sumatra when it went aground about the middle of November. Bob is as cheery as ever, and none the worse for his experience.

Snowy 7CH and Ken 7KA have been afloat also during the month and from all accounts their respective enjoyments were considerable. Ken is also a very keen Tamar class yachtsman each week-end these days and we wish him increasing luck with his new-found hobby.

The North-West Coast boys operated 7WI/P very successfully from the Devonport Science Exhibition late in the month, and I know I express their gratitude to those Amateurs who so willingly co-operated by providing contacts for them. I have heard rumours that several of the v.h.f. boys are hard at work studying the code, with a view to sitting for their full tickets in the near future. Best of luck chaps, you will find that c.w. will materially help your hobby on the bands in which you show so much interest.

Brian 7ZBE has been in northern Tasmania for three weeks at the direction of his employer, and no doubt he operated on the v.h.f. bands while up there and had interesting contacts with the locals and beyond up there. Ted 7EJ was in Melbourne, on business, for a few days early in December.

In closing, I wish you all the very best for the holidays season and for the new year of 1962. 73, 7ZZ.

NORTH WESTERN ZONE

Sorry chaps I missed out last month, but was away on holidays and too relaxed to think about it. Took a portable away with me and when I took it out to operate, found the rough roads had shaken about six connections loose. Gave it away.

The Amateur station operating from the Scientific Exhibition at Devonport was quite a success. Although only working a No. 22 set, some good contacts were made and interest aroused. The usual competition was had from surrounding exhibits including film projectors, toy trains, closed circuit t.v., etc., but we copied OK. Thanks to the chaps who helped out by calling us.

Spies tell me that our worthy President is wasting a deal of valuable time in playing golf. Could knock up a s.s.b. job in the time taken for a couple of 18 holes. Which brings to mind a very neat looking effort at the shack of 7XL, which I am assured will some day be a s.s.b. rig. I wouldn't know.

N.W. Zone stations have been very quiet lately. It leaves me with little to talk about. Thought I heard 7DA active for a few seconds recently. 7FT also appeared for a brief one. To add to the confusion, 7RN appeared out of the blue one night. It's most disturbing.

The last social meeting was an organised film show. Some movies were shown, but the show was completely stolen by a combination of colour slides with commentary on tape, taken on a recent world tour by George 7GC. The photography, coupled with the most interesting descriptions and comments, spoke volumes for the thought and skill put into the project. Many thanks George for your thought and the use of slides, etc. We wish you every success in your new QTH.

Haven't seen the quad out at Pumpkin Farm lately. Hope the wind has not devastated it. Wonder if Bob 7IL would be in our zone. Often hear you on Bob and may get you into the gossip column if I can arrange a spy on K.I.

Well chaps, trust that the New Year holds some pleasant surprises for you all, apart from frequency cuts. 73, 7MX.

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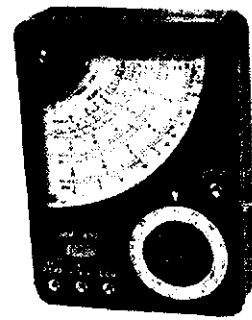
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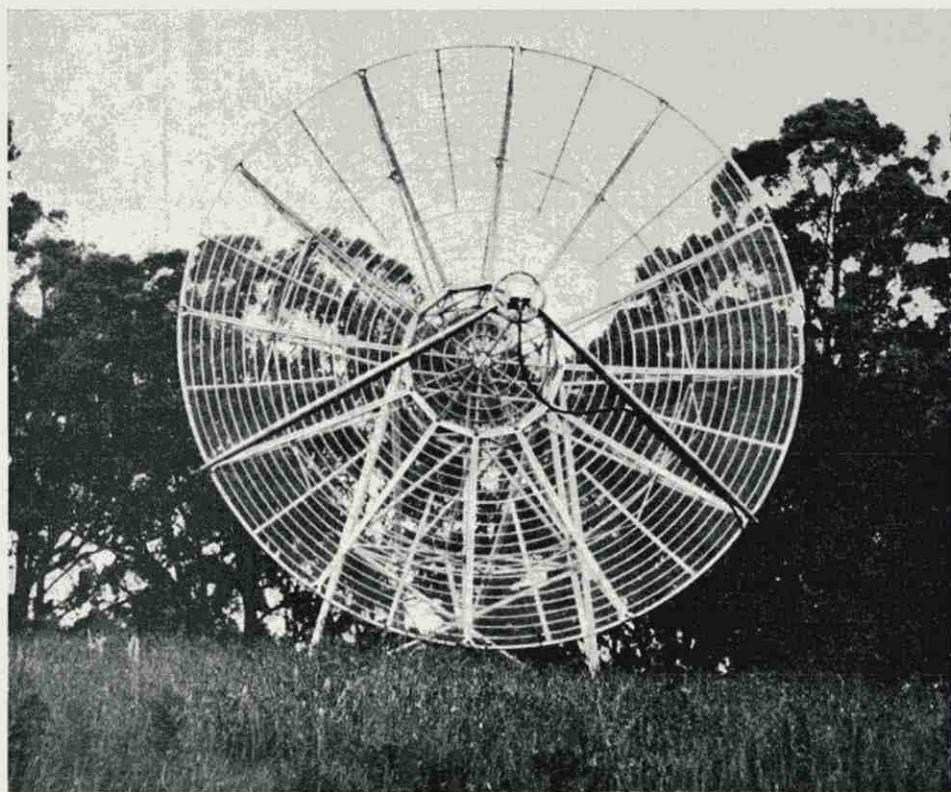


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A M A T E U R R A D I O

FEBRUARY 1962



Vol. 30, No. 2

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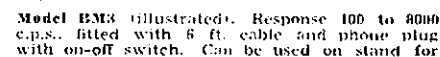
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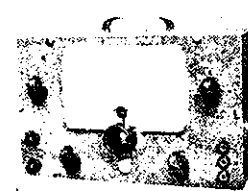
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VR103	5/-	5 a	£1	Y65	5/-	

"AMATEUR RADIO"

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before the 8th of the month preceding pub-
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Mc. Intrastate hook-ups taken on 7125
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VK7WI: Sundays at 1000 hours EST, on 7146
Kc. and 3872 Kc. Intrastate hook-ups
taken on 7115 Kc.

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OUR COVER

Situated high in the Mt. Danden-
ong Ranges (Victoria), nestling
among the trees, is a large Kennedy
Dish used by the P.M.G. as part of
the Tasmanian "trunk line" circuit.

COMMENT

★

THE NATIONAL FIELD DAY

February is here again and with it comes the annual event of the W.I.A.—
the National Field Day Contest. This Contest has been running for a number
of years but has never quite reached the popularity it deserves. Some of the
reasons for this state of affairs are probably the trouble to get together the
necessary gear, the camping-out in the open required, poor conditions on the
bands and the like, but mainly it appears to be a simple case of general
lack of interest.

In these days of modern transport and caravans, small lightweight equip-
ment with transistorised power supplies and other modern innovations, surely
the above reasons are not entirely valid ones for neglecting this important
event. It is important because in times of emergency, it has been proven
that the Amateur who has portable equipment ready to move to a trouble
spot in a hurry can be of inestimable value to the community at large. When
all is said and done, it is this type of public service that has given the right
publicity to the Amateur and the right to class his services under the
international title of THE AMATEUR SERVICE.

Various means have been tried in the past by the Federal Contest
Committee to popularise this Contest by judicious changes to the operating
conditions and scoring, but no changes will help if the Amateur himself does
not evince some practical interest. This Contest is a challenge. It challenges
the Amateur to produce highly efficient light weight equipment and to improve
his operating techniques in order to beat his competitors and by so doing,
increases the knowledge in the art.

The Federal Council and your Executive have explored new ideas in
order to make this a bumper Contest, and it is now possible that this Contest
may become the memorial to the late John Moyle and receive the fillup it
requires. This seems a lasting way of perpetuating his memory as no other
scheme can do; furthermore, John's widow believes this is a fitting way to
remember him because of his own keen interest in portable and mobile gear.
If this proposal is finally approved by Council, we believe this will become
the most popular Contest in the Australian Amateur's calendar.

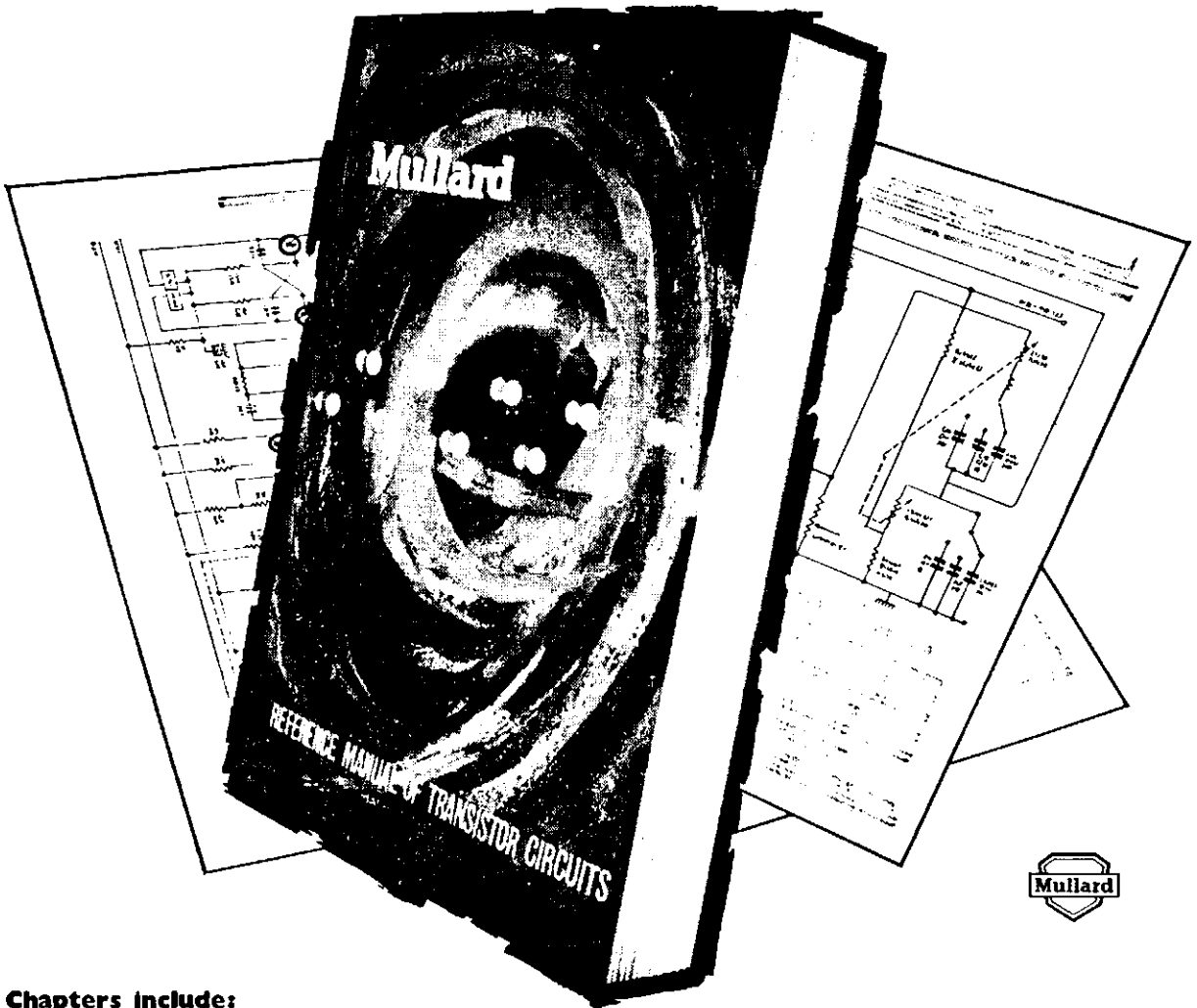
As the Contest on the 10th and 11th of this month will probably be the
last under its old name, give it a good send-off by getting that gear out of the
corner of the shack, come away into the fresh air and enjoy the fun and
competition of a Contest away from the shack. See you on the 10th and 11th?
Good—and the best of DX.

FEDERAL EXECUTIVE, W.I.A.

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R1155 RECEIVER MODIFICATION

G. W. CANNING,* VK3ZIC

TWO recent articles in "A.R." have interested me because they concern the receiver in use at this location. They were the articles in the Sept. and Oct. 1960 issues and their vagueness has prompted me to writing this article.

Such statements as "a little careful snipping," which I tried when I first obtained the set, resulted in disaster for quite a few components and it was not until I obtained a copy of the handbook that I realised just how careful this "snipping" had to be. Other slight errors and misleading statements I thought should also be corrected so the following handbook data was collected.

BRIEF TECHNICAL DETAILS

Purpose.—Designed for use in aircraft, A.R.S. launchers, radio vehicles and as an after thought when somebody made a mistake in the type of flux used for soldering, ground installations. Provide communication and direction finding facilities of c.w., m.c.w. and r.t. (but not on all ranges; d.f. only on ranges below 3 Mc.).

Ranges:—

R115L & N	Others
18.5 to 7.5 Mc.	18.5 to 7.5 Mc.
7.5 " 3.0 "	7.5 " 3.0 "
3.0 " 1.5 "	1.5 " 0.6 "
1.5 " 0.6 "	0.5 " 0.2 "
0.5 " 0.2 "	0.2 " 0.075 "

Sensitivity Figures.—These are taken for an output of 50mw. into 5,000 ohms under matched input conditions:—

80 Kc.	— 63 μ V.
185 " "	— 22 " "
210 " "	— 16 " "
500 " "	— 7.1 " "
650 " "	— 14.2 " "
1430 " "	— 12.6 " "
1.55 Mc.	— 11.3 " "
3.33 " "	— 18.0 " "
7.0 " "	— 3.5 " "
8.0 " "	— 22.2 " "
16.0 " "	— 9.0 " "

Selectivity: 4 to 6 kc. for 6 db. down.

Output Impedance: 5,000 ohms for headphone use.

Valve Line-up:—

Purpose	Valve	Equiv.	Near
DF switching	2 x VR99A	ECH35	
RF amplifier	VR100	KTW62	6U7G
Converter	VR99A	ECH35	
IF amplifier	2 x VR100	KTW62	6U7G
AVC and BFO	VR101	MHLD6	6B6G
Det., 1st Audio,			
Meter Limiter	VR101	MHLD6	6B6G
Meter switching	VR102	BL63	6F8G
Tuning indicator	VR103	Y63	

Power Output: 200 mW. into 5,000 ohms.

Dimensions: Length 16-7/16", width 9 3/8", height 11 3/8".

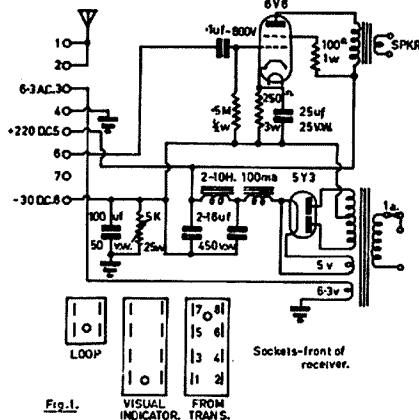
Weight varies between 26 and 32 lbs., depending on particular version—some have steel and others aluminium chassis.

The valve line-up given is that used in the 1155s used by the Australian

services and there was, as far as I could see, little degrading of performance (if any) by substituting a 6U7 for the VR100 in the r.f. stage (there being tons of gain here) and 6B6s for the VR101s. If they are substituted for the i.f. amplifiers the sensitivity will drop. This is due mainly to the difference in gm., 2.8 for VR100s to 1.6 for 6U7s. (However, some 6U7s are well up to the mark.)

It can also be seen for the band coverage table that the R1155 L and N are the most desirable types to obtain. These are scarce in Australia; being made for A.S.R. launchers of which Australia only had a few; so the next best is one of the numerous others. (Coil boxes for the L and N types are available from certain disposals sources.)

The receiver I obtained, and on which most of these modifications have been tried at some time or other, was noisy, definitely not in mint condition, and looked as though it had been in storage for several years. Most of the noise I attributed to the condition of the components in the set and the tubes. However, I would not say "give it a new suit of valves." The best idea is to remove them all and get them tested for emission and mutual conductance as well as leakage currents. I emphasise the gm. test here because the receiver is mainly r.f. or i.f. stages and their efficiency depends on the gm. of the valve used in the stage.



The receiver here now has a readable signal of less than 0.5 μ V. (sig. gen. won't measure any lower) and a bandwidth very much less than that specified. This is principally due to the use of all miniature valves; admittedly not hot bottles by modern standards, but the best of their type, and type of r.f. stage. (I'll get really howled down about it when I get to it.) There are other designs which give more gain for much the same noise figure but they load the aerial circuit too much and are unstable in this particular component layout. Most of them have been tried and rejected because of these points.

Now to get around to the modification and I suppose first up you will want to get the thing going. So, I'll give you a power supply, power amplifier, and bias network to make it work. This is shown in Fig. 1, as are the connections to the Jones' plugs. A word of warning: do not connect anything to pin 7, it is hot—as are the pins on the visual indicator socket, so if you are going to use the set as is for the moment put a covered dummy plug in the visual indicator socket.

The set should operate now without any modification unless there is something wrong with the set.

The operation of the master switch is simple, there being only two positions that concern normal use. These are: Position "O" (normally called Omni, I've yet to find out why), when the r.f., i.f. and mixer gain are controlled by the r.f. control (audio being flat out). In the position marked "AVC," the r.f., i.f., etc., gain is a.v.c. controlled and the audio gain is controlled by the volume control. (The r.f. and audio pots. are ganged.) The other three positions are concerned with d.f. work and, unless of particular interest, are of little use.

Most of the modifications that were done here were done so that the set was off the air for the shortest possible time. In the first series, that of removing the d.f. gear, the set should be operable at all stages. So here goes and be prepared for a lot of work.

REMOVAL OF D.F. EQUIPMENT

The following valves can be removed:

V1 and V2 (VR99As), right hand side of chassis looking from the front of the set.

V9 (VR102) left hand side of set between 2nd i.f. tube and b.f.o. box.

If V1 and V2 are in good condition they can be kept as spares for the converter, being of the same type. As yet I haven't found a use for V9, a twin r.f. triode, so if you can, good luck to you.

The sockets for these tubes can be removed or re-used, I used them for the power supply (in-built) and a noise limiter. Whether they are used or not all wires to them and components on them should be removed and completely removed from the set.

Don't be lazy and just clip them off because quite a few of them are hot and if left floating around could be disastrous. These include:—

(1) All connections to the "Visual Indicator" socket; remove this socket when all the wires are off. It will take a bit of work, but I can assure you it does come out.

(2) All connections to the "Loop" socket, remove this while you are at it.

(3) The connection to pin 7 (top l.h. of "Transmitter" plug when viewing from front).

* 21 Woods Street, Laverton, Vic.

(4) All connections to rear section of b.f.o. box, both above and below chassis.

(5) All connections to wafer "e" and "c" of the master switch. Wafer "e" is the rear wafer.

(6) All connections to the switch wafer, inside the coil box, further away from gears. At this stage do not touch the connections to the other side of this wafer (see Fig. 2).

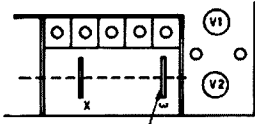


Fig. 2. Remove connections to this wafer.

The components associated with these valves are:—

C41, C49, C50 (3 x 0.1 μ F.), chassis mounting condenser located between V1 and V2.

C51, C52, C53 (3 x 0.1 μ F.), also between V1 and V2.

C55 (0.5 μ F.) and C56 (8-105 pF.) underneath aural sense switch just to rear and below tuning indicator.

C42 and C43 (25 pF.), C44 and C45 (240 pF.), C46 and C47 (80 pF.), R46 (1.5K), all on tagboard on end of coil box near V1 and V2. Remove as a complete assembly.

C23 and C24 (0.0005 μ F.), two mica condensers on V9 end of coil box.

C7 (0.005 μ F.), paper condenser on V9 end of coil box.

C48 (200 pF.), at rear of master switch.

R56 (240 ohms), pin 8 of V2 to chassis.

R57 (0.56 meg), underneath aural sense switch.

R47 (27K), R48 (3.3K), R49 (27K), R50 (3.3K), on tag board above aural sense switch. Remove with aural sense switch.

R52 (6.8K), R53 (0.56 meg.), R54 and R55 (56K), L23 (transformer), C54 (0.05 μ F.), underneath tuning indicator in one assembly. To remove, V10 must be removed from holder and some wrestling done.

R65 (10K), pin 5 off V9 to two mica condensers on V9 end of coil box.

R66 (10K) top cap of V9.

R70 (1000) pin 5 of V8 (audio stage) to rear of b.f.o. box.

R6 (1500) pin 8 of V8. Remove only this resistor, leave all other connections as is.

R5 (1000) and R7 (270), top resistors on tag board on top of chassis near last i.f. can.

R51, meter balance control, top l.h. of front panel.

R23, meter amplitude control, top l.h. of front panel.

C3, C4, C5, C18, C20, C21, C22, C107, L26, L27, L28, R24, R25, components in rear section of b.f.o. box.

HFC5, top caps of V1 and V2.

L24 (2 off), large two-section coil mounted on bracket front of coil box near V1 and V2. Remove them and bracket as complete assembly.

L1, C99 (100 pF.), these are located inside the coil box, when looking from rear of set assembly, located at top r.h. corner of r.h. side of coil box with set inverted, i.e. valve downward.

After all these components are removed you will notice that there is practically nothing left in some parts of the set. The master switch will only have effect in the positions "O" and "AVC" so this can be replaced by a two-position, two-pole switch, preferably moved to the place previously occupied by the meter balance control. In my receiver this switch has been removed completely, the r.f. gain control pot removed and a.v.c. left on permanently. However for those that still require it, here goes.

REMOVAL OF MASTER SWITCH

The master switch wafers are numbered from the front panel in the series a, b, c, d and e, with the letters f (front of wafer) or r (rear of wafer) following it. I'll use this system of numbering throughout the modification.

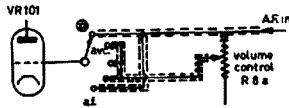


Fig. 3.

All wires, at this stage, should be removed from wafer "e" and wafer "c". Between wafer d.f. and b.f. will be found a 1,000 pF. and a 200 pF. condenser. These are respectively in series with the fixed aerial h.f. coils and trailing aerial m.f. coils, via the two sections of b.f., d.f. and the aerial switching wafer in the coil box (wafer "x"). These two condensers can be removed, the two leads from the moving arms of the d.f. sections connected to either pin 1 or pin 2 of the "From Transmitter" Jones' plug. I used a piece of co-axial cable on to a coarse plug and joined these two leads together inside the coil box. The set should still work with very little difference in performance.

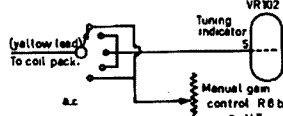


Fig. 4.

All wiring to front and rear of wafers "b" and "d", if not already removed, may now be removed. This leaves wafer "a" to deal with. I'll show the circuit of this wafer (Fig 3—front section, Fig. 4—rear section) because it will make the necessary connections to the two-pole switch obvious.

The circuit to be used with the switch (which can be obtained by putting another couple of contacts on the old meter deflection switch) is shown in Fig. 5. It can be seen that by moving the switch to the other side of the panel the audio leads are very much shortened, as are some of the r.f. gain control leads.

Do not touch any of the leads on the other terminals of the volume controls. To shift some of these leads will require a fair amount of work but in

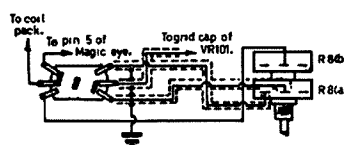


Fig. 5.

the long run it is well worth it. This makes the master switch redundant so it can now be removed.

Also when the aerial lead is changed, two h.f. chokes and two resistors R62 and R63 (2,200 ohms) can be removed. These are connected to pins 1 and 2 of the now power input plug.

BIAS VARIATION FROM MIXER

The next modification is to remove any form of bias variation from the mixer. This is done for two reasons: the most important is that bias variation does vary the local oscillator frequency. When a.v.c. is being used with s.s.b. signals the signal is very hard to resolve and reports of frequency modulation can be given with some of the modulation systems in use today unless a.v.c. is removed from the mixer stage. I know one well known Amateur who consistently gives reports of f.m. with all modulation systems other than correctly adjusted anode-screen modulation and as yet I have not been able to detect any on these same signals—even with b.f.o. on. So watch it you critical reporters.

To remove this control, lift the junction of R38 (100K) and R10 (150K) and earth the end of R38 which was just lifted. Reconnect R10 to its original point.

These two resistors will be found inside the coil box, behind the two valve sockets in the l.h. partition (looking from the rear with the set inverted). R38 is to the right of the multiple condenser and R10 to left on the tag board. R10 should be in front of another 100K resistor (R45). This removes a.v.c. but it also removes bias from this stage, so a 250 ohm resistor, bypassed by a 0.1 μ F. 200v. condenser, must be installed between pin 8 of V4 (left hand of the two valve sockets) and earth. This pin is already connected to earth, so this connection must be removed and these two components put in.

The next thing I did was to place cathode bias on all the valves. This takes a fair bit of doing but it does make things much easier when some refinements may be added. It will also have the set off the air for some time as once started, there is a fair bit of it.

CATHODE BIAS ON ALL VALVES

I'll do it in stages so that the receiver is off for as little as possible, but remember the voltage between chassis and h.t. negative must remain at -30v. so adjust it as we proceed.

Firstly the audio stage.

(1) Remove C105 (0.1 μ F.) under the clamp near under-chassis shield of the last i.f. can. R26 (100K) outside end of tag board near where C105 was. Earth the terminal which was the junction of C105 and R26.

(2) Remove R22 (1K) from pin 8 of audio output tube V8 (VR101) and its other connection. From pin 8 of V8 put a 2,200 ohm $\frac{1}{2}$ w. resistor to earth and a 25 μ F. 6v. electrolytic as cathode by-pass.

(3) Remove R20 (56K), third resistor from outside end of tag board which held R26 (include R26 in this count) and replace with a 100K $\frac{1}{2}$ w. resistor.

(4) Remove R67 (22K) on top of vertical tag board upper side of chassis

near last i.f. can and short out the terminals.

(5) Remove C25 (0.001 μ F.) from pin 3 of V8.

Now comes the big part. If you start this section, you will have to finish it; until you do, the set will have to stay off the air, because until it is finished the a.v.c. and r.f. gain control are not operating.

Starting at the power plug connect pin 8 to pin 4.

Remove R1 (2K), C1 and C92 (2.5 μ F.), and C94 (1 μ F.), large multiple block condenser and resistor below the tuning indicator.

Remove the lead associated with C92. This connects to the heater line.

Remove R2 (1.2K) near where the master switch was on top of chassis.

Remove R3 (1.2K), second resistor from outside end tag board with R26.

Remove R4 (120), second resistor from inside end.

Remove R64 (200 or 100), third resistor from inside end.

Remove R69 (100), may not be used, but if used, in r.h. end coil box near most r.h. switch wafer (w).

Connect a 1,600 ohm resistor from pin 8 of the tuning indicator to earth and lift the present connection.

Remove R9 (2M) from end which does not connect to C103 and connect this end to earth. R9-C103 combination is located alongside the output transformer, mounted on the front panel. C103 is the mica condenser (100 pF.).

Earth end of R12 (27K) not connected to R11 (150K) and trace lead that did connect to here back to source. This should go to R8(b), the r.f., i.f. gain control. Don't remove this lead as it will connect to the bottom of i.f. amp. cathode resistors, however earth the other side of the r.f., i.f. gain control and remove the lead which did connect to this point.

That removes most of the excess gear so now to put some essential stuff in. Lift pin 8 of the two i.f. amplifiers and the r.f. amplifier off earth and in each case connect a 0.01 μ F. 200v.w. condenser to earth and a 300 ohm resistor from pin 8 to the lead that did connect to R12 and is still connected to the r.f., i.f. gain control. The only point to watch is that the 0.01 μ F. condensers are actually at the valve sockets, the resistors are not quite as important.

Well, after wading through that lot, with a bit of luck you can plug the set in, switch on, and it might work. When I first did it, I wasn't quite so lucky, I hadn't done everything and it did not work.

When operating in the a.v.c. position a means of shorting out R8(b) will have to be included on the switch. Another pole will be needed here to do the job, but that should be well within the scope of most.

I have not tried to point out how to lay components out because everyone has his own choice and everyone may not have the same size and shape of components that I had.

That is all the modifications to the basic set, from now on modifications are by choice and usually involve additions to the basic set and changing of valves, etc.

MINIATURE VALVES

What I have done here is to completely change the valve line-up to miniatures, with consequent changes in some circuit components. I also tried various other types of circuits in the r.f. section. One of these was to substitute a 6SN7 cascode r.f. stage for the VR100, with the help of an octal plug and socket.

The set-up worked, much to my amazement, and in my opinion was better than the VR100. After discussing this with various people I found out that the 6SN7 is rated as an oscillator mixer combination up to 100 Mc. I was going to try it in my receiver but decided to go all miniature instead.

I decided to try the 6ES8, 6BL8 line-up but the layout of the circuit in the 1155 is not suited to these valves and I finally finished up with the circuit shown in Fig. 6, with a pair of 6J6s. These are mounted on a copper plate complete with everything and the necessary connections made to tag-strips. This plate sits in a cut-out where the r.f. stage used to be.

I also mounted a 6AM5 as the p.a. stage on a bracket underneath the tuning condenser and brought the speaker output leads to a plug where the original plugs were. These have all been removed and a piece of dural cut to

fit with a co-axial socket, speaker plug and standby switch mounted on it.

The power supply is now mounted just above this with a 120 mA. transformer, 5Y3, VR105/30, 16H. choke with 16 μ F. condensers. The VR105/30 is used to regulate the voltage on the local oscillator and b.f.o.-product detector.

Above where the plugs were, I have placed an S meter (if they can be called such) using a couple of pots, resistors and an old temperature gauge that I picked up for 5/-.

So now the receiver line-up is:—

- 6J6—cathode coupled r.f. amplifier.
- 6J6—oscillator-mixer combination.
- 6BA6—1st i.f. amplifier.
- 6BA6—2nd i.f. amplifier.
- 6AV6—detector, a.v.c., 1st audio.
- 6BE6—product detector and b.f.o.
- 6AM5—power output.
- 5Y3—rectifier.
- VR105/30—voltage regulator.

As far as I can see I have, for my initial £13 (they'll cost you £25 now) and a lot of work, one of the cheapest receivers for its quality that you can buy. The modifications are by no means anything like finished, there will always be something new to try out, but in the meantime it is being used and those that have heard it have been impressed. ●

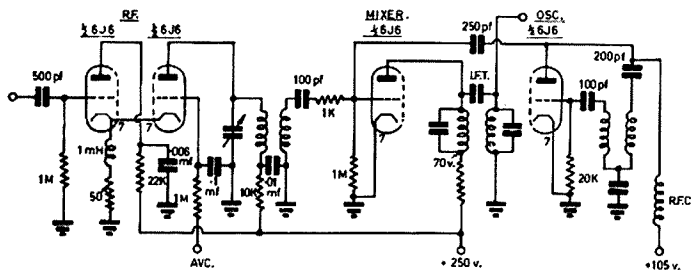


Fig. 6.

The present r.f. and mixer-osc. stage in use here at the moment. It is important for low noise from the mixer that its anode volts should not exceed 70v. If possible obtain a selection of 6J6s and use those with the highest gm. and best matching between sections. They are notorious for not being as per the book.

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The Characteristics, and How To Use Them, of—

SEMICONDUCTOR RECTIFIERS*

DAVID T. GEISER, WA2ANU

SEMICONDUCTOR rectifiers are becoming popular in Amateur equipment, both in the home and in the car. While this type of component has a justifiable reputation for reliability, in actual application the semiconductors have certain weaknesses that must be considered before their inherent reliability can be attained. This article briefly discusses some of the characteristics of the rectifiers and lists some precautions helpful in their use. Discussion is limited to the germanium and silicon types.

HOW A RECTIFIER WORKS

A rectifier is a component that conducts electricity better in one direction than the other. Any electrical part that meets this requirement can be used as a rectifier. Many varieties of rectifiers are or have been used. Old timers may remember the electrolytic rectifiers and detectors that were used on occasion between 1900 and 1930, in which metals and chemical solutions were combined in forms very similar to present-day electrolytic capacitors. Mechanical rectifiers have been used when the characteristic of the input electrical wave was known (like ordinary a.c.) and switches were closed only when the current was flowing in a particular direction. The car radio synchronous vibrator used in the era before transistor radios was an excellent example of this type. However, vacuum-tube and mercury-vapour rectifiers have almost entirely replaced the mechanical and electrolytic types because, having electron-triggered or electron-flow methods of conduction across the open space in the tube, these rectifiers only conduct with one polarity of applied voltage.

Like the electron tube, the semiconductor rectifier also operates on the principle of electron attractions. A crystal is formed of silicon or germanium (Fig. 1) with impurities added in one region differing from those in the adjacent regions. The result of these impurities is that one part of the crystal structure has more electrons than the structure calls for, while the other region has too few. The vacant parts of the structure of the second region are called "holes". The electrons are negative charges of electricity, and the holes are positive charges. (Where a material has neither holes nor electrons that can be easily moved by applied voltage, the material is an insulator.) The region of extra electrons is called the "N" region, that with extra holes is the "P" region.

The boundary between the regions, or P-N junction, is where the rectification takes place. If the P region is connected to the positive terminal of a battery while the N region is connected to the negative terminal, the

● The semiconductor power rectifier is gradually losing that "expensive" tag, and the cheaper it gets the more attractive it becomes in transmitting power supplies. But some Hams have learned, to their sorrow, that you can't take the liberties with crystal diodes that you can with many tube rectifiers. Here's why—and how to avoid trouble.

charges will cross the junction and be replaced by charges from the battery. If the battery is reversed, the charges will tend to be drawn away from the junction by the battery, and there will be no free charges in the immediate vicinity of the junction to carry current across it. This makes the junction look like an open circuit when "reverse" polarity is applied to the rectifier, and automatic rectification takes place with voltage polarity change.

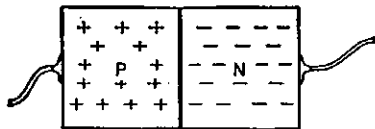


Fig. 1.—Rectifying semiconductor junction with excess electrons (N region) and electron vacancies or "holes" (P region).

POWER LOSS

The semiconductor rectifier is not perfect. The differences in material on opposing sides of the P-N junction make it slightly difficult for current to cross the junction when only a small forward voltage is applied. Germanium usually requires about a fifth to a half volt in the forward direction before full current will flow, while silicon requires six-tenths of a volt to a volt for each junction. This voltage drop required to cause current flow means that power is lost in the junction (watts = volts × amperes) and some heat will develop. The semiconductor rectifier is attractive because the voltage and power loss are less than in many other kinds of rectifiers.

Semiconductor rectifiers are not perfect in the reverse direction, either. Fig. 1 shows the electrons and holes as if their regions were exclusive, but there are always a few holes in the electron region, and a few electrons in the hole region. A semiconductor region is mostly P or mostly N, in the same sense that a town may be Democrat or Republican. The effect is that of the majority. Also, small breaks in the crystal structure make current carriers available. These carriers, if located near the P-N junction, will cross it when reverse polarity voltage is applied and permit reverse current flow. In spite

of this, modern semiconductor rectifiers that are rated for one ampere commonly have less than a milliampere reverse current at room temperature. High reverse voltage multiplied by leakage current also represents power loss that appears as rectifier heating.

Temperature has a very important effect on leakage current, for as the material of the semiconductor warms, the unwanted carriers become more active, and more of them will contribute to leakage current. A common rule-of-thumb is that the leakage current will double with each 18-degree Fahrenheit rise in temperature. This effect is reversible; that is, as the temperature drops, the leakage current will drop to almost its original value unless the rectifier has been damaged. Too much heat will destroy the rectifier. The heat may come from either internal power dissipation or from outside. It is best to keep germanium below 200°F. and silicon below 300°F. for long life.

CIRCUITS AND THEIR EFFECT

Three types of rectifier circuits (Fig. 2) may be expected to be found in Amateur equipment. Table 1 lists a number of conditions that the circuits impose on the rectifiers. The chart expresses the voltages, currents, and powers in terms of the d.c. output voltage, current, and power. Thus, where peak inverse (reverse) voltage impressed on the rectifiers when the d.c. output voltage is 1,000 volts would be 3,140 volts. Naturally, the rectifier in such a circuit should be able to stand this inverse voltage.

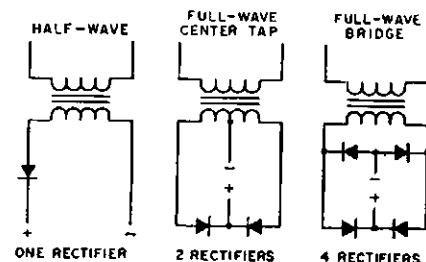
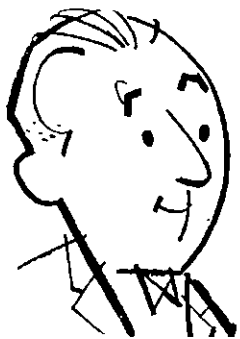


Fig. 2.—Several common single-phase rectifier circuits (see Table 1). Series strings of rectifiers may be used for increased voltage ratings where single rectifiers are shown.

Table 1 deals only with cases where the rectifier (semiconductor or tube) is feeding pure resistance or an inductance above the critical value.¹ When the rectifier is connected directly to a capacitor, the capacitor has a tendency to look like a short circuit during charging, both initially and on every rectifying cycle. Most rectifiers, and particularly semiconductors, have ratings for maximum surge current, both

¹—See the "Power Supply" chapter of "The Radio Amateur's Handbook."

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The source of power, whether transformer or line, should have enough resistance or inductance added to it in series to limit the surge currents to the maximum safe value.

With a capacitor-input filter, the peak inverse voltage may range up to two times the peak voltage developed across the filter, depending mainly on how heavily the rectifier output is loaded.

Rectifier Circuit Conditions			
Circuit	1	2	3
D.c. volts out	1.00	1.00	1.00
Peak volts out	3.14	1.57	1.57
Rectifier peak inverse volts	3.14	3.14	1.57
D.c. current out	1.00	1.00	1.00
D.c. current per rectifier	1.00	0.500	0.500
R.m.s. current per rectifier (resistive)	1.57	0.785	0.785
(inductive)	Res. only	0.707	0.707
Peak current per rectifier (resistive)	3.14	1.57	1.57
(inductive)	Res. only	1.00	1.00

Table 1.

CONNECTING RECTIFIERS IN SERIES FOR HIGH VOLTAGE

The low cost of the lower-voltage silicon rectifiers, in particular, has provoked the thought of series connection for high-voltage operation. This is quite possible, provided the characteristics of the particular pieces are known; the rectifier manufacturers commonly use series connection to make high-voltage stacks.

Rectifiers tend to behave in either of two ways when subjected to high reverse voltage, as shown in Fig. 3. In either of the cases a voltage is finally reached where the voltage within the rectifier forces the material to become conducting. Some rectifiers have practically no conduction until a critical voltage is reached, and then the leakage current increases hundreds of times with a rise of a very few volts. This is typical of small-area silicon junctions. Other rectifiers have a continual and usually more rapid increase in leakage current with increase in reverse volt-

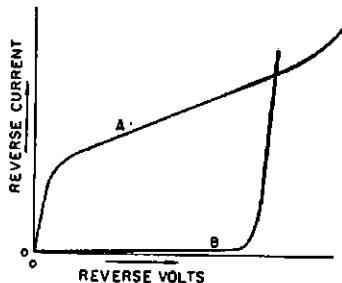


Fig. 3.—Rectifier A leakage current increases gradually when reverse voltage is increased, while B exhibits a sharp increase at a particular voltage. A is typical of germanium and large-area silicon units, while B represents many small silicon rectifiers.

age, showing a gradual rather than abrupt increase into high reverse current as high reverse voltage is reached—typical of germanium and large-area silicon rectifiers.

In both cases, immediate and disastrous destruction can result unless the current is limited. The ordinary catalogue or handbook description gives no clue as to how a particular type of rectifier behaves in this region, and thus applied voltages should never be more than maximum ratings. Occasionally typical curves are shown that illustrate how a manufacturer expects his product to enter the region of rapid increase of reverse current, but it is impossible for a maker to check each inexpensive rectifier for compliance. In cases where only a single rectifier has reverse voltage applied to it, this region is relatively unimportant, because it always lies at a higher voltage than the rating. The region is important when two or more rectifiers are connected in series to obtain a higher total voltage rating.

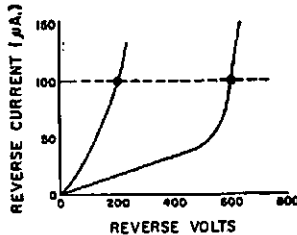


Fig. 4.—Division of 800 reverse volts across two series rectifiers having the characteristics shown would result in one rectifier having only 200 volts and the other 600 volts.

When two semiconductor rectifiers are connected in series, how does the voltage divide? Let us imagine two rectifiers in series having to divide 800 reverse volts, and having the reverse characteristics shown in Fig. 4. As this is a series circuit, the reverse current must be the same in the two rectifiers, and the total of the voltages developed must add up to 800 volts. The situation here is intentionally bad, with one rectifier having a "sharp" break and the other a "soft" break in the reverse current-voltage curve. Here we see that at 100 microamperes the rectifier with the soft break is subjected to 200 volts and the sharp-break rectifier must withstand 600 volts. This means that the rectifier with 600 volts across it will have to dissipate three times the power of the rectifier that has the higher leakage current in normal service. It will, of course, become hotter, and its own leakage current will increase until a somewhat more equal distribution of voltage occurs. The danger in this compensating process is that destruction may occur before a satisfactory equalisation is reached. For this reason manufacturers, when assembling series strings, frequently make certain that the diodes used in each string have the same type of break and, if a soft break, are pretty well matched.

General Electric practice² is that strings of germanium rectifiers such as the 1N91 should be factory-matched, while medium- and high-current sili-

con units (like the 1N1301) are well enough matched if they have the same type number and peak inverse voltage rating. With low-current types—for instance, the 1N253, 1N440, 1N536, 1N1115, and 1N1487—having a sharp knee or break, no particular matching of reverse characteristic or selection of peak inverse voltage rating is required.

When the diodes have a sharp break, the total current is usually low enough to prevent developing enough power to cause destruction if at least a moderate amount of safety factor has been allowed in choosing rectifier voltage ratings.

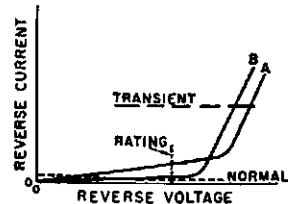


Fig. 5.—A pair of rectifiers (A and B above) may make resistive equalisation of voltage difficult. At rated voltage, A here has the lower resistance, but B has a lower resistance at the transient condition.

Longer strings of the same type rectifier are inherently safer. Incidentally, it is uncommon to shunt rectifiers with resistors to equalise voltages, though it could be done. One reason not to would be because the voltage division during most of the reverse cycle would differ from the division at transient peak voltages. An example of the difference is shown in Fig. 5, where rectifier B (uncompensated) would have greatest impressed voltage normally, but not during transients.³

Transients frequently cause different voltages to appear across rectifiers in a series string. Each diode appears as a small capacitor and, of course, each lead of that capacitor has a certain capacitance to ground as in Fig. 6. This string acts as a voltage divider. If we assume that a pulse with a very steep wave front is coming from the left and has reverse polarity, the biggest portion

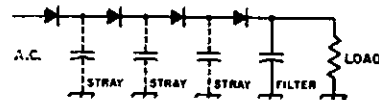


Fig. 6.—Transients coming from the a.c. source affect the left-hand rectifiers most because of the by-passing effect of the stray capacitances. Capacitance compensation can help (see text).

of that pulse is going to appear across the left-hand rectifier. A more equal division of voltages can be achieved by shunting the rectifiers with equal capacitors of 1,000 micromicrofarads or more. In long strings it is sufficient to shunt possibly as many as three or four rectifiers at a time (the same number at a time, of course) with satisfactory results. The reason for the unequal distribution of voltage without the compensating capacitors is that the stray ground capacitances (in the example shown) cause current to be bypassed to ground as the transient moves from the left to the right, and little of the transient appears across the right-hand rectifiers.

(Continued on Page 10)

²—General Electric Semiconductor Products Department, "Series Operation of Silicon and Germanium Rectifiers," Publication ECG-400 3/59.

³—This discussion assumes that transients are infrequent but cannot be avoided.

SEMICONDUCTOR RECTIFIERS

(Continued from Page 9)

Transients should be expected to appear even when the power source feeding the rectifier is stable. Switching on the power at a time when the input a.c. is at the peak of the cycle is one cause; the presence of a transformer with inductance in the switched line is another. One source of transients that is not so obvious is in the rectifier itself. The current carriers in the rectifier are usually in motion across the P-N junction at the time of polarity reversal of the rectifying circuit. These carriers are so close to the junction that they will often recross it and give the effect of reverse current, and it does take an appreciable amount of time for them to be cleaned out. This process makes the rectifier look as if it is shorted for this period and, particularly in the case of bridge rectifiers, when the "shorted" period is over for one rectifier, another rectifier or rectifier string suddenly sees whatever voltage the a.c. source has reached during this period.

RECTIFIERS IN PARALLEL

In the forward direction, a semiconductor rectifier has many of the characteristics of a voltage regulator in that once the threshold voltage (a fraction of a volt) has been reached, the rectifier will conduct very greatly increased current before the voltage rises more than a few additional tenths of a volt. Rectifiers of the same type do not all have exactly the same threshold voltage. If two such rectifiers are paralleled, the difference in the voltage drops will mean that the rectifier having the lower voltage drop will carry the greater current. Equalising resistors should be used in series with each rectifier, as in Fig. 7, making the resistance value such that there is a drop of perhaps one volt at the rated current. This makes the difference in voltage drops of the rectifiers have little effect on the even distribution of current.

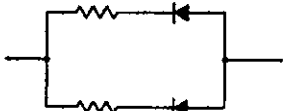


Fig. 7.—Small equalising resistors help divide forward current between paralleled rectifiers (see text).

INSULATION AND HEAT SINKS

Most rectifiers in the power range have a case that is connected to one of the leads, though there are a number of all-glass types. The "hot" case must be insulated by air spacing or other means from the rest of the circuitry to prevent accidental shorts.

This insulation causes some problems when the rectifier is dissipating an appreciable amount of power, for some means must be provided for removing the heat from the rectifier. Most rectifiers that need this treatment to meet their advertised ratings are equipped with a threaded stud mount. There are available mica washers that may be

used to provide electrical insulation while permitting considerable heat transfer to the chassis or other metal body the part is mounted on. There are also power rectifiers available with insulated studs that are useful for mounting directly against the chassis. Here, as with the mica washers, the stray capacitance to ground is increased.

Another way of providing cooling for the rectifier is to mount the stud into a metal plate having an area of several square inches, and permit free air or blown air to cool the metal plate. It is necessary to insulate the plate if the stud is in electrical contact with the rectifier.

ACKNOWLEDGMENT

The writings of many other authors, notably that of F. W. Gutzwiller, were freely consulted in the preparation of this article. Much was recast into the above wording, and errors of interpretation, if any, are this author's. ●



RADIO DETAILS OF RUSSIA'S SPACESHIP

The first flight of man into space in the history of civilisation was carried out in the Soviet Union on April 12, 1961. The "Vostok" space-ship, with Comrade Y. A. Gagarin, pilot-astronaut of the U.S.S.R. on board, was put into orbit as an earth satellite.

The orbital elements of the spaceship are measured and the operation of the ship-borne systems is monitored by radio instruments and radio telemetry facilities.

The elements of the ship's movement are measured and telemetered records are received by ground tracking stations inside the Soviet Union. Incoming data is automatically transmitted to computer centres where it is reduced by electronic computers. As a result, current information about the basic elements of the flight path is obtained and the further movement of the ship is predicted throughout the flight.

The ship also carries a "Signal" radio system operating on 19.995 Mc. This system is employed as a radio beacon and as a channel for transmitting part of the telemetric information.

The t.v. system televises the space pilot to the earth, thus providing a visual check on his condition. One of the t.v. cameras shows him full face and the other in profile.

The two-way radio link between the pilot and the ground is provided by a radio telephone system operating in the h.f. range (on 9.019 and 20.006 Mc.) and in the v.h.f. range (on 143.625 Mc.).

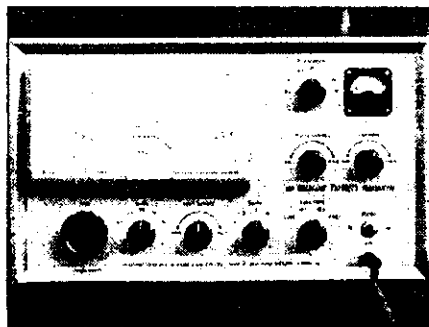
The v.h.f. channel is used for communication with ground stations within 1,500 to 2,000 kilometres of the spaceship. As past experience has shown, the h.f. channel can provide a reliable link with ground stations inside the Soviet Union over the greater part of the orbit.

The radio telephone system incorporates a tape recorder which records the pilot's speech and then plays it back and transmits to the ground when the spaceship files over the ground receiving stations.

Provision is also made for radio telegraph transmission by the space pilot.

—Reprinted from "Moscow News," April 29, 1961.

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A Junior Short Wave Receiver—19-49 Metres

HARRY MAJOR,* WIA-L3102

Listening in on the short waves can be quite an interesting hobby, even with a simple type of receiver.

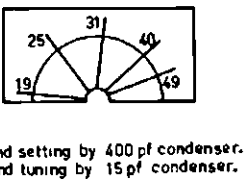
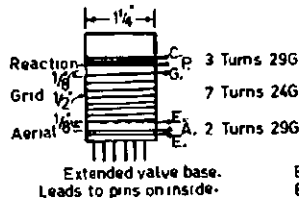
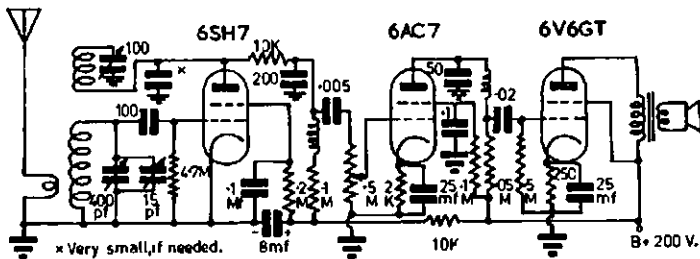
While short wave superhetrodyne receivers are ideal, they may be beyond the ability of the younger members interested in short wave reception.

The receiver detailed here was rebuilt into an old broadcast receiver. The tuning coil was removed and re-

number of minor alterations found to make it more effective and easier to tune and control oscillation.

The two stages of audio are an advantage, enabling the weaker stations to be brought in at good volume and avoids the use of headphones.

The small condenser marked by the asterisk may not be necessary unless oscillation is excessive. I found it is



placed by the special short wave coil which, with the 400 pF. tuning condenser, will cover from 19 to 49 metres. The smaller condenser is actually used for tuning and the larger one only for band setting, as shown on the home-made dial.

The 6SH7 and 6AC7 valves can be cheaply obtained from disposals. The circuit is very similar to others which have been published, but with a num-

ber of minor alterations found to make it more effective and easier to tune and control oscillation. The use of a short aerial, 20 to 30 feet long, is sufficient to enable quite a number of the larger overseas stations to be brought in at good volume.

The broadcast dial was removed and a longer single-ended pointer fitted on to the end of the spindle. The dial was made from white card and after the band setting positions were marked, it was covered with a piece of cellophane.

* 30 Seaton Street, Glen Iris, S.E.6.

NEGATIVE CYCLE LOADING

In the article "A.M. Without Splatter" ("A.R." Feb. '61) reference was made to Negative Cycle Loading. With further reference to this form of modulator output limiting appearing in "A.R." Jan. '62, some additional facts may be of interest.

Negative cycle loading will reduce splatter due to overmodulation since—

1. It minimises the tendency toward negative peak clipping by the final, and
2. It presents a load to the modulator even if the final plate volts do go negative, preventing the high voltage transients which would otherwise be generated by the unloaded modulator.

Against these must be weighed the facts that—

1. N.c.l. wastes modulator power, since portion of the modulator output is dissipated as soon as the final plate volts fall below the quiescent carrier value, and
2. N.c.l. introduces distortion which broadens the signal. If n.c.l. is applied to a transmitter which was previously never modulated more than 100%, then for the same modulator output the resultant signal will have less modulation (approx. 70%), with a frequency spectrum half as wide again as that previously occupied. This broadening of the signal does not disrupt the band as does the splatter of overmodulation, but is nevertheless undesirable.

For this reason, a high level low-pass filter should always be used between the loaded modulator output and the final. Such a filter is advantageous even if no form of high level limiting is used, since distortion figures for Class B modulators as used by most Amateurs run around the 5% mark, and spurious sidebands will thereby be generated. The combination of n.c.l. plus filter plus plenty of audio plus a final with high modulation capability will result in a well-modulated splatter-free signal.

Note that there is absolutely no justification for the choice of the diode series resistor as half the d.c. impedance of the final plate circuit, articles by K6BJ notwithstanding. The value will depend on the excess audio available, and the characteristics of the modulator tubes. By far the best method of determining the value is by trial and error, using a c.r.o. (preferably with trapezoid pattern) and choosing the resistor which will just prevent final cut-off when shouting into the microphone at typical DX level. Remember, however, that n.c.l. will not increase the audio output of the modulator, which must always be run within its capabilities if intelligibility is not to suffer.

—Bob Roper, VK3PU.

[See next month's "A.R." for full details of the original article by K6BJ, reproduced by courtesy of Eimac Tubes, U.S.A.—Ed.]

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HINTS AND KINKS

FREQUENCY JUMPING V.F.O.'s.

Those who have been troubled by slight frequency jumping of their Gelo 4/104 exciter units may locate the source in one or more of the following:—

1. The spacers in the central section of the band switch, which are held in compression between two of the switch wafers, appear to depend for their earth connection on a chance contact with the rods which they encircle. Measurement between the spacers and the exciter chassis may disclose a considerable resistance, which may vary with pressure. It is unfortunate that these spacers are made of light metal which will not take ordinary solder, but small copper clamps can be made to fit around the spacers, near the centres of their length, and copper braids run to earth from these clamps (at the earth tie points for condensers C7, C8 and C9).

The flat switch operating spindle may also show a low but variable resistance to earth, and this may receive treatment similar to that given the spacers. The spindle will take solder.

If the braids are made just sufficiently long, and if they are staggered slightly

along the length of the switch, they will not interfere with each other, or with the operation of the switch.

2. Measurement between the dial cord spindle and chassis may reveal a considerable and variable resistance. The cord end of this spindle is fairly close to v.f.o. tuned circuit components.

A cure can be effected by treatment with an oily type of contact lubricant (Electrolube).

3. The Litz wound coils L1 and L2 should be removed from the chassis, and the Litz terminations closely examined, with the aid of a magnifying glass.

—J. Bonnington, VK2AKB.

VK2 TO ZL3 ON 144 MEGACYCLES

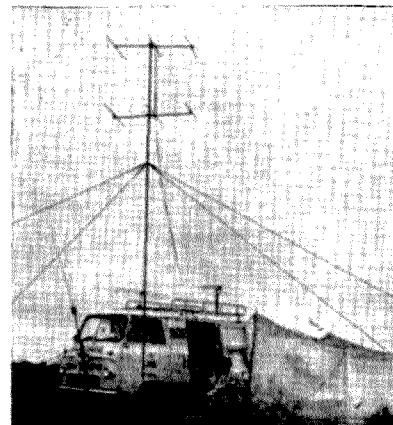
The v.h.f. bands have been agog over the news of the 144 Mc. contact between VK2ASZ and ZL3AQ on 30th December, 1961.

Bob VK2ASZ was portable at Mt. Allister at the time to take part in the VK2 V.h.f. Midsummer Field Day. He decided to have one last tune across the band before lunch and heard ZL3AQ calling CQ VK. Contact was established at 1310 hours and continued until 1325 hours. ZL3AQ stayed at 5 and 9 over this period and Bob's signal report was 5 and 6 with QSB.

Verne ZL3AQ was using 30 watts to a 5 over 5 beam and his location is at Ashburton on the east coast of the south island.

VK2ASZ was using 12 watts to 3/12 and antenna was 3 over 3.

Unfortunately, first check of the distance at 1355 miles would make it just six miles short of the existing VK record, but final checks may tell a different story.



VK2ASZ was located at Mt. Allister when he made contact with ZL3AQ on 144 Mc.

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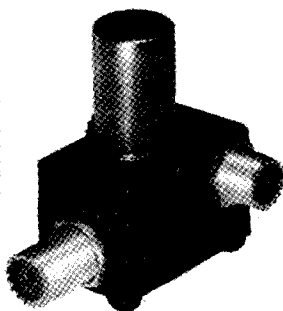
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Size: 1½ x 1½ x 2¼ in. Weight 10 oz.



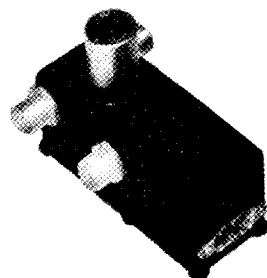
DKC-TRM-1, 1.8 to 60 Mc.
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DKC-TRP

AMATEUR RADIO A THRILL FOR THE LADS

Difficulties associated with getting home to outlying areas and consequent restriction of time to the lunch hour, a quiet period in Amateur transmitting and receiving, do not deter a keen little band of radio enthusiasts at St. Edward's Christian Brothers' College, Gosford, in their enthusiasm for a fascinating hobby.

Perhaps their interest can be better understood when it is realised that the boys have the support of one of their

a Victorian school under the call sign of VK3YL.

Biggest thrill for the lads, perhaps, came when they managed to make contact with a Ham in Ecuador, South America, no mean feat with their first transmitter of 40 watts.

NEW S.S.B. TRANSMITTER

Startling progress has been made with the introduction of a 150 watt s.s.b. transmitter for club use. This was made

manual operation. The receiver comprises crystal converters to 3 Mc. Command, then low frequency i.f. with double half lattice filter.

The complete station is packed into a small cupboard in the classroom, leaving only the antenna coupler and monimatch visible when the cupboard is closed.

Signals leave the district via a G5RV flat top on 40, or a two element beam on 20 mx. There are at least six other Amateur shacks within a mile of the College, but rarely any QRM as they only operate at 12.30 and 3.30 on week-days.

The station has interesting educational possibilities in the way of geography and languages. Several times they have had distant Hams give talks to a class and they are hoping to arrange some French conversation with FK8 one day.

The boys already have a great number of QSL cards displayed on the door of the classroom cupboard which houses the station.

And while teachers exist, such as Brother Kinsella and others of his calling, who do not confine themselves to the mere imparting of dry book learning, then youngsters of ability will be spurred on to worthwhile achievement.



Brother Kinsella with two of the lads from the College.

masters, Brother D. W. Kinsella, VK-2AXK. Although he specialises in the teaching of French and science, Brother Kinsella has found from long experience with Amateur Radio how valuable is the knowledge of electronics and other principles of physics acquired by young enthusiasts in this field.

During two years of teaching at the Christian Brothers' Technical High School, Newtown, Brother Kinsella proved the worth of getting boys interested in Amateur Radio. The pupils at the technical school built a "junk rig" from disposal parts. At the time, the station (VK2AXK) was believed to be the only one operating from a classroom. The venture was widely reported and specially featured in newspapers and magazines.

The boys at St. Edward's, with their limited time, cannot as yet hope to equal such a reputation but as is the case with Brother Kinsella, it is quality rather than quantity that counts all the time.

The boys operate under the call sign of VK2ATQ. They experienced the pleasure recently of being the first station to make contact with another school, the Booragul Boys' High School, Newcastle, commencing a new station VK2ATZ.

St. Edward's also has made contact with girl radio enthusiasts sending from

possible through the generosity of several Sydney Amateurs who spent a great deal of time making up a 2EWL phasing rig and linear of four parallel 807s.

A complete control unit came with the gear, allowing vox, press-to-talk, or

ASSISTANCE REQUIRED

Federal Executive is at present planning to put the Federal station, VK3WIA, on the air from its new location in Carlton.

Anyone interested in assisting with this interesting project is requested to get in touch with the Federal Treasurer, Bob Boase, VK3NI, phone 34-9491 any hour. The station is operated under special licence and uses high power.



Three of the boys from the College, left to right: Frank Booth, Dennis Halpin, and David Hyde.

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Trade Review

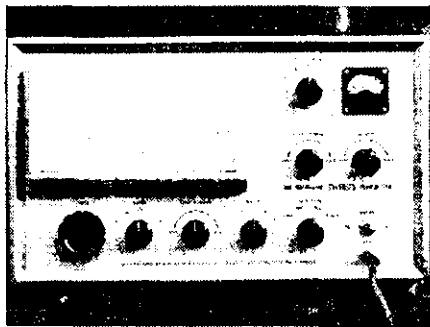
— . . . —

"IAN McMILLAN TX150/75" TRANSMITTER

This Australian produced transmitter is a logically designed and constructed kit. Provision has been made for the constructor to provide his own external power supply, if necessary using suitable components from his own "junk box".

The TX150/75 is a very solidly constructed unit of attractive functional and electronic capabilities. It is built around a Geloso v.f.o. and there is available a very simple yet effective modulator unit, so providing a complete a.m./c.w. transmitter.

A heavy pre-punched passivated cadmium plated chassis is provided in the kit, and the pre-printed front panel matches the chassis, being attached by the components, so eliminating the normal fixing screws. Wiring is simple, yet the adequate grid drive available is proof of effectiveness of the layout.



An unusual treatment is given to the outer cabinet which provides a durable yet attractive finish.

The cost may seem high, but if a careful analysis is made, it will be found that this is not an expensive kit. The builder will be able to obtain a good re-sale value in later years (and this does offset the low value normally placed upon home-made gear), which reduces the original kit cost.

Regretably no opportunity was available for "on the air" tests, but it can be claimed that from such a simple, reliable piece of equipment, well constructed and designed, an effective signal will be radiated.

The manufacturers are to be congratulated on their first kit set which has obviously been designed by a practical Amateur well versed in construction practice. It is a unit which can be recommended with confidence, and is a kit which will more than repay the small time required for construction.

It is an ideal unit for any Amateur to acquire and provides an easier way for a busy Amateur to procure an effective station which covers all Amateur bands. Wiring is reduced to a minimum as the v.f.o., being supplied complete, is merely placed in position, and wired to the final.

Our sample from A. E. Monk Pty. Ltd., Verity Street, Richmond, E.1, Vic.

NEW TECHNIQUE IN GAS CHROMATOGRAPHY ANALYSIS

A new device known as the "C-Scope" has been developed by the Scottish engineering firm, Bruce Peebles & Co. Ltd., of Edinburgh.

The "C-Scope" introduces a new concept to gas chromatography techniques by providing immediate display facilities on a long persistence cathode-ray tube. This method reduces the time required for the analysis of a sample from several hours to five minutes, and has the further advantage that analyses can be repeated.

The instrument is particularly suitable for monitoring applications, when it is necessary to sample important stages of a process at pre-determined time intervals, so that trends can be observed and remedial action taken should a departure from the prescribed standards become apparent.

The timing units can be pre-set to a timing programme, so that the display can be synchronised with the sampling period: alternatively a pre-determined section of the complete analysis can be selected for viewing. A control unit provides the pulses necessary to initiate the sampling process.

For constant input a high order of accuracy is obtained in repeat analyses, thus the instrument can be used both for quantitative and qualitative analysis.

Chromatographic equipment to supply signals to the "C-Scope" and suitable for the analysis of a wide range of compounds can be supplied. Compounds include petroleum fractions, industrial solvents, hydro-carbon gases,

refrigerant fluids and gases, anaesthetics, essential oils, plasticisers and greases.

Highly-sensitive detectors are available requiring samples of 10-100 micrograms. Impurities down to 10 ppm. or less may be detected in favourable cases.

Further information and photographs (if available) may be obtained from Mr. H. A. Tyrer, Engineering Products Division, Amalgamated Wireless (Australasia) Limited, G.P.O., Box 2516, Sydney, N.S.W.



ERRATA

Unfortunately details of RFC3 and RFC4, and L1 were omitted from p. 19 in the linear amplifier description, Dec. "A.R."

Also 630 pF. variable near output socket should be 1200 pF. The second meter with switching has been omitted from circuit diagram, in error.

RFC3: 23 double turns of No. 14 s.w.g. enamel on 4½" of loopstick.

RFC4: 110 turns of No. 24 s.w.g. enamel, space-wound on most of 5" x 1½" former.

L1: 2½ turns of No. 14 s.w.g. 5/16" diam., resistor in centre.

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With the Festive Season over I guess by now most of us will be back in the groove, or the rat-race, or whatever it is each and everyone of us has to return to. I suppose some of the keener types never left their receivers, but I, with many others, lazed in the lap of our heritage, namely the sun, sand and surf. Consequently, I have no idea how the bands performed during this month of December, except perhaps 7 Mc. which was fair enough during the latter night hours, when some good DX appeared.

There is a fair stack of mail on hand which is an encouraging start for 1962. So here goes.

NOTES AND NEWS

TA2BK and TL8AC have been heard here on more than one occasion, but the question seems to be "are they authentic?"

TT8AG (Tchad) can be easily recognised. His sig is strong and his note is poor (T6). But I think he is "fair dinkum".

Doug W6BVN has pulled out of the Danny Well adventure in the Yasmine. Danny should be on the water headed West by now, but so far no confirmation of this.

Have you worked Tom VR6TC? No! Then don't worry, your chances are about to be brightened. Tom is about to come on with a much higher-powered rig. He averages about 100 QSOs a month, but I know the VK boys would like him to average more. I often hear him being called but his sigs are seldom audible here. (News by K6CQM.)

Tuva: Moscow, October 12, 1961. The Tuva Oblast (region) on Mongolia's Northern frontier in Siberia has been elevated to an autonomous Soviet Republic, Tass reports. It is said the change was made by decree on the 17th anniversary of Tuva's voluntary entry into the U.S.S.R. With this comment from Tass, we will lay out that Tuva will join UH8, UI8, UM8 and others as a new A.R.R.L. D.X.C.C. qualifier. Before all this happened, it was just an insignificant s.s.b. contact from Zone 23. (Courtesy K6CQM.)

AC3 and AC5: VU2NR has returned from New Delhi where he was successful in obtaining the calls AC3NRM and AC5NRM. He plans to be on during the last part of January or the first part of February. All cards via W7PHO. (Courtesy K6CQM.)

Kamaron Islands: A.R.R.L. has announced the addition of Kamaron Islands to the A.R.R.L. Countries List. D.X.C.C. credit will be given after February 1, 1962.

U8AV, UI8LB and other rare central Asian prefixes are keen to work VK. They can be heard from 1600 hours GMT onwards on 7 Mc. Are you still looking for ZL5AI to complete your W.A.Z.L. award? Try 14 Mc. a.m. Sometimes on around 2000 GMT.

Frank VK2QL has been elected first VK DX member of the United States QRP Club. The main requirement for acceptance to this Club is of course that the rig must be designed for 100 watts or less. Cost is a dollar per year and more info can be had by writing to Frank or to W6CIS. (There's no need to mention the amount of DX that our ex-sub-editor has worked with his 40 watts. Nice work OM.)

The c.w. section of the 7 Mc. band now has very little Commercial QRM in the early mornings. Radio Pakistan is one notable absentee. Is it only a lull or are they gone for good? I guess the latter is too much to expect.

TU2AL operates around 1040 kc. at 2000z and he is looking for VK contacts.

XT2A (Republique de Haute-Volta) is now QRT but XT2Z may be on around Easter next on s.s.b.

The American Military is leaving Saudi-Arabia, but HZ1AB is expected to continue. As yet anyway the gear is not being packed up.

Those who worked Gus W4BPD on his last trip around East Africa and Persian Gulf will be pleased to know that he has sent off all the VK QSLs this week.

Jeff VK5NQ wants to know if anyone has been able to prise a QSL from F2CB/FC. He has sent three cards to Corsica with no results. (My position is the same Jeff. I have sent him several confirmations for several QSOs but no good. F91L will help if he can. Send him a personal word.)

ACTIVITIES

Laurie VK2AMB comes up with some good ones. He wd. on 14 Mc. c.w.: FO8AQ, VS-9MB (Maldivé Is.), 9M2FC, UAIKAE (Mitrny),

OA2C, VS4RM, 4STEC. 14 Mc. c.w. hrd.: SV-0W1 (Rhodes Is.), KR6KS, TI2WA, VK5XK/9, HC2IE, ZC4IX, VS9AGV, KC4USV, VU2KU, SU1AM, VQ3HZ, HZ1AB, DU1CV, VR4CV, 5N2LKK, CR7IZ, HP1IE, YJ1MA, SV0WC. QSLs rec'd: HC4IE, VR3V, VK0BH, TI2CAH, KP4ANS, 5A4TC, ZEB7J, OA4BP.

Ken VK3TL is back on the air after changing QTH to Templestowe. He has wd. on 14 Mc. c.w.: AP5CP, DU6TY, EA3GM, KR8AP, KX6CG, LU3HL, UAIKAE (Antarctica), UA-9JHU, VR4CV, XE2AY. 14 Mc. a.m. wd.: FK8AU, ZE4JS, ZL5AI. Wkd. on 14 Mc. s.s.b.: DL5IU, G3AAM, HC1FG, HC1FO, KB6BR (Canton), KC4AAE, KC4USE, KC4USS, KC4UST, PA0FM, TI2HP, KZ2NS and the following marine mobile: KILHJ, K6QOF, KH6EJ, W6FCE, W6ZBY. QSLs rec'd were: CN2BK, DM2AMG, DU7SV, EP2AF, FK8AU, FK8AW, G3AGG, G3JAF, G13QG, HK3TH, KZ5MQ, LA8PF, OA4KU, UAIHA, UAIKAE, UA2BD, UA4PA, UA6LD, UA9BZ, UA0KDA, UA0KKS, UC2KAR, UD6AZ, UI8KAA, UI8KAD, UQ2AE/MM, VE0MC, VK9PJ, VP9EP, VP6VF, VS1DN, VU2AK, VU2RG, YO6XI, 4X4NJ, 5A5TF, 9K2AY, 9M2ZG, 9M2GA.

Geoff VK3ZMS has been concentrating on his code practice but found time to note the following: 7 Mc. c.w.: KG6ALK. 14 Mc. c.w.: JA2DM, KR8AD. 14 Mc. a.m.: DJ0CE, DU1AN, DU1MR, FK8AU, HC3RT, HC1FU, JA6YG, JA-8BI/P, OA4K, VR4CB. 21 Mc. a.m. hrd.: DU-1MR, JA3AZW. 14 Mc. s.s.b.: G16IM, KA5AS, KC4USE, KC4USG, KC4USH, KR6KS, W2HMW/MM, 5A3TY.

George VK5RX QSOd the following: 14 Mc. c.w.: EP2AF (1325), HZ1AB (1603), UT5CC (1230), CR7IZ (1742), CX2CO (0654), VS9AA (1528), YJ1MA (1002), VS4RM (1358), AF5CP (1124), VK5XK/9 Norfolk Is. (0918), LZ1KNC (1242), SP6AA/T, SP6ZF (1410), UW3UF, UW-9AG (1224). Times all GMT. George rec'd the following awards: C.A.A., A.J.D., W.B.C. and D.U.F. (W.E.A.), W.N.A.C.A., B.E.R.T.A. and W.A.V.Q. (Africa). Congrats, George, on W.B.C. I know it takes a lot of getting.

Ray VK5RK has taken up Pennant Bowls and let DXing slide somewhat. This month his activities were confined to J, W, V6E, KA, etc., all on 14 Mc. (Don't let that get too rusty, Ray.)

Tubby VK5NO and Geoff VK5NQ come to hand with this good list: 3.5 Mc. c.w. wd.: KR6LJ 1430, KW6DG 1110, KX6BU 1126, VE-3AGX 1130, VK5XK/9 1127, ZK1AR 0958. 14 Mc. c.w. wd.: CE4AD, 1118, HMA4Q 1018, TT8AG 1552, 9G1DE 2350, CR7IZ 1502, HV1CN 0785, ZB1FA 0646, 9Q5AAA 2237, CX2CO 0515, VQ8AJ 1500, ZK2AD 1952, SM5ARQ/9Q5 1355, FR7ZD 1318, UG8KAA 1400, ZSTM 1410, HZ1AB 1513, YJ1MA 1003, 5A3CAD 1531, KC4USS 1233, VS9AGV 1417, SR8AD 1508, 5R8CQ 1517, KC6BD 0400 (East Carolines), 7G1A 1617. 21 Mc. c.w. wd.: EP2BE 0609, UJ8KAA 0845, ZB1HC 0835, FR7ZD 0741, UF8FB 0123, 9Q5AAA 0757, HC-1AGI 0020, UL7FA 0613, HZ1AB 1035, VQ8BC 1745, ON5AG 1200, VS4RS 1120. Times are GMT.

John VK5ZC, now a member of the Elizabeth Radio Club, sends in the following, all wd. on 7 Mc.: ZETJV, HS2M, 5H3HZ, 5N2LKK, 9Q5AAA, KC6BO, VU2GG, MP4BCP, FBXKX, FB8ZJ, VV4AE, ZS6KO, VS9AA, BV3HTP, VS1KQ, KV4CI/MM, VS6EM, 9M2EK, VR2DK, ZS5KI. (Congrats. John, on your coming marriage. If your wife takes as kindly to Amateur Radio, as mine does, then in this aspect your days will be happy.—Good luck.)

Hal VK4DO, one of the column's regulars for a long time, QSOd the following: 14 Mc. c.w. hrd.: W, KA, JA, AP5CP, BV1US, DJ5IM, DJ5JI, DL1DX, DL1IN, DL3DA, DU1FM, FB-8YV, FB8ZJ, FK8AH, G6BQ, G82SM, HB9K, HC2FG, HS1X, HZ1AB, KX6AM, KX6CG, KZ-5LC, LZ2KST, OE1IE, OK1ZL, OK2LE, OZ7VK, SM5BUE, SP6AAT, UBSKVB, UB5XK, UB-5KKA, UBSKIE, UI8KAA, UM8KAA, UD6KAK, UL7KAK, UL7KAA, XZ2TH, 4S7NE, 4X4FA, 4X4IV. 14 Mc. c.w. wd.: JA, KA, KC6BD, KP4FC, KW6DG, KR6NG, LUSAQ, SM5BIC, TI2WA, UA0TN, UA1DK, UAIKBR, UA3TY, UO5GN, VU2TH, VU2NR, VS5XK/VK9, VS1ZF, YJ1MA, VK0TC, ZL3VB (Chatham Is.), 9M2VF, LA7RF/M. 14 Mc. phone hrd.: VS1ZF, VR4CB. 21 Mc. c.w. hrd.: DL1DC, DL3ZL, DL1JV, DJ-5WV, EA4CR, HS1R, IISG, KG6ALB, OE1FF, OE3WB, VQ4FF, VS4RM, UA6LI, UA6MK, UA9DN, ZC4SG, ZK1AR. 21 Mc. c.w. wd.: JA, KA, W, DL1ME, KR6LJ, KW6DG, VS1ZF, 4S7NE, ZC4TX. 21 Mc. phone wd.: VS4RS.

Yours truly, VK4SS, is still on 40 mx, trying to clinch those last few for 7 Mc. D.X.C.C. Those wkd. were: DM3RN, DJ2XP, DJ2VK, DJ3KR, DJ4OP, DJ4LO, DJ5IN, DL9KP, DU-6IV, FT7D, G2TH, G3PDL, G5BZ, G3AAE, G5DQ, HA5KFB, HMIAX, IIPIS, ILXN, IIZN, KC6BD, KP4AO, KX6AJ, KX6BU, KW6DG, HB9AAF, HB9KO, HB9AN, HB9UK, HB9ZY, HB9KO, HB9AAU, OK1FV, OK1PG, OK1KUR, OK2KGZ, OK2OI, KAZRF, LZ2KBA, OH4PX, UB5ZE, SP2CO, SP5SM, SP8HT, SP8HU, SP-8HJ, SP9KJ, OB6RZ, YU1EFK, YU2ZF, YV-5AGD, Y8RL, Y9CXY, Y9SRK, Y9C9N, YO-3RZ, Y07DZ, Y0ZB, Y0G8A, UA9LI, UA-3KND, UA4KED, UA4YV, UA4FL, UA6LI, UA-0JL, UA9WF, UA9YE, UA9FJ, UI8LB, UI8AV, UA0EQ, UA9JH, UO5AA, UL7FA, UA9AG, UM-8KAA, UA0BN, UF6FN, ZE3JO, ZC4SG, ZE7JV, ZS6KO, VS6EC, 5H3HD, 4X4DH, 4X4WF, and 4X4JU.

Eric BERS195 seems to have had a keen ear to the rx this past month. He logged on 7 Mc. c.w.: DJ7KH, DJ2AA, FBVQ, HV1CN, OK1KUR, OK1PG, OK2KO, SP8HU, UAIKAE, UA4KED, UA6FD, UA9AA, UA9DA, UB5JJ, UJ8AL, UO-5AA, UM8KAA, VE7KX, Y06KBA, YU4FS, JA2DTM/MM, JA6AHT/MM, LASHE/M, ZS-5KI, etc. 14 Mc. c.w. hrd.: CT3AB, BV1USG, EP2BK, CR7IZ, ET2US, HMA4Q, JZ0BM, KC-4US, KC6BD, KR6AD, KV4CI, ON4JH, MP-4TAC, VK5XK/9, VK0JB, VS9AA, VS4RM, VU2MD. 14 Mc. phone: DU1AN, JA6YG, MP-4TAC, VR2CB, VU1AN, XZ2SY, ZC4TX, 4S7NE, 9M2ZF, ZK1AR, 6W8DD (2100z). QSLs rec'd: KM6BV, KV4BE, KX6CG, PY2CK, UA2BD, UQ2AX, VK4HA, VK8NK, VK5XK/9, VR4CV, SM5BUE/9Q5, KC4USN, LU1ZL, VK0JM.

Don L2022 says he is QRL with other things just now but nevertheless sent in quite a good bag. He hrd. on 14 Mc. c.w.: AP5CP, HC1FG, UO5KAA, KG6AIG, SM7CN, ZK1AB, VQ4RF, UC2AD, H4SGY, HC1JU, UG8KA, EA8CI, UB5NE, ZC4BC, LZ2KZ, 5U7AC, VSAN1, GW8BL, VS9AA, CT3AB, KP4AN, 9G1DT, KH6EDY, FK8AE, 4X4DK, SV0VC, UL7NB. 14 Mc. s.s.b. hrd.: KB6BR, XE1SV, UA0BP, VU2NR, KC4USN, UA3CR, UBSUW, KH6GU/KS, KX6BO, KH6CLL, UA3FG, PJ2AF, UW3UF, KC6BC, YV5AFF, PY4AS, HS1K, and others. 14 Mc. a.m.: VR4CB, VK9KG, HK8VQ.

Frank VK2QL recorded these QSOs. On 3.5 Mc. c.w. he wd. KH6LJ, KH6CVD, KW6DG, KX6BU, KR6LJ, KX6BI, JA1HTV, JA1TK, UA0KGA and Ws 1-9. Hrd. UBSFY, SPAKDE. 7 Mc. c.w. wd. on l.p. were K2DGT, WKQGT and KX6BU on the s.r. of course. 14 Mc. c.w. wd.: SV0WI, HV1CN, KZ5TD, 601MT, LX2XG, 5N2LKK, VQ5IE, 9Q5AAA, 5R8CE, 5R8AD, and hrd. were ZS3EV, TT8AA, TL8AC and others. QSLs rec'd were 5U7AC, HP1IE, VS4RM, 5A3TQ, KH6EDY, HMA4Q. (Frank says QRN has been troublesome on 3.5, 7, and 14 Mc. bands during most of Dec. Same here OM. It has been really bad with daily thunderstorms.)

Jeff VK5NQ, one of VK's most active DXers, comes up with another comprehensive list. 3.5 Mc. c.w.: WBJIN 1034z, 14 Mc. c.w.: CX-2BT 0500z, EA8AP 1725z, EP2BN 1128z, ET2US 1319z, FA3OA 1547z, FA8UN 1400z, F2CB/FC 1550z, F9SC/FC 1507z, GB2MT 1546z, HZ1AB 1435z, ITIAGA 1401z, KG6IJ 0930z, KV4CI 1244z, LU7GT 0917z, MP4BE 1438z, MP4BCP 1713z, MP4BD 1417z, MP4MAH 1350z, SV0WG 1500z, TN8AF 1520z, UA2AB 1431z, UF6CI 1217z, UG8KAA 1522z, VP5MJ 1310z, VQ5IB 1535z, VQ8AFB 1240z, VQ8BC 1625z, VS9ADM 1410z, VS9MB 1608z, YK1AK 1508z, ZB1FT 1245z, ZB-1AE 1700z, ZE1AK 1419z, ZE1AV 1450z, ZE3JO 1552z, ZEB6Y 1707z, 3V3CA 1655z, 4W1AA 1230z, 5A3BC 1614z, 5A3AD 1630z, 5A3TY 1447z, 5H3HZ 1502z, 5N2RZD 1600z, 5N2MW 1636z. 14 Mc. phone worked: MP4TAC 1532z, MP4TAA 1410z, MP4BWW 1313z, SU1AS 1340z, VE3BQ/L/SU 1338z, ZSTL, KQ2AM 1332z. 21 Mc. c.w. wd.: YA1BW 0950z, phone: VS4RS 0850z, XW8AL 1050z, 4S7IW 1150z.

Tubby VK5NO is on holidays this month, but managed to log the following: 14 Mc. c.w.: VQ9HB 1813, UL7AC 1855, FC7KI 2035, AP5CP 1218, JT1KA 0835, VS6S 1350, VQ8AV 1415, CR6AK 1445, CR7IZ 1520, HK1QZ 2038, 9Q5-AAA 2238. All GMT.

Laurie VK2AMB adds the following to his previous notes: SV0W1, ZS5CI, ZS6BD, ZS-2KX, ZS5KU, ZE1AK, EI2US, VR4CV, EP2BE (14 Mc. c.w. wd. On 14 Mc. c.w. hrd.: 9M2SW, VU2Z, CE0AD, VP2VB/M, 9M2UF, ZC4FC, VS9MB, VS9OC, FB8YV, VS1KZ, VS- (Continued on Page 17)

Well, chaps, how did you find DX this past month? The h.f. bands seem a bit quiet, but the DX is rolling in on 6 and 2 mx.

Through this page I would like to thank Eric VK3ANQ for offering his services to the S.w.l. Group in regard to the S.w.l. Convention at Warrnambool. Eric has offered to arrange bookings for accommodation and anything else we need to make the Convention a success. A truly helpful thought I think you will all agree. Thanks very much for the thought Eric.

This will be the last opportunity to remind all s.w.l. who are interested in taking part in the S.w.l. Convention at Warrnambool on 3rd and 4th of March, 1962, to get in touch with me so that bookings can be arranged, so please don't forget.

Plans are being made to make the week-end a very interesting one.

I wish to welcome three new members to the group. They are Graeme Armstrong, John Hamilton and Raymond Reynolds. Hope to see you along at the meetings chaps.

Noel L3101 is on the move again on the construction of another 45 ft. mast. It will be in operation very soon with a 20 mx folded dipole suspended from it; that will make two dipoles, one for N. and S., the other for E. and W. Noel received eight very colorful Xmas cards from overseas stations (JA, W land and the Philippines). Some DX heard by Noel on 20 mx: JZ0BM, JA6BGX, ZK1AA, W1AIQ, DU1AN, VK8AU (DX he says) and VK6LG.

Maurie L3055 took it easy over Xmas and New Year, having a holiday in VK5 land. Needless to say a form of communications receiver went over with him, also a 6 mx converter for listening to some v.h.f. DX.

The antenna for 6 mx was a folded dipole of 300 ohm ribbon lashed to a water pipe 15 ft. high which is rotatable; the only stations heard were in VK5. Some QSL cards received by Maurie: G13JM, HK4KZ, 9G1BF, G2BSA, VE3PN and K31CA.

Mac L3074 is listening hard on the v.h.f. bands, building up a score for the Ross Hull Contest. Unfortunately Mac had a bit of rx trouble during the Contest—the BC348 packed up. However an AR88 was loaned to him and once again was scoring in the contest.

DX NOTES

(Continued from Page 16)

9AGV, MP4BCP, CRY7G, SV0WN, SH3HZ, US7NE, ZE3JO, VQ4HY, 5R8CV. (Laurie says he has no QSLs to hand recently, as the rare ones are still hard to get a card from.)

ADDRESSES

9G1DE—Box 128, Dunkwa, Ghana.
KM6BV—C/o. T. Tougas, WA6ROP, San Diego, California.
KV4BQ—Box 745, Frederiksted, St. Croix, U.S. Virgin Is.
KX6CG—U.S.C.G. Loran Str., A.P.O. 187, C/o. P.M., San Francisco.
VK5XK/9—Arch Hewitt, Lucindale, Stn. Aus. VR4CV—Alan Vegas, Box 49, Honiara, B.S.I.
Ex-SM5BUG/9Q5—Via SM5AIO.
LU1ZL—C/o. Doug Beaudoin, via W9DHQ.
KC4USN—Via K1NAP, Comblant, U.S.N.
C.R.B.U., C.B.C., Davisville RI, U.S.A.
MP4MAH—Via R.S.G.B.
TN8AF—Via R.E.F.
VQ5IB—Box 262, Kampala, Uganda.
4W1AA—C/o. OK1FX.
MP4TAC—Sharjah, Trucial Oman, Persian Gulf, B.F.P.O. 64.
MP4TAO—C/o. DJ1BZ.
9K2AM—Box 146, Kuwait.
MP4BDP—C/o. R.S.G.B.

PREDICTION FOR FEBRUARY

21 Mc. This band should be fair at least, particularly in the early mornings. The 1p. to the West to Central America might open up around 2100-2300 GMT. Then the band sometimes has a lively period for an hour or two around 0330 GMT when South America and South Africa sometimes appear. During the afternoons there should be sigs from W fairly consistently. However, the band performed in a manner most uncertain last month.
14 Mc. If there is a change on this band

RADIO MAIL

I wish to thank the following for their letters: Eric Trebilcock, Howard Burger, Bill John, and Peter Drew.

Eric Trebilcock, with his best recent QSL cards received: SM5BUG/9Q5 (killed in service of U.N. 17/9/61), 9N1GW (Nepal), TI2CMF, HP1IE, UJ3AC, GD2FBS, UI6AD, UAOKYA (Zone 23), VE8YD (Zone 2), OA4BW, KH6EDY (Kure, APSCP, ET2US, LUZZR (Antarctica), VP5BH/MM.
Best recent DX heard: 7 Mc. c.w.: OKIKUR, UJ8AL, LZ1KNB, HV1CN, OK2KOO, DJ7KH, DJ2AA, DLIJW, LA5HE/MM, and ZS5K1. 14 Mc. c.w.: KC6BD, KV4CI, CT3AB, 6W5DD, OA4JH, VK0JB, JZ0BM, VS9AAI, VS4RM, VK5XK/9 (Norfolk Island).

Howard L3113, up in Hamilton, says that DX has been very poor for some time but after putting in a new noise limiter and a new antenna DX is much better. Howard also has a 40 and 20 mx doublet and is considering putting up a 20 mx window. Howard has QSL cards as follows: KC4USV, ZL3BL, ZL2BE, W8QDD, KC6BE, ZW8AL. These stations were heard on 20 mx a.m.

Received a letter from Bill John way up their in VK4. He says he is still listening to the Hams and has just received a card from ZL5AI. Bill has heard 25 countries, also has 200 QSL cards on the wall of his shack. The rx set-up is a home-brew 6-tube super with one r.f. stage, antenna is a fan type—four wires each 30 ft. long, 40 ft. in the air. Here are the QSL cards received by Bill: HI8DGC, KG6AJO, VE5EM, OE1NV, VK9GR, W9BGQ, VR1G, YA9KOT, YV4EH, VK8OW, Z6EJA, FK8AU, 9M2DQ, OA4DT, ZS6AUZ, XE1FB, G2KO, ZL5AI (Antarctic), JA7TJ, DJ1IJ, KG6AIY, ZL2UD.

Now a few words from the DX hound over in VK6, that's him, Peter L6021. On 20 mx, the band is usually poor all day except from about 1100 GMT to 1600 GMT. Between these times the band is usually excellent towards Asia, the Middle East, North Africa and occasionally it opens to South Africa and West Europe. A few of the most interesting stations which have appeared on 20 mx are EP2BK, EP2BE, VE3BQL/SU. These stations are apparently new on 20 mx and put in 5 and 9 signals.

during February it should be for the better. The early Europeans will remain but will show up again on the 1p. in the early afternoons around 0430 GMT. There will be the usual Ws of course as the afternoon progresses, and at night the band should be lively to all continents, but conditions are not reliable.

7 Mc. This is a night band from the DXers' point of view, and should work in a similar manner to last month. In the early evenings it will be mostly quiet, with an occasional South American and some openings to Central America. Around 1200-1400 GMT the JAs and Asians build up in strength. This is followed by an hour or so of the Ws from the West Coast. These fade and the band then slowly opens to the West, and the skip lengthens as the night grows older. At 2100z there may be an opening 1p. to East Coast of U.S.A. This latter during the past month occurred only very seldom and for short duration.

It is pleasing to see "A.R." with a new look this month. We might advantageously follow the example with regard to our Ham shacks. Most dens of DX endeavour would be the better for a little progressive thinking as to set up and lay out. Stand well back and look it over. (I hope you don't come to the same conclusion as I do. I'll guarantee there's several things needing attention, be they electrical, physical or something that offends the eye from an artistic or functional sense. I still think that QSLs on the wall behind the rx and tx, set up properly under the right lighting, enhance the whole show.

Yes, it's true that last month's joke was a censored version. There's none this time. I've submitted one to the Editor but I'm quite certain he'll scrub it. (He did.—Ed.) 73, VK4SS.

P.S.—I must crave your indulgence, for this month's somewhat disjointed arrangement of the column. Because of the holiday break, it was necessary to do it in two parts.

Occasionally the band opens to U.S.A. around 1300 GMT.

Now for some of Peter's DX heard: 20 mx phone: VU2PF, VS1XK, KG6AJ, ZE7JS, VQ8BM, VU2PI, VE3BQL/SU, EP2BE, UR2BU, DU6TY, LA5HE/MM, EA31G, ZS6AU, ZE2JE, CN8CS, FB8XK, XW8AL, OD5CY, DU1VVS, WIRZA/MM, IIBAX, LA7RF/MM, VQ8BL, YK1AK, ZC4GT, 9M2FN, MP4TAO, VU2TD, ZS2KY, DUITOM, Ws and ZLs.

20 mx s.s.b.: UP2CG, UA4CE, UW3UF, TI2LA, AP2AD, OH3PC, Ws. 20 mx c.w.: VU2RM, W2DEC, W3JTC, VU2GD, UA6KEB, 9M2UF, 4STNE. 40 mx phone: JA2BAY (s.s.b.), ZL11E, 40 mx c.w.: WA1XJ, W6FWQ, WA8NNJ, W9ERU, JA1BRK, W3CTJ, W6CMB, VK2AUS/MM. 80 mx c.w.: K6BPR, W6GRX. Cards that Peter received: VK2APL, VR4CB, K6JBF (7 Mc. c.w.).

Well chaps that's all we have for this month. It seems the postman is on holidays. 73, and best of DX. Robert L3076.

DX LADDER

	Countries		Zns.		S.s.b.		W
	Conf.	Hrd.	Conf.	Hrd.	Conf.	Hrd.	
E. Trebilcock	274	280	40	—	—	—	50
D. Grantley	91	234	37	—	—	—	72
A. Wescott	76	157	31	31	92	—	—
M. Hilliard	66	208	33	5	100	11	—
M. Cox	36	209	20	6	116	14	—
C. Abernathy	30	57	21	—	—	—	13
P. Drew	27	171	17	6	68	4	—
P. Fields	26	133	—	—	—	—	—
N. Harrison	23	37	18	—	—	—	22
I. Thomas	17	171	17	6	68	4	—
D. Jenkins	10	141	7	—	—	—	—
H. Burger	6	185	5	1	19	—	—
N. Fisher	3	36	3	—	—	—	—

W.I.A. D.X.C.C.

Listed below are the highest twelve members in each section. New members and those whose totals have been amended will also be shown.

PHONE

Call No. rles	Cer. C'tnt- No. rles	Call No. rles	Cer. C'tnt- No. rles
VK5AB .. 45	206	VK6KW .. 4	206
VK6RU .. 2	258	VK3ATN .. 25	204
VK6MK .. 43	251	VK4HR .. 12	182
VK3AHO .. 51	233	VK4RW .. 23	184
VK4FJ .. 21	221	VK3BZ .. 8	176
VK3WL .. 14	211	VK3GB .. 50	171

New Member:
VK3ARJ .. 56 102

Amendment:
VK3BM .. 54 114

C.W.

Call No. rles	Cer. C'tnt- No. rles	Call No. rles	Cer. C'tnt- No. rles
VK3KB .. 10	300	VK4HR .. 8	218
VK3CX .. 26	286	VK6RU .. 18	218
VK4FJ .. 29	264	VK3XU .. 48	213
VK3NC .. 19	250	VK7LZ .. 17	212
VK3FH .. 15	228	VK3YL .. 39	211
VK3BZ .. 6	222	VK9XK .. 41	204

New Member:
VK7SM .. 72 110

Amendments:
VK2EO .. 2 197 VK3ARX .. 66 171

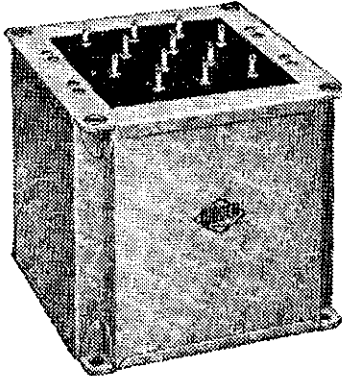
OPEN

Call No. rles	Cer. C'tnt- No. rles	Call No. rles	Cer. C'tnt- No. rles
VK2ACX .. 6	289	VK3HG .. 3	241
VK6RU .. 8	274	VK3AHO .. 76	235
VK4FJ .. 32	267	VK4HR .. 7	233
VK6MK .. 74	255	VK3BZ .. 4	231
VK3NC .. 77	255	VK3JA .. 43	229
VK2AGH .. 83	245	VK3WL .. 45	225

New Member:
VK7SM .. 84 127

Amendments:
VK5NQ .. 81 163 VK3BG .. 80 112
VK2APK .. 82 152

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List No.	Audio Watts	RF Inp. Watts	Max. Sec. Current	Overall Size			Weight lb. oz.	Price incl. sales tax
				L.	W.	H.		
UM0	10	20	60 mA.	2 $\frac{3}{4}$ "	x 2 $\frac{3}{4}$ "	x 4"	5 8	£5/16/0
UM1	30	60	120 mA.	3 $\frac{3}{4}$ "	x 3 $\frac{3}{4}$ "	x 3 $\frac{3}{4}$ "	11 8	£7/9/9
UM2	60	120	200 mA.	5 $\frac{1}{2}$ "	x 4 $\frac{1}{2}$ "	x 5 $\frac{1}{2}$ "	14 8	£10/13/3
UM3	120	240	250 mA.	5 $\frac{1}{2}$ "	x 5 $\frac{1}{2}$ "	x 5 $\frac{1}{2}$ "	41 0	£12/2/6
UM4	250	500	400 mA.	10 $\frac{1}{2}$ "	x 6 $\frac{3}{4}$ "	x 8 $\frac{3}{4}$ "		on application

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FREQUENCIES

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Fundamental	1000 Kc. to 20 Mc.	8000 Kc. to 19.99 Mc.
3rd Overtone	10 Mc. to 59.99 Mc.	20 Mc. to 59.99 Mc.
5th Overtone	60 Mc. to 99.99 Mc.	60 Mc. to 110 Mc.
7th Overtone	100 Mc. to 137 Mc.	Not Available

PRICES: Vary according to Frequency and Type:—

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Type FM-9 range from £5/5/0 to £10/15/0.

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VHF

50 - 144 - 288 - 576 - 1296 Mc.

Sub Editor: BILL ROPER, VK3ARZ,
Lot 59, Orchard Street, Mount Waverley, Victoria
ADDRESS CORRESPONDENCE FOR THIS PAGE DIRECT TO THE SUB EDITOR

The month of December 1961 turned out to be one of the best periods ever for v.h.f. DX. The 50 Mc. band was open to all States nearly every day and ZL was worked on numerous occasions. But the biggest thrills of the month were on 144 Mc.

The record breaking opening on Dec. 27, when 4ZAX worked VK3, 5 and 7 with sigs peaking to S9, established that Sporadic E does exist on 144 Mc. although it is about ten years since the last recorded opening (5QR and 5GL to 6BO).

4ZAX's close watch on short skip on the 50 Mc. band really paid dividends and, I hope, proved an object lesson to many other stations. Then on Dec. 30, VK2ASZ worked ZL3AQ on the same band and on Jan. 2 VK2ZVL worked ZL1AUM crossband—50 and 144 Mc.

Another historic report is the reception of 3ZFM's 144 Mc. sigs by 6BE on Jan. 6.

I certainly hope that the news of these reports shocks the majority of 144 Mc. stations out of their lethargy and instils into them a renewed interest in DX.

Also, I trust that the various stations involved in the record breaking contacts will make application to David VK3QV to have these recorded officially.

The application must enclose a QSL card from the other station, and should state the latitude and longitude of your location as accurately as possible.

It will be obvious that a ridiculous position will arise if these contacts are not officially recorded.

It is very interesting to note that the V.h.f. Century Club awards are finally available. Perhaps these may add new interest to the flagging practice of QSLing.

The Ross Hull Contest is now over and many good scores were totalled. A large number of stations participated and it is to be hoped that the majority enter logs. Do not delay because there is little time left.

I was very pleased to receive information for the notes from a number of Amateurs other than the appointed scribes and this news has been incorporated in the notes. However, it would be appreciated if these people could send their news to the scribe in their own States, and post it to reach him no later than the second day of the month preceding publication.—3ARZ.

PROJECT "OSCAR"

The American "Orbital Satellite Carrying Amateur Radio" was launched, it is understood, on 12th Dec., 1961, but information regarding pass times was not received at this QTH until Dec. 17 when the VK3WI Sunday morning broadcast carried brief details. The satellite tx was first heard about midday on 17th and from this and later passes was established to be in a polar orbit travelling south in the day-time and north at night.

A simple way of predicting pass times was evolved and altogether 29 passes were logged

of the 60 odd which would have been audible before the batteries ran out about Dec. 31. The frequency of 144.975 Mc. was slightly lower than the published 145.00 Mc.; the maximum Doppler shift observed was about 6,500 cycles. Signals on an overhead pass peaked to about S8 and were audible for up to 12 minutes; best DX therefore being about 1,700 miles, which isn't bad for a 100 milliwatt tx.

Anyone who made observations of times, bearings, etc., and would like to submit a log to the Project Oscar Association is referred to "QST" for July '61 which gives details of the standard log form and reporting procedure.—3ABP.

NEW SOUTH WALES

The Ross Hull Contest got away to a good start on 50 Mc. on Sat. 16th with openings to VK3, 5, 7 and ZL1, followed by VK3, 4, 5, 7 and ZLs on Sunday. 2ZLP (Armidale) contacted ZZDM (Hilston) for the first time; one of the few VK2 stations he has worked on 50 Mc.

Occasional contacts then until Wed. 20th when VK6s came through in force. The big opening came on Wed. 27th and lasted until Monday, 1st Jan. The band was open all day every day to all States and ZL; the best opening for several years. Unfortunately, JA and VK8 were both absent.

A feature of the opening was the short skip. VK2s in Sydney worked some of the country VK2 for the first time; also the country chaps made contact with one another. 2ZGC (Broken Hill), 2ZLP (Armidale) and 2ZAD were worked by 2ZDA in Sydney. 50 Mc. signals were so strong at times that tests were tried on 144 Mc. with some considerable success.

The big news on 144 Mc. is the contact between VK2ASZ and ZL3AQ on 30th Dec. (Details elsewhere in this issue.) On Tues., 2nd Jan. VK2ZVL (Beverly Hills) worked crossband ZL1AUM (Auckland). Keith was running 150w. to a 5 ei. beam on 50 Mc. and Colin (ZL1AUM) 100w. on 144 Mc. Colin's frequency was 144.135 Mc., the time 1020 hrs. and signals were R3/4 S4/5 with one 15-second peak of 5 and 9. Keith tried to make it on 144 Mc. but ZL1AUM could only just hear the carrier from his mobile tx.

Alan 2RX worked Gary 5ZK on 144 Mc. on Dec. 30 about 1745 hrs.; signals were 5 and 9. VK5 sigs were also heard in Sydney on 27th about 1700 hrs.

The Midsummer Field Day was held on Sun., 30th Dec., on 144 Mc. and about 40 stations were active, despite the rainy weather. The Newcastle gang were out in force and some excellent contacts were made. Details will be known WHEN? the logs come in.

At the Dec. V.h.f. Group meeting our annual sale of members' surplus items was held. A very popular night, but too much junk was offered this year; not up to the usual standard. How about better selection next year.

The Dec. night event was a fox hunt on Sat. 16th and, at the completion, a Xmas Party was held at the home of our chairman 2ZAG. Fifty fox hunters, XYLS and harmonics enjoyed themselves until the early hours.

Dick 2ZCF has produced a 144 Mc. trans. which he calls the "Minimitter," a 3-tube rig, 12AT7 osc./mult., 12BY7 doubler/p.a. and 6BM8 mod. A circuit has been drawn out and a parts list compiled. So far a dozen or more copies have been built by members and several are in use as mobile outfits. (How about an article for "A.R."—Ed.) A request and stamped, addressed envelope to Tim 2ZTM will get you a circuit, layout and parts list.—2ZDP.

VICTORIA

During Dec. 50 Mc. has been very active with plenty of openings in all directions. Before Xmas they were mostly during the late afternoon and early evenings with VK2, 4, 5 and 6 being heard and worked, plus an occasional opening to ZL1. Over the holiday period conditions livened up with good openings to all States, and ZL being worked consistently. On Dec. 30 it opened to VK7 for a period, enabling many VK3s to add VK7 to their States' tally. Brief glimpses of VK8AU were heard, but he has not been worked to date.

Generally there was not the great number of stations operating as some previous years and the band was not quite so congested, although it is still very difficult to get a contact while operating above 50.5 Mc., even when the lower section is packed.

144 Mc. activity has been at a fairly high level during the Ross Hull V.h.f. Contest and some high numbers are being exchanged. Of course the highlight of the month was the QSO between 4ZAX (Brisbane) and 3ZJQ (Edithvale) on Dec. 27 at 1325 hrs. with sigs peaking 5 and 8 both ways. Congratulations are in order to Dane and George on their achievement. The value of observing skip conditions on 50 Mc. really paid off for 4ZAX. Local DX conditions have been favourable and VK5 and 7 have been worked on a number of occasions.

The Dec. V.h.f. Group meeting was held just prior to Xmas with 40 members in attendance. It was an "open night" and after dealing with the business everyone participated in an "introduction" where each one gave a brief talk on their gear and what their occupations were. Some very interesting people amongst us.

The rules for future scrambles were finalised and they take the form of individual events with the scoring as follows: 1 pt. for stations contacting each other within the 30-mile radius from the G.P.O. Melbourne; 2 pts. for a city to country station (outside 30-mile radius); and 1 pt. for country to country regardless of distance. The control station to be the winner of the previous event and is not to participate in the event he controls. These rules apply to both 50 and 144 Mc.

With the retention of 478 Victoria Pde., East Melbourne, as our rooms, plans were quickly made to resume work on 3WI v.h.f. gear and I am happy to say that work has resumed and the equipment should be in operation at an early date.

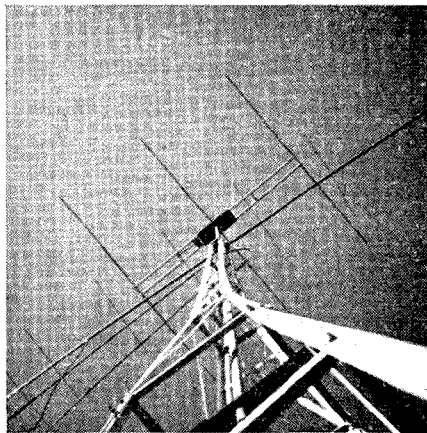
It is unknown when we will return to 478 for our meetings, but keep listening to 3WI broadcasts on Sunday mornings for the latest news. There is still a lot of work to be done and your assistance will be greatly appreciated when volunteers are required.

Dates to remember: V.h.f. Group meetings, third Wed. of each month; 50 Mc. scramble, fourth Sun. of each month; 144 Mc. scramble, second Sun. of each month; fox hunts, second Wed. of each month; v.h.f. field days, third Sun. of March and April.—3ZGP.

QUEENSLAND

During Dec. the 50 Mc. band was open almost every day to either VK3, 5 or 7. VK8AV was worked by local stations on Dec. 5. ZL stations were worked on Dec. 16, 29 and 31 and maybe also on other days of which I have no knowledge. Also notable were openings to VK4 northern stations, and VK2 via the ionosphere which, although a rarity, is not altogether unexpected at this time of the year.

(Continued on Page 21)



VK2ZLP's three element 50 Mc. beam (top) and his 13 element 144 Mc. beam (bottom).

144 Mc. TRANSMISSIONS

Below are the details of the various high-powered stations operating on 144.00 Mc. who are attempting to establish contact right across southern Australia. VK4ZAX (who runs 150 wats s.s.b.) also joins in at the times indicated.

- Mondays—**
6BE, 6WG, 5AW, 3NN, 3ZJQ.
- Tuesdays—**
6BE, 5AW, 3NN, 3ZFM.
- Wednesdays—**
6WG, 5AW, 3NN, 3ZJQ.
- Thursdays—**
3NN, 3ZFM.
- Fridays—**
6BE, 6WG, 5AW, 3NN, 3ZFM.
- Saturdays—**
6BE, 5AW, 3PO, 3ZJQ.
- Sundays—**
6WG, 5AW, 3PO, 3ZFM.

TIMES OF OPERATION (E.A.S.T.)

VK6 Transmit	2100-2115
VK5 and VK4ZAX Transmit	2115-2130
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VK6 Transmit	2145-2200
VK5 Transmit	2200-2215
VK3 Transmit	2215-2230



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VHF NOTES

(Continued from Page 19)

Rare 50 Mc. stations heard on recently in the Brisbane area include VKs 4UW, 4ZAV, 4EZ, 4ZCR and 4ZBQ. These chaps should make themselves heard more often. A new station on 50 Mc. is Royce 4ZRH, who is using a modified 522 into a 5 el. yagl. Rx is a tuneable conv. into a No. 19 rx. Royce took his rig to the Gold Coast over the holiday period and apart from working his first DX, had other fun (t.v. fringe area, hi!). Welcome to 50 Mc. Royce. Also known to be holidaying on the Gold Coast are 4ZDJ and 4ZEL. 4ZBF was mobiling at high speed through northern VK2 during late December.

Now for the news of the century. Dane 4ZAX was working normal DX on Dec. 27 when the skip shortened to central VK2. Dane then called several VK3s and VK6s and persuaded them to listen on 144 Mc. Contact was immediately established and Dane filled a whole page of a log book with VK3, 5 and 7 144 Mc. stations. These contacts were two-way a.m. and propagation was E layer reflection. Other local stations which jumped on the 144 Mc. band wagon were 4BT and 4HD.

On Dec. 13 4ZAX heard 2WQ (Grafton) working 2ZCQ (Bellingen). On the following night Dane worked both stations. Full credit must go to 2WQ who was only using low power and a 3 el. beam.

The Dec. hidden tx hunt on 144 Mc. was organised by 4ZGD who forgot the tea. The tx was hidden on the road to Mt. Glorious and 4ZBF with 4ZDK as navigator arrived first. 16 cars filled with Hams and their families took part.

On Dec. 3 the Ipswich gang on 288 Mc. found that by turning their beams in the direction of Brisbane, contact was easily made. This is something that should have been done years ago.

4ZBZ and KYL Val have been visiting relations at Caloundra and as a result have missed much DX, but the holiday was badly needed. 4ZBA and KYL Anna have just returned from a long trip overseas during which they visited such countries as Egypt, Greece, Italy, France etc. Arthur brought some very nice gear back with him and this included a Geloso rx and s.s.b. tx.—4ZBT.

SOUTH AUSTRALIA

Towards the end of the last sunspot cycle peak (1958-60) some authorities predicted an increase in Sporadic E ionization. Observations over the past month tend to substantiate this claim.

Here in VK5, DX has been available practically every day on 50 Mc. and, in fact, the season is probably one of the best we have had for a number of years. All States have been heard and worked, including VK8AV on Dec. 19.

Openings to ZL have been prolific and activity over there seems excellent despite their considerable trouble with t.v.i.

Many accounts have been given in the press regarding freak propagation of t.v. and vehicle band signals, including reports of Interstate reception of the high band t.v. sigs (channels 7 and 9).

No JA sigs have been worked so far this season, nor has anything been heard of VK9 and VK0.

The long band F2 skip seems to have left us for at least another 9 or 10 years; however the fact that Sporadic E openings are so good as to permit occasional 144 Mc. DX is adequate compensation.

The 144 Mc. band provided the most interesting news during Dec. At 1138 hrs. C.S.T. on Dec. 27, 4ZAV was 5 and 9 plus on 144 Mc. in Adelaide. At that hour he worked 5ZDR, 5AW, 5ZMK, 5ZK and 4BT. Other VK4s heard later were 4HD and 4BC. At the time, skip on 50 Mc. was down to 200 miles at both ends. Signals were audible on and off for the remainder of the day until 2000 hrs. C.S.T. VK5 stations also worked into VK2 and on Dec. 29 5ZDR was audible in VK2.

Except for a brief burst on Dec. 13 no sign has been heard of Project Oscar in VK5, despite numerous hours of concentrated listening by several stations. 5ZMK was the lucky man on the 13th.

Occasional portable trips by 5JH are the only thing of interest on 288 Mc.

As a large number of TD03/10 valves have become available quite cheaply, there are signs of activity on 1296 Mc. On Jan. 5 5ZCR and 5LA conducted a mobile QSO over distances up to one mile. Modulated oscs. and super-regens were used with a two wavelength 60 degree corner reflector on one car and a co-axial dipole on the other. TD03/10s are disk seal triodes with an upper frequency limit of 3K Mc. and 10 watts anode dissipation. They

oscillate readily in a simple grounded anode trough circuit.

5ZCJ and 5ZDV now have the calls 5ZZ and 5WV, and Murray 5ZCT has passed the Morse. Congratulations chaps. Recent Interstate visitors here include 3AZY, 3ZCN and 1VP (on 144 Mc.)—5ZCR.

WESTERN AUSTRALIA

DX on 50 Mc. during Dec. has been very good with the Eastern States being worked almost every day. Several ZL stations were worked and this caused quite a stir. Antennae seem to be growing over here with several more long, long yagis already up and more to come.

The 144 Mc. band is getting quite active and the boys are very keen to work into the Eastern States on this band.

Rolo now has a xtal locked converter working on 288 Mc. and together with 6ZDS, 6ZAA, 6ZG and 6VK is causing some very good activity on this band.

There are by now at least two stations with xtal locked gear on 576 Mc. and they (6ZDS and 6ZAA) have worked over a distance of some two miles.

It is very good to see so many stations participating in the tx locating effort from the home QTH. You were able to pair up with any other station and see if you could pin-point the actual location of a tx somewhere in the metropolitan area. Full marks go to 6DI and 6DR who were the closest in nominating the station for the two different spots.

We have often heard at length discussions on the use of v.f.o. control and over modulation. Keep these discussions in mind when the DX is about; make sure your v.f.o. is up to scratch and remember that when you get excited, wind down the modulation.

I hear that 6ZAS is getting married early in Feb. Congrats. Stan, but it seems a pity that a mere honeymoon should have to upset a nice portable jaunt to Cape Naturaliste.

The last fox hunt was held on Dec. 16 which coincided with the Group's Xmas Party. There was an extremely good attendance and 6RY was the winner of the hunt. A barbecue was then enjoyed at the QTH of 6ZBK even though he was in bed with a poisoned leg. Hazel did a striling job and thanks go to all who helped with this evening.

Project Oscar was heard for well over a fortnight as it passed over Perth. Amongst the number of stations who tracked it were 6BO, 6RY and 6ZAV.

Remember that our meetings are held on the fourth Monday in each month in the D.C.A. Workshop Amenities Room in Guildford Road, Mount Lawley. Visitors and new members are always welcome.—6RY.

TASMANIA

As was the case throughout the rest of Australia, I believe, the 6 mx DX season in VK7 has been the best of recent years. All States (VK2 through VK8) and ZL1, 2 and 3 were contacted.

Early Dec. provided excellent openings to VK2, 3, 4 and 6, particularly during daylight hours. From the beginning of the Ross Hull Contest until the end of the month, 6 mx was open every day except for Dec. 21, 22, 23. Most common were VK2, 5, northern and western VK3 and somewhat fewer VK4 openings—in most of these latter we were competing against the VK3s.

Running through some of the highlights: ZL2 and 3 contacted on 17th, whilst they were working into VK5. It took some breaking through the 5s and some worrying moments were spent as the ZLs sigs fluctuated, however all six VK7s on the air were able to work into ZL. VK8AV was worked on 19th—here again we had opposition from VK5 but the 7 prefix seemed almost as rare to a VK8 as is a VK9 to a VK7!

The 27th, considered elsewhere as the best on record, was not so brilliant in VK7 (as far as 6 mx was concerned)—only normal VK2, 3, 4 and 5 worked—no short skip. The following day, however, 3ZL (Ballarat) was heard on c.w. but nothing from Melbourne; ZL3 stations heard but couldn't be raised.

In addition to VK2 and 4 on 29th, ZL1 and 2 worked; ZL1s are rather a rarity. The first VK6 of the season was worked while they were working ZLs—required straining the v.f.o. to operate on 51 Mc.!

The best opening to Melbourne for over four years was noted on 30th. It was quite an inspiration hearing the band full of sigs—should happen more often. From all accounts the hand stayed open overnight with 2s, 4s and 5s going strongly at 1 a.m. and still there in the morning! Perhaps the best opening to ZL was on 31st; 9 plus with little mainland opposition.

VK7s participated in the 2 mx DX activities. VKs 7ZAI, 7ZQA and 7ZAO worked 4ZAX and 4BT on 27th (1,200 miles). 7ZAI was heard again on the 31st (1 a.m.). Dave 7ZAI got

on the 600 ohm line in an attempt to spread the news but found that most 2 mx operators were still at their daily toil. 4ZAK appeared to be audible for over an hour. 7LZ in Launceston worked 3ZCW on the 28th; 3ZCW was heard by a number of Hobart stations but faded before contact could be made.

A number of stations have been receiving "Oscar" regularly, however no effort was made to obtain tracking data.

It is expected that there will be quite a considerable amount of portable operation from Mt. Wellington now that we have our beam stored there and the use of a.c. power at short notice. Watch for news of this during the coming months. 7ZAI has tested successfully a parasitic repeater which will be installed on the mountain. He seems to be rather secretive about the project.

Congrats. to Dick 7ZAN and Kevin 7ZAH who will be giving up a gay bachelor's life and securing an XYL in the near future. The worst of it is that neither of these chaps have been heard much on the air to date so the future looks pretty grim!—7ZAO.

NORTHERN TERRITORY

VK8AU is now firmly entrenched in a town with the apt name of Batchelor and has a 6146 fired up on 50 Mc. into a 4 el. beam. He runs an automatic keyer on week days, 0730 to 0800 and 1700 to 2000 hrs. beamed in the general direction of Melbourne and Sydney. Input is 90 watts and call sign is sent every ten seconds. On week-ends these transmissions run from 0700 to 2000 hrs. (all times E.A.S.T.). A chap in the Darwin area has passed his limited license and will be on the air soon. There does not appear to be any other signs of activity in the Darwin area. VK8AV at Daly Water is still very active.—8AU.

50 Mc. W.A.S.

Call	Cer. Add. No. Cntr.	Call	Cer. Add. No. Cntr.
VK2WJ	13 4	VK3RR	6 1
VK3ZFM	22 4	VK3HT	7 1
VK4HR	4 3	VK2AEZ	10 1
VK3GP	5 3	VK3XA	11 1
VK2ABC	8 3	VK3GM	12 1
VK2VW	9 3	VK3ACL	14 1
VK5GG	19 3	VK3ZD	16 1
VK5ZAX	20 3	VK2HO	17 1
VK5ZBL	21 3	VK3ZEA	18 1
VK4RY	2 2	VK2WH	15 1
VK5LC	1 1	VK5BQ	23
VK6DW	3 1		

TWO CANADIAN AWARDS

THE ST. LAWRENCE SEAWAY AWARD

This award is issued by the Ontario DX Association and requires 10 contacts with VE stations located along the route of the St. Lawrence Seaway. Of these 10 contacts, four must be with the following four areas (one from each): Port Arthur or Fort William, Greater Toronto, Greater Montreal, Greater Quebec City. The remaining six may be any VE municipality situated along the route of the Seaway: Kingston, Cornwall, Prescott, Brockville, Gananoque, Whitby, Oshawa, Napanee, Hamilton, Niagara Falls, Windsor, Sarnia, Goderich, Manitoulin Island, Sault Ste. Marie, Nipigon, etc.

Seals will be available for 20, 40 or 50 contacts.

Any band, any mode—mixed or otherwise from July 1959.

THE CANADIAN AWARD

This award is also issued by the Ontario DX Association and requires five contacts with each of the eight VE Call Areas (40 contacts), five contacts with VO1/VO2 (any combination of five), and one contact with a VE0 maritime mobile.

Of the five VE eight stations, one must be in the Yukon Territory; also one must be located on one of the off-shore islands of the North West Territories.

Any Amateur band and any mode—mixed or otherwise after World War II, 1945.

The following data applies to both the above awards:

No QSLs need to be submitted. Instead, submit a list showing date, time, band and definite location of station contacted, and signed by one official of a radio club, or by two other licensed Amateurs. The cost is \$1.00 or equivalent (8 I.R.C.'s.). Applications to the Ontario DX Association, Secretary Wm. A. Wragg, VE3BQP, 127 Castlewood Road, Toronto, Ontario, Canada.

RADIO BOOKS OF INTEREST TO AMATEUR OPERATORS

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Robert G. Middleton and L. Donald Payne, 52/6 and 1/6 post.

TRANSISTORS—"HOW TO TEST THEM," Gernsback Library No. 94, 21/- and 1/- post

INDUSTRIAL TRANSISTOR AND SEMI-CONDUCTOR HANDBOOK

Robert B. Tomer, 52/6 and 1/6 post

TROUBLESHOOTING AMATEUR RADIO EQUIPMENT

Howard S. Pyle, 26/9 and 1/- post.

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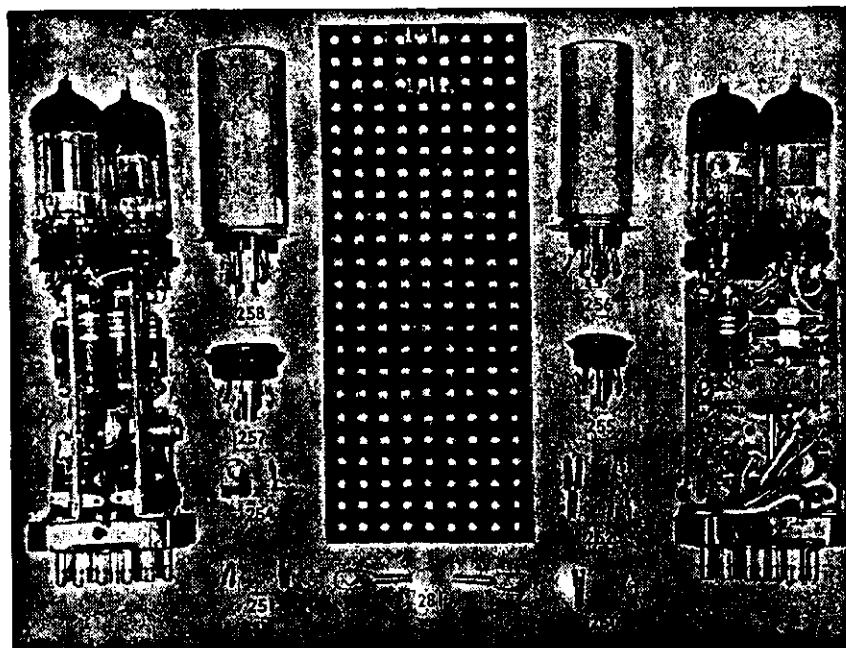
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SIDEBAND

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Sub Editor: BUD POUNSETT, VK2AQJ,
6 Alice Street, Queanbeyan, N.S.W.

ADDRESS CORRESPONDENCE FOR THIS PAGE DIRECT TO THE SUB EDITOR

VK2ON TRANSMITTER (Part 7)

Here is the last part of the description of the transmitter of Lindsay Douglas. I am sure that many of us have obtained some useful ideas from this interesting series. May I thank Lindsay for his work and support of this page.

T-R SWITCH

This extremely useful device follows the design of Lex VK3AIL. It uses the pentode section of the transmitter of Lindsay Douglas. I am sure that many of us have obtained some useful ideas from this interesting series. May I thank Lindsay for his work and support of this page.

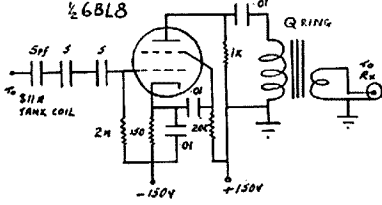


Fig. 1.—T-R Switch.

Three 5 pF. mica condensers in series are used to feed the grid and taking the input capacity of the tube into consideration, the grid receives about a quarter of the tank voltage. The device gives a slight gain on all bands compared with connecting receiver direct to co-ax antenna line. The 150 volt grid bias supply is used for convenience.

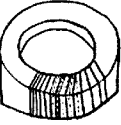


Fig. 2.—Q Ring.

Primary: 14 turns No. 24 enamel over quarter circumference. Secondary: 5 turns p.v.c. wire over primary.

A.L.C. CIRCUIT

Having a spare triode section to play with, what better use than putting in a.l.c. facility? This system, employed in Collins tx's, prevents flat-topping by applying rectified bias to the 9 meg. amplifier when the r.f. output exceeds a set figure. With the linear described in Dec. issue, the setting of PI is best at 50 to 60 volts. The bucking voltage is measured with the meter-switch in position one. The setting varies with the frequency and band in use.

Adjustment in the first instance is done when watching the c.r.o. pattern. By lowering the voltage gradually the system will come into operation and this will be shown by a decrease in the cathode voltage of the 9 meg. amplifier from 3 to 2.5 or 2 volts.

Used in moderation (with monitoring of this voltage) the audio a.v.c. effect will prevent "splatter" and induce friendship with Ham neighbours.

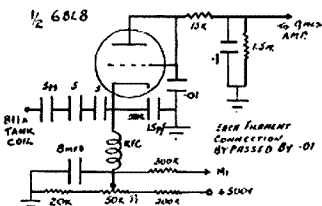


Fig. 3.—A.L.C. Circuit.

The heater pins should be by-passed to chassis to prevent unwanted pick-up of r.f. by the cathode. The circuit constants shown here gave best results and many variations were tried. If the bucking voltage is set too

high (say 90 volts) there is a tendency to develop positive instead of negative a.l.c. bias. The reason for this is not understood.

Modifications to the 9 meg. amplifier include removal of variable bias, wiring of a 30K bleeder to the cathode, and a 10K shunt for the primary of the output transformer.

Once can obtain more modulation capability with a.l.c. This is not very obvious on listening tests, although it can be seen on the c.r.o. As used here, there is no distortion arising from the system. It should be especially useful for Class AB1 and ZL linear type amplifiers which tend to cut off sharply when grid-current flows.

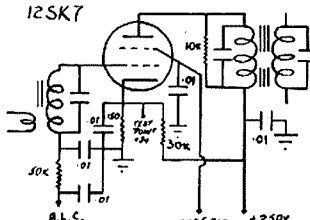
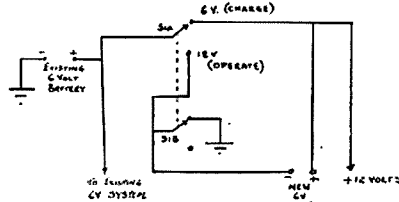


Fig. 4.—Revised 9 Mc. Amplifier.

Now that you have heard my story from A to Z, I must warn that further modifications to the transmitter are in view and if you would like to hear of them please let me know.

BON VOYAGE, VK2AQU

After spending some time at the R.A.A.F. Operational Command Headquarters at Penrith, Wing Commander Colin Harvey, VK2AQU, has been posted to Singapore. Col sailed from Sydney on 17th December and expects to be on from his new location by late January. Col has taken his s.s.b. equipment with him, so keep a look-out for a new VS1 call. His new address will be: C/o F.E.A.F., Changi, Singapore.



V.W. 12 volt source.
(From "QST," Nov. '61.)

S.S.B. CONTEST

Here is some advance information from Dorothy Strauber, K2MGE, of "CQ" magazine about a very popular contest. Below is an extract from January 1962 "CQ". Contest logs are available from your sub-editor's address, please accompany your request with a stamped self-addressed envelope. Logs may be forwarded direct to "CQ" Sideband Editors, 12 Elm St., Lynbrook, New York, U.S.A., not later than May 30, 1962. If you wish, send your log to me for forwarding to the U.S.A.

The Sixth Annual "CQ" World-Wide S.s.b. Contest will take place the last week-end in March 1962 from 1200 GMT, Saturday, March 24, to 1800 GMT, Sunday, March 25, with only 24 hours of operating permitted.

There are several changes of rules in this year's Contest so please read the following carefully.

As usual, the object of the Contest is to work as many stations and as many different prefixes on s.s.b. in the world as possible. (A "prefix" is considered the two or three letter/numerical combinations which form the first part of any Amateur call. The following would all be considered different prefixes: W2, K2, WA2, WA6, SA1, SA2, DJ1, DJ2, etc.) A prefix may only be worked once during the contest!

The Contest is open to all sidebanders in all parts of the world and all authorised Amateur frequencies may be used.

Here is a major change. To return this Contest to the status of a strictly DX Contest, contacts between stations in the same country will not count, except for the prefix multiplier. In other words, U.S.A. stations cannot count other W/K/WA stations for points, but they may work W/K/WA stations for the 23 different prefixes in use in that country ("W" calls in 10 districts; "K" calls in 10 districts; WA2, WA4, and WA6 calls, making 23 prefixes in all at the time of this writing. As other WA calls are added in other districts, they, of course, count as separate prefixes.) For purposes of this Contest, Alaska, KL7, and Hawaii, KH6, count as separate countries. See the rule of scoring for additional information on points.

Another change in the rules this year is that the same station may be worked once on each band for purposes of accumulating points and therefore you must submit separate log sheets for each band worked. For example, if you work HB9TL on 20 metres, you may also work him again on 10, 15, 40, and 80 metres, adding the proper points each time. As mentioned before, however, once you have worked the HB9 prefix on any band, you cannot count it again.

Only one transmitter may be in operation from any station at any one time and only the licensee of the station may operate (except at a club station where one duly-designated club member may operate at any one time).

You will note that the time span of the Contest has been changed this year and for a very good reason. Due to changing propagation conditions, the Contest time has been changed to give U.S. stations two full early morning DX periods for the higher bands and one full night of operating for the lower bands. This will give everyone a chance to work more DX at the best openings under today's conditions. The time indicated covers 30 hours but, as usual, a participant must not operate for more than 24 hours. The six hours of non-operation must be consecutive—at the beginning, end, or any six hours during the middle of the Contest—and must be clearly designated in the Contest log. Contestants may, of course, operate less than 24 hours if desired. Logs not indicating a 6-hour silence period will be disqualified!

Scoring.—The Contest exchange shall consist of the usual Q and S report, followed by the serial number of the contact. For example, the first contact might be 59001; the 67th contact would be 58067, etc. All times must be entered in GMT!

	Points 10, 15, 20,	Points 40 & 80.
Contacts with Own Country (KH6, KL7 count as separate country)	0	0
Contacts with Different Country on own continent	1	2
Contacts with Different Country on Different Continent	2	4

Final scores are determined by multiplying the total number of points achieved on all bands worked by the total number of different prefixes worked.

The operator's name, address, call, rig, power input, total number of points, total number of prefixes worked, and the final score must be indicated on a separate sheet attached to the front of your log.

Awards: The K2HEA-K2MGE trophy will be awarded to the highest scoring operator in the Contest.

The W2SKE trophy will be awarded to the highest scoring W/K operator in the Contest. The W8YIN Memorial Trophy will be awarded to the highest scoring W/K operator using less than 175 watts.

Certificates will be awarded to the highest scoring contestants in each of the U.S., Canadian, and Australian call areas as well as in other countries from which log returns indicate a minimum of three participating stations.

DO NOT FORGET THE
NATIONAL FIELD DAY
ON FEBRUARY 10-11



FEDERAL AND DIVISIONAL MONTHLY NEWS REPORTS

(SEND CORRESPONDENCE DIRECT TO DIVISIONAL REPORTER NAMED AT PARA. END)

FEDERAL QSL BUREAU

The log of VK9AD, who had 6,000 QSOs from Norfolk Island, is in the possession of VK3CX. Alan will issue the necessary cards on receipt of s.a.s.e. from VK stations or I.R.C. from overseas stations. His QTH is Alan G. Brown, 8 Mangarra Rd., Canterbury, E.7, Vic.

The Western Penna DX Society advise that contacts eligible for their award, must be after Nov. 30, 1960.

The Quarter Century Wireless Assn. publicity officer, CHIF Evans, K6BX, announces the Association's 5th Annual QSO Party from 2300z on Feb. 9 to 2300z on Feb. 11. He states that close on 3,000 members will be on the air to help aspirants for their regular awards. Operation is scheduled as follows:—

C.w.: 3.5, 7, 14, 21 and 28 Mc. bands.
A.m.: 3.5, 7, 14, 21 and 28 Mc. bands.
S.s.b./l.s.b.: 3.5 and 7 Mc. bands.
S.s.b./u.s.b.: 14, 21 and 28 Mc. bands.
R.t.t.y.: 7 and 21 Mc. bands.

The L.R.E.M. (Mozambique) forwards details of their W-CR7-A award for 15 contacts with CR7 stations since 12th Jan., 1949.

The Radio Society of Southern Rhodesia announce their W.A.Z.E. award for two contacts with each of the five ZE call areas, since 1 Jan. 1961.

The Lebanese Radio Assn. announces an award to stations contacting 10 Lebanese stations since 1st July, 1958.

Full details of any of the abovementioned awards may be had from this Bureau.

Cards through this Bureau rose sharply during December, but in view of prevailing band conditions, the upward surge should be short-lived.

1962 French Contest. C.w. from 1400 GMT on 24th Feb. to 2200 GMT on 25th Feb. Phone: 1400 GMT 14th April to 2200 GMT 15th April. Code: RST or RS and number of the QSO. Points: 3 with each contact with station in D.U.F. country. Multiplier: 1 for each French department or each D.U.F. country other than F and FC for each band. Score: points x multiplier. French stations of the metropole give after their call the number of the department. Send logs to R.E.F., B.P. 42-01, Paris, France. These logs are available for reference to any French award application. QSL are not required for these QSOs.

R. Jones, VK3RJ, Manager.

FEDERAL AWARDS

AUSTRALIAN V.H.F. C.C. AWARD

As at 6/1/62 the following awards, for the number of confirmations shown, all phone, are announced:—

- No. 1—Vol. Molesworth, VK2VO/T (ex VK-2ZDD), 144 Mc.—100.
- No. 2—George Gormly, VK5GG (ex VK-5ZGA), 50 Mc.—114.
- No. 3—David Rankin, VK3QV (ex VK3ZAQ), 144 Mc.—185.
- No. 4—Adrian Rofe, VK2HE, 144 Mc.—102.
- No. 5—Adrian Rofe, VK2HE, 50 Mc.—118.

—Alf Kissick, VK3KB, Awards Officer.

[Congratulations are offered to Alf VK3KB upon attaining the total of 300 countries worked on c.w. in the W.I.A. D.X.C.C.—Editor.]

AUST. CAPITAL TERRITORY

During the festive season, conditions were fairly quiet in the Federal Capital and even the tourists stayed away to some extent. Sid 2SW was contacted on his way through from Cooma and we hope the rest of his trip was pleasant.

The 8.45 a.m. net on Saturday mornings is working well and up to eight VK1s participate regularly, exchanging comments and news items. At present the net operates only on 40 metres but shortly will be operating on 2 mx as well. Visitors are welcome on this net so call in at any time and hear about the activity in VK1 land.

Several of the local lads are away at present. Eddie 1VP is reported to be mobile on 2 mx in VK5, Merv 1ML is in Sydney and David 1DG has been out bush with the local Scouts for a couple of weeks.

Two new tx's have been heard since Xmas. Tony 1SG has been putting out a very nice and Richard IRS has been heard with a nominal 90w. though seems to be losing the soup somewhere on the way out. Ted 1AOP has not been heard since his recent marriage. He claims that he is shifting to a new location and we look forward to hearing him again soon. Les IPI has not been heard for some time but the grape vine says he is building a s.s.b. rig. When can we hear it Les? Ron 1PM had a sudden urge to listen on 6 mx recently and was so impressed that he converted his 2 mx exciter to 6 mx and made several contacts. This appears to be a first for VK1 as it seems that no other VK1 has been on 6 since the call was issued.

A Field Day is being held on Sat., 3rd Feb., in conjunction with local Scout Troops. This is partly in response to requests from participants in the Jamboree of the Air and also to serve as a curtain raiser to the National Field Day on the next week-end. Contacts will be welcomed from outside VK1 by stations participating on the local Field Day and of course on the next week-end also. Incidentally, VK1s will be working all bands up to 288 Mc. for the National Field Day and will be looking for v.h.f. contacts particularly. With a little luck, VK1 should be on top of the list when the Field Day is over.

Your scribe was rudely awakened from a holiday nap at 8 a.m. one recent morning by one of the local gendarmes with a complaint about b.c.i. which had been received at the local Police Station. Seems that the irate listener could hear nothing but yours truly on his custom-built high fidelity outfit and got so annoyed that he called the local constabulary to help out. Putting it mildly, he was most unhappy about it and failed to appreciate the privilege of being the owner of the only broadcast set in the neighbourhood which can receive my transmission. Some people are hard to please. Anyway the problem was solved as the listener was shown which was the faulty tube and next time the interference occurs he is going to tap it with a large hammer till the light goes out. I guaranteed that this would cure the trouble. Back to the asylum.—IDG.

NEW SOUTH WALES

One of the most pleasing functions of the year in Wireless Institute activities is the meeting held immediately prior to Christmas each year. The meeting held last Dec. was no exception and was well attended by some 80 members, wives and friends. The meeting was opened as usual by the President Bill 2YB, who welcomed the visitors and members. Visitors present included Dudiey 2DQ, VR2DQ/VK2DS, and K6VVY. The appointment of Frank 2ACQ as councillor of the Division was announced. Frank hails from Narrandera, and will, during his stay in Sydney, assist Council by presenting the views of the country members. Ten new members were admitted to the Division. The balance of the evening was devoted to the showing of films of general interest. These had been organised by our Secretary, Bill 2EG, who was ably assisted by Peter Harding in their presentation. Following supper, the meeting closed at 11 p.m.

The high standard of the lectures at general meetings is well known to our members, and some more in this series are being arranged by our Education Officer, Harold 2AAH. Those many members attending the meeting to be

held on the fourth Friday of February at Science House, Gloucester Street, will hear Barry 2ZAG, who will discuss the "Future of V.h.f. in Amateur Radio." This will be an interesting lecture and all members are urged to attend and support our lecturer.

ADAMS TROPHY

Reference in these columns has frequently been made to the Adams Trophy, which was donated some years ago to further the interest of members of this Division in writing articles for "Amateur Radio." The trophy is a handsome one, standing some 14 inches high and is annually awarded for the best contribution by a member of this Division of a technical article for "Amateur Radio." Unfortunately, the response is not always as may be expected but nevertheless a committee is set up each year to decide the winner of the award.

The committee this year consists of Harold 2AAH, Vol 2VO, and Ted 2ACD. This group have met and following research into the articles published during 1961, have decided that the winner of the Adams Trophy for this year is Vic 2VL, whose contribution was an article on "Reference Shift Modulation for Mobiles" and which appeared in October 1961 issue.

We congratulate Vic on his effort and at the same time thank the other VK2 subscribers for their efforts and hope that more such articles will appear in the coming year and will therefore make the committee's task more difficult.

A.O.C.P. COURSE

The popular A.O.C.P. courses which have been conducted by this Division are to be continued again this year. The new course will commence on Wed., 14th Feb., 1962, and will be conducted bi-weekly under the control of the Class Manager and Supervisor, Mr. C. Bardwell, VK2IR, who has been so successful with this work over the past year. We are hoping that the response will be even greater this year than in the past, so budding Amateurs are advised to announce their intention of participating immediately to the Class Secretary, 14 Atchison St., Crows Nest, N.S.W. Remember that there is also the Correspondence Course for those who cannot get to Sydney. Enquiries will be promptly attended to by Mr. Bardwell.

HUNTER BRANCH

The usual type of Christmas festivities prevailed at the December meeting. A jolly gathering of one dozen members, seven associates and three visitors were present. After some general business had been transacted, Bill 2XT, recently returned from oriental wanderings, gave an interesting interlude of coloured pictures, ranging from views inside v.h.f. gear to Japanese soap advertisements and scenes from many parts of the mystic east and Fassifern. Later supper was served. A great deal of money was changing hands by this stage, but I was assured it was for the purchase of the remainder of the 100 sets. So closed 1961 for the Hunter Branch.

Activities during the festive season have remained very much as usual, but a burst of good conditions on 40 mx produced quite a deal of activity there and local stations not heard for many moons were audible. Among these were two Harrys—2YL and 2GH—both coming in at good strength. The v.h.f. men I am told, are also having a good time just now with signals coming in from distant places. Bob from Belmont, otherwise known as Belmont Bob, at last managed to get his aerial poles up and now has a good signal at his QTH.

I am reminded of a story of a man who does a roaring trade in the carrying business. At the completion of a job the other day, his customer asked, "Would this be of any use to you?" This aforesaid man said yes without looking and found to his surprise when he arrived home that it was a frequency meter with a power supply in good condition. Of course some people have Christmas all the year round.

It's just as well that Christmas is not more frequent at Shannon's. He already plays billiards well enough, but when double the number of balls appear on the table, it makes it so easy. I was wondering why he complained of having a headache.

SILENT KEY

It is with deep regret that we record the passing of:—

VK3BU—Bill Brownbill.

Whether due to bad conditions or the over indulgence of members, a very small roll-up was evident on New Year's morning on 4J and 80 mx. Two lakeside members had to talk to one another to be the only representatives from Newcastle and district. It was not so during the latter days of '61 though and Ben 2ABT could hear us all even though he had the aerial disconnected. Wally 2AXH and Harold 2AAH also joined in and a good time was had by all.

Our Secretary, Gordon 2ZSG, has carefully disguised his 144 aerial to look like it's used for t.v., thus fooling all the neighbours. Ian 2AJF is now working for a living so you may hear him on soon. Harry 2AFA has the new 20 mx beam swinging in the breeze and is muttering words about DX and I still have some holidays left, so anything might happen.

If you would like to see and hear all about remarkable things that may be done with test gear in the shack as well as other items to interest all Amateurs, then you shouldn't miss the February lecture which will be given by Chris 2PZ. The date to remember is Friday, 9th February; time, 8 p.m. at the Newcastle University College, Tighes Hill. So come along, you are assured of a very educational night. And if you'd like to see the billiards champions in action, be present at Bill's tavern on the third Wednesday at 8 p.m. and maybe Bill will show you some interesting gear you've not seen before. Be seeing you at both these meetings. 73, 2AKX.

VICTORIA

GENERAL MEETING, 7th FEBRUARY, 1962

Members are reminded that at the February general meeting to be held on Wednesday, 7th February, it is intended to discuss the proposed Articles and Memorandum of a Federal Company, advance notice of which was given at the State Convention. This is of considerable importance, as it affects the whole Federal structure of the Institute. The proposed changes will be explained and as many members as possible are urged to attend in order that their views may be obtained.

Two short films by Mullard, of exceptional interest, will also be shown at this meeting.

MOORABBIN AND DISTRICT RADIO CLUB

After a very productive and exhilarating year in 1961 it is encouraging to commence 1962 with a President who puts his whole heart in to our progress and a committee of enthusiasts who will, as our new syllabus already shows, bring the Club to even greater heights.

To summarise our achievements, let me say that our membership rose from 65 at the commencement to 82 at the close of 1961. The National Field Day competition resulted in the Club netting 1,015 points to come a good second to the Elizabeth Club. As far as VK3 was concerned this meant the winning of the Perpetual Cup which was presented to the Club at the W.I.A. Dinner, and is now resting on a bracket especially made for it on our Club room wall. The other outstanding event for the year was our participation in the Boy Scouts' Annual Jamboree on the Air in October. Members were instrumental in giving the Third Annual Gathering of Senior Scouts who were encamped at Clifford Park, near Melbourne, on that week-end the facilities of radio communication as well as their other activities. The appreciation was universal and it would appear that this will become an annual event.

For this year our syllabus shows lectures on several subjects, film nights, 80 mx tx hunts, social nights at members' homes and barbecues. Of interest to our honorary members and to Amateurs generally is our Club net on the air on 3.6 Mc. every Monday evening at

OBITUARY

BILL BROWNBILL, VK3BU

Bill Brownbill, VK3BU, passed away on the 9th January in the Alfred Hospital, Melbourne, after a long period of ill health.

Bill was particularly well known on the 80 and 40 metre bands, where he spent most of his operating time.

As a foundation member of the Geelong Amateur Radio Club, he took a keen interest in the running of the Club, being a member of the management committee at the time of his death.

The sound of his voice on 40 metres will be missed by his many friends, and some will no doubt recall his Ham activities from 1935 when he first became licensed.

To his mother and relatives we extend our sincere sympathy and condolences.

8 p.m. This is proving popular and we would like to hear as many as can come on at that time. The net usually goes through to well after 10 p.m. and it is just a matter of breaking in when we pause between covers.

Several visits are envisaged for the year, interesting places including the Essendon Air Terminal, Victoria Brewery, Remote Receiving Station and any others of interest that may present themselves. We hope to conduct a couple of theatre nights. In all, we are quite active, a merry bunch of fellows, and worth being joined by any active Amateur in districts surrounding Moorabbin.—3LC.

QUEENSLAND

The December Council meeting was held in the home of Jack 4JF with the following councillors attending: 4AO, 4AW, 4CI, 4DG, 4EF, 4JF, 4KB, 4KM, 4PJ and 4PR. It was decided that in future Council meetings would be held in city rooms rather than in private homes.

Three new members, Lane 4LT, K. P. O'Farrell and Iovo Gacasa are welcomed into the Division. The much publicised QSL cards from the Tourist Bureau are now on hand and members can obtain a bundle of 300 from the State distribution officer, Jack Files. Postage on the bundle is 2/3.

Members are requested to keep our meeting nights free for the next year as Col 4CI is organising a group of interesting lectures for the new year.

The v.h.f. boys might gain new recruits to their ranks as Brian 4UW is the author of a group of constructional articles, "Getting Started on V.h.f." which is currently running in the Northern Command Radio Club magazine, "Jimmy's Jargon."

Under the auspices of the Queensland Division of the Wireless Institute of Australia, the Northern Command Signals Radio Club proposes conducting classes to prepare students for the A.O.C.P. examinations to be held on July 10, 1962. Applications are to be made to the Secretary, Box 638J, G.P.O., Brisbane, who will furnish detailed information. It is hoped to start classes on 1st February.

No general meeting was held in December due to the Christmas holidays, so let's hope there will be twice as many attending the January general meeting.

For those members who like eyeball QSOs Council discussed dates and places for the next Convention. Last year the C.W.A. Hall at Nambour did not prove entirely suitable so Gordon Harley of the Wide Bay and Burnett group has undertaken to try to find a more suitable spot on the near north coast. So chaps what about making the 1962 Convention one of the best yet by attending it yourself.

This Division's membership must surely be rising because 12 new members were admitted at the January meeting.

Two nets, run here in Queensland, are worthy of mention. The first is the "Kookaburras" which starts up on approx. 7068 kc. at 7 a.m. daily. Following on from this at 9 a.m. are the "Kingsfishers" (little Kookaburras). Call signs heard consistently are 9NT, 4ZW, 4BQ, 4TK, 4UX, 4FN, 4GA, 4BJ, 4SW, 4HZ, 4SA. The Kingsfishers (the sick, the idle and the rich) are like Johnny Walker, "always going strong." So you Mobileers or southern visitors come in on one of these nets and I am sure that the Queensland hospitality will be extended to you.

It is with great concern that I read 5PS' (Fanny to you also!) sabre-rattling January notes as our regular scribe (4PJ) is at present visiting VK3 land. It is our fervent desire that 4PJ returns safely and that 5PS does not hop the border [That 5 Portly Statue couldn't jump over his shadow—Editor.] and forcibly detain Peter to improve Pansy's already witty notes. I wholeheartedly agree with Pansy to call his State the moonlight State or, if I may suggest, better still the "Moonshine State" bearing in mind the VK3 gang's likeness to the comic versions of "Kentucky Moonshiners". I hope that Pansy will forgive us our plugs for our beautiful State, Land of Sunshine, Golden Beaches, Surfers Paradise, etc., etc., but I cannot help but tell the truth. 73, 4JE.

SOUTH COAST

It is pleasing to note that the vacancies in official positions have been filled and that the more even distribution of the necessary work of the Division should contribute much to greater efficiency and progress. Opportunity is taken to extend thanks to and appreciation of the work done by the various members of the old Council. To the incoming councillors is extended best wishes for a very successful and progressing year.

Regrettably we record the passing of Fred's (4VB) mother. To Fred and the family is extended the sympathy of all in his sad loss.

Congratulations to Stan 4SA in taking up his post as Station Manager and his co-operator Alf 4CL. There should be no lack of news or matters to discuss as Stan and Alf will always have something or other to converse about. Early in Dec., Bill 4WS had the pleasure of a visit from Frank 4FN whose stay, though brief, was most enjoyable.

Though the holidays have started it is known of only one Amateur visiting our golden sands and enjoying the golden sunshine and that is Roy 4FJ. We hope that the gang are enjoying themselves in the numerous and various other ways available. No matter where you made your temporary QTH, may the holidays be the best ever.

After a prolonged illness it looks like Del 4RJ might soon be on the bands again. Frank has built a new tx for him with a Geloso v.f.o. and a xtal calibrator. From reports it appears to have everything even a s.w.r. bridge. Bill and the Southport boys are arranging for the erection of an aerial for Del.

WIDE BAY AND BURNETT

Not much news has filtered down from this area in the past month. They must all be recovering from their Christmas "Does". Gordon 4GH, the President of the Wide Bay and Burnett branch, was in the Big Smoke of VK4 land at the beginning of January and attended the January Divisional Council meeting. The Bundaberg Amateur Radio Club seems to be really thriving as the unbelievable number of 20 students are sitting for the next A.O.C.P. exam. What might have caused the interest in this area? Could it be the write-up in the Bundaberg News of the meeting of Frank 4UK and Stan 4SA at the inaugural opening of the club?

Heard operating from Pialba was a visitor to this State (Note Pansy—no propaganda), John 7JF, from the Apple Isle. John was putting out a thumping signal from his portable and received good reports from all over VK4.

CAIRNS

A visitor during the month was Owen 4OV from Mt. Isa. He had some wireless gear surrounded by a caravan. He was first discovered by Arthur 4SM who wondered why his rx

SPECIAL NEWS FOR VK3 MEMBERS

The Council of the Victorian Division is pleased to announce that official permission has now been given for the W.I.A. to use the Rooms at 478 Victoria Parade, East Melbourne, for Institute functions. (See "A.R." Nov. '61, page 19 for the previous story.)

The Rooms are now open from 10 a.m. to 3 p.m. on week days. Phone 41-3535.



You are requested to assist in making the VK3 Headquarters an attractive showplace. Painting, cleaning and carpentry have yet to be completed, will you volunteer to help? Michael Owen will be pleased to hear from you.



Have you seen what improvements have already been made? Why not call in some time to your building?

HALLICRAFTER

MODEL SX-140 RECEIVER

MODEL SX-140K RECEIVER KIT

The SX-140 Amateur band only, high-performance low-cost receiver is completely new in design, both in styling and circuitry. Six bands: 80, 40, 20, 15, 10 and 6 metres, for c.w. a.m., and s.s.b. signals. Slide-rule dial with high tuning ratio. Light weight, compact, it has all the important features needed in a complete Amateur receiver. A perfect match for the HT40 transmitter.

FEATURES:

- ★ High Sensitivity.
- ★ Sharp Selectivity.
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- ★ "Built-In" Crystal Oscillator Circuit for I.F. alignment.
- ★ High Tuning Ratio—25 to 1.
- ★ Tunes with ease, single sideband.
- ★ Antenna Trimmer for precision peaking of signals.
- ★ "S" Meter.
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- ★ Automatic Noise Limiter.
- ★ Matches HT40 Transmitter in styling and size.
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- ★ 117 volt, 50/60 cycle power input.
- ★ Beautifully lighted, full-length slide-rule dial.
- ★ Internal switching circuits can control transmitter and antenna changeover.

Price £89-0-0

FRONT PANEL CONTROLS AND FUNCTIONS

Function: Off, Standby, a.m., c.w.-s.s.b.
Phones: Jack accommodates two-connector plug and disconnects speaker.
Band Selector: 80, 40, 20, 15, 10, and 6 metres.
Cal.-off switch energises calibration oscillator in Cal. position.
R.F. Gain Control: Controls gain of r.f. amplifier.
A.N.L.-Off switch: Reduces ignition and atmospheric noise in a.n.l. position.
Selectivity-B.F.O.: Varies i.f. selectivity on a.m. B.f.o. control on c.w. and s.s.b.

Audio Gain: Controls output level of audio stage.
Antenna Trimmer: Peaks each signal for maximum output.
Calibration Reset: Permits precise calibration on all frequencies of each band.
Main Tuning: Tuning control for station selection.
In the Standby position receiver can turn on transmitter and control antenna changeover relay.

TUBES AND FUNCTIONS

6AZ8: R.f. amplifier and calibration oscillator.
6U8A: Mixer and local oscillator.
6BA6: I.f. amplifier and selectivity/b.f.o.

6T8A: Detector, a.v.c., a.n.l. and first audio.
6AW8A: Audio power output and "S" meter amplifier.
Two high efficiency silicon rectifiers in power supply.

REAR PANEL CONTROLS AND CONNECTORS

"S" Meter zero set control.
Speaker terminals.
Two pairs switched contacts for the transmitter and antenna control.
Antenna and ground connections.

CABINET

Color: Grey steel cabinet.
Size: 13 $\frac{3}{8}$ " wide x 8 $\frac{1}{2}$ " deep x 6 $\frac{5}{8}$ " high.
Weight: 14 lbs.

Sole Australian Representative:

W.F.S. ELECTRONIC SUPPLIES CO.

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Sole South Aust. Agent: TELEVISION & RADIOTRONIC CO., 11a Gays Arcade, Adelaide

Sole Queensland Agent: GENERAL IMPORT DIST., 135 Lutzow Street, Wellers Hill, Brisbane

SOUTH AUSTRALIA

The monthly general meeting of the "Moonlight State," VK5, was held in the clubrooms to a capacity gathering of members and visitors, and took the form of a Xmas Get-together. I would say without hesitation that the gathering was the largest we have had in the new clubrooms for a Xmas meeting, and I would say also without hesitation that it was the most successful and smoothest run of such functions. Apparently Council had profited from the lessons learnt at the last such gathering and came out with flying colours this year. Nothing was left behind at home, the milk position was in the capable hands of Gilbert 5GX, spoons for the tea were in abundance, in fact try as hard as I can, I cannot rake up even the smallest of grizzles. This upsets me of course. How can I pad this part of the notes without the help of Council and a few of their falls from grace, although, as I always have said, they would do anything, even keep on the straight and narrow, if they thought it would stop me from writing.

The meeting opened at 8 p.m. and the Chairman, John 5JC, ever his canny self, forestalled the members by announcing that all business would be cancelled for the night and his being so quick to beat the members, caused two or three of them to almost swallow their tonsils, so anxious were they to beat him to the punch. Visitors were then introduced and the entertainment commenced, taking the form of the usual three interesting and enjoyable films, two by Walt Disney, and all in colour

peasants, were greeted with the customary applause, cheers, and hoots from those somewhat hidden from view, which all goes to show how democratic we are in the Moonlight State (VK4 please copy). I was a bit unlucky with my hoot and after all my practice too, but just as I was getting under way, Mr. Pike looked fair and square at me, and my still-born hoot became a mixture of a wolf whistle and a smoker's cough. The fact that he took out a little book and made an entry in it was a little disturbing at first, but after all why not live dangerously. What am I saying!

Arch 5XK, the man who put the owe in Norfolk Island, has returned from that locality, where he spent a very enjoyable holiday to the accompaniment of DX calls and answers by the millions. He and his XYL led the DX-pedition to the island a good time was had by all. Idle rich. Pooh!

Doc 5MD was not at the meeting as he is still not 100 per cent. after a bad time with eye trouble. He had a sojourn in hospital and has been on sick leave for the past month or so. Latest reports indicate that he is nearly right now, although he still has a week or so of sick leave.

Jim 5JK was another one who was absent from the meeting. Jim's XYL has been hospitalised for a short period and as soon as she came home, Jim decided to cut himself a piece of cake and down he went for a few days. Apparently the household chores took it out of him. They tell me that he boils a ducky kettle of water!

jumped a foot off the table, and after listening for a while he found that it was Owen camped over in the caravan park a couple of hundred yards away. He had his family with him and saw the Tableland, etc., en route. Bert 4BP looked after him when he was up there. Bert had previously spent some time with Owen while he was on his "around Australia trip" so he returned some of the hospitality.

Charlie 4BQ, accompanied by his XYL 4ZEF, called into Cairns amid a plague of sandflies and the heaviest rainfall that we have had for some time. Charlie was last seen heading north for Mossman and surrounds. He has not been heard on the air although he has a portable tx. Then, of course, putting up the aerial might prove too difficult for his XYL.

Ted 4MH took off just before Christmas for Wollongong in VK2 land. Last seen he was low flying through Townsville. It is reported that he has no gear with him and that he is going for a nice quiet holiday with his wife. Oh yeah!

TOWNSVILLE AND DISTRICT

News is very scarce this month, not much activity amongst the gang at all. Conditions on 20 mhz over the Xmas period were very good. Listened in to a QSO between a ZS and a VK, and heard my call sign mentioned. Previously to this, I was nattering to 8UX, ex-5UX. Apparently the ZS was listening to me, because he mentioned to the VK, "Can 4UX natter . . . he must have been inoculated with a gramophone needle." Anyway, I called him later and pointed out to him that I was fully qualified to natter at great length, as I am in possession of an "Ear Basher's" Certificate, which was presented to me with due ceremony some years back. However, as a qualified and "Certified" Ear Basher, I was very tolerant with him. Thinking it over later, I couldn't decide whether he was impressed by my Certificate or whether he was wary of being lured into a lengthy QSO.

Received a letter from 4RW, who usually writes these notes. He posted it as he was passing Cocos Island. How in heck did he do that? Further information leads me to believe that he has eventually reached England.

A very successful annual Xmas "Do" was held by the Townsville Radio Club at the home of Graham 4BX, who is also one of our R.I's. A majority of the members are also members of the W.I.A. A prior commitment, to wit, supervising the broadcasting of gardening talks, culture and the price of spuds, on 630 kc., prevented me from attending.

Owen 4OV from Mt. Isa is on holidays in Townsville. Bob 4MF has disposed of his rx and is still surrounded by adverts. dealing with Super Super Sets. Bob thought he was being got at a few night ago, 5H3HH called him, but he was legit all right. 4DD has almost finished his new rx which I believe is extra good on s.s.b. If it's like your last one John, it must be good.

Congrats. to 4ZW on another successful pupil. Well Ed, you only have yourself to blame when the local QRM starts. I should have another four candidates for the A.O.C.P. early this year. Gosh, what am I saying. Anyway, I've had the low frequency bands to myself for nearly three years now, so I can't complain. Things have come to a standstill with George 4GS. I'm sure that when George was a pupil of mine for the A.O.C.P. that, when dealing with the front end of a tx, I spelt it oscillation, and not osculation. However, it seems that what with buying a car and the above misspelling, George won't be on for a while.

Norm 4ND, of Home Hill, has decided to live in Ayr and has shifted into a brand new house less than 200 yards from me. So as from now Norm, I am ceasing trying to get you back on the air. But, if you do get bitten by the bug, there is plenty of DX on between 2 a.m. and 7 a.m. Not much on other times. True, I wouldn't kid you Norm.

Don't get Pansy's dig at the VK4 scribes. So will have to await the return of 4RW from overseas, to see what it is all about.

As for "crawling," you may have something there Pansy. I may get all my notes published then, and perhaps a letter or two printed in "A.R." instead of it being cast into the w.p.b. and receiving "square off" letters from "A.R." So, Mr. Editor, if you intend to "let fighting commence," print all my notes and then it won't be a one-sided fight.

The National Field Day is on again next month and members with portable gear in North Queensland will be watching with interest the high scores, under the present system, that will be put up by the VK3 boys. But, can I fight with other Divisions per these notes, or is the fighting to be limited to VK5, with VK4 on the receiving end. Remember, Mr. Editor, you said it! [I am neither 4 nor against; the odds are 5/4.—Ed.]

Well fellows, that's the lot for this month. I have some Command gear that I want to get going for the N.F. Day, so cheerio, 73, 4UX.



At tremendous cost and under threat we finally obtained THE photo. Reading left to right: John Hazeldine (VK5JC, President of VK5), Ray Tuck (VK5BT) and MR. Parsons (VK5PS). Copyright and facetious remarks reserved by "A.R."

at that. Now I realise that this type of entertainment is either liked intensely, or disliked immensely, but speaking personally, and with the applause of the members still ringing in my ear, I can only say that the films were thoroughly enjoyed by all present. To Nell 5ZAW and Ray 5BT, who were responsible for picking of the films, and the projection of same, in that order, go the thanks of the audience. At this point in the proceedings the chairs were cleared, George 5RX distributed the cards, and then the tables were loaded with the lolly water and the goodies, and battle commenced. Tall stories, impossible stories and even downright lies passed back and forth with the speed of a tennis ball, to the obvious enjoyment of all, and I suppose to be truthful, I must say that this part of the evening's entertainment ranked number one.

This year, by the way, there were several young, pretty, and demure YLs and XYLS present for the first time in the history of such gatherings, and I cannot but feel that this was the writing on the wall for Council to consider in the future. Just how you feel about it I would not know, but I would suggest that if anybody feels that a mixed Xmas Get-together is a good idea, then earmark the subject for discussion at a future meeting and don't hesitate to get up on your feet because after all the majority wins in our democratic set-up and anything that will help the YLs and XYLS to appreciate our hobby should be tried out.

The R.I's. were well represented at the meeting by Mr. P. Traynor, Mr. C. Pike, and last but by no means least (I'll get on), Mr. D. Caudle. These estimable gentlemen (I'll still get on), when introduced to the assembled

Jack 5JS reported on his way down to Nhill for the Xmas break. Is talking portables and mobiles, so apparently some activity will be evident from the wilds of VK3. Watch those VK3 jokers Jack, take one eye off them and they bite. All my bad luck comes from VK3, what with Ye Eds., Federal Executive, Magazine Committees, Pincotts and low types who give their old chassis to s.w.i's., to say nothing of Federal QSL Bureaus, rolling in shekels, who dash off to Europe, etc., for week-ends at the drop of a hat, I keep a watchful eye on them. Don't ignore the Gypsy's warning, Jack.

My anonymous Xmas friend, who at this time of the year sends me jam tins, fruit tins, biscuit tins, buckets, and any assorted types of hardware that hits his agile mind, gave me a repite this year. He only sent me through the post a dog's bone, label and insults complete. No wonder the postman crosses the road when he sees me coming down the street!

My undercover man for January tells me that Luke 5LL had a lucky escape in a car accident just before Xmas. It appears that a New Australian was tearing down the main road at about 200 miles an hour and decided that Luke was not entitled to any of the road, bounced off his car, knocked a taxi rotten, and then cleaned up several yards of kerbing. Aside from telling the N.A. a few facts about himself, querying his parentage, and giving him some facts about his driving, "Iron Man Lucas" drove off, dented but undeterred. I could just imagine what Luke said.

At the time of writing, there is a general exodus from our fair city for the Xmas season. Jack 5JS to Nhill, Luke 5LL to Lucindale, Vern (The Admiral) 5ZAH to Maitland for

Xmas, then to VK2 and VK3; Frank 5MZ to Port Lincoln, and only one entry into Adelaide reported. Claude 5CH from Mount Gambier.

Carl 5SS, when asked by our reporter when he was leaving Adelaide for a Xmas holiday, plaintively replied, with tears in his voice, "Who would feed the birds?" Before our reporter could open his mouth, the birds started up in shrill complaint at the mere idea of Carl leaving them, and one of the gals had the audacity to say to the reporter, "Pull your head in Dad." How cheeky can these birds get? Brian 5ZBI came down to our fair city from Maitland for a short visit, parked his car alongside a parking meter in the main street, walked off without putting in his sixpence and is now moaning to all and sundry because the City Council has QSLd him direct. Visiting the city soon OM?

Howard 5XA is indignantly denying that he is in a heck of a hurry to build up some 6 mx gear, despite all the affirmatives from the gang. My spy tells me that anybody knowing how much Howard talks about 6 mx, and how he praises it up to all and sundry on the air on 7 Mc., would have no doubt that eventually he will be a dyed-in-the-wool 6 mx addict!

Alan 5ZC would have walked up the aisle on 13th January. There is no truth in the rumour that several of the boys formed a guard of honour with crossed 813s as he and his charming bride left the church. Just where do these rumours start?

Met a newcomer to VK5 at the Xmas meeting, and although I know his call sign was 5RC, I know he lives at Salisbury, and I know that he is an ex-G, I am not sure of his christian name. I think it is Joe, but fancy if it was Pat or Mick, wouldn't he be annoyed. He told me that he knew our tame Scotchman, Dave 5DS, back home and when he someday is in QSO with Dave, in the near future, then VK5 will have two of the kilt fraternity to listen to and puzzle out what they are saying. Heaven forbid! Although one of them might be able to play the bagpipes. I surrender.

Rex 5DO sighted en-route for VK3 complete with t.v. set and the kitchen sink. I felt like stopping him and telling him that they had t.v. in VK3 but I did not have the heart. After all, his XYL Doris might have been annoyed with me and made a special trip down to my shack with a barrow load of concrete.

The South East gang had their Xmas Get-together on the 21st of the month and a good roll-up resulted. A good time was had by all and the entertainment consisted mainly of earbashing and feeding of the inner man. The XYL of Erg 5KU provided one of her world famous massive sponges and the boys did it justice in no uncertain manner, so much so that rumour has it that she is to be honoured at the next Queen's Birthday. In fact, I will let you into a closely guarded secret. She will probably receive a medal as big as her sponge and as Erg will have to wear it, it will probably make him bandy.

Leo 5GJ was not at the meeting and it would appear that he has not yet thrown off the tentacles of the "one eyed monster". However, hopes are held out for his return to the ranks.

Claude 5CH has been rather busy at Bordertown installing a new engine at the local power station. Understand that he is coming down to the city of Adelaide for Xmas and if so he will probably call into the Best Broadcasting Station in VK to see me. You have not heard that one for a while, have you?

Stuart 5MS is getting a few new ones on the bands, but has had to resort to a.s.b. to do so. He is apparently not at his usual top form, he could not face the sponge at the meeting. See what s.b. can do for you? Even puts you off your food.

Erg 5KU is still picking up a few new ones on 7 Mc. c.w., probably because the DX are starting to hear about the size of the sponge and want to cut themselves a slice of cake. Get it? Cut them a slice of cake. Pretty smart, eh? Oh all right, could you do better?

David 5AW is leaving Penola early in February. Everybody is sorry to see him go, but all wish him luck and feel sure that he will be an asset to his new place of appointment. Where is he going? Well I have not been told, but as a special favour to you I will gaze in my crystal ball and find out.

Col 5CJ has been keeping the now famous lunch time sked on 7 Mc. and at the same time

listening in vain for the powerful signal which indicates that 5PS is on the air. Well to be truthful, Col, I have been having a little trouble with my coherer, it says peep when it should say poop. Never mind, I will master it yet, it never used to do it back in 1903.

Dale Aslin is patiently waiting for his call sign and is all geared up to give 6 mx a bashing. Several of the S.E. short wave listeners' group are sitting for the January A.O.C.P., and whilst this is somewhat belated, everybody wishes them all the best. Personally, I found the first twenty times that I sat for the exam the hardest!

Ken 5LM returned from a sojourn in hospital on Xmas Eve and sounds like his old self. No details of his operation to hand but apparently all is well.

Carl 5SS has been very busy planting a lawn and despite considerable proddings on the part of all interested, the "Big" rig is no nearer completion. There has been a suggestion to put the axe through the 288 Mc. rig, which everybody claims is the main cause of his not finishing the job, but so far nobody will "bell the cat".

Max 5OS is another one who is making heavy going with rig building, although the latest reports state that he has soldered a further two wires on his "Quack-Quack" rig, so at least we can say that he is progressing.

Claude 5CH, as earlier reported, is in town and paid a courtesy call on Frank 5MZ, but did not call in to see me this time. Probably someone has been talking about me. Take no notice of them Claude, I am flattered in all directions. George 5CV and Jim 5PM also called in to see Frank 5MZ and exchanged the compliments of the season.

My spies tell me that Arch 5XK had "George" from Norfolk Island stopping with him for the Xmas season. Reminded me of the time that the late Ross Kelly 6SLW was the native lighthousekeeper on a lighthouse far out in the Pacific, who could never finish a QSO because the light kept on blowing out! Ho ho, and a couple of Har har's.

There is no doubt that travel broadens the mind, and Jack 5JS will bear me out. Just returned safely from the wilds of Nhill, he tells me that he had to go all that far to find out that Luke 5LL was baptised Gil. Just goes to show you, and Jack has been associated with Luke, sorry, I mean Gil, for more years than I would like to confess to!

Well, the red pencil is poised for action again, so I had better shut up. However, I must draw your attention to the mention of my call sign in last month's DX notes, although the remarks of Ye Ed. cut me to the quick, and I would also like to know who was the Radio Amateur in VK5 who gave his mother-in-law an old fashioned straight-backed iron chair for the garden, for Xmas? But his XYL would not let him connect it up!

73 de 5PS (PanSy to you).

TASMANIA

The December meeting of the Division was graced by an address from Ken, ex-VK7KM, who has been back in Tasmania after an absence of three years mainly spent in the United States. Ken's address dealing with certain aspects of space research was delivered to a public gathering at the University, and was extremely well received by those privileged to attend.

The holiday season is again with us and Ken 7KA, Doug 7DW, Ted 7FJ and Jack 7JB have all been away just enjoying themselves. David 7ZAI and Brian 7ZBE have both been to Launceston at the direction of their employer, and Ted 7EJ spent a week in Melbourne following a similar direction from his boss.

The December v.h.f. meeting is fast becoming the Christmas celebration for this Division and this meeting in 1961 from that point of view was an outstanding success. It was held at the home of Barney 7ZAK and it continued to the small hours of the next morning. A wonderful time was had by all.

Plans are nearly complete for the repeat of the VK7WI official broadcast at 2030 hours on the Sunday concerned. This repeat is being conjured up to meet the needs of the country, northern and north-western members who have been experiencing difficulty in reading the morning broadcasts for several months. Jack 7JB, Charlie 7KS and Terry 7CT are to be congratulated for extending this very worthwhile service to the members of this Division.

Ted 7EB has been getting some of that elusive DX just recently and he bagged Finland, Peru and Malaya over the New Year break, just to whet his appetite for more. DX conditions have been uncertain and erratic for the past few weeks and the Ws have been much rare than usual. Europe on the other hand on

14 megs. late at night has been quite good. I too have had quite good results after midnight.

Remember the National Field Day Contest in February. If you can, go portable, and have the fun which is there for the taking. Otherwise, give the portable boys a good time by working them from your home station—that is fun too. 73, 7ZZ.

HAMADS

Minimum 5/-, for thirty words.
Extra words, 2d. each.

Advertisements under this heading will only be accepted from Institute Members who desire to dispose of equipment which is their own personal property. Copy must be received at P.O. Box 36, East Melbourne, C.2, Vic., by 8th of the month, and remittance should accompany the advertisement. Call signs are now permitted in Hamads. Dealers' advertisements not accepted in this column.

ALL VK7 Hams and others. Sale of large amount of gear. V.h.f. Transmitters, Power Supplies, Valves. If you want it, I probably have it. Accumulation of 25 years' Ham Radio. Dr. Kelly, VK7LL, 2 Derwentwater Ave., Hobart, Tas. Phone 5-2059.

FOR SALE: AR8 Receiver, 370 Kc. to 20 mags., £15. AT5 transmitter, £6; no power supplies. AT5 Aerial Unit, £2. Auto Transformer, various taps to 260v. at 3 amps., £3. Power transformers, 110v. primary, 50v., 18v. secondary, 10/- each. Three only 230v. a.c. 3 amp. metal rectifiers, 10/- each. Command BC453 Q'Fiver, no supply, £12. VK-3AWK, 17 Jasper St., Noble Park, Vic.

FOR SALE: Bushmatic T.V. Tuner, used in Bush Simpson sets, press-button, aligned, brand new, valves included, £8/10/0. VK5ZCL, P. T. Leatham, 30 Langford Tce., Salisbury Nth., S.A.

MOSLEY TA33J Triband Beam for Sale, 10-15 and 20 mx, with spare set new radiator traps costing £15, sell £45. Write VK4EP, C/o. P.O. The Summit, Qld.

SELL: As new Collins 32S1 complete with a.c. power supply, £385. National NC303, spotless condition, £225. Collins KWM2, complete, perfect, £550. A.c. power supply, Collins, £70. D.C. Collins power supply, 12v., to suit, £120. E. C. Hulme, VK2EN, 34 Gnarbo Ave., Cars' Park, N.S.W. Phone LJ 3633.

SELL: Collins Mech. Filter, F455F21 (2.1 Kc.), new. VK3JK, Mornington 3183 (Vic.).

SELL: Heathkit Cheyenne/Comanche Mobile/Fixed Station equipment with a.c. power supply, beautiful equipment, £185. National 125D Receiver, £50. First to inspect will buy. VK4FJ, Camp Hill, Brisbane, Qld.

SELL: National NC300 receiver with crystal calibrator and manual. New appearance, £165. J. Anderson, VK-3JA, Nullawarre, Vic.

SELL: Professionally built 150 watt all band s.s.b. transmitter in immaculate condition. This rig has been an outstanding performer. VK3XO, 340 Rathmines St., Fairfield. Phone 44-1823 Melbourne.

WANTED TO BUY: Communication Receiver Eddystone 640 or similar. VK3VV, J. Wallis, Mill St., Kennington, Bendigo, Vic.

LOW NOISE XTAL CONVS. 144 Mc. Repairs to and construction of Receivers, Transmitters and Test Equipment. T.V. alignment.

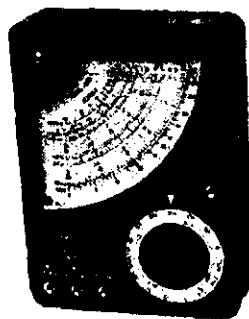
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FT 3010	FT 4360	FT 4895	FT 5552.5	DC 5980	LP 6547.9	FT 7373.3
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DC 3320	FT 4465	FT 5110	FT 5660	LP 6040	FT 6560	DC 7400
DC 3332.5	FT 4483	DC 5145	DC 5700	FT 6050	LP 6561	FT 7406.6
FT 3340	FT 4490	DC 5166.6	FT 5706	LP 6110	DC 6572.3	FT 7425
DC 3440	DC 4495	DC 5170	DC 5710	LP 6130	LP 6640	FT 7440
FT 3690	FT 4535	FT 5180	FT 5740	LP 6210	FT 6650	FT 7600
FT 3828	FT 4540	FT 5205	FT 5744	FT 6225	DC 6700	LP 7890
DC 3830	FT 4549	DC 5210	DC 5770	FT 6235	DC 6750	DC 7890
FT 3830	DC 4660	FT 5237.5	FT 5773.3	DC 6240	DC 6783.3	DC 7925
FT 3885	FT 4672.76	DC 5250	FT 5775	LP 6243.3	FT 6815	LP 7930
DC 3930	FT 4676	DC 5285	FT 5780	FT 6265	FT 6840	DC 7962.8
DC 3970	FT 4695	FT 5295	FT 5782	FT 6300	FT 6890	DC 7810
DC 3995	FT 4730	LP 5300	DC 5810	DC 6350	FT 6935	DC 8036.2
FT 4010	FT 4735	FT 5360	FT 5815	FT 6355	LP 7010	DC 8171.25
FT 4025	FT 4750	FT 5365	FT 5852.5	FT 6375	LP 7120	DC 8176.9
FT 4065	DC 4750	FT 5397	FT 5855	DC 6420	LP 7171	DC 8182.5
FT 4080	LP 4765	DC 5410	FT 5897.5	FT 6462.5	FT 7175	DC 8460
FT 4180	FT 4780	FT 5437	FT 5910	LP 6470	FT 7200	DC 8469.23
FT 4235	FT 4815	DC 5515	LP 5910	FT 6515	LP 7205	DC 8645.45
FT 4280	FT 4840	DC 5530	FT 5920	LP 6522.9	LP 7270	DC 8488
FT 4295	FT 4852	FT 5551.5	DC 5950	FT 6535	LP 7350	DC 8525
FT 4315	FT 4885				DC 7362.5	DC 8562.85

MULTIMETER Model 200H

20,000 ohms per v. d.c., 10,000 ohms per v. a.c.



Specifications:
 D.c. volts: 0-5, 25, 50, 250, 500, 2,500.
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 Dimensions: 3 1/4" x 4 1/2" x 1-1/8".

Complete with internal battery, testing leads and prods.

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9-pin Valve Sockets, McMurdo, 9d. ea. Octal Valve Sockets 1/6 each

8 Mc. MINIATURE CRYSTALS

Band-edge market Miniature Crystal and socket, £2.

LSG11 SIGNAL GENERATOR

120 Kc.-390 Mc. Freq. range (six bands): 120 Kc. to 130 Mc. on fundamentals; 120 to 390 Mc. on harmonics. Mod. freq. 400 and 1,000 c.p.s. Tubes: 12BH7, 6AR5, Rectifier: half wave selenium. Provision for crystal oscillator (xtal not supplied). 1 to 15 Mc., 100, 117 or 230v. a.c. input, 50 60 c.p.s. Size: 7 1/2" x 10 1/4" x 4 1/2" in. Weight: 6 lb. Price £16/17/6 inc. tax.



CRYSTALS ALL THESE FREQUENCIES £2 EACH

3.5 Mc. Ham Band:	50 Mc. Ham Band:	144 Mc. Ham Band (continued):
DC 3515 FT 3555	DC 8333.3 50 Mc.	DC 8016 DC 8022.5 DC 8029.5
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DC 3537 FT 3564	DC 8416 50.5 Mc.	DC 8017.5 DC 8024 DC 8031
FT 3534 FT 3573	DC 8450 50.7 Mc.	DC 8018 DC 8024.5 DC 8031.5
DC 3547 FT 3575	DC 8483 50.9 Mc.	DC 8018.5 DC 8025 DC 8032
FT 3549 FT 3580	DC 8500 51 Mc.	DC 8019 DC 8025.5 DC 8032.5
FT 3552 FT 3587		DC 8019.5 DC 8026 DC 8033
DC 3552 FT 3595		DC 8020 DC 8026.5 DC 8033.5
	144 Mc. Ham Band:	DC 8020.5 DC 8027 DC 8034
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Crystals of any	DC 8010 DC 8014.5	DC 8021.5 DC 8028 DC 8035
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	DC 8013.5 DC 8015.5	DC 8029

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410 volts aside, 80 mA., 12.8v. at 1.25a., 5v. at 2a. 40/-.

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230 volts to 110 volts, 1kw., £10/0/0. 230 volts to 110 volts, 500w., £6/10/0. In case.

ECKO NO. 88 TRANSCEIVER

Portable, xtal locked 4 channel, 40 to 43 Mc., 14 valves, 1L4, 1T4, 3A4, etc., 12v. 3a. input power supply. Less crystals, mike and headphones, etc.

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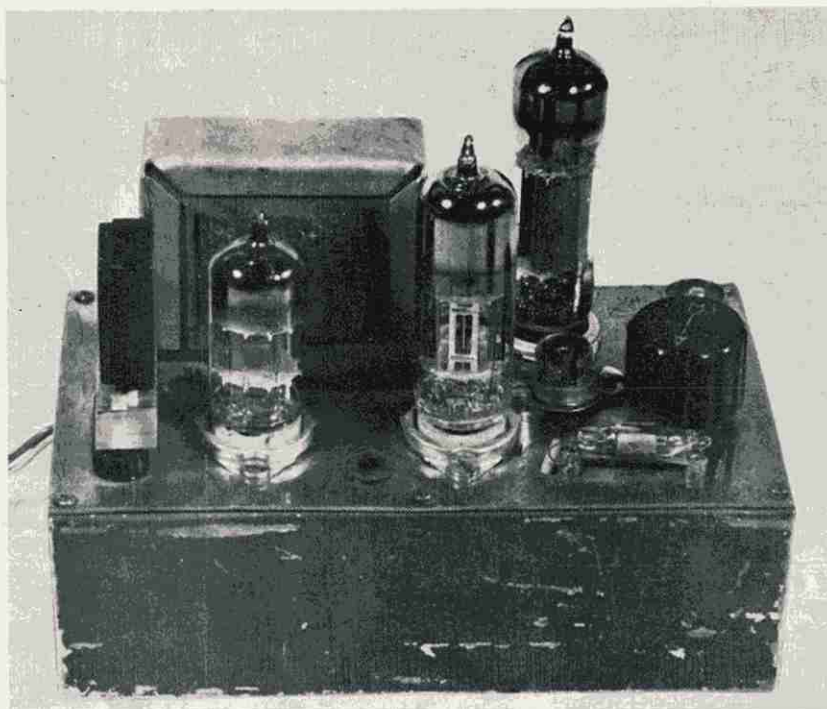
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MARCH 1962



Vol. 30, No. 3

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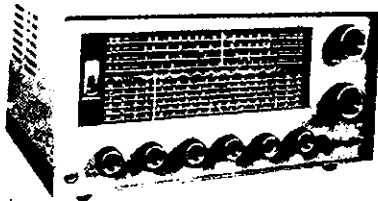
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Tubes and function: 6BA6 (r.f. amp.), 6BE6 (mixer), 6BE6 (local osc.), two 6BA6s (i.f. amps.), 6AV6 (det. a.f. amplifier and a.n.l.), 6AV6 (Q-Multiplier, b.f.o.), 6AQ5 (power amplifier), 5Y3 (rectifier).

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Modified Units, complete with 832s. Few only left at **£7 1/2**

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"Collaro" Studio Type, Model BM-2. Three Speed. Price **£31/8/4**.
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300 μ A. movement.
 AC and DC voltages: 0-10, 0-50, 0-250, 0-500, 0-1000V.
 Current ranges (mA): 0-1, 0-100, 0-500 mA.
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 Complete with leads.

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1A3	2/6	10 a	£1	6SC7	7/6	
1A5	5/-	5 a	£1	6SF5	7/6	3 a £1
1A7GT	7/6	3 a	£1	6SF7	7/6	3 a £1
1C7	3/-	7 a	£1	6SH7	4/-	5 a £1
1D5GT	5/-	5 a	£1	6SJ7	12/6	
1D8	7/6	3 a	£1	6SK7GT	12/6	
1F5	7/6	3 a	£1	6SL7GT	12/6	
1H4	5/-	5 a	£1	6SQ7	12/6	
1H5	5/-	5 a	£1	6SS7	7/6	3 a £1
1H6	5/-	5 a	£1	6V4	11/4	
1K4	5/-	5 a	£1	6X5	10/-	
1K5	5/-	5 a	£1	6Y6	5/-	5 a £1
1K7	5/-	5 a	£1	7A4	5/-	5 a £1
1L4	5/-	5 a	£1	7A8	2/-	11 a £1
1M5G	5/-	5 a	£1	7B8	7/6	
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2A6	7/6			12SA7GT	10/-	
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2X2	5/-	5 a	£1	12C8	5/-	
3A4	10/-			12J5	5/-	5 a £1
3AP1	35/-			12K8	5/-	5 a £1
3BP1	45/-			12SF7	5/-	5 a £1
3Q5	5/-	5 a	£1	12SG7	5/-	5 a £1
3Q4	10/-			12SK7	5/-	5 a £1
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6C5	5/-	5 a	£1	832A	19/6	
6C6	5/-	5 a	£1	866	32/6	
6C8	10/-			954	5/-	5 a £1
6D6	5/-	5 a	£1	955	5/-	5 a £1
6E5	5/-	5 a	£1	956	5/-	5 a £1
6F5	7/6			958A	2/6	10 a £1
6F6	12/6			2051	5/-	
6F7	10/-			9003	7/6	3 a £1
6G6	7/6	3 a	£1	AV11	2/11	
6G8G	17/6			DL75	2/6	10 a £1
6H6 Glass	2/6			EA50	2/-	10 a £1
6H6 Metal	3/6			EC91/6AQ4	10/-	
6J6	10/-			EF36	5/-	5 a £1
6K7	5/-	5 a	£1	EF39	5/-	5 a £1
6K8G	20/-			EF70	5/-	5 a £1
6L7	5/-	5 a	£1	EF72	5/-	5 a £1
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 7511 5" x 7" 3.5 ohm voice coil 32/6
 5000 and 7000 ohm Trannies to suit, 15/-

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 Freq. range 200 Kc. to 1750 Kc., 14 valves—6.3 volt series, 6K7, 6J5, etc. I.F. freq. 142.5 Kc. Clean condition, Priced only **£10/0/0**
 Flexible cable & control box 30/- extra.

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0-1 mA., 2 1/2" square, MR-52 **£2**
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Price only **57/6**
 Stand to suit 15/- extra.

Model BM3 (illustrated). Response 100 to 8000 c.p.s., fitted with 6 ft. cable and phone plug with on-off switch. Can be used on stand for hand use.

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3-4 Mc. range **£7**
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5.5 Mc. VIDEO COILS

Contains slug-tuned coil former. 6d. each.

OA79 and OA81 DIODES

Well known make. Brand New. To Clear—**2/6** each

LEADER LSG10 SIGNAL GEN.

Freq. range six bands: 120 Kc. to 130 Mc. on fundamentals, 120 to 260 Mc. on harmonics. R.f. output: over 100,000 microvolts. Mod. freq. approx. 400 c.p.s. H.f. output: 2 to 3v. A.f. output: approx. 1 v. Tubes: 12BH7, 6AR5. Power supply a.c. 50-60 c.p.s. 115 or 220v. Size: 6 1/2 in. x 10 in. x 4 1/2 in. Weight: 6 lb.

Price **£13/17/6** inc. tax.

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TT15 (CV415)	5/-	VR136	2/-	12 a	£1
UL41	7/6	3 a	£1	VR150	10/-
VR53	5/-	5 a	£1	VT52	5/-
VR101	5/-	5 a	£1	VT127	4/11 5 a £1
VR102	5/-	5 a	£1	VT501	7/6 3 a £1
VR103	5/-	5 a	£1	Y65	5/-

"AMATEUR RADIO"

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should be large and done in Indian ink.

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WI Broadcasts:

VK2WI: Sundays, 1100 hours EST, simulta-
neously on 3573 Kc., 7146 Kc., 50.18
Mc. and 145.13 Mc.; Intrastate call-backs
taken on 7050 Kc. VHF 1930 hours EST
on 50.16 Mc. and 145.13 Mc.; call-backs
taken on 2 metres.

VK3WI: Sundays, 1030 hours EST, simulta-
neously on 3573 and 7146 Kc., 51.016
and 146.25 Mc. Intrastate hook-ups taken
on 7135 Kc.

VK4WI: Sundays, 0900 hours EST, simulta-
neously on 7148 Kc. and 14.342 Mc.
Intrastate hook-ups taken on 7106 Kc.

VK5WI: Sundays, 0900 SAT, on 7148 Kc.
Relays on 3.7, 14.2, 50.02, 144 and 288
Mc. Intrastate hook-ups taken on 7125
Kc.

VK6WI: Sundays at 0930 hours WAST, on
7146 Kc. Intrastate hook-ups taken on
7085 Kc.

VK7WI: Sundays at 1000 hours EST, on 7146
Kc. and 3672 Kc. Intrastate hook-ups
taken on 7115 Kc.

★

OUR COVER

The unit shown, the "Minitran 6-2"
is a compact two or six metre trans-
mitter, which is more fully described
on page 3.

COMMENT

★

W.I.C.E.N. AND EMERGENCY SERVICES

The recent tragic fires in Victoria served as a grim reminder of the price of complacency—the common belief that an emergency service was unnecessary because the State had been disaster free for a considerable period was suddenly shattered.

Those Radio Amateurs who rose to meet the occasion earned the thanks of the general public by the good work they were able to do under great difficulties.

How much more effective their efforts would have been had they had the advantage of regular practice and co-operation with other emergency services?

Several lessons are to be learnt from this experience. Firstly, the Institute must continue to fight to overcome apathy of Governments and the opposition of Instrumentalities to proper organisation of emergency services.

Secondly, the feeling within our own ranks that unless encouraged by Government activity regular practice by W.I.C.E.N. members is pointless must be overcome.

The most important fact that emerges is the need for enthusiastic leaders prepared not only to organise regular exercises for W.I.C.E.N., but also to sell its services to every organisation with which co-operation would be necessary in an emergency.

In an emergency full co-operation of Defence Forces, Police, Fire Brigades, Red Cross and Relief organisations is essential. In certain cases such as bush fires the Forestry Commission, Roads and Water authorities are involved. Effective correlation of effort place heavy demand on communications.

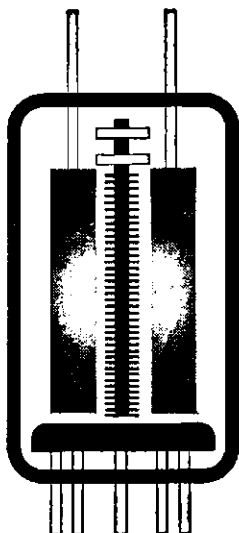
It is easy for everyone to sit down after the event and criticise the effort and duck-shove the responsibility for failure. However from the Amateur point of view, if every active Amateur took a quarter of an hour per week to practice proper procedure in a properly constituted net, led by enthusiastic and able leaders, there would be no need for heart burnings within our ranks. Furthermore, responsible authorities could not ignore the value of such a service.

FEDERAL EXECUTIVE, W.I.A.

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PHILIPS



TRANSMITTING AND RECTIFYING TUBES FOR MOBILE EQUIPMENT

The necessity of telecommunication equipment for sea and air transport is obvious. In this field, telecommunication equipment is often obligatory. In many other fields, however, a need for communication is equally felt, but the bulk and cost of transceivers of usual design has long been prohibitive. Faced with this problem, equipment designers and tube and component manufacturers, working in close co-operation, have gradually developed mobile transmitting equipment that successfully combines small dimensions, low cost, ease of operation, high and dependable performance. As a result, mobile telecommunication equipment is being used on an ever-increasing scale in numerous fields, as, e.g.:

- coasters.
- motor launches of shipping agencies, ships' chandlers, contractors of harbour works.
- small fishing boats.
- tugs (e.g., for direct communication with their tow).
- seagoing yachts and other small maritime craft.
- fireguard for contact with central office.
- taxi cabs for contact with the central point.
- doctors' cars for contact with their base.
- building firms for contact between remote or not easily accessible spots.
- public utility firms for contact with their outside personnel.
- service firms for contact with their personnel on vehicles.
- lonely farms in sparsely populated areas.
- airport vehicles.

Transmitting tubes

PREFERRED TYPES

Further additions to the range of "quick-heating" tubes will be announced shortly.

TUBE OUTPUT IN CLASS C TELEGRAPHY	TYPE OF TUBE	QE02/5 Double Triode (6939)	QE04/5 Double Triode	QE03/12 Double Triode (6360)	QCC03/14† Double Triode (7893)	QQ04/15 Double Triode (5895)	QCE03/20 Double Triode (6252)	QE05/40 Triode (6146)	QC05/35‡ Triode (8042)	QCE06/40 Double Triode (5894)	QEL1/150 Triode (4 x 150A)	QE08/200 Triode	PE1/100 Pentode (6083)	TB2.5/300 Triode (5866)	QB3/300 Triode (6155)	TB2.5/400 Triode	TBL2/300 Triode
	(W)	(W)	(W)	(W)	(W)	(W)	(W)	(W)	(W)	(W)	(W)	(W)	(W)	(W)	(W)	(W)	(W)
2 Mc/s	5.8 7.2*	7.0 8.0*	14.5 18.5*	14.5 18.5*	26.6 35.0*	48	52 69*	52 69*	90	195	200	132	390	375	390	500	
20 Mc/s	5.8 7.2*	7.0 8.0*	14.5 18.5*	14.5 18.5*	26.6 35.0*	48	52 69*	52 69*	90	195	200	132	390	375	390	500	
30 Mc/s	5.8 7.2*	7.0 8.0*	14.5 18.5*	14.5 18.5*	26.6 35.0*	48	52 69*	52 69*	90	195	200	132	390	375	390	500	
60 Mc/s	5.8 7.2*	7.0 8.0*	14.5 18.5*	14.5 18.5*	26.6 35.0*	48	52 69*	52 69*	90	195	200	132	390	375	390	500	
100 Mc/s	5.8 7.2*	7.0 8.0*	14.5 18.5*	14.5 18.5*	26.6 35.0*	48	40 53*	40 53*	90	195	200	132	390	375	390	480	
120 Mc/s	5.8 7.2*	7.0 8.0*	14.5 18.5*	14.5 18.5*	26.6 35.0*	48	35 47*	35 47*	90	195	200	132	390	375	390	475	
150 Mc/s	5.8 7.2*	7.0 8.0*	14.5 18.5*	14.5 18.5*	26.6 35.0*	48	29 40*	29 40*	90	195	200	132	390	360	390	465	
200 Mc/s	5.8 7.2*	7.0 8.0*	14.5 18.5*	14.5 18.5*	20.0 24.0*	48	90	185	197	225	445						
300 Mc/s	5.8 7.2*	7.0 8.0*	14.5 18.5*	14.5 18.5*	6.5 8.0*	34.5	75	170	400								
430 Mc/s	5.8 7.2*	7.0 8.0*	14.5 18.5*	14.5 18.5*	23		66	155	350								
500 Mc/s	5.8 7.2*	7.0 8.0*	14.5 18.5*	14.5 18.5*	22		60	140	325								
600 Mc/s	7.0 8.0*	7.0 8.0*	14.5 18.5*	14.5 18.5*	20			290									
890 Mc/s	7.0 8.0*	7.0 8.0*	14.5 18.5*	14.5 18.5*				180									
960 Mc/s	7.0 8.0*	7.0 8.0*	14.5 18.5*	14.5 18.5*													

* Intermittent. † "Quick-heating" version of type QE03/12 (6360). ‡ "Quick-heating" version of type QE05/40 (6146).



The *Miniwatt*

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THE "MINITRAN 6-2" TRANSMITTER

By VK2ZTM, VK2ZCF, and VK2ZCK

THIS unit was created by a building project plus a change of plans, as Dick VK2ZCF, when building an exciter for 576 Mc., used a 12BY7 in the oscillator chain; the output from this tube tempted him to retune the coils to 144 Mc., add a modulator and the result was the "Minitran 2". These rigs have been used by both Dick and Tim VK2ZTM as mobiles for over a year and in addition they performed satisfactorily on an Interstate trip; several have now been built in VK2.

Reg VK2ZCK suggested that the 144 Mc. unit could be converted to 50 Mc. and its success added the full title to the article, the "Minitran 6-2".

The unit features a twin triode as an overtone crystal oscillator, with the second half acting as a tripler on two metres and as doubler on six, driving the p.a. stage, a 12BY7. This is modulated by a 6BM8, the triode section acting as an input pre-amplifier. Circuit is given in Fig. 1.

CONSTRUCTION

Before commencing the construction, study the illustrated Figs. 2 and 3 which will identify the major parts.

First stage (V1): The slug-tuned former L1 is tuned to the third harmonic of the crystal (8 Mc. for 2 metres; 8.333 Mc. for 6 metres). The L1 former is from the 522 receiver ($\frac{1}{2}$ " diam. slug tuned) from which are removed five turns so that it resonates at 24 Mc. for 2 metres and 25-26 Mc. for 6 metres. Frequency changes of some one megacycle have no noticeable effect upon output or interstage tuning.

[In using an overtone circuit it should be checked, by listening for the fundamental output on a receiver, that the crystal is actually operating in its overtone mode and in the correct overtone. When operating correctly, no output can be heard at the crystal fundamental frequency.—Ed.]

Second stage (V1a): This stage is tuned with a 3-30 pF. Philips trimmer and the addition of the 15 μ H. t.v. type choke at the grid pin, in series with the grid resistor, greatly increases the grid drive. [This is possibly due to

★ An ideal simple rig for a car mobile or as the basis for an exciter for a higher powered unit.

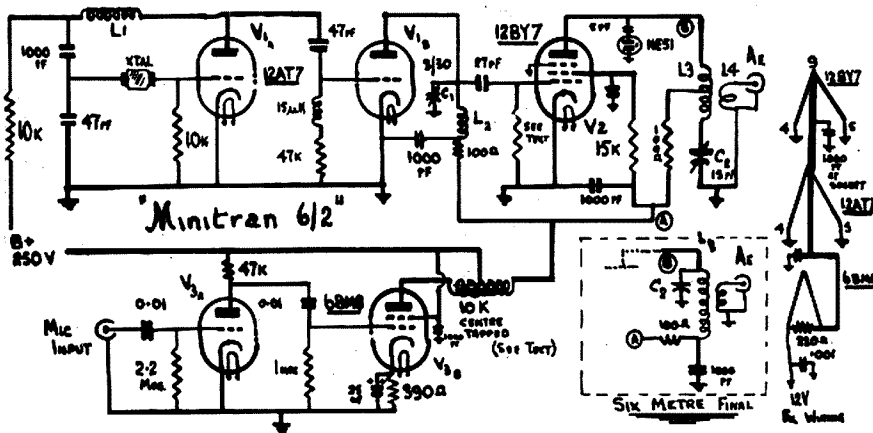
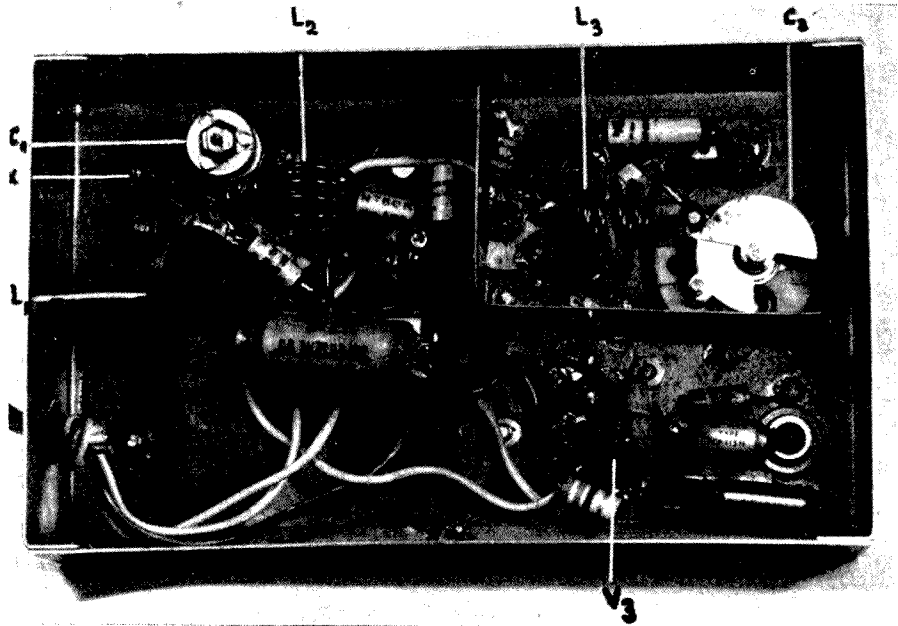
the increased impedance offered by the combined circuit.—Ed.]. In addition this stage is fed with modulated h.t. The plate coil L2 comprises six turns on $\frac{3}{8}$ " diam. former of 16 s.w.g. (for 6 metres) and four turns of 16 s.w.g. on $\frac{3}{8}$ " diam. for 2 metres. These coils should resonate, with the 3-30 pF. Philips trimmer, to 50 and 72 Mc. for 6 and 2 metres respectively.

Final stage: This comprises a 12BY7 which is a miniature sharp cut-off pentode normally used as a video amplifier in t.v. sets. Its maximum rating is 300

volts. In normal operation plate 250v., plate current 25 mA., grid 2 150v., with grid 3 earthed. Filaments are on pins 4, 5 and 6 which can be used as 6.3 or 12.6 volt heaters.

Mount the socket and earth the following pins with very short direct connections 3, 4, 5, 9 and 1. A shield is then run across the socket earthed to the centre spigot and the chassis at both ends. The 0.001 μ F. by-pass capacitors, see Fig. 1, should be connected directly from the socket pins and thence to earth by short direct leads. [Note filaments are wired for 12v.; alter if 6v. supply.—Ed.]

The grid resistor for the p.a. (12BY7) is 12K for 6 metres and 47K for 2 metres; p.a. tuning is by means of a 50 pF. condenser (Eddystone 553). The p.a. functions vary according to the band used; on six metres it is used as a straight amplifier, parallel tuned by



L3 (seven turns 16 s.w.g., $\frac{3}{8}$ " diam. with an output link L4 consisting of a one-turn link of insulated hook-up wire at the feed point end of the tank circuit (see Fig. 2). However on 2 metres the p.a. acts as a doubler, being series tuned by L3 (four turns 16 s.w.g. $\frac{3}{8}$ " diam. with an output link of one turn of insulated hook-up wire tightly coupled at the centre of L3. The h.t. is fed via a 100 ohm resistor to the centre tap of L3.)

MODULATOR

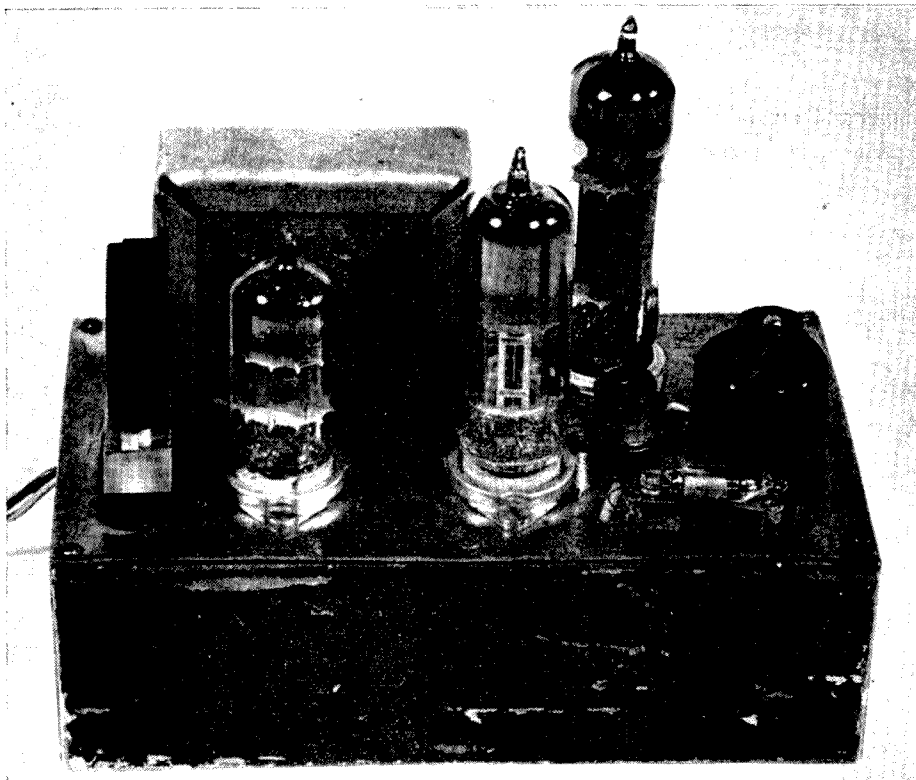
This comprises a dual triode pentode tube (6BM8), one section, the triode, being used as a pre-amplifier coupled to a crystal mike. It is then capacity fed to the pentode section, the output plate of which is fed into a centre tapped 10K ohm speaker transformer

used as the modulator transformer. No gain control is used, thus the higher the output of the crystal mike the better. (Take particular care in using a crystal mike in a car, as the heat will ruin its performance. Never leave it in the glove box nor exposed to the direct sun's rays.)

AERIAL

For mobile work the writers have used a whip aerial fed by 72 ohm co-ax. For 2 metres it is extended to 22", and to 56" for 6 metres; a close-spaced three element beam has also been used. To tune the aerials for maximum power output, a condenser should be placed

- 2 x 47K ohms, ½w. (only 1 on 6).
 1 x 1 meg., ½w.
 1 x 2.2 meg., ½w.
 Capacitors: 2 x 0.01 μF., 600v. paper.
 1 x 0.1 μF., 600v. paper.
 1 x 25 μF. electrolytic, 25v.
 8 x 0.001 μF. for bypassing, ceramic, 500v.
 2 x 47 pF. mica 600v.
 1 x 27 pF. mica 600v.
 1 x 5 pF. mica 600v.
 1 x 15 μH. peaking choke, type VPC15.



EX-MEMBERS OF THE R.A.A.F.

A number of VK2 Amateurs who are ex-members of the R.A.A.F. Radio Branch, and located in the Sydney area, have decided to set up a c.w. net as a means of getting together and keeping in touch and invite all other Amateurs who are ex-R.A.A.F. to join in as the urge takes them.

The net will be known as the "Blue Orchid Net" and will operate on 3535 Kc. at 1000 G.M.T. For the present the nights will be Tuesday, Thursday, Saturday and Sunday. CQ B.O.N. will be the rallying call and it is hoped this net will bring together many of the ex-R.A.A.F. Amateurs whose only contact is during the R.D. Contest each year.

Zero day, March 3.—VK2QL.

GENERAL

Construction and layout is not critical, other than where mentioned. The chassis used for the units so far constructed has been a 6" x 4" x 2" unit, and a shield should isolate all sections (see photograph), particularly between the oscillator, audio, and p.a. sections.

A three-pole two-position wafer switch can be used as the transmit-receive switch.

ALIGNMENT

All coils should be first roughly aligned by use of a g.d.o., then when the crystal is inserted the final touching up can be done. The following chart will give the correct frequencies for use on the 6 and 2 metre bands:—

	6 Metres	2 Metres
L1	25 Mc.	24 Mc.
L2	50 Mc.	72 Mc.
L3	50 Mc.	144 Mc.

No indicating meter is used in this circuit as the neon globe, NE51 type, is used for this purpose. To start the neon, whistle into the mike, then peak each stage for maximum glow, and dip the final for maximum light output from the neon, which also serves as a modulation indicator. Incidentally, the use of a 1 meg. resistor, in place of 5 pF. coupling capacitor to the 12BY7 plate, does not appear to have the same loading effect upon the final.

in series with L4 and earth; this is then tuned for maximum output from the 12BY7 p.a. stage.

COILS

Coil details are as follows:—

L1 (½" diam. ex 522 set)	6 mx 2 mx	Remove
		5 turns
L2 (⅝" diam., 16 s.w.g. enamel)	6T	4T
L3:—		
⅜" diam. air spaced, 16 s.w.g. enamel	7T	
⅝" diam. air spaced, 16 s.w.g. enamel		4T

PARTS LIST

- Chassis 6 x 4 x 2 inches.
 10,000 ohm speaker transformer, centre tapped.
 Slug former, ex SCR522 receiver.
 Crystal socket.
 Co-ax plug for antenna.
 Microphone socket.
 Three 9-pin ceramic sockets.
 3-30 pF. Philips trimmer.
 50 pF. variable capacitor (Eddystone 553), C1.
 Valves: 12AT7, 12BY7, 6BM8.
 Crystal: 8 Mc. for 2 metres; 8.333-8.5 Mc. for 50-51 Mc. (if operating near band edge check frequency as ordinary type xtals differ in frequency when used as overtone oscillators. Normally they run 20-50 kc. low at 2 metres!)
- Resistors: 2 x 100 ohms, ½w.
 1 x 220 ohms, ½w.
 1 x 390 ohms, ½w.
 1 x 10K ohms, ½w.
 1 x 10Kohms, 1w.—R1.
 1 x 12K (for 6 metres only), ½w.
 1 x 15K ohms, 1w.
 1 x 47K ohms, 1w.—R2.

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INCREASED AUDIO WITHOUT SPLATTER*

BY JOHN L. REINARTZ

It is not generally realised, especially in cases where the Class B modulator transformer has poor regulation that a higher ratio of audio output in the positive direction can be obtained if the secondary of the transformer has an additional assymetric load placed on it through the use of a diode tube and appropriate resistor. See attached diagram.

If the negative voltage excursion of the Class B transformer secondary just equals the plate supply voltage, then the positive voltage excursion cannot be as far because in the first instance there is no load across this secondary at the end of the negative voltage excursion and consequently no voltage drop, while in the second instance there is a maximum load across the secondary as the voltage swings in the positive direction with its consequent IR voltage drop and this subtracts from the positive voltage swing.

Placing an extra load on the transformer secondary through the use of a diode and series resistor so that this combination allows loading only on the negative voltage swing, provides a means for preventing the negative voltage excursion from exceeding the positive voltage excursion to any degree desired.

Adjustment of the resistor value can be such that the voltage and modulating power output of the Class B transformer secondary is even greater in the positive direction than in the negative direction with consequent greater modulation effects without, however, exceeding 100% modulation.

A summation of E_1I and E_2I will show that the requirement of a 50% modulating power for 100% modulation factor is not changed. It is interesting to note that there is a 16% load on the Class B transformer secondary during the negative voltage excursion and an 84% load on it during the positive voltage excursion with respect to the polarity of E_1 . Thus there already exists an assymetric loading of the Class B transformer secondary during an audio cycle.

The addition of the extra load proposed in B during the negative voltage excursion, if of proper value, results in nearly perfect symmetry loading of the Class B transformer secondary during the negative as well as the positive voltage excursions.

Let us consider a Class C r.f. stage that is to be amplitude modulated. This Class C r.f. stage is capable of a linear plate current increase with a linear plate voltage increase from a value that may be considered to be the d.c. plate voltage E_b to twice this voltage $2E_b$. Thus the plate input will go from X watts to 4X watts. Consequently the stage being linear, it can be considered to represent a constant load R, determined by E_b/I_b , I_b being the average plate current and E_b being the plate voltage E_1 .

If we now add the modulating transformer to the Class C r.f. stage in the usual manner, shown in A of the attached graph, we can consider the secondary of the modulating transformer E_2 to be the equivalent of E_1 in voltage output, since 100% modulation is to be achieved. By definition, 100% modulation is achieved when $E_1 - E_2 = 0$, $I_b = 0$ and the output from the Class C r.f. stage is zero. Anytime that $-E_2$ is greater than E_1 , overmodulation occurs, no current flows through the Class C r.f. stage since it is a unidirectional valve and the carrier power is interrupted.

Interruption of the carrier power can result in spurious sidebands that interfere with other uses of those frequencies and are to be avoided. These spurious frequencies are also generated when negative clipping is resorted to unless a filter is inserted in the circuit to round off the sharply clipped edges. However, it usually is impossible to re-establish the original wave form, thus some distortion is invariably present in the modulated output. The only reason for negative clipping and subsequent filtering being the desire on the part of the Radio Amateur for an increased modulated carrier output during the positive voltage swing of the modulation transformer secondary, yet prevent the modulation transformer secondary volt-

age swing in the negative direction from exceeding the normally applied d.c. plate voltage, consequently preventing the generation and emission of spurious frequencies.

It occurred to the writer that it should be possible to increase the emission in the positive direction of modulation without the need for clipping in the negative direction of modulation and thereby prevent both overmodulation and audio distortion. As an aid in visualising the action of the modulation transformer secondary and its effect on the Class C r.f. stage, an analysis of the several instantaneous values was made and the results shown as curves on cross-section paper.

Several interesting items not previously detailed in textbooks became clear and obvious. The separation of the total power output due to the instantaneous sum of the d.c. plate and the a.c. modulation transformer secondary voltages into their component factors E_1 and E_2 is clearly shown in the graph. It is also shown quite clearly that while the full $-E_2$ voltage is developed during the negative voltage generation of the modulation transformer secondary equal to the d.c. plate voltage E_1 , there actually is no load on either of these two generators. Only when the full $-E_2$ voltage is developed during the positive voltage generation of the modulation transformer secondary equal to the d.c. plate voltage E_1 are these separate generators fully and equally loaded.

The load curves for generators E_1 and E_2 are clearly a function of their instantaneous voltages and the instantaneous current I in the circuit system. Obviously E_1 is constant, I varies from zero to 2I and E_2 varies from zero to the value of E_1 additive, or subtractive. The load curve for generator E_1 is therefore a straight line between zero and 200% load, while the load curve for generator E_2 is a curve in the positive load direction from zero to 200% and a curve in the negative load direction from zero to a maximum of 25% load and continuous toward zero load at its maximum negative voltage swing. The sum of these two genera-

* Reprinted by courtesy of Eitel-McCullough, Inc., San Bruno, California.

% E_1	% E_2	% $E_1 + E_2$	% I	R =		
				% R_1	% R_2	% $R_1 + R_2$
100	0	100	100	100	0	100
100	20	120	120	83.3	16.7	100
100	40	140	140	71.4	28.6	100
100	60	160	160	62.5	37.5	100
100	80	180	180	52.4	47.6	100
100	100	200	200	50.0	50.0	100
100	20	80	80	125	-25	100
100	-40	60	60	166	-66	100
100	-60	40	40	250	-150	100
100	-80	20	20	500	-400	100
100	-100	0	0	00	-00	0

Table 1.

Gen. 1			Gen. 2		
% E_1	% I	% P_o	% E_2	% I	% P_o
100	0	0	0	100	0
100	20	20	20	120	24
100	40	40	40	140	56
100	60	60	60	160	96
100	80	80	80	180	144
100	100	100	100	200	200
100	120	120	-20	80	-16
100	140	140	-40	60	-24
100	160	160	-60	40	-24
100	180	180	-80	20	-16
100	200	200	-100	00	0

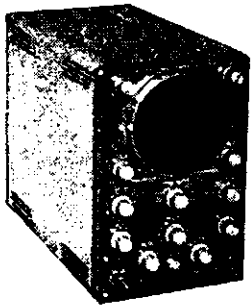
Table 2.



PRICES REDUCED!

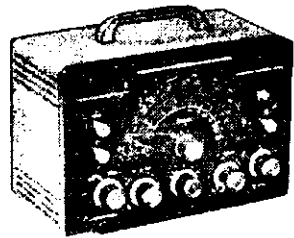
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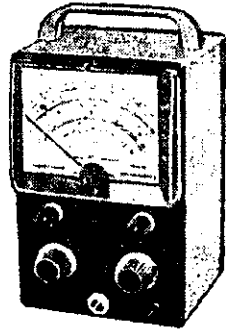
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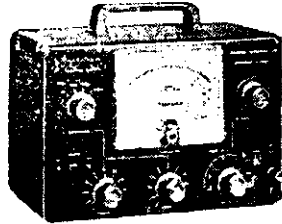
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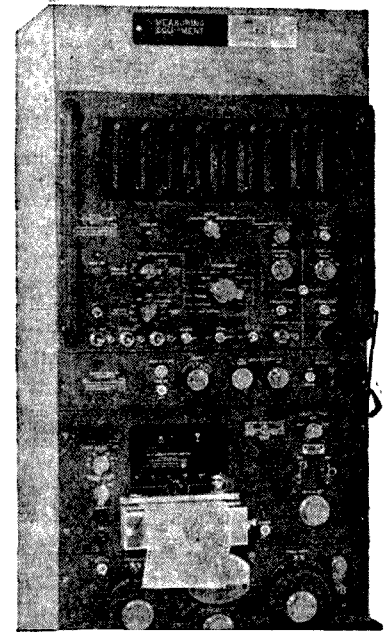


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The multivibrator circuits, etc., are on printed circuit boards which can be quickly removed for service; in addition circuit boards can be provided as spares, thus reducing service time.

The equipment features the accepted G.R. finish and the use of two colour contrasts on the panel controls makes interpretation of information an easier task. Extras can be provided for digital to analog converter, a data printer, standard frequency oscillator, servicing accessory, and a frequency converter for measurements up to 500 Mc.

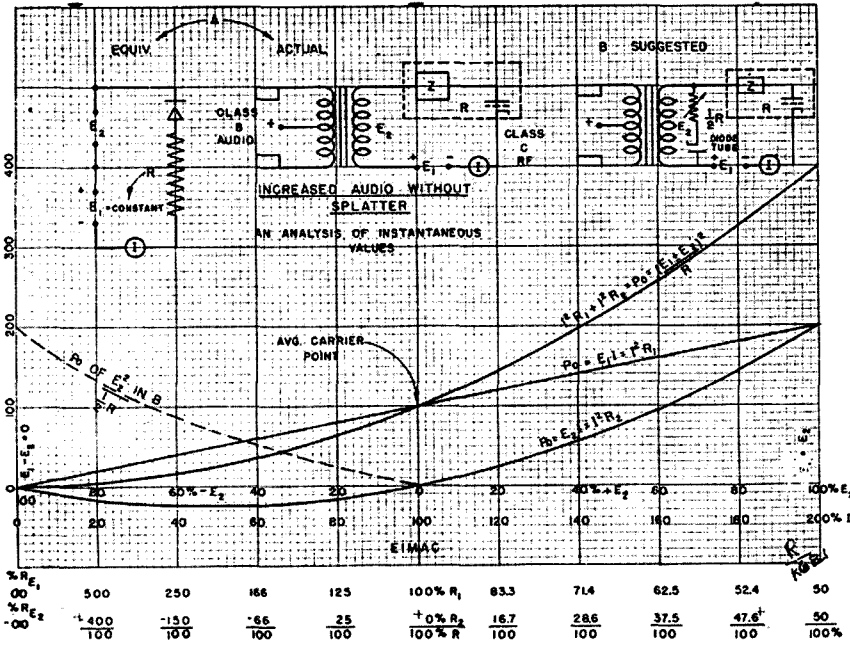
This equipment would be of value wherever accurate time or frequency measurements, etc., are required in a short time interval, as dead time is 20% of the counting interval (2 msec. to 2 seconds).

Full or technical information is available from Warburton Franki offices in New South Wales, Victoria, Queensland, South Australia, and Tough Instrument Service Co. in Perth.

series, connected across the modulating transformer secondary so that current flows in this auxiliary circuit only when the voltage swing is in the negative direction is therefore indicated. The value of the resistance we have already determined to be $\frac{1}{2}R$, while its watt rating should be $I^2R \div 4$.

%E ₁ + E ₂	%I	%Po
100	100	100
120	120	144
140	140	196
160	160	256
180	180	324
200	200	400
80	80	64
60	60	36
40	40	16
20	20	4
0	0	0

Table 3.



The loading on the modulation transformer secondary when its voltage swing is in the negative direction will now be as indicated by the dotted line in the graph. It will be noted that the modulator system now has a symmetrical loading during the negative as well as positive voltage swing, resulting in reduced second harmonic distortion, full modulation on the positive voltage swing and prevention of over-modulation on the negative voltage swing.

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tor loads is, of course, $I(E_1 \pm E_2) = I 2R_1 + I 2R_2 = (E_1 \pm E_2)^2 \div R$.

We now have brought R, R₁ and R₂ into our analysis and it is interesting to note that the resistances across generators E₁ and E₂ vary as the sum of E₁ \pm E₂ varies. When the modulating voltage is zero, the system R obviously is the value E₁/I and represents the Class C stage load at the average carrier point shown in the graph. However, when the generator voltage E₂ equals generator voltage E₁ and is additive, the resistance R divides into R₁ and R₂ and each generator sees $\frac{1}{2}R$. This can be more readily understood if we analyse Fig. A through C. When E₂ equals E₁ but is subtractive, I equals zero, generator E₁ sees a positive infinity resistance and generator E₂ sees a negative infinity resistance and the sum therefore equals zero. However, the sum of the separate resistances that generators E₁ and E₂ see is always equal to the value R at all other points on the varying E₁ \pm E₂ voltage curve.

Having noted that the generator E₂ sees no load when its voltage equals the voltage of E₁ but is subtractive and sees $\frac{1}{2}R$ when its voltage equals E₁ but is additive, it follows that no voltage drop occurs in the first instance and maximum voltage drop occurs in the second instance due to the losses that occur in the modulating transformer secondary winding, constituting its own I_r drop and since this I_r drop subtracts from the positive voltage swing, if we can still equal E₁ at this point, we must somehow prevent the negative excursion from exceeding E₁ by the amount of the I_r drop, otherwise we exceed 100% modulation.

We have now come to the crux of the whole analysis. We require a means to produce an I_r drop in the modulation transformer secondary when its voltage swing is in the negative direction to equal the I_r drop when its voltage swing is in the positive direction. A diode tube with a resistor in

The UNIMOD Modulator Unit for Tetrode Amplifiers

The Unimod is a controlled carrier screen modulator that is applicable to most tetrode final amplifiers, and which offers the advantages over other types of screen modulators that it allows a higher level of modulation, and a reduced average plate current, which enables relatively high power transmitters to be run from small power supplies, making the system ideal for mobile and field day equipment, where power supply is at a premium.

Using the Unimod a single 6146 may be modulated to approximately 90 watts peak input, and a pair to approximately 180 watts.

A crystal microphone is fed into a 12AX7 amplifier, and thence to a 6C4, which acting as a clamp, not only amplifies the audio, but establishes a d.c. level at its anode proportional to the applied audio. This output is then directly coupled to a paralleled 12AT7 cathode-follower, which applies audio and proportional d.c. to the screen of the final amplifier.

In order to use the unit, a switch must be provided that will permit the connection of a normal screen resistor, or the modulator, to the final.

Adjustment is carried out as follows: The screen is switched to the resistor (c.w. position), and the amplifier loaded as for normal c.w. operation. The switch is then set to connect the Unimod, the p.a. plate current then falling to about a quarter of its c.w. value. The audio gain control should then be adjusted so that normal speech causes the plate meter to kick up to about threequarters of its value in the c.w. condition.

The Unimod kit, which comprises the heavy cadmium plated steel chassis (ready pre-punched) approximately 7" x 1½" x 1½" deep, and all necessary parts, wire, solder, and instructions is priced at a new low price of £6 plus 12½% sales tax.

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FOUR HAMS AT NORFOLK ISLAND

During November and December, VK5XK took a holiday on Norfolk Island. At that time there were four VK Amateurs located on the island at the one time—some kind of a record!

The photograph shows (left to right): Arch Hewitt (VK5XK), Ray Hoare (VK9RH), Ray Baty (VK9GP) and Dave (VK2GT). They are all employed in connection with communications. 5XK, P.M.G. Dept.; 9RH, D.C.A.; 9GP, O.T.C. cables; 2GT, D.C.A.



Dave VK2GT was not on holidays but working. He had no rig with him. Ray VK9GP, who is a wag, said, "Well, let 'em drop all the H bombs now. The gang here should be able to manage any emergency in communications." He might have been correct too!

—Arch Hewitt, VK5XK



Amateur Station on Display at Adelaide University

The University of Adelaide Radio Club (VK5UA) will be operating an exhibition Amateur Radio Station at the Adelaide University during the week March 5-9.

Through the courtesy and co-operation of R. H. Cunningham Pty. Ltd. it is expected to have two stations active, one a K.W. "Viceroy"/Eddystone combination, will operate on 40 and 20 metres s.s.b. and c.w., and the other, a Geloso G222-TR/209-R combination will work on 40, 20 and 15 metres a.m.

All Amateurs are requested to make a point of listening for and contacting the stations during 5th to 9th March. Those Amateurs who visit the exhibition will be welcome.

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N.S.W. DIVISION'S 12th ANNUAL CONVENTION AT DURAL

Convention times comes, Convention time goes, each with its pleasant memories of meeting that other fellow, but we feel that the recent Convention held by the N.S.W. Division will remain a pleasant memory for many years.

The day dawned dull and overcast, later turning to a light but continuous drizzle, but not sufficient to dampen the ardour of the 207 men and 37 ladies who attended at the grounds of the Divisional Station, 2WI, at Dural, a pleasant spot some 25 miles from Sydney. Representatives were present from most parts of the State and included a visitor from VK3 and also a visitor from Portland, Oregon, U.S.A., in the person of Mack McNally, W7JDX.

The Convention commenced for many some miles from Dural as a mobile scramble was held en route with many mobiles participating, only one casualty being reported, that of Bill 2XT who suffered the misfortune of losing the top of his whip during the contest while negotiating Galston Gorge.

On arrival at the location of the "Do" it was found that the registration tent was manned by Alan L2185 and Tony L2289, who deftly, but kindly separated the necessary 5/- from each adult, children being admitted free of any charge. The great mass of folders of technical literature and leaflets were immediately dispensed at the booth, leaving all to go their way and to take their part in the many activities.

For the first time in Australia, mobile stations were checked and assessed for such points as field strength, installation, finish and design, transistor usage, frequency control, netting facility, metering facilities, road safety features, and antenna design and installation, operable on either 7 Mc. or 144 Mc. The F.I. testing was under the control of Harold 2AAH with Ted 2ACD doing the necessary pencilling. The assessment, a long and exacting task, was undertaken by Oak 200, Max 2MP and Ted 2ACD.

While all this was proceeding to schedule, morning tea was organised by a group of

ladies to whom we offer our grateful thanks, and many parties were seen to be enjoying what would be a welcome meal and cuppa. Later, of course, the tea makers suffered rather severe competition by the opening of the keg under the supervision of Ken 2XS, one of our noteworthy dispensers of the golden fluid.

Many present had noticed a large truck arrive and paid much attention to the large area allotted to the disposals group who had for sale a large amount of disposals equipment, valves and crystals, etc.

Adjacent to this was the commercial display arranged by Ron 2ALR, of W.F.S. Ltd., who was showing the latest in Hallcrafters equipment, and who, incidentally, made available as prizes two co-axial relays and a broadband amplifier. Ron, we noticed, was kept very busy all day with many enquiries from the large crowd.

OUR THANKS

We are indebted to the following business houses who, by their support again this year, in making generous donations of prizes and technical literature to a value of nearly £200, have assisted your committee to make this 12th Annual Convention such an outstanding success.

Amalgamated Wireless Ltd.
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Ducon Condenser Co. Ltd.
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American Radio Relay League.

A further demonstration was arranged of s.s.b. gear by Leo 2AC, Stan 2EL and Harry 2AJZ, and also to be seen was some very nice home-brew u.h.f. equipment which was in operation during the early part of the day.

On such a Picnic Day, lunch is always in demand and many family groups were seen scattered around the grounds enjoying a good meal, many of the kiddies patronising the stall which was selling all the goodies the kiddies love.

While the 7 Mc. fox hunt was in progress Max 2MP was busy organising the many com-

petitions, including a novel one of a constructional nature. Participants were supplied with a small chassis with sockets mounted and were supplied with wire, resistors and condensers and were instructed to construct a Pierce Oscillator in minimum time. A receiver was on hand to check the oscillators on conclusion. The QSL Bureau and Secretary's tent was manned by the appropriate people, Frank 2QL and Bill 2EG, who report having done a large volume of business during the day.

A further event in the afternoon was the blindfold tx hunt, always popular and run as only the Blue Mountains Section can do. Our many thanks to Bill 2HZ and his team of willing helpers.

The 144 Mc. fox hunt was run next and a number of cars set out at high speed to endeavour to find the fox, Neville 2ZNM, and who was also the fox in the previous events, thus missing a lot of the Convention.

A disposals auction appeared to be the next on the programme and as usual was extremely well patronised by the crowd present.

All good things must per force come to an end, and finally all present were assembled, under poor weather conditions, to see the prize giving and the close of yet another Convention at Dural.

The many prizes were won by—

Build the osc. contest: 1st, 2SW; 2nd, 2AWW; 3rd, 2XP.

Guess the audio freq.: 1st, 2EL; Cons., 2AQX. Guess the value of capacitors: 1st, 2ZEX; Cons., 2AQX.

Guess the value of resistors: 1st, 2RX; Cons., 2EL. Guess the frequency of L/C: 1st, L2235; Cons., 2EL.

Identify the object: 1st, 2EL; Cons., 2AQX. Blindfold tx hunt: Men, 2AWW; Ladies, Mrs. West; Boys, Alan Williams; Girls, Kay Lewis.

Mobile scramble, h.f.: 1st, 2AAH; 2nd, 2FM; 3rd, 2ANR.

Mobile scramble, v.h.f.: 1st, 2ZXY; 2nd, 2ASZ; 3rd, 2ZAU.

Mobile rig efficiency, h.f.: 1st, 2AMA; 2nd, 2ACK; 3rd, 2FE.

Mobile rig efficiency, v.h.f.: 1st, 2ZPJ; 2nd, 2ZAU; 3rd, 2ZCF.

7 Mc. tx hunt: 1st, 2AAH; 2nd, 2SD. 144 Mc. tx hunt: 1st, 2ZAH; 2nd, 2RX; 3rd, 2ASZ.

Mobile rig assessment: 1st, 2AMA; 2nd, 2ACK; 3rd, 2AAH.

Mobile rig assessment, Z Calls: 1st, 2ZCF; 2nd, 2ZAU.

Grand slam prize: 2AAH.

Special prize for the fox: 2ZNM.

Lucky number: Men, Mike Hodgkis; Ladies, Mrs. Pearson (XYL 2ACQ).

Finally, to all those who have assisted the committee in any way however small, we do appreciate your help, and hope that you will again give a hand to the committee who will be organising the 13th Annual Convention—or may be you will be one of the committee. See you at the big "Do" of the year in 1963.

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N.S.W. DIVISIONAL DINNER

For the first time for many years in N.S.W., a Divisional Dinner was organised by the 1962 Convention Committee under its chairman, Max 2MP, as the activity for the second day of the three-day Convention. The other members of this committee are Harold 2AAH, Ted 2ACD, Oak 200, Alan L2185, and Peter L2187.

The Dinner was held at "Ivanhoe," 49 William St., Hornsby, with an attendance of 89 members, who it appears thoroughly enjoyed an excellent repast with all the trimmings.

The M.C., Oak 200, following Dinner, introduced the Divisional President, Bill 2YB, who in turn welcomed the members assembled and urged the members, especially those who live within easy reach of Sydney, to give more support to Divisional activities in the future than they have done in the past. Bill further commented on the achievements of the current Council, which will in the next two months conclude its year's work, and stated furthermore, that he would not be seeking re-election as President at the coming election of officers.

The reply to the President was made by Bill 2AHV, Zone Officer of the South West Zone, who expressed his pleasure at attending such a function and being asked to represent the country membership.

The entertainment for the evening consisted of a forum on the merits and de-merits of the

familiar means of communication—a.m., c.w., and s.s.b. The moderator for the forum was Oak 200 who led the panel consisting of Leo 2AC and Stan 2EL for s.s.b.; Bill 2YB and Syd 2SG for c.w.; and lastly Vol 2VO and Max 2MP for a.m.

A most amusing and well staged discussion raged for nearly an hour, with the moderator, at times, at his wits end to control the forum which, on popular vote, was decided on a dead heat for all three modes of transmission. The participants are to be commended for their ingenuity in the production of the gimmicks used during the discussion and for the humorous manner in which the forum was conducted. An open discussion was held, in which many questions, both sober and humorous, were put to the panel of experts.

The function closed at a late hour and we feel sure that all attending had enjoyed themselves to the full on a memorable evening.

Those present included: 2YB, 2AHV and XYL, 2AAH, 2MP, 2ACD, 2ZTM, 2RU, 2SA, 2OR, 2AFT, 2SG, 200, L2185, L2187, 2CB, 2ZI, L2219, 2ASW, 2ZOO, L2233, 2ABO, 2AVI, 2APQ, 2EO, 2AGS, 2AMA, 2XT, 2FP, 2AQR, 2AAJ, 2AKJ, 2ZEX, ex-7HY, 2AIM, 2ZCK, 2AC, 2EL, 2PM, 2AAB, L2241, 2ALU, 2XS, 2AI, 2ON, John Tre-weller, 2ST, 2ZNM, Hal Barnes, Bob Wilson, 2PZ, 2AJF, Noel Harker, 2ZAK, 2YC, 2VO.

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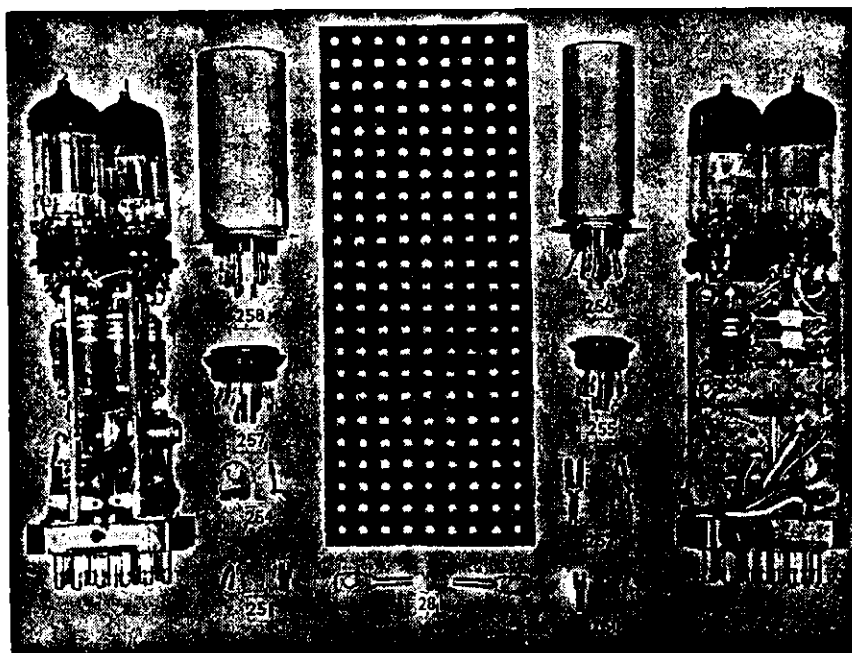
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Correspondence

Any opinion expressed under this heading is the individual opinion of the writer and does not necessarily coincide with that of the publishers.

EARLY 144 Mc. CONTACT

Editor "A.R.," Dear Sir,

The following information, found in "A.R." for August '48, p. 20, under the heading "144 Mc. Digest," may be of interest to those 144 Mc. operators at present active in the pursuit of the "rare-and-elusive".

In June '48, VK4FN heard VK2VW over a distance of 450 miles. The signal peaked S6 and was audible for about 16 mins. VK4FN was using a 522 Rx with a vertically polarised dipole 34 ft. high, whilst VK2VW used a 522 Tx with a horizontally polarised 4 element beam. A Call Book of that era gave the QTH of VK4FN as Brisbane and that of VK2VW as Sydney. I could not find any further reports that indicated a QSO had followed because of this hearing which was confirmed by VK2VW incidentally.

I found this report most interesting and would like to know if a QSO over this path was ever made on 144 Mc. Surely, in this day of s.b., 150 watts and large beams possible on the band it should be an easy contact. Maybe, the present-day 144 Mc. DX man is slipping?

—David Rankin, VK3QV.

VHP—THE PRESENT STATE OF THE ART

Editor "A.R.," Dear Sir,

I read with interest the letter in "A.R." Oct., "V.h.f.—The Present State of the Art." There is very little I can fault in this letter, which should be read by ALL Amateurs, and perhaps it will wake a few complacent ones. The only thing wrong is that the writer signed under a non-de-plume.

In November issue I was shocked to read a blistering letter from VK5ZCR/T, referring to this letter.

Low power is no affront to the chap the other end, after all 9-10 watts are only two S points down on one's running of the full 150 watts. With reference to disposals equipment, VK5ZCR/T has contradicted himself in two paragraphs. In one he says we have no excuse for not running 50 watts or so with the disposal market as it is, and then turns around and says a common easily converted piece of disposals gear should be banned from the bands.

Now he openly discriminates against low power stations. I hope this is not the general Amateur's attitude. Anyway, how can he tell whether they are low power; they may be high power with their beam in a null point. I am happy to work any Amateur whether he uses low power like myself, 36 watts, or high power, whether he is near or far. In another paragraph with reference to using only 500 Kc. of a 4-megacycle band, VK5ZCR/T states he does look for weak signals.

From VK5ZCR/T's letter in general I get the idea that he thinks that his ideas are the only ones that count. He contradicts himself several times in his letter. I think that he should read carefully the letter of "One Angry Young Man" and think before he writes.

—Rodney Champness, VK5ZCD.

Editor "A.R.," Dear Sir,

I have read and re-read Mr. Rechner's letter (Nov. "A.R.") and am still at a loss to understand its purpose or what he is trying to convey.

First he says he openly discriminates against low power and weak signals. So what?

Then a little further on advocates the use of only 500 Kc. when looking for weak signals. Why tune for them when you won't work them?

I am sure the Ballarat gang and that well known S.W. VK3 station have by now thrown their bodies over the gap.

I suggest F.E. approach the Frequency Allocations Committee and that unwanted 3,500 Kc. the thinking operator does not want be traded for the 100 Kc. we lost in 3.5 Mc. band.

I would suggest that a small portion of a v.h.f. band be set aside for the use of VK5ZCR/T and others of his ilk (if there are any!) and that Mr. Aberneathy listens to them.

The only good thing coming from Mr. Rechner's letter is that he has proved himself to be what many have thought him to be.

—G. F. Lucas, VK5LL.

Editor "A.R.," Dear Sir,

Al VK5ZCR/T has raised a couple of matters which have occupied my mind for some time. These concern disposition of stations in the

144 Mc. band frequencywise—and the difficulty of finding weak DX stations when they are scattered over a megacycle or so. My experience has been that if a station is strong enough to read on a.m. it can be detected by a quick scan over the band—provided the b.f.o. is switched on. However, stations only readable on c.w., i.e. S3 and less, require more searching for, particularly if there is QSB. The really weak DX or super DX usually out beyond 150 miles is the main problem.

There are two main aspects of the problem. The first is that during DX sessions here in Melbourne, and I suppose most capital cities, there are a lot of stations active—although the DX may hear only one or two. If the DX is anywhere near a community crystal, and most of them are, the chances of everybody being happy are negligible. The Melbourne stations on that crystal or near it, and there are probably half a dozen, aren't happy at causing QRM to the DX. And the DX won't get many contacts unless a few Melbourne stations stay off.

Moral: Stay away from community crystals—they may be cheaper, but you are buying trouble.

The second aspect is that of finding and identifying a weak signal in 1,000 kc. of spectrum space, with a rx using 300 cycle b.p. filter—this is the proverbial needle in the haystack. The obvious solution is to divide the 1,000 Kc. by 10. If we have to tune from 144,000 to 144,100, the job is greatly simplified.

Hence I put forward the suggestion that this portion 144,000 to 144,100 Mc. be made a c.w.-weak DX band by gentlemen's agreement. Local DX (up to 150 miles) and ragchews to be congregated above 144.1 Mc.

One snag of course is that Z calls are not permitted to use c.w.—their a.m. would take up more space.

All the aids to weak signal working, large long yagi arrays, parametric amplifiers, highly selective rx's place restrictions on the amount of band which can be effectively used. Hence if we are to make progress in this field we must concentrate the DX in a narrow portion of the band.

Any scheme to put the DX up beyond 145 Mc. or even 146 Mc., as I have heard mooted recently, is a sheer waste of time. I feel that with a little co-operation and patience my scheme could be made to work to the advantage of all.

In conclusion, may I say that I cannot understand why Z calls are not permitted to use c.w. C.w. has an n.f. advantage of 16 db. over a.m. (VK3BG notwithstanding), which, when signals are only SI or S2, is really something, and besides, it takes up far less spectrum space.

—I. F. Berwick, VK3ALZ.

THE SPACE AGE

Editor "A.R.," Dear Sir,

I have read with interest the new frequency allocations—all told I feel we have not fared too badly, thanks to the many people who have devoted time and energy on our behalf.

There is one matter, however, I should like to raise, as we all know this is fast becoming the space age. Manned orbital flight has already been achieved. Manned lunar probes are likely within five years and possibly inter planetary flight within the decade. Radio Amateurs can expect to be working interplanetary DX within a couple of decades. In addition much pioneering of lunar reflection is already being done by Amateurs overseas. The only frequencies suitable for communication beyond the ionosphere are u.h.f. and microwaves.

I notice that whilst we have a number of u.h.f. and microwave assignments, in every case the Amateur is placed on a secondary basis to radio location services. I feel that Amateurs should press for an exclusive allocation. As things stand at the moment the most suitable band appears to be 1.296 Mc. As stabilised transmission and reception techniques are the only satisfactory ones, it would not require an allocation of more than a couple of megacycles, provided it was in exact harmonic relationship of the v.h.f. band 144-148 Mc., i.e. 1,296-1,300 Mc. would be suitable. Surely this would not be too much to ask.

—I. F. Berwick, VK3ALZ.

REMEMBRANCE DAY CONTEST

Editor "A.R.," Dear Sir,

My recent letter to "A.R." (Sept. '61) has brought forward a number of comments, most of which have been made "on the air" and more or less in agreement with my own remarks, which were made in all sincerity and not in any way intended to cause amusement. I had intended to let the matter rest for a time, but in the light of more recent comment, I realise that the conditions on the Amateur frequencies during the R.D. Contest, and possibly other events of a like nature, are symptomatic of an even more serious problem. In

an attempt to explain this problem, once more I am compelled to take up my pen.

It is agreed, apparently, that there did exist on August 12 and 13, '61, a howling, seething mass of signals. This was to be expected, of course, in view of the great number of Amateurs operating at the time. My complaint was not concerned with the number of stations on the bands, but with the "rotten QRM" deliberately caused by a minority group, reflecting on all Amateur Operators.

On close reading of the letter submitted by Mr. Groves ("A.R.," Dec. '61), it occurs to me that the said gentleman shares my own sentiments on the subject. However, in defence of people who may not be so fortunate as to have others agree with their criticisms I now make these points which, if taken to heart, could help in solving our various differences.

For centuries the younger generations have faced the task, in every field of human endeavour, of repairing the damage caused by their forbears through ignorance, misconception, and apathy.

Many of the older and supposedly more mature members of our communities have always been, and will continue to be, either incensed or amused by the idea that the youngsters of the time could possibly improve what has already been achieved. To these I say, "Age alone does not confer Wisdom". Instead of inordinate pride in the past and hope for the continuance of the status quo, we are in need of a coldly-calculating mind, a passion for self-analysis, a dissatisfaction with existing conditions, and the realisation that our own efforts towards improvement will be thwarted, in part if not in the whole, by our own insufficiency and by the apathy and limited foresight of our predecessors.

By all means let us be thankful for the benefits which are ours, but let us also be thankful that, stimulated by criticism, we are able to improve to the best of our capabilities the conditions which are not beneficial to all. Let us move into 1962 with a critical eye and an unprejudiced mind, and improve the standing of Amateur Radio in the eye of others by our gentlemanly behaviour at all times.

—Morton P. Davis, VK3ANG.

THAT S.W.R.

Editor "A.R.," Dear Sir,

The August 1961 issue of "A.R." contained a reprint of the article, "How Important is the S.W.R.," by "Wun Gee Kew". I regret the reprint as well as the original publication of this article (of which I was previously unaware) since it contains the completely incorrect idea that reflected power is necessarily lost.

I would take the trouble to explain why reflected power is not lost except that I have already explained it as carefully as I can in an article, "Match, or Not to Match," contained in the Sept. 1958 issue of "QST". Therefore I refer you to it.

On the other hand, I do agree with "Wun Gee Kew's" main point that Amateurs frequently expend unjustified effort in lowering the S.W.R. However, this effort is even less justified than even "Wun Gee Kew" realised, as the reader open the article can see.

If you can spare the space, I would appreciate it very much if you would print my new QTH in "A.R." as I have made many friends in VK-land, both over the air and in person during my six-month stay in Sydney in 1956. This QTH (740 Willowbrook Road, Boulder, Colorado) was one that I acquired in July of this year.

—Yardley Beers, W0EXB, ex-W2AWH (Member of N.S.W. Div. of W.I.A.).

RECIPROCAL LICENSING

Editor "A.R.," Dear Sir,

I have been here for nearly a year now, but I haven't been involved much in Amateur Radio, largely because of lack of reciprocal licensing arrangements.

One thing that has impressed me is the apathy of most of the Amateurs I have met towards the subject of reciprocal licensing. I know that there is an energetic group in W6 working towards this end, but over here I have seen no sign of it. Coming from the midst of our battles on frequency allocations, where so many of us were actively involved, this apathy comes as a bit of a shock.

My sample is not large. I have asked a dozen or perhaps twenty Amateurs whether they have written to their Senators in support of Senator Goldwater's bill. So far I haven't found one who has done this. Some say they intend to do so later, in a half hearted sort of way, which leaves me in little doubt about their real intentions. Others haven't heard of Senator Goldwater's bill. Some don't even realise that foreign Amateurs cannot operate Amateur Stations in the U.S.A.

(Continued on Page 17)

The large amount of recent activity on the v.h.f. bands has once again brought to light the very poor operating procedure displayed by far too many Amateurs. The main offenders appear to be those using v.f.o. and v.x.o. control. Amateurs who use this type of equipment should always check on their own frequency before transmitting, to make certain the channel is clear.

This of course also applies to crystal controlled stations. No frequency is yours exclusively.

It is accepted practice to v.f.o. on to the other station's frequency if you intend to ragchew, but when calling a DX station you should not block his frequency but call him 10 Kc. higher or lower.

DX stations should make a point of not replying to a station on their own frequency unless, of course, it can be established that the offender is crystal controlled.

Also, when using so-called tailending procedure, always clear the frequency as soon as you have finished your contact.

One of the most infuriating offenders is the DX station who tunes the band in oscillating jerks, thereby never giving any indication whereabouts he is going to listen. Always tune steadily from one end of the USED part of the band to the other before reversing direction.

V.f.o. control is a step in the right direction, but improperly and carelessly used, it can be extremely aggravating and troublesome.

I am more than a little disappointed that there are no notes from Victoria and South Australia this month. I trust that this will not happen again.

Let me repeat once again, that all news should be posted to the scribe in your State to reach him no later than the second day of the month preceding publication. Scribes should post their notes to reach me no later than the seventh day of the preceding month.—3ARZ.

PROJECT OSCAR

Those who took the trouble to submit logs on Oscar I. to the organisers of the project will by now be in receipt of regularly airmailed newsletters. For the benefit of others, information to date is that it is hoped to launch Oscar II. some time in April. Greater emphasis is to be placed on measurement of Doppler shift, but it is stated that high gain beams and antenna tracking systems will be unnecessary. It is possible that two or three information channels may be used and the original c.w. keying will be retained. For some of the measurements two stations should work as a team.

Measurement of Doppler shift demands considerable accuracy if the results are to be of any real use. A technique is described in "QST" for July '61 which should give some idea of the requirements. However, later, simplified (and tried) techniques are to be described in "QST" for March 1962. An effort to obtain this issue as soon as possible will be well worth while, and perhaps a start now on the construction of a stable crystal reference oscillator tunable, say, from 144.95 to 145.00 would be a step in the right direction.

It is noted that in the Feb. 4 newsletter, only two VK stations are listed as having submitted logs out of a total of 200 or so stations listed, 60 of them outside the U.S. Undoubtedly there are quite a few VK logs yet to be analysed and acknowledged, but it is a pity that some of the stations mentioned in last month's v.h.f. notes as having heard Oscar I. made no effort to track it or to submit logs, on matter how sketchy they may have been. Every little bit of information is of some value, so how about showing that VK Ham Radio is not technically stagnant and really making an effort to put us on the Oscar II. map? The support we give these early projects will determine how soon we can participate in things like v.h.f. DX by satellite relay—the future is only just beginning!—3ABP.

NEW SOUTH WALES

50 Mc.—Activity was very high over the Xmas and New Year period, and until the completion of the Ross Hull Contest. Since then nothing! Have conditions really folded up, or are we just sitting back waiting for next summer? You can't work DX unless you get on the band. During this brief period of activity the band was open to all States except VK8 on most

days. Most consistent were VK5s. The ZLs were there at good strength on most days, the t.v. sound channel on 50.75 Mc. from Auckland being a good indication of band openings across the Tasman.

The rules of the Ross Hull Contest came in for some discussion at the February meeting of the Group.

144 Mc.: A welcome newcomer to v.h.f. is Muriel 2A1A, well known to the old men of 40 mc. As reported last month, Bob 2ASZ and ZL3AQ had a two-way QSO on 144 Mc. on 31st Dec. Here are further details. Bob was portable on Mt. McAllister, approx. 20 miles N.W. of Goulburn, preparing to take part in the V.h.f. Mid-summer Field Day, when he heard ZL3AQ at 1255 hrs. E.S.T. Contact was established at 1310 hours and maintained till 1325 hrs. He was still audible till 1340 hrs. when he faded out. Bob reported the signals at 5 and 9 and received 5 and 8. His Tx using a QQE03/12 was running 12 watts and feeding a 3 over 3 beam. Rx was an SX100 and a 4-tube converter.

ZL3AQ is located in Ashburton and the air-line distance is 1355 miles.

It is interesting to note that the only other ZL contact on 144 Mc., made by Alan Llewellyn a decade ago, was also with a station in Ashburton. That town must have something.

At Xmas, 2ZPJ went south and scaled Mt. Kosciusko where he operated portable. He contacted about 10 VK2 stations and several VK3s. A number of Sydney stations were contacted, also Newcastle.

General: The Feb. meeting was very well attended, over 40 in attendance and standing room was scarce. We urgently need the new meeting hall which is due to be officially opened on 17th March. The lecturer for the evening was Alan 2DN who spoke about 10,000 Mc. equipment. Alan gave details on converting available disposals gear, in particular the RT-181/AFG-30 radar unit recently available through disposals. Alan had his gear for display, also that of Len 2SD. Bob 2ASZ also had his gear along. With some 30 of these units in the hands of VK2 Amateurs, and 4 st. parabolic dishes available at a very low price, 10,000 Mc. should become populated. With the gear available, 10,000 Mc. is no more complex than 144 Mc.

If you would like to hear a better signal from 2WI, then contact Tim 2ZTM and he will find a job for you one Saturday or Sunday at Dural. There is much work to be done on the equipment there and any help will be appreciated.—2ZDF.

QUEENSLAND

Six metre DX has been holding up fairly well but started the gradual slow-down in the middle of January. ZLs were worked on 30th and 31st Dec. also on the 1st and 11th Jan. Openings to VK3, 5, and 7, also to VK9 occurred on 30th and 31st Dec.; to VK3 and 7 on 1st Jan. Over the period 10th to 14th Jan. opening occurred to VK2, 3, 4, 5, 6, 7, 8 and 9. VK2 on 30/1/62, VK3 and 5 on 31/1/62, and VK5 on 1/2/62.

On 6 mx there are regular skeds being carried out to work maximum distances on ground wave and results will soon be forthcoming.

New station on 6 mx is Graham 4ZGN with 5 watts to a modified 522, a dipole antenna and a superregen. rx. He is, however, making a converter to feed into a b.c. set. Welcome to the band, Graham. Another welcome newcomer to this part of VK4 is Merv 8ZGM, from Alice Springs, who is now going to make his home in the Sunshine State.

On the 2 mx band things are starting to liven up in southern VK4. Dane 4ZAX heard VK3s ragchewing on 2 mx on the night of 11th Jan., but was unable to break in. Ron 4ZBZ, who is now mobile on 2 mx, worked 2ZLP at a range of 270 miles. Ron's small car looks very cute with a 10 el. yagi on top of it.

February's hidden tx hunt was organised by Alan 4ZBF and Malcolm 4ZEL, who hid it on top of an easily visible hill, the trouble being how to find a way up there. The tx was eventually found by Dane 4ZAX.

The V.h.f. Group meeting for the month took place at the QTH of Malcolm 4ZEL and the usual things were discussed. No decisions were reached and an excellent supper was served.—4ZBT.

WESTERN AUSTRALIA

The Ross Hull Contest has been and gone and we find that most of the activity which was on during the month has slipped away and those number-hunting fiends are not waiting to pounce on anyone who puts a signal on the air.

There was quite a bedlam on 50 Mc. on the morning when VK2TR/9 broke through and he was able to work a very large number of VK6s, giving them that much chased-after VK9 contact.

We have been carrying out a lot of checks with David 8AU, but as yet have not been able to make the grade. Kevin 6ZCB and Lance 6ZBK were portable at Cape Naturalist during the last two days of the Ross Hull Contest and were able to work back into Perth on 6 and 2 mx with 5/9 sigs. They also worked VK-2TR/9 whilst portable. Rolo 6BO and Frank 6CC went touring the South West during the month and Rolo had 6 and 2 mx gear with him and worked back into Perth from down Donnybrook way. He also worked Kevin and Lance at Cape Naturalist.

A new interest has been kindled with the boys at Bunbury and Ian 6ZAL and Ted 6JG are active once again. Skeds are carried out on Sundays at 10 a.m. in the morning on 6 mx, so keep a look out for these boys. Brian 6VV in Geraldton has been coming through quite often on 6 mx very often a good phone copy, but sometimes only c.w.

Two metres has still got quite a number of stations operating and the skeds between Rolo 6BO and Wally 6WG are carried out during the week-ends.

Rod 6ZDS and Wally 6ZAA have now xtal locked gear operating on 576 Mc. and this seems to be performing quite well, however the air from the vacuum cleaner is about 100 degrees before being blown on to the final tube!

Next meeting will be on 26th March and will be held in D.C.A. Amenities Room in Guildford Road, Mt. Lawley. Everyone welcomed. In closing, would like to welcome Pat 6PH, John 6ZDX and Alan 6MO to 6 mx, and any others who may have escaped my notice.—8RY.

TASMANIA

Early Jan. provided some reasonable 6 mx DX—although not as consistent as the previous month. VK2, 3, 4 and 5 on Jan. 1, 3, 4, 10 and 11, chiefly during daylight hours. The 12th and 13th much better; Melbourne stations were contacted from southern VK7 around 1230 hrs. on 13th, 15th and 17th rather patchy.

During the morning of 19th, VK2, 3 (Melb.), 4, 5 and 6 were contacted—the best opening to VK6 for the season. A VK9 was heard as was a VS6 weather (?) station. On 21st, 7LZ and 7BQ worked 8AU on c.w.

Only other openings worth mentioning were the 24th—when a startled "voice," 7ZAV, worked a lone ZL4—and the 25th when 8AU was contacted mid VK2s and 4s.

Two mx has been providing plenty of contacts between Launceston area and VK3. 7LZ worked 18 VK3s on 14th—mainly in the Melbourne-Geelong area; following night also open to VK3. Other 7s active were 7BQ, 7FF and 7DK. Open again on 23rd. To this time nothing had been heard of East Victorian stations and none of these openings noticed by Hobart stations—but we're still hoping.

An effort was made to operate from Mt. Wellington (near Hobart) for the Jan. VK3 Field Day. The weather, however, was against us; high winds and extremely icy conditions made it impossible to raise a mast sufficiently high and the warmth of the t.v. control room was much more inviting than the cold interior of the vehicle.

Believe 7LZ and 7PF were considering operating from Mt. Barrow (5200 ft.) near Launceston for the Feb. Field Day—hope this proved possible.—7ZAO.

PAPUA

Activity on 6 mx is quite high here, with myself (8AU), Murray 9CK, Gordon 9NW (operating mobile from all the choice high spots around town) and Paul 9ZBV. I have only recently returned from a year's stay in VK2 and was operating during the latter part of the Ross Hull Contest as VK2TR/9, however have now got the old call back once again.

(Continued on Page 13)

SIDEBAND

Phasing, Xtal Filters, Balanced Mod., Linear Amps., Vox

Sub Editor: BUD POUNSETT, VK2AQJ,
6 Alice Street, Queanbeyan, N.S.W.

ADDRESS CORRESPONDENCE FOR THIS PAGE DIRECT TO THE SUB EDITOR

A DIFFERENT KC4

KC4USP sounds very much as though it is another of the American Antarctic stations which have been so plentiful this summer, but this is not so. KC4USP is located on the U.S.S. Vance, stationed 1,000 miles south of New Zealand on the air route between Christchurch and McMurdo Sound. The prime duty of this ship is to act as a navigational beacon and communications relay station for aircraft flying the long hazardous route to and from the Antarctic. In addition to this, the U.S.S. Vance reports the weather conditions and carries out oceanographic surveys. The ship is crammed with radar and communication facilities and it is interesting to note that voice communication to and from the aircraft on h.f. employ single sideband. In addition, s.s.b. is used on voice circuits to McMurdo Sound and New Zealand. R.t.t.y. and c.w. also is used to pass traffic between the two terminals while c.w. is employed for the Hawaii-U.S.S. Vance circuit. Who said c.w. was out-moded?

Syd., the KC4USP operator, is the chief radioman on the ship and has had 14 years in the U.S. Navy in various parts of the world. If you are at all interested in air or marine communications you are in for a very interesting contact if you look for Syd at the high end of twenty.

AN E.F. PHASE SHIFT NETWORK

From Mac VK3AZM there comes a very simple circuit for obtaining the necessary 90 degree phase shift for your new or old phasing s.s.b. generator. This is a network which is extremely simple and you are assured of excellent results without having to use expensive test equipment to accurately measure fixed capacitors.

Fig. 1 shows the method of coupling the output of the crystal oscillator to the network. This allows the oscillator to be placed at any convenient place away from the balanced modulator output coil which greatly assists in obtaining better carrier suppression figures.

XTAL OSC

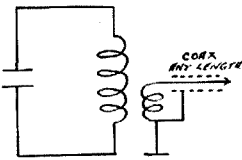


Fig. 1.—Coupling from Xtal Oscillator.

The r.f. phase shift network is shown in Fig. 2. R1 and R2 equal the value of impedance of the co-axial cable used. If 50 ohm co-ax is used, 50 or 47 ohm 1 watt 5% carbon resistors will be required. C1 and C2 can be 5% mica capacitors and the required value can be calculated as follows:—

C equals 1,000,000 divided by $2\pi FR$ where C is in pF., R is in ohms, F is in megacycles.

Taking a practical example for a 9 Mc. phase shift network,

C equals 1,000,000 divided by $(2 \times 3.14 \times 9 \times 50)$

which is approximately 350 pF. If you wish you can save yourself the problem of the maths by looking at the Reactance-Frequency Chart in the A.R.R.L. Handbook or Radio Handbook and read off the capacitance that has a reactance of 50 ohms at 9 Mc., this will give the same result.

C1 and C2 can then be 350 pF. silver mica 5% (or less) capacitors but for those who wish to obtain the ultimate in performance from

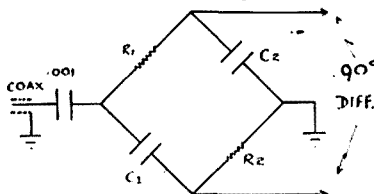


Fig. 2.—R.F. Phase Shift Network.

this network, CI can be made up of a 270 pF. capacitor in parallel with a 3-30 pF. trimmer. The rest is made up with stray capacitance. The trimmer is then used to obtain optimum r.f. phase shift and hence best sideband suppression.

THE LAW IN CANADA

The January 1962 "QST" has some interesting information on bandwidth and power input measurement regulations in Canada where the Department of Transport is the licensing authority. It is also worth noting that except for the legal limit figure, the U.S. F.C.C. definition is the same. Quoting from the Dept. of Trade Radio Regulations:—

"Section 44 of the General Radio Regulations, Part II., contains a tabulation of the frequency bands and types of emission which may be used by stations in the Amateur Experimental Service. It should be noted that the emission designator A3 is construed to include all forms of amplitude modulated radio-telephone emissions, including double sideband emission, e.g., full carrier (A3H), reduced carrier (A3A), suppressed carrier (A3J), also independent sideband (A3B). With regard to bandwidth, Amateur Stations using amplitude modulated double sideband (or independent sideband) emissions are permitted a bandwidth of 6,000 cycles (plus-minus 3,000 cycles), whereas with single sideband the equivalent bandwidth is only 3,000 cycles.

"Section 46 of the General Radio Regulations, Part II., provides that the d.c. power input to the plate circuit of the final amplifier stage shall not exceed 750 watts (unless further restricted by Section 45) and Section 60 thereof requires that meters of 'standard accuracy' shall be permanently installed where the d.c. power input of an Amateur transmitter exceeds 400 watts. Noting that these restrictions relate to the basic types of emission designated in Sec-

tion 44, it has been decided to interpret the limitation of Section 46 with respect to single sideband suppressed carrier emissions in the following manner:

"The d.c. power input to the anode circuit of the radio frequency stage supplying power to the antenna system of a single sideband, suppressed carrier transmitter, as indicated by the plate voltmeter and plate milliammeter, shall not exceed 750 watts on voice peaks, provided the plate meters used have a time constant not in excess of approximately 0.25 second (readily obtainable) and the linearity of the transmitters has been adjusted to prevent the generation of excessive sidebands."

WHO?

Who is doing what? Well, here in the Canberra district ISB has left the pile-ups on 20 for the quiet pastures of 40 metres. Having a rare prefix is not all beer and skittles and Stan finds the 7 Mc. band very relaxing after being chased all over the top of 20. Harold 1GU still continues to battle the static of summer 80 metres and talk to a few of his old mates. Peter 1JE is almost there with his phasing exciter, and his near-neighbour, Les 1PI, is getting the rx side of sideband tidied up before beginning work on a W2EWL exciter—a very wise move.

At 2AQJ a band-switched final is nearing completion with a pair of grounded grid 6B1s as amplifiers. Not far from Yass, 2XP at Gunning, has been working the DX on 20 mx. Bob had some troubles with his home-brew tx, but after getting lots of help from various of the gang, has things going very nicely. Sydney has a visitor, in the person of Johnny 4DD, of tropical Townsville. He is staying with 2ADC and brought along his recently finished copy of a 7551. Johnny is very pleased with his efforts and we hope to be able to give you the details at a later date.



Reg Brook, VK2AI, at the controls of his mobile sideband rig.

VHF NOTES

(Continued from Page 12)

Equipment in use here as follows: 9CK, 15w. to 2E26, 4 el. yagi and xtal converter; 9NW, about 3w. to 6360, 4 el. yagi and xtal converter; 9AU, 20w. to 6146, 4 el. yagi and xtal converter; 9ZBV, 2w. to 6AQ5, indoor dipole and xtal converter. Frequencies: 9AU 50.06, 9CK just above 50.1, 9NW 50.5, and 9ZBV with v.f.o. around 50.06-50.1 Mc.

First opening after my return here was on 31/12/61, opening to VK4 from 1400 to 1730 (all times E.A.S.T.). On 4th Jan., open around 1800 to VK3. 12th Jan. open to VK2 (Inverell), VK4 1745-1915. 13th Jan. open to VK2 and VK4 from 1415-1730. Then the big day—14th Jan.—opened at 1200 to VK4, at 1227 VK6 started to roll in (I had 16 VK6 QSOS), 1330 8AU was in, and band remained open to VK4 right through to 1900 hrs. Next opening was on 16th Jan. to VK2 and VK4 1800-1845. On 18th Jan. open to VK4 at 1740, VK3 at 1800, and VK5 1830-1930. 20th Jan. open to VK4 1830-1800. 21st Jan. 4ZAZ in at 0840, then nothing till 1600

when 8AU's auto keyer heard at S9, 8AV wkd. at 1615. 25th Jan. 7ZAO in from 1700, wkd. at 1743, then open to VK4 at 1800.

Activity on 2 mx is restricted to myself with 15w. to 6360 on 144.60 Mc., and 9ZBV on 144.1 Mc. with 150 milliwatts transistorised tx and his indoor antenna. I now have a 5 el. yagi up on 144 and it is hopefully pointed to VK4. There are tentative plans for an effort to work Dan 4ZAX when he comes to Cairns around June. We hope to have 100w. and two stacked long yagis at an excellent QTH several hundred feet on a cliff overlooking the sea to the south. 6CW4 nuvostors are anticipated to be used in a hot converter and we have hopes of being able to make QSO with VK4. Who knows, it may even be possible to work much further south than we at present anticipate. I am willing to sked anyone as of now who is interested in a possible 144 Mc. QSO, but the equipment to be used later in the year will be far superior to present gear.

Am listening for ZLs on 51.0 and up and if I hear any and cannot raise from 50.06, I will QSY to their band as I have a rock for 51.4 Mc.—9AU.

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Conditions this month have been poor; the 7 and 14 Mc. bands have shown some life, at times, but the signals have been weak and any worthwhile DX very scarce. Both these bands were best during the early morning-night hours, but unreliable. The 21 Mc. band has been a disappointment at this QTH this month, very little of any consequence showed up. The long path circuits on these bands, which were a daily occurrence a few years ago, now almost seem to be a thing of the past. When they do appear now, the signals are weak and short-lived. All this, coupled with high levels of QRN, has not made for good listening and DX.

NOTES AND NEWS

PA0PN is looking for VKs on 3.5 Mc., particularly around 2000 hrs. G.M.T. He has a good signal here and I think it should be possible to work him. YU2OB and other Europeans are also looking for VKs on this band—mode, c.w.

Ron VS4RS is quite active on 21 Mc. c.w., from Sibiu, Sarawak. He is a new arrival there and is getting some QSL cards printed. Robin VS4RM can be worked on an evening on 14 Mc. c.w.; he QSLs via G.P.O. Miri, Sarawak.

The new prefix UW0 is used by at least one station on Sakhalin Is. (UW0FC).

Mike YJ1MA is putting in a terrific signal on 14 Mc. c.w. One afternoon I heard him work at least five hours non-stop, at the rate of about one station every two minutes. He QSLs via WIHGT.

A few good South Americans, HC and TG, are active on 14 Mc. s.s.b. Carlos HC1FG QSLs via Box 2799, Quito; Gus TG9AL, via W2CTN; c.w. operator Don HC1AGI, QSLs via U.S. Embassy, Quito.

Ed DU1OR must be on a few kw. by the sound of his 20 mx f.b. signal. Joe DU1VQ has been active also, over the last month on s.s.b., but says he finds reception difficult due to ignition noises. His QTH is in the centre of Manila City.

Stuart ZK1BO on Rarotonga has provided a list of the locals with a ZK1 c.w. QSO on 20 mx. I wonder if his QSL is as "bare" as is Trevor's (ZK1AR)?

KH6EDY, Kure Is., and a fairly recent "new" country, is active on 14 Mc. s.s.b. There are at least three operators. Ski QSLs via WSQK, as does Bob.

An increasing number of Russian Republics are coming in on s.s.b. At least one of them, Zaly, UL7JA, offers to QSL direct to P.O. Box 1, Leninogorsk, Kazakh.

John KJ6BV is active from Johnston Is. and works into the other Pacific Is. and VK land. QSL via U.S.C.G. Loran Transmitting Station, Johnston Is. Ed W6YCW/KJ6 is on the other end of the island, and within a few hours of his arrival there (13th Jan.) found some Collins gear in the shack and got it going. He was using it barefoot and still putting in a S8 to 9 signal into Melbourne. This is a return trip to the island for Ed, who was the first Ham to use s.s.b. on the island a few years ago.

Zone 23 station, JT1KAA, is active a few nights of the week around about 14,000 in the late evenings. Needless to say, Tuul is in great demand, but sooner or later, he'll come back to you.

A few Cyprus stations are on about 21.050 Mc. almost regularly at 7 p.m. E.A.S.T. Roy ZC4TX at Episkogi QSLs via P.O. Box 219, Limassol.

In addition to the increased activity of East Caroline stations on both c.w. and s.s.b., Dick KC6AQ on Koror, West Carolines (and a separate country), may also be worked. He QSLs direct.

Bob KB6BR, on Canton Is., in the American Phoenix Group, can be worked on 14 Mc. s.s.b., especially in the early evening. QSL via Box 38, U.S.P.O., 06/50,000, Canton Is., Phoenix Group, South Pacific.

ACTIVITIES

This month I have received mail and DX reports from all States (VK8 excepted). This is encouraging and makes interesting reading and helps to assess the overall picture regarding conditions.

Frank VK2QL has not been very active this past few weeks but lists the following. 3.5 Mc. wkd.: Ws. 7 Mc.: 9M2CR, KR6CR, VQ4HE, HB9OE, SP7HU, and other Europeans. 14 Mc.:

F9SK, F2CB/FC. QSLs recd.: OD5CT, UA2KB, EL4A, LX2XG, HP1IE, VR4CV, etc.

Ken VK3TL worked about 50 countries during the last month. He says the band has been open to Europe, but generally there was a lot of QRN on most bands. His list is, 14 Mc. c.w. wkd.: BV1USA, DM3UPN, DU1OR, EP2AF, F9BG, G3KMO, HB9KO, HC1AGI, HM1AF, HM4AQ, HS1X, HS2MS, JT1KAA, KC6BD, KV4AA, LA7RF/MM, LU2EN, OH1NK, OH3TQ, OH5HR, OZ4H, SM3CPM, SM5CCE, SM7B5F, UA1KBR, UA3RM, UA3TY, UA4HC, UA4IF, UA4NM, UA0EK, UA0EW, UA0KFG, UA0KUA, UA5CG, UB5JX, UB5KAG, UB5KED, UB5ZV, UF6AU, UH8KAA, UW0FC, VK9GV, VR1B, VR2AB, VS4RM, VS5GS, VS6EM, VS6EP, VU2GD, VU2MD, YJ1MA, ZK1BO, 4S7NE, 9M2UF, 14 Mc. phone wkd.: CE3RC, DU1VQ, G8PO, KC6AQ (West Carolines), KC6BH, KH6EDY (Kure Is.), KJ6BV, W6YCW/KJ6, KM6CG, KX8AM, KX6QG, KX6BU, PU2AA, TG9AL, UL7JA, UW3UF, VK0TC, VR1B, VR2BJ, VS6EK, XW8AS. 21 Mc. c.w. wkd.: DL3ZL, DL7GX, G2BB, HB9CV, OH1PI, OZ7UU, SM5OT, SP8HT, UA8CC, VS4RS, ZC4TX. QSLs recd.: BV1USA, CO7AH, DL5JU, FZKL, HB9VL, KC6AQ (W. Carolines), KV4AA, KX6CG, LA6CF/MM, SP6AAT, SP6OM, TI2WA, VQ8AM/MM, ZE1AB, XZ2NS, YO2KAC, ZL5AJ, 4S7GV, 9N1MM. (Thanks Ken for your notes, they were very helpful.)

Geoff VK3ZMS reports that there is little DX and conditions are poor, but managed to log the following: 14 Mc. c.w.: VS5RM, ZL5CK (New Zealand Antarctic). 14 Mc. a.m.: DU1AR, DU1TOM, KC6BD, KH6AHZ, KH6DJU, KR6MU, V81EG, XW8AL, XW8AR, 9M2CP, also Ws and K. 14 Mc. s.s.b.: DL1VX, DL3JJ, EP2AR, G8PO, HS5OSQ, JAs, KA2JL, KC4AAD, KC4USV, LA2DA, KG4SUF, KH6DZR, KR6DZ, KR6GF, KR6NZ, UA1KSB, UW3VW, VR1B, VS6EK, Ws and K. 21 Mc. a.m.: W8BHM, W6JRY. 21 Mc. s.s.b.: K7MZV, KH6AHQ, KM6VJ.

Hal VK4DO also reports conditions poor and signals weak at most times. He contacted the following. 14 Mc. c.w. wkd.: W, K, AP5CP, DL3JJ, DU1OR, FO8AC, FK8AB, HC5CN, JZ0BM, KC6BD, LA7RF/MM, OH2BZ, OH3TQ, OH2CU, OK3KAG, SM5IC, SM5CCE, SP9KJ, UA0KFG, UA3KAH, UA3TY, UA4IF, UA4KHV, UA8KOA, UL7HE, UM8KAA, VS6EC, VU2WM, VR4CV, ZC4TX. 14 Mc. c.w. hrd.: W, K, JA, KA, KH6, CE3CB, DL1EB, DJ5IM, ET3AZ, HA5KFR, HS1X, HZ1AB, 11BDE, KZ5TD, LU8HL, LZ2AD, OZ7HS, PA0BL, UA0KOG, UA4KFR, UA4HW, UA3AT, UA9AA, UA9KOG, UA9WM, UB5KCN, UB5KSR, UC2KAA, UH8KAA, UL8AZ, UH8KR, UL7KKD, UL7KNG, UJ9NB, UO5FX, UP2FK, UR2KAN, YK1AK, YO4KCA, 4S7EC, 4S7NE, 4X4DC, 9M2UF. 14 Mc. phone wkd.: JA, FK8AB, VR4CB. 14 Mc. phone hrd.: DU1AS, DU1EN, YV5AWK, 9M2AD, 9M2CP, 2M9GV. 21 Mc. c.w. wkd.: JA, 4S7NE, VS4RS, VS6EM, ZC4TX. 21 Mc. c.w. hrd.: EP2BK, UA6AR. 21 Mc. phone wkd.: JA. 21 Mc. phone hrd.: EP2BE, EP2BK.

Al VK4SS, 7 Mc. c.w. wkd.: 5A3BC, HS1X, 1F6FN, U6BEE, UC2CS, EP2BH, 9M2FS, 9M2FK, KX6AJ, HM1AF, HM9A, LZ1KCM, PA0PN, FA9VN, YO9CN, U18AV, UH8KD, UL7CD, 5H3HD, VQ4HE, UA9CC, UL5PK, VSAAC, UJ8AM, VS6EC, VS1KV, ZE1AU, G3CEG, G5DQ, and other Europeans. All the above were wkd. between the hours of 1700-2000 G.M.T.

George VK5RX wkd. on 14 Mc. c.w.: 5H3GC 1440z, 5H3HZ 1526z, ZF9AY 0818z, ZETJV 1226z, MP4MAH 1328z, LZ1KPZ 1518z, AF5CP 1300z, LUIDAW, LUSABL 1030-1050z, 4X4JU, 4X4FA, IJAZAB 1310z, KV4CI 1133z, KG6ALC 1104z, PAOZL 1204z, ON4AS 1355z, and many others in a mixed lot of JA, UA, UB, UI, KA, 9M. (Congrats on R-6-K Award, OM.)

Mal VK6SM says he has not been very active but logged these. 14 Mc. c.w.: VQ8HB 1634, AC5CP 1124, HM4AQ 1104, 9Q5AAA 1720 (times G.M.T.). And a long list of the less common European prefixes. On 7 Mc.: 5A1GM, VS4RS, KR6MD and others. On 21 Mc. hrd. PX1BR and wkd. Ws on 3.5 Mc. (Welcome to the column OB and pse some more notes next month.)

Len VK3ALD reports that condx on 21 Mc. are poor and the band has shown little activity. However, he did manage a couple of nice ones in EP2BE and HC1FS, and hrd. G3NOT and YE1CG.

Eric BERS195, who is always on the job, comes to hand with the following—3.5 Mc. hrd.: JA1CO, JA8AK, LZ1KPZ, OK1KUR, UB5KED,

W2KQT, 7 Mc.: JA5LW, JA7AB, JA6YG, DL6FS, IH8M, KR6LF, SP7HX, VS4RS. 14 Mc. a.m.: DU1AM, VK9GP, VR4CB, FK8AU, VK8AU, ZE7JR, VR2BC. 14 Mc. c.w. AP5CP, EP2BK, FO8AN, ET3AZ, FB8XK, ET2US, HK5TD, JZ0BM, KC6BD, KV4CI, KX6AJ, SV0WL, TI2LA, TI2WA, UA2AV, UD6KAK, UH8BO, UO5PK, UP2KAF, VK9GP, VQ8HB 1630z, XZ2NS, VR2AB, VR2BZ, VR2EB, VR4CV, VS6EM, 9M2FY, YJ1MA, YV5FV, ZK2AD, ZL5AD, ZS5UP, ZS5UR, ZS6AV, ZS6BEJ, 8W8DE 2030z, 4S7EC, 4S7NE, 5N2LZK, 9M2UF, 9M2UR, LA7RF/M. (Eric can you please include the times of the 3.5 Mc. loggings. Tks. OM.)

Rod de Balfour breaks the ice and comes into the column with a good list of DX and an informative report on conditions. He heard on 14 Mc. phone VU2TX and other VUs, DU1AN, DU7GB, VS1ZF, VS1KR, JA6YG, 9M2AD, and other 9M2s, XW8AL, CR9AI, HL9KT, HL9KS, BV1US, 4S7YJ, ZC5KF, VS5GS, KR6KG, JZ0BM, PK2HT, AP2U, EP3RO, EP2BK, MP4MAH, MP4BVZ, UP5KAA, MP4TAC, VU9PVV, VE3BQL/SU, ZC4CF, 3A2CN, 11OU and other Europeans, F8XU, G2FU, GM3DZB, ON4OU, UB2KK, DL7UZ, CN8JO, ZEB3F, ZETJZ, ZL1AA, ZK1BS, ZL1AY, VR2EP, FK6AM, TI2ES, KZ5LW, VP2SY (St. Vincent), YV3EZ, CR2CO, XG6RT, 14 Mc. s.s.b.: VU2NR, KR6SHG, MP4BAA, MP4BDR, W6QGM/KB6, KS6BV, FP2AT, XW8AL, DL4YJ, DL5TX, G4CD, SM3CCM, OH2GM, HB2JZ, etc. (Good luck with your studies but remember me with your reports OM.)

Don L2022 has been away on holidays, so there is no report from him this month, but he did receive the following QSLs: 9U5MC, GM3EST, CR7CH, ZB2AD, VP1SS, OK3IR, YO2KAB, 9M2FS, HM1AF, OH5NW.

Peter Drew, L6021, is another newcomer to these notes, and sends in a very comprehensive report. 20 mx phone a.m.: DU1AN, KR6, ZL, MP4, VU2, H18JSM, 4S7, ZJ0BM, 4X4, 9M2, DJ1OJ, JA, VS1KF, VK9GR, EP2, XW8AL, VS6ES, IICWZ, VE3BQL/SU, VQ4GT, 5R8AA, VQ8AM, BV1USA, 11TMO, 11SM, VS6EC, VS1GZ, VS6EM, VK9RL, DUU6RG, F2UP, UA4KHV, VS6AJA, HL9HS, ZS5TA, DU6MJ, 11BAT, DU7GB, XE2TF, DL3XO, ZS4LA, ZS6FJ, ZS6AWW, G3AMM, 11VK, ZS6AJZ, 1F2AZ, CR7CJ, HL9KS, VK0CH, ZS4MG, SP7LA, Ws. 20 mx s.s.b.: KC4, 4X4, EP2, MP4, 9M2, SV1AE, ZS6, VU2NR, ZS5RU, DJ1BZ, UB5KAB, YS1MS, VE, VQ2AT, KR6, W6SFP/KG6, DL7BA, XZ2NS, HZ1AB, VK0TC, ZS7F, VY5AQ, EL2V. 20 mx c.w.: G, W, HR6CQ, OH, UR2KAN, VU2, SM5, U6BEE, UBS, ZC4PE, DJ5WV. 40 mx phone: VK2AUS/MM, ZL, W, 40 mx c.w.: VK2AUS/MM, K6, W, JA. 80 mx phone ZL. (Yes, Peter a monthly report from you would be appreciated.)

Bud VK2AQJ had the following 14 Mc. QSOs on s.s.b.: KC4US 1058z, XZ2AD 115z, KG61J (Iwo Jima) 0800z, W4VCA (Aero Mobile) 0628z, CE3RC 1130z, KA2AO 1100z, JA4HM 0935z, KR6BA 0958z, XW8AS 1028z, HS1X 1035z, KC4USP 1054z. (Tks. Bud OB. Let's have next month's notes a day or so earlier pse.)

SUMMARY

Prediction for March. 21 Mc. may open up to the East during the early afternoon, but this seems uncertain as the band is more dead than alive. 14 and 7 Mc. should be better. With luck the Europeans may show up on the long path in the afternoons on 20 mx and 40 mx should continue to be fair at least at night. However, it must be expected that on some days the bands will be flat and un-operative.

My thanks to all those who have helped this column along and made my job easier. This month they were: VK3 3TJ, 3TL, 4VO, 4DO, 2QL, 3ZMS, 5RX, 5RK, 6SM, 3ALD, BERS195, L2022, L6021 and certainly not least, Rod de Balfour. 73 chaps, de Al VK4SS.

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Victoria.—Last general meeting of the Group only six members were present. (What has happened to our large Group?) Plans are being made to have speakers and demonstrations on the meeting nights, and also visits to various places for each month, so why not come along, there will be subjects to interest everyone.

Noel Harrison has been away for a fortnight on holidays at Echuca, but had some bad luck on the way there, his car decided to cease a con rod and on driving it a few miles to Echuca ruined the crank shaft. However the engine needed re-conditioning, so the complete job was performed before leaving for home. Mac Hilliard is still listening very solidly on v.h.f. and has had very little time for the lower frequencies (a little bird told me that Mac is considering buying a new receiver but at the moment it's top secret, hi).

Maurie Cox has just received his long-awaited modified 348 and is quite pleased with the results. Recently Maurie moved things around in his shack (or should I say bedroom) and found his lead-in on the antenna was too short, so he joined a piece of 300 ohm ribbon to the open wire and heard nothing more than t.v.i. Needless to say, the rx is back in its old position once again.

South Australia.—Colin L5031 reports that things are fairly quiet in his part of the State, however he just received a new rx which replaces his old 7-tube home-brew that has been in use for the last 12 months. The new rx is an Eddystone 640 which is performing really well. A 2 mx converter is under construction and is almost complete except for a xtal and a condenser which Col is awaiting for. The antenna set-up for 2 mx is a 10 el. beam about 55 ft. high, fed with 300 ohm line.

Dale L5025 has now received his Z call and hopes to be on 6 mx by March, under the call of 5ZER. Three of the local s.w.l.'s sat for their limited licence at the last exam. They were John Lehmann, Gary Smythe and Les Janes. (Wish you luck chaps.) Gary L5026 has recently purchased a tower and hopes to have it erected soon. It will be used to mount his v.h.f. beams on.

Tasmania.—Neville 7ZEE/L7013 says that things are very quiet in VK7 land. The main active members of the small group are Ted Beard, Mike Jenner, Dave Berry, Richard Rodgers and not forgetting Neville Fisher. They are respectively 7EB, 7ZAV, 7ZAY, 7ZAN and 7ZEE.

The only s.w.l. activity to date is that of a new member, Greg Johnston. The following are a few of his choice ones heard in the last month: MP4BBW, EP2BM, DL6RSA, OD5CT, PA0SM, 4X4AS, 5ASTY, YK1AK, XZ2SY, UB5JM, ZK1ES, Z56ED, KZ2SY, CR9AX, XW8AS, BV1US. The above stations were all on s.s.b. Greg uses as a rx a 4-tube xtal locked converter feeding into a 8-tube i.f. and audio stages, and also a Heathkit Q Multiplier. The antenna is a vee beam and a dipole.

The VK7 Group have ceased having meetings but still exist as a Group.

RADIO MAIL

The letters this month are from the following gentlemen: Aftan Wescott, Eric Trebilcock, Peter Drew, Tom Kennedy and Don Grantley.

Aftan L2136/VK4 reports that band conditions have been quite dull with very few breakthroughs on 8 mx, but on the other hand it could have been better if more time could be devoted to listening. Reception on 20 and 15 mx has been very patchy with some very good openings from W land and Europe.

For those who are interested in Chatham Island, ZL4JF will be operating on 14.120 Mc. at 0400 G.M.T. each Sunday for a few weeks, but it is not known definitely for how long. Aftan is now installing a 23 ft. vertical antenna covering from 80 through to 20 mx. He says that the vertical has good results on reception.

Peter L6021 also has very little news except a few notes on 20 mx DX. It has been very good between 1100 and 1600 G.M.T. nearly every night, occasionally it is fair around 1100 G.M.T. Peter heard JA, 9M2, DU and then gradually working back during the night to XW8, XZ2, VU2, EP2, MP4, OD5, I1 and then the rest of Europe. The Asian stations are audible every night, Europeans about 75 per cent of the nights, and South Africa about 10 to 20 per cent. The strength of the Asian stations is excellent, especially EP2, 9M2, XW8, VU and MP4.

If the band opens at 2300-0100 G.M.T. (which is about 50 per cent of the mornings) the areas audible are North and South America and East Asia.

40 metres has been fair for Ws on c.w. at 0800-1000 G.M.T. and JAs later. Peter has been hearing more a.m. stations than s.s.b. on 20 metres, which is unusual for 20.

During 1961 Eric Trebilcock heard 142 countries and 39 zones, also 35 ships and five motor cars. Eric sent out 1,190 reports. He missed hearing Zone 12 and also missed getting cards from Zones 12 and 28. This year Eric has heard 46 countries, 28 zones and one ship and has received 40 QSL cards, and has sent out 32 reports.

Tom Kennedy, L3112, has just purchased a new rx, the name of which is Lafayette HE-30, and is made in Japan under licence from Lafayette in U.S.A., and was only released in January. The new rx will replace the AR8 as a main rx. Tom is now using a Philips Transworld which is transistorised and Philips are overhauling a 8-tube Telefunken as a stand-by rx. The antenna being used is an inverted L which is 40 ft. high. This antenna is said to be giving strong clear signals on Amateur and DX bands. Tom says that the next move will be to get some QSL cards printed; won't be a bad idea, hi!

Dave Jenkins, L3039, is intending to start studying for his ticket when he gets a decent rx line-up. Dave has nearly completed a 10, 15 and 20 mx converter and when that is completed and operating correctly a start will be made on a rx to cover 40 and 80 mx.

Don L3088, from Albury, has had a very good start on his listening activities. The log book says that on 16/1/62 to the end of Feb., 57 countries were logged and 31 zones. Don has had rx trouble (didn't think you could have trouble with the AR7 Don). The symptoms were no b.f.o., no audio control, weak distorted signals, so Don got to work with his voltmeter which showed no voltage on plate or screen of the second detector-first audio tube (6G8), yet the dropping resistors were reading 230v. input—thus a short circuit some place.

Briefly this is what had happened. The lead of the grid cap had been cut through by the valve shield and shorted it to earth. This in turn overheated the blocking resistor between first audio and second audio. The resistor got so hot that it came unsoldered from the set. The resistor was then re-soldered in and the rx was then in operation. The 6U7s, 6X5s and the 6C8 were replaced and the set lined up. It is now operating better than ever. But in the process of working on it, the b.f.o. on Don's other set blew up, so a.m. could only be received.

Don is a bit annoyed re the new rule in the S.w.l. Section of Contests. He has been docked the best part of 100 points in the R.D. He thinks he should have read the rules. It appears that we cannot claim points for both sides of a contact, which seems unfair.

Don has had some good confirmations of late. They are AF5CF, GM3EST, 9U5MC, CR7CH, ZB9AD, VP1SS, YO2KAR, OK3IR. In fact 9U5MC sent all his VK cards to Don to distribute.

Well chaps that's all from me this month. I wish to thank listeners who have written to me with news for this page. Hope to get many more. All letters will now be answered personally. Till next month, 73 and best of DX, Robert L3076.

S.W.L. DX LADDER FOR MARCH

	Countries Conf.	Zns. Hrd.	S.s.b. Conf.	W Hrd.	Stat.
E. Trebilcock	274	280	40	—	5
D. Grantley	96	244	37	13	76 31
A. Wescott	80	158	31	33	92
M. Hilliard	67	208	33	5	100 11
M. Cox	38	210	21	6	118 14
C. Abernethy	30	57	21	—	13
F. Drew	28	170	17	7	73 4
E. Fields	26	133	—	—	—
N. Harrison	26	37	20	—	—
I. Thomas	17	171	17	6	68 4
D. Jenkins	10	141	7	—	—
H. Burger	6	185	5	1	19
N. Fisher	3	36	3	—	—

CORRESPONDENCE

(Continued from Page 11)

The average American Amateur is not affected by the refusal of their government to license aliens. This apathy amongst the Amateurs will not ease the passage of the bill, and if it is defeated I think we should ask ourselves the following question:

Should we continue to grant licences to American Amateurs, or should we follow the example of England and refuse to do so until they relax their own laws?

—David S. Robertson, VK1ATR,
128 Schlich St., Yarralumba, Canberra.

ROSS HULL V.H.F. CONTEST

Editor "A.R.," Dear Sir,
After operating in the '61-62 Ross Hull V.h.f. Contest, there are a few points I would like to make.

1. The object of the Contest can hardly be as stated in "A.R." Nov. '61, p.5, with the changed scoring system. I would suggest that the wording be along the lines of the following: "That Amateur v.h.f. operators will endeavour to contact as many other v.h.f. operators as possible under the conditions following."

2. I repeat my earlier suggestion that the duration of the Contest be the 1st Dec. to 31st Jan., but an operator is to submit his log for any consecutive 168 hour period (7 days) within that time and that such 168 hour period be of his own choosing. (For thoughts on this subject I would refer to my letter appearing in "A.R." April '61, p.16.)

3. I now feel my original scoring table should be altered slightly:—

	50 Mc.	144 Mc.	288 Mc.	576 Mc.	High-er
Over 1 & up to 10 miles	0	0	0	1	2
" 10 " 25 "	0	0	1	2	4
" 25 " 50 "	1	0	2	5	8
" 50 " 100 "	2	1	4	10	15
" 100 " 200 "	5	2	6	15	20
" 200 " 300 "	10	5	8	20	—
" 300 " 600 "	3	8	15	—	—
" 600 " 1200 "	1	15	—	—	—
" 1200 " 1500 "	2	20	—	—	—
" 1500 " 5000 "	5	—	—	—	—
Greater than 5000 miles	10	—	—	—	—

The main alteration consists of altering the distance range 300-500 miles to 300-600, the 500-1000 miles to 600-1200, and adding 1200-1500 mile range.

This change will, in the main, affect only 50 Mc. work and should eliminate some anomalies

existing in my original table proposed in "A.R." April '61, p.16, and June '61, p.16.

The table used in the latest Contest is almost exactly the one proposed by VK5AW and VK5ZCR in "A.R." May '61, p.15. My reasons for disagreeing with the points allocated therein still hold and I refer to my letter in "A.R." June '61, p.16.

4. Is it logical to call a contest involving both v.h.f. (30-300 Mc.) and u.h.f. (300-3000 Mc.) allocations the "Ross Hull Memorial V.h.f. Contest"? Why not the "Ross Hull Memorial V.h.f./U.h.f. Contest"?

5. Rule 3 in the Receiving Section should be clarified. The term "not the station worked" cannot apply to s.w.l.; they do not "work" stations. I take it the rule is meant to imply that an s.w.l. need hear only one side of a contact. Could this not be stated in so many words and clarify the position for the average s.w.l.

Perhaps I am prejudiced, but I feel that the Contest this season was made more interesting by the new scoring technique, and whilst I do disagree with the details, I feel the basic idea should be retained in future events. Does anybody agree with me? Does anybody disagree?

—David Rankin, VK3QV.

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FX-1	3500 Kc.	0.001%	£4/6/6
FA-5	7000 Kc.	0.01%	£5/8/0
FA-5	14000 Kc.	0.01%	£6/8/3
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FEDERAL AND DIVISIONAL MONTHLY NEWS REPORTS

(SEND CORRESPONDENCE DIRECT TO DIVISIONAL REPORTER NAMED AT PARA. END)

FEDERAL

EXTRACTS FROM I.A.R.U. CALENDAR

The most spectacular event, from the standpoint of Amateur Radio, for the calendar year 1961 was the placing in orbit on December 12 of the "Oscar" 15 Mc. satellite. This event was a fitting celebration of the 60th anniversary of Marconi's first transatlantic transmission and the 40th anniversary of the first Amateur transatlantic transmission. "Oscar" (Orbiting Satellite Carrying Amateur Radio), which was built entirely by U.S. Amateurs and is the world's first non-military, non-Government satellite, operated exceptionally well for the three weeks of its expected life. The "Oscar" group is now busy correlating tracking information sent in by numerous Amateurs in countries throughout the world. After a careful evaluation of the collected data, plans will be discussed concerning future Amateur activity in this field.

MALAYAN PROPOSAL REJECTED

The Malayan proposal, which proposed a power limitation of 250 watts, separate c.w. segments at the bottom of 10, 15 and 20 metres, and restriction of traffic handling on 10, 15 and 20 metres to c.w. except on cases of a national emergency, was defeated by a vote of 17 opposed to 9 in favor.

The Wireless Institute of Australia's remarks accompanying the vote sheet were as follows: The Executive was not certain whether this motion was to be considered as a whole, or each part voted on separately. If the latter was the case, the vote was (1) Nay, (2) Nay, although it was agreed that this in principle was desirable but probably unworkable in practice, as the W.I.A. already has separate allocations within the bands but on a "gentlemen's agreement" basis only; and (3) Nay. Individual comments were on (1) this was considered too restrictive in certain countries with higher power and had no effect in countries with lower power, as in Australia's case with 150 watts all bands. On (2) the question of traffic handling was not understood, except that it may have referred to U.S.A. overseas stations working third party traffic back to the States, and it would in any case be very difficult to control, if agreed.

NEW MEMBER SOCIETY

The proposal to admit the Korean Radio Amateur League, Inc., as the member society for Korea was carried 26 aye votes to none opposed. As a result, the Korean Radio Amateur League, Inc., is elected a member society of the Union.

The W.I.A. cordially welcomes K.A.R.L. into membership and extends good wishes to our new member.

CHANGE OF NAME FOR SOCIETY

The Burma Amateur Radio Society has informed the Union that by unanimous vote the members have decided to change the name of their organisation to The Burma Amateur Radio Transmitting Society. The new address is P.O. Box 800, 95 Maung Tulay St., Rangoon, Burma.

NEW CALL SIGNS (NOVEMBER)

- VK—New South Wales
- 2RF—L. J. Trehwella, Wyoming Rd., Narara.
- 2TO—T. Olog, 5 Guthrie Ave., Cremorne.
- 2YH—C. E. Aston, 216 Michells Pass, Glenbrook.
- 2AKN—C. Menzies, 2 Nyora St., Griffith.
- 2ANT—K. V. Outten, 2 Lily St., North Ryde.
- 2ANY—K. J. Collins, 1 Melrose St., Epping.
- 2ZFP—A. J. Perkins, 16 Moresby St., Orange.
- 2ZKS—J. R. Saunders, C/o A. Haslett, Glenderry, Curban.
- 2ZKW—K. J. Watson, 6 Porter Av., E. Maitland.
- 2ZRK—D. K. Reynolds, 21 Toorak Av., Wollongong.
- 2ZRI—J. M. Richardson, 24 Grandview Rd., New Lambton.
- 2ZRO—J. M. Saunders, 28 Kotara Pl., Kotara.
- 2ZXA—D. Russell, 87 Darley Rd., Randwick.

Victoria

- 3TO—J. E. Rogers, 81 Broadway, Yallourn.
- 3UB—S. Atkinson, 15 Queens Av., Ararat.
- 3AIC—F. C. Beech, M.V. "Kooliga," C/o Marine Dept., A.W.A., York St., Sydney.
- 3AMZ—W. E. Sadler, Station: Cr. Walker and Moola Sts., Ballarat; Postal: C/o. 208 Eyre St., Ballarat.

- 3AVE—A. G. Dixon, 17 Curlew St., Mont Albert.
- 3ZMF—P. E. Kinchela, 65 Murray St., South Caulfield.
- 3ZMI—L. B. Noseda, 31 Seymour St., Traralgon.
- 3ZMO—R. D. Morris, 12 Compton St., Reservoir.
- 3ZMU—V. R. Thek, 6 Fletcher St., Nunawading.
- 3ZNA—G. R. Angus, 7 Glenleith Av., North Geelong.
- 3ZNC—D. R. St. John, 7 Coquette St., West Geelong.
- 3ZNI—J. L. Faulkner, 1 Dongala Rd., West Footscray.
- 3ZNK—K. J. Drummond, 3 Butters St., Morwell.

Queensland

- 4ON—O. J. Natrass, 80 Duke St., Toowong.
- 4ZAW—A. L. Watts, 60 Sandgate Rd., Bald Hills.
- 4ZBB—J. C. Balrd, 7 Howard St., Grange.
- 4ZJC—J. S. Strudwick, 13 Fowles St., Roma.
- 4ZLA—L. A. Hughes, 15 Mardale St., Grange.
- 4ZMD—M. T. Deakin, C/o. Police Station, Urandangle.
- 4ZRG—R. L. Grummitt, 85 Walker St., Bundaberg.
- 4ZRK—R. J. Wyeth, 295 Ipswich Rd., Annerley.
- 4ZRS—R. Sayers, 24 McKillop St., Belgian Gardens, Townsville.
- 4ZWG—W. L. Gielis, 251 Sheridan St., Cairns.
- 4ZWP—W. H. Pickering, Warren St., Ingham.

South Australia

- 5EI—D. C. Cooper, 29 Innes St., Elizabeth Park.
- 5ZDY—T. A. A. Bellm, Old Mt. Barker Rd., Stirling East.
- 5ZGD—G. D. Geue, 19 Fashoda St., Hyde Park.

Territories

- 9AU—R. A. J. Taylor, Station: Minihi Ave., Boroko, Port Moresby, P.; Postal: P.O. Box 216, Port Moresby, P.
- 9DX—Rabaul Amateur Radio Club, Station: Mango Ave., Rabaul, N.G.; Postal: P.O. Box 170, Rabaul, N.G.
- 9LA—L. C. Allen, C/o. D.C.A., Cocos Island.
- 9ZBY—J. P. Hayden, C/o. 9PA/VLT, P.O. Box 110, Port Moresby, P.

FEDERAL QSL BUREAU

Since the Republic of South Africa came into being on 31st May, 1961, the advisability of the South African Radio League sponsoring the worked British Commonwealth of Nations certificate has been discussed by the Council of the South African Radio League.

It has been decided that awards will be issued for contacts fulfilling the conditions made before 31st May, 1962.

"The way of having the widely known 'Game of Rummy in the Ether' Diploma, issued by the Hungarian Radio Amateurs, 15th October, 1960, conditions are modified as follows: (1) One can have a Diploma operating in phone system too. (2) For single pieces of cards I.R.C. isn't asked for, but it is wanted for a Diploma, or rather, acquiring the second and third degrees (of I.R.C. needed 5 pieces for a diploma, 3 pieces for II. degree, and 3 pieces for III. degree). The rules of game of cards, apart from abovementioned alterations, are unchanged."—HASED.

Details of valve line-up, circuitry and availability of a manual for wartime R.A.A.F. receiver AR10 is urgently required.

According to the S.S.A. the station SM5BXI, operating from M/S Bonjour in the Baltic, is a pirate. The operator once was entitled to use this call but his certificate has lapsed. As the ship is located outside the Swedish territorial waters he now works with his previous call as an unlicensee. What is more, the call BXI now belongs to another Ham in the second Amateur Radio district of SM. That means that the station SM2BXI is OK.

Can anyone give any information on present location of VK9MP, VK9PU (Ted), and VK-9PZ (Dick). A large number of cards are held at this Bureau for these stations which are now unknown in VK9.

The Shizuoka Amateur Radio Club (S.A.R.C.) issues the Shizuoka-A-I. (for contact with two members) and the Shizuoka-A-II. (for contact with five stations in Shizuoka Prefecture including at least two S.A.R.C. members) Certificates to licensed Amateurs all over the world. Contacts count after 29th July, 1952. Application including QSLs, six I.R.C's. and

list for the contact may be sent to Award Manager, JA2JW, Y. Hoshiyama, P.O. Box 147, Shizuoka, Japan.

Radio Amateurs throughout the British Commonwealth and Empire are invited to take part in the 25th B.E.R.U. Contest to be held on March 10-11, 1962. Rules are unchanged and may be had from this Bureau. It is noted that ZSI, 2, 4, 5 and 6 no longer appear in the B.E.R.U. list of call areas eligible to take part in the Contest.

Cards through the Federal Bureau during January totalled 5,246. This is the highest monthly total since May 1950!

—Ray Jones, VK3RJ, Manager.

FEDERAL AWARDS

From 6th January to 6th February, 1962, V.h.f. Awards have been made as follows:—

V.H.F.C.C.

- No. 6—Col Wright, VK7LZ, 50 Mc. 112 confirmations.
- No. 7—Bob Elms, VK6EE, 50 Mc. 300.
- No. 8—Roy Hart, VK2HO, 144 Mc. 132.
- No. 9—Bill Rushby, VK2ABR, 50 Mc. 143.
- No. 10—Bill Wehr, VK5ZAX, 50 Mc. 100.
- No. 11—Bill O'Donnell, VK4ZBE, 50 Mc. 100.
- No. 12—Frank Williams, VK3FW (ex-VK3AFW, VK3ZDW), 144 Mc. 157.
- No. 13—Lance Bickford, VK4ZAZ, 50 Mc. 847.

W.A.S. 50 Mc.

- No. 23—B. Cleworth, VK5BQ (ex-VK5ZBZ).
- No. 24—Col Wright, VK7LZ, plus JA, ZL, Papua.
- No. 25—Jim Forse, VK3ZHF, plus JA, KH6, ZL.
- No. 26—Lance Bickford, VK4ZAZ, plus JA, KH6, KR6, Papua, T.N.G., W, ZL.
- No. 27—Max Lindsay, VK4HD, plus JA, KH6, KR6, KX6, Papua, T.N.G., W, ZL.
- No. 28—Noel Ferguson, VK3ZGZ, plus JA, ZL.
- No. 29—Bill O'Donnell, VK4ZBE, plus JA, KH6, KR6, Papua, VS6, ZL.

W.A.V.K.C.A.

During the past three months Awards Nos. 185-201 have been made to: G14RY, KL7MF, SM7MS, W5PQA, W9UXO, W1EQ, W5RU, K4JVE, W6ID, W8OVF, XZ2SY, W6DQH, W2NUT, GM6MD, UC2AA, G2FFO, and XE1CV.

—Alf Kissick, VK3KB, Awards Officer.

NEW SOUTH WALES

GENERAL MEETING

The January general meeting of the N.S.W. Division was held at Science House, Gloucester St., Sydney, on 26th Jan., 1962, with a very good attendance of some 75 members attending. The occasion of this meeting was the opening of the 12th Annual Convention of the Division and was presided over by the President, Bill 2YB. Opening the meeting at 8 p.m., the President welcomed the members present and following the presentation of the minutes by the Minute Secretary (Max 2MP), business was suspended to enable the lecturer for the evening to take the stand.

A most interesting lecture was presented by Bob Wilson, of Stromberg-Carlson Ltd., who spoke on a subject of timely interest, "Linear Amplifiers." Bob illustrated the fundamental differences between the various types of r.f. amplifiers, with many slides, and followed with the many technical aspects of many types of linear amplifiers as applied to s.s.b. techniques. The vote of thanks to the lecturer was moved by Leo 2AC and was supported by acclamation.

Following the lecture, business of the evening was resumed and five new members were admitted to the Division, one of whom was present at the meeting and was welcomed by the President.

WERE YOU BORN IN U.K.?

Any Australian Amateur who was born in the United Kingdom is requested to contact Will Schuman, WA6GLF, of 111 W. Hillcrest Blvd., Monrovia, California, U.S.A.

As is customary at the January meeting, the election of Federal Councillor for the ensuing year was held. Two nominations were accepted, that of the retiring Federal Councillor, Pierce Healy (2APQ), and that of Jim Corbin (2YC), who had held that position some years past. After the ballot was taken it was announced that Pierce Healy (2APQ) had been re-elected to the post. Members wish Pierce all success in this position.

The Adams Trophy was then presented to Vic 2VL by the President. This trophy is presented annually to the member of this Division who writes the best article for "Amateur Radio" during the past year. Vic's article, "A Reference Shift Modulator for Mobiles" was judged the best for the year. This appeared in October 1961. We suggest that more of our members endeavour to win this trophy in the coming year, and you may be sure that your article will be appreciated, not only by the members of all Divisions, but by the Magazine Committee who would like to see more such articles from the pen of Amateurs.

A recent licensee, 2ZCH, spoke on the excellence of the A.O.C.P. classes which are supervised by our Class Manager, Cec. 2IR, and not only tendered his personal thanks to Cec., but also spoke on behalf of all those who, having taken the course, have attained their licences as a result of his efforts on their behalf. We feel sure that there will be many applications for the new course which commences at 14 Atchison St., Crows Nest, this month.

HEADQUARTERS OPENING

As many members are aware, the builders are, despite the inclement weather of the past two months, going well ahead with the alterations at Atchison Street. It is envisaged that the new meeting hall will be officially opened on March 17, 1962. This will represent a great advance to this Division, and will enable future Councils to organise their meetings and other activities in our own premises.

AGENDA ITEMS

Any agenda items which members would like presented at the Federal Convention, which will be held at Perth at Easter, should be sent in to the Federal Councillor, Pierce 2APQ, immediately. If discussions we hear from time to time are any indication, there must be many such items which should take their place on the agenda.

SLOW MORSE

The Slow Morse transmissions are conducted nightly on 3550 Kc. under the supervision of Frank Pearson. The many members who will be taking the A.O.C.P. Course and the A.O.C.P. Correspondence Course will find these transmissions, which are conducted by a roster of members, invaluable in their efforts to attain a full ticket. Transmissions commence at 7.30 p.m. nightly.

DX DE LUXE

One of the most unusual of DX contacts occurred recently when Dudley 2DQ, of Broken Hill, made contact with a station operating submarine mobile. The station in question was operating, we understand, in the Puerto Rico area, and was submerged with a whip antenna only a few feet above the water. A contact of some duration was made by Dudley who uses only about 50 watts and has a dipole antenna. This contact was reported in the National News Bulletin on at least two occasions, bringing the Amateur Service to the attention of listeners. The mode used... s.s.b.

HUNTER BRANCH

Having now partly recovered from my yearly six weeks' hibernation I once again greet all my faithful readers, or was it reader. Having made all kinds of plans as to what to accomplish in the holidays, I promptly forgot the lot and rested, again. However, I was awakened from the just sleep by three lakeside characters who wished to travel to the big smoke and the Annual Dural Convention. And these said persons were Harry 2AFA, Bill 2ZL and Belmont Bob, and the driver who shall remain anonymous. On arrival we noticed that many other Hunter Branch chaps had the same idea. Those recorded as being present were our President 2AYF, Les 2RJ and Sylvia, Bill 2XT, Ern 2FP, Stan 2AYL and Fred 2AEE.

A welcome goes out to a new member of the Branch in the person of Rudy Meinsma, an ex PK4, now living in Mayfield. Although the Postmaster General does not agree to a reciprocal issue of licence, Rudy is not going to be defeated and intends sitting for the big quiz as soon as his QTH problem is solved. Although no notes appear for the Booragoo High School Radio Club in this issue I must here record the generosity of Rudy who has kindly donated a great deal of useful modern tubes, some display items, a multimeter and assorted items which will prove very useful.

I have noted that Des Mills, of South Cardiff, has his call but the crystal ball tells me not what it is. Our President recently visited the VK3 domain and found that the 2 mx activity in that neck of the woods was just right. DX was so good that Stewart was able to work two VKTs, establishing a station-to-station distance of 265 miles. At the home QTH, the 50 Mc. rig has been persuaded to keep off the frequency of Channel 2 and this means that 6 mx can now be worked while the family watches t.v.—a most satisfactory domestic arrangement.

During the holidays, Max, Harry 2AFA and Keith 2AKX visited the motor ship Anulya in Newcastle and there met Alex, ex 2AKX and now 4KK. Much was the surprise all round and Alex wonders if such a thing has happened before. The locals were treated to a grand tour of the ship with Rudy and Alex as couriers. Of especial interest was the radio room where 3BZ rx's are used. Thanks again to Rudy and Alex.

Gordon 2ZSG is reported to be ready to go on the air at the earliest possible moment or on 4th March, whichever is the sooner. You of course will recall that on 4th March the r.f. begins radiating from the hills beyond 2AQR where already a 450 ft. mast may be seen from practically anywhere in the zone. Mac 2ZMO has built himself a standby rig for any eventuality which may arise. Kev 2ZKW at Maitland is using the freq. of 145.3 Mc., so you DX chaps may take a listen for him there.

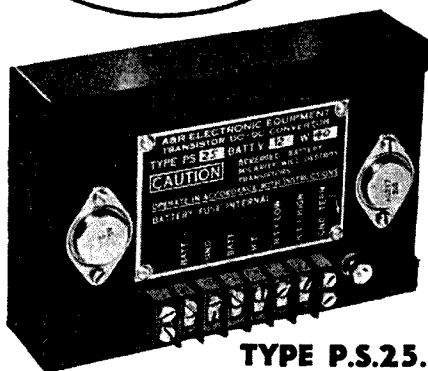
At last the Sydney barrier has been broken by Ian 2ZIF, who has worked that fair city on 2 mx. Although not transmitting on 2, Les 2RJ listens on this band and there are hopes that he may one day join the gang in Newcastle which now numbers approx. ten. This is a good percentage of all active members in the area. John 2ZJG reports that he heard a VK4 twice on 144 on Dec. 31 and was so elated that he took a holiday immediately to Nelson Bay, calling to see the local apothecaries en route. Muriel 2AIA is celebrating her victory over 2ZL and 2AQR in the 2 mx race.

Bruce, our B.H.S. note writer, has now been exiled to Sydney where he is in training on equipment supplied by Mr. Davidson. As he lives only a few yards from Harold 2AAH, I expect some startling transistor developments shortly.

Will you please take note that the next meeting is the A.G.M. at which anything is

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Maximum Operating Temperature: 150°F. (approx. 65°C.).
(i.e. ambient air temp. at point of installation.)
Filtering: "HT plus High"—50 mV. or 0.02% ripple.
"HT plus Low"—requires external filtering. LT and HT filtering includes suppression of harmonics allowing use of converter on sensitive receivers.
Dimensions: 6 x 4 x 1½ inches approx.
Mounting: 4-hole rear mounting. Complete unit easily removable from mounting base.

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likely to happen, including the proverbial custard pie eating contest between past and present zone correspondents, and all kinds of hilarity such as rigged elections, loud shouting and playing the flute, to mention but a few. If you would like to join this free for all and as well hear words of wisdom from our President, then come along, but bring your shin pads, to the University of N.S.W., Newcastle College, Tigers Hill, on 9th March, at 8 p.m. or thereabouts, prepared to be elected to any position. And take further note that no election handbills will be allowed in the polling booth by order of the Sergeant at Arms, T. V. Rose. See you there, 73, 2AKX.

CENTRAL COAST ZONE

During the holiday season we have had visitors from afar including Bruce 3BM and Tom 3AOG. This latter gentleman was active on 80, 40, and 2 mx including mobile operation with 1 1/4 watts input. Many stations in Sydney were worked at \$9 from a suitable location near Gosford. Ken 2ANU enjoyed his holiday at Terrigal and was able to pick up a few hints on sideband tx's by visiting local shacks. His mobile rx complete with xtal lattice filter must be seen to be appreciated, a model of compactness and neat wiring. He operates mobile on 40.

The Gosford Radio Club lecturer for January was your scribe 2ON. Great interest was displayed in the practical aspects of sideband tx construction. A short tape recording to illustrate the lecture accidentally presented the voices of several members engaged in QSO. Bob 2IN said he was amazed at the quality obtainable with s.s.b. on a good rx as demonstrated on the tape. Does anyone have a secondhand 75A4 for sale?

At this late stage we wish to thank Mrs. Collett and Major 2RU for the Christmas party complete with delicious dishes. Ruth's cooking is quite renowned.

Alec 2AAK and XYL Mona have moved into their new home on the Mountain at Kulnura. A warm welcome meets you at the end of five miles of backwoods road. Alec is transferring his activities from Avoca and concentrating on the orange orchard in the hills. Bob 2IN has moved from Long Jetty to Killarney Vale and is back on 40 phone. His masts were disassembled by a number of willing helpers from the Gosford Club. Len 2AMU is very pleased with his HT37 and should be heard more frequently soon. I heard rumours that he was about to invade those long-forgotten bands—40 and 80 mc. One of the keenest members in the club is Len Miller, aged 14 years, who listens on his newly constructed five-tube superhet. He is hastening to add a b.f.o. so as not to miss what the sideband men are saying.

Contacts with W sideband stations on 7200 to 7220 Kc. have become fairly simple when static is not severe. Between 1700 and 1900 local time they monitor 7090 to 7110 Kc. for VK and ZL stations. Some Ws use rotary beams but others use dipoles only 20 feet high! A number of 2 mx xtals have been distributed and soon there will be a rush of activity in the Gosford area on this band. John 2RF (formerly 2ZJT) has had a successful mobile holiday by caravan to the Snowy Mountains, Murray River, Ballarat, Geelong, Melbourne and Mt. Buffalo. Skeds were kept with several Gosford stations over three weeks of operation.

BLUE MOUNTAINS SECTION

The January monthly meeting was well attended with 19 members at Lawson on 19th. There being no lecture and little business, the meeting closed early, but the normal ragchew continued for quite some while, which included the operating of the club tx providing the first contact for 1962. At this stage I must apologise for the absence of notes in the past issue relating to our Xmas meeting and party which turned out most enjoyable. On this occasion, Keith 2ABK gave us a few hints on "How to get the most out of your car, with almost no cost."

Noel Walker sat for the last A.O.C.P. exam., feels hopeful and is busy setting up on 2 mx with a Geloso v.f.o. with xtal, using same as it should be used. Bill 2HZ has been on holidays down south and by all accounts had a good time. Jack Ferris is looking for customers who might require the services of his just completed 5 in. c.r.o. after ironing out a few bugs. I noticed during my travels in a city radio supplier, Jay Zylstra buying up, so looks like Jay is busy with a secret weapon, may be on 2 mx.

Bob 2ASZ had a break through on 2 mx from near Goulburn across to ZL land, pity you could not hold him for the Contest Bob, but no doubt a very satisfactory effort; congrats. Band activity here at yours truly's has been very poor including a burnt out power supply that has been dying for some while. Everybody will be pleased, what no hum! Don 2ART is joining the mobile ranks with 7 and 144 Mc. when he completes a few loose

ends—good for you, Don. Jack 2ADF is blowing the spiders, etc., out of his Geloso d.c. rig with no luck. Wal 2MZ and Ken 2AVN went to a bush fire brigade meeting the other night, am not up with the latest news but all seems to be progressing successfully. Al 2ZFB has retired from 2 mx and is busy on 6 mx raking up all the DX. 73, Ron 2ADA.

AUSTRALIAN CAPITAL TERRITORY

Activity in VK1 land has been rather quiet since Xmas. Brian IKK has been on a quiet holiday down the coast and found that he had either to leave his wife at home or his portable rig, so weakened and was off the air for three weeks. Merv IML also has been away but is now back on the air. David IDG spent some time on building and erecting a 60 ft. mast.

Local Amateurs are sitting watching for our local controllers to make some pronouncement about t.v. antennae. Rumour suggest that they will be taboo completely and this may make it difficult for the v.h.f. enthusiasts. Looks like some battles to come with t.v. on the horizon in a few weeks.

Interesting bit of b.c.l. being caused by Ron 1RJ. Character who claimed to know the game inside out was getting 1RJ on the broadcast band at a distance of 10 yards on an alleged "hi-fi" set. Tests revealed that the b.c.l. was really solid but the "hi-fi" set was merely a record player with an aerial, toroid, condenser and germanium diode coupled to the pick-up input. Crystal set owner was rather hostile until it was suggested that this was a case for the R.I. Remarkable change of attitude suggesting some dislike for complainant of a visit by R.I. No further trouble now, which suggests that complainant is about to pay his licence fee. How crazy can you get?—IDG.

VICTORIA

At the February meeting three excellent films were shown by courtesy of Mullard Australia Pty. Ltd. They dealt with the discovery and use of x-rays, the development of an ingenious electronic system for counting small particles, and the manufacture of frame grid tubes.

The Secretary, Michael Owen, then explained the main points of the proposed Articles and Memorandum of a Federal Company with the aid of a block diagram. A lively discussion followed which reflected the interest of members in this important matter. A motion supporting Council's moves was put to the meeting and carried.

The next meeting will be held on Wednesday, 7th March, in the Radio Theatre, Royal Melbourne Institute of Technology, at which a lecture on Marine Radar will be given by Mr. John Hill of Electronic Industries Ltd. 73, 3AEL.

SOUTH WESTERN ZONE

With the holiday period over, things will be back to normal. Still very little in the way of news. I have had a few visitors. Roy 3ZFM, who will be sporting a new call by now; Bill 3ZHL, who was portable on 144 Mc. at the local camping ground, also 3AKN who had just been up to see the M.O. and had some pictures taken.

Bush fire nets have not had much to do in this district so far. Very little local action; they all seem to be building or making alterations. Bill 3WK has his 80 ft. tower up again with 1, 2, and 6 mx beams on the top. He can hear the 6 mx Melbourne lads now. 3FX says the view from the top is really good. He ought to know, as he is the only one who is game enough to have a look. We are hoping to see plenty of s.w.'s at their Convention here in March 3-4, 73, 3ANQ.

MOORABBIN AND DISTRICT RADIO CLUB

The weekly Monday night net by club members on 80 mx is proving very popular and as many as eight have been on the frequency. The idea behind the project is to let Amateurs throughout Australia know something about our club, our members, and what we do, and the net is not confined to members only. Anybody hearing us operating is welcome to break in at any time and become acquainted with us. This net is a good opportunity for anybody chasing our Honorary Membership Certificate. As you may or may not know, if you have 14 member station contacts confirmed you are eligible for this handsome certificate. Look for the net on approx. 3.6 Mc. every Monday night from 8 p.m. You will be most welcome.

A team of 15 members were out for the National Field Day and were split into three parties operating from Wonga Park near Croydon. All bands including v.h.f. were covered, but as these notes have to go to press before the actual day, more will be written about our effort next month.

A few personal notes may be of interest at this stage. Bob 3NZ has gone s.s.b. with a Collins tx. Harold 3AFQ is still in process of building, erecting masts, but finds time to be control station 3APC/P for the net on 80 mx. Peter 3KK has been holidaying in ZL. Alf 3LC has changed QTH, for those interested, the new address is 1534 High St., Glen Iris. He is still operating his hardware store at the old QTH. Ken 3ACS entertained club members to a barbecue in his grounds on 24th Feb.

Kevin 3ARD has been busy revamping the club tx which he expects to have on the air from the club room this month. Laurie 3CN is more interested in hi-fi at the present than Ham Radio. Stan 3TE as usual is active on 14 Mc. phone and c.w. New member, Kerry 3AXT, has altered shift and operates from his home QTH. Max 3DF and Bob 3AQK did a very good job with their car phones at the recent bush fires. Good luck to them. 73, 3LC.

QUEENSLAND

GENERAL NEWS

First Sunshine State news this month comes with some disappointment. At the January Council meeting held on 5th at the Institution of Engineers' room, Jim 4PR tendered his resignation from Qld. Division Presidency and his resignation was accepted with regret. All hope he'll enjoy his break getting in lots of hours on the air. This was the first meeting held in rooms instead of in private homes, a system which does not impose on the members involved.

At the meeting, W. Jehn was appointed organiser of a listeners' group if he be willing to act. Nominations were called for 12 Division Councillors. Don't sit back and leave it to the other chap this year, Queenslanders! YOU have your right. Use it.

Attendance of 10 out of 11 Councillors at the February meeting on 2nd was a good effort and lots of decisions resulted after much discussion. Among these were that two 3.5 Mc. crystals should be reground to 7146 Kc. and 7105 Kc., and another of 7171 Kc. be made available for the 20 mx band, both for use by 4WI. Also concerning frequencies, we hear a member in a visit to VK2 land has dropped a couple of hints to try to keep 7105 Kc. clear on a Sunday morning during the 4WI broadcast.

The meeting appointed Vince 4VJ organiser of this year's Convention which will be held on April 13, 14 and 15 at Alexandra Headland on our famous and just as sunny near North Coast. Council also decided that in future, receipts will not be posted unless requested, but members' names will be published in QTC in line with modern business practice to save cost. No move is to be made by the present Council to organise a dinner.

Stan 4SA is the organiser of the Jamboree of the Air this year—that event near the end of the year that brings to the microphone again voices of some Amateurs rarely heard, as well as paving the way for new members. The event this year is certain to be a great success. In Rockhampton, Frank 4FN has sought approval for a mass radio set-up in the city using umpteen pieces of radio equipment, three Scout dens, and three v.h.f. links. He, Hal 4DO, and Lance Bickford are meeting district Scoutmasters soon to make preliminary arrangements, and there's talk of even applying for a special call sign.

For the following, our inward QSL man, Jack 4JF, might have some interesting pieces of material about 5 in. by 3 in.: 4ZRH, 4ZHO, 4ZDA, 4ZDJ, 4ZCH, 4ZEL/Mobile, 4ZAW, 4ZNS, and 4ZAO. Also 4SR, 4HQ, 4OL and ex-4ORL. He also has plenty of our Queensland special cards for you to send around the world telling of the Sunshine State.

Keen interest in Amateur Radio is being shown by 20 chaps who have started an A.O.C.P. instruction course being conducted for the

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W.I.A. by the Northern Command Signals Amateur Radio Club at the Kelvin Grove Depot on Thursday nights. Instruction is being given by Ian 4ZCI, Col 4ZBQ, Brian 4ZAP and Brian 4UW. The club hopes all will finish the course and there'll be a 100 per cent. pass in the July exam.

Alan 4SS is proposing to transmit Morse sessions on Sundays between 0745 and 0800, and 1830 and 1930, and on Wednesdays 1830 to 1930. Proposed frequencies are either 3871 or 3510 Kc. Besides running the DX notes for "A.R.," Alan is now supplying DX news over 4WI. Help make his job easier by sending snippets to him direct.

Just in case members have forgotten, unless your dues have been paid for the year, this will be your last "A.R." for some time. Don't have a single gap in your collection of "A.R." volumes by paying now.

Seems there's not much doing among many groups up the coast this time, at least no news that's been worth putting down on paper to send to the sub. for publication. We do hear, however, a Burdekin Radio Club has been formed up north.

Former sub. for these notes, Jack 4JE, is off to places overseas soon for about 12 months so has relinquished the job. He said bowls and radio are his hobbies and he intends finding time for both while away.

Another former scribe, Peter 4PJ, has some advice for the so-called Perfect Scribe among the moonshiners and the crowd-eaters. He says poor old PanSy said he doesn't get a thing in reward from the Editor. However, if he's worth half as much as Peter, then Peter is willing to pay him half his salary. Peter adds he's got a big gun in the battle now, and someone will go down in flames under the verbal barrage of a pro. shorthand scribbler and type-writer puncher, presumably meaning me. 73, Don.

SOUTH COAST

Holidaying on the Gold Coast was Royce 4ZRH, who called on Bill 4WS for a good rag-chew, and a visit to his shack brought some 6 mx QSOs in spite of noisy conditions. As a break from work and study, Peter 2ZVD motor cycled north as far as Gympie to visit Eric 4XR and the boys there, and called in to 4WS at Wonderful Southport on the way back. He was interested in Queensland nuts (the edible variety) and, shame, had to be diverted back over the border to Murwillumbah to gather a crop at the QTH of Eddie 2BB. Another victory to VK2 land. However, Peter was so impressed by Queensland he intends returning when time permits. 73, 4WS.

CAIRNS

The Cairns area has had an upsurge of 6 mx activity. Up to now, the band has not been used, but now there is Rick 4ZWL who claims the honour of working the only DX, Bill 4ZWG, Arthur 4SM who listens on his three-tube super-regen. rx but as yet has no tx, and myself, Bazil 4ZW. Those interested in a contact should tune up about 50.7 Mc. every night about 7 p.m., that high because that's where the crystals multiply to.

Bill 4ZWG now has his four element beam in the air, and after much putting up and pulling down again and pulling wires hither and yon with my assistance (?) and cutting off the bottom, it at last stayed in a vertical position and that's where it's stopped so far. VK5 please note. Noted your remarks about your blood pressure going up. Sorry OM, I didn't realise you would take it so hard. Jealousy is a curse, isn't it? Fancy an old man like you being envious of my ability to RUN around to the local post office to pay my licence.

All still looking forward to a visit from Claude 4UX, but he went and got sick while on holidays. Poor arrangement. Arthur 4SM is specially looking forward to seeing him as they knew each other many years ago, but have not seen each other for 24 years. Imagine the tales they'll be telling for 24 hours before the talk pace slackens. But the warning is never to ask Claude how to make bread. He once was a baker and starts off muttering his favorite recipe—two kero. tins of water, a sack of flour, four lbs. of coarse salt, etc. 73, 4ZW.

TOWNSVILLE AND DISTRICT

I have been on annual leave for the past month. Conditions on 20 mx have been extra good and 15 was not to be sneezed at. Was pleased to contact two ex-Townsville Hams recently. Peter ex-4LU, who now is 2IT, and Nick ex-4WT. Nick hasn't applied for a VK2 call as yet. He has his tx going and is busy trying to convince the R.A.A.F. at Richmond that it would be to their advantage to loan him a rx. VR4CB arrived in Townsville early in the month of Jan. and was looked after by some of the gang there. He could only stay one night, but on his way home to the Solo-

mon Islands he will be staying for several days in the area.

Visited Alan 4BE recently and admired his s.s.b. gear. Joe 4OJ still very busy with his s.b. station and doing lots of study, or so he tells me. My spies tell me that George 4GS is very seriously considering drilling a few more holes in his rx chassis. From what I understand, George has now finished with YLs. So there is a reasonable chance that he may have his rx finished before the next attack of YL-itis. Ross 4RO has only the power supply for his low freq. rig to finish and will then be on with 150w. 80-10 mx. He is also building a 150w. p.a. for his 6 mx rig. Ellis 4ZEA is building a 2 mx rig, at least that is what he told me, but I have noticed him on quite a number of occasions, driving around town with attractive companions in his car. Be warned! Ellis take notice of what has happened to George 4GS.

4ZDG is busy building some 6 mx gear. It is possible that Ross, Sale and Ellis may have gear ready for the N.F.D. Frank 4CW is leaving early in March for N.S.W. and has great chunks of wire netting to stop flying stones from smashing his wind shield. Not certain whether he will have mobile gear with him or not. He did tell me that his car radio goes well, providing the car is not moving, otherwise it gives out with lots of crackles, etc. 4RW is due back from his overseas trip at the end of February and will be writing these notes again, starting with April "A.R."

The most important news of the month in this area is that another radio club has been formed. It meets in Ayr on the last Wednesday of each month and is called the Burdekin Radio Club. It will be affiliated with the W.I.A., application form and subscription being already, at time of writing, sent away. Members number 21 and the first meeting, when the club was formed, was held at the home of 4UX. The office-bearers for the ensuing 12 months are: President and Class Manager, Claude 4UX; Vice-Presidents: Joe 4OJ and Norm 4ND; Secretary, John McKenzie; Treasurer, Frank 4ZFA; Committee: Frank 4CW, Gale 4ZDG and Bill Summers; "Tail Twister," Kev McIntosh.

The Townsville Radio Club originated this office in their club and for the benefit of other clubs, it is a very good system to use in order to swell the coffers. Briefly, the "Tail Twister" fines members for breaches of conduct and even if a member is extra good, he can still be fined for being so pure, so you can't win.

That's the lot for this month, 73, 4UX.

— . . . —

SOUTH AUSTRALIA

The VK5 monthly general meeting for Jan. was held as usual in the Club Rooms to a little below average attendance. I hasten to add that it is not unusual for the first meeting in the new year to lack a full attendance of members, probably because most of us are a little light on in the pocket after the Xmas spending spree and the associated festivities, and are quite happy to stay at home and lick our wounds.

Our President, John 5JC, was in the chair and the guest speaker for the night was none other than our Federal Councillor, Pugnacious Phil 5NN, who took as his subject, "The Design and Operation of Linear Amplifiers." Being one of the aforementioned Xmas casualties (spending the rise in the pay so readily given me by "Scrooge" 3ZFQ-Jan. "A.R.") I am not in much of a position to comment on the lecture at length, but my spies tell me that it was up to Phil's usual high standard and thoroughly enjoyed by all present. The applause which followed the vote of thanks so ably proposed by Clive 5PE must have indicated in no uncertain manner to Phil just how much his lecture was appreciated.

Had a ring from David 2ZDL who was on a round trip, VK2-3-5 and thence back home via Broken Hill. Was apparently enjoying himself, but was a little disappointed at the lack of 2 mx signals in our fair city. He had been listening on that band whilst driving around, but it reminded him of Mother Hubbard's cupboard.

Talking of VK2s, I bumped into 2SQ who was vacationing in VK5 and had called out to the Best Broadcasting Station in VK looking for one of our announcers, Jim Crago, who has been up in Suva for some years now. 2SQ, who is with Mullard in Sydney, told me that he has been inactive on the bands for some time now but is feeling the urge to come back on once again.

A correspondent writes to point out that 5KS, referred to in these notes recently as "name unknown," is Ron Sedunary, formerly of Port Pirie, and at the moment of writing, a school teacher on holidays. He is not sure if he will be sent back to Renmark after the said holidays, and although he has some gear at his QTH he has not been heard on the air,

apparently too busy with that surfboard he recently constructed.

Renmark has a budding Amateur in the person of a Dutchman named Bob Marcussen, who has made application to sit for the next exam. and we all hope that he will be successful.

Had a query as to whether my brother-in-law, Inky 5WF, is still on the air. The answer is not at the moment; is too QRL at new QTH!

Tom 5TL, that canny descendant of the Scottish race, recently thought that he had secured a suitable mast for "free." He found an acquaintance with some outside bamboos, and selected one about 4 inches through the butt and about 25 feet long. It took two to carry it home, and Tom was all prepared to shove it up in the air immediately, but found to his disgust that he would have to tie it to the back fence for three months or so, until it dried out straight. He has been rushing in and out of the house every hour or so checking against white ants, thieves, borrowers, birds and prospective fishermen, so much so, that his shoe leather bill will almost be as much as a 1/4 oregon mast would have cost.

Hoots Mont

Frank 5MZ, VK5's gift to hospitals, doctors and chemist shops, is at the moment of writing spending a quiet and restful holiday at Tumby Bay. He sent me a postcard of Tumby, just to rub it in, and tells me that there are plenty of mermaids about. That settles it! If one of those mermaids just mentions a cup of tea and scones, down he will go and spend the rest of his days (and nights) sitting on a throne, complete with crown and trident! Mrs. Bentley, please, please keep an eye on him, give him a bucket and spade, or something!

Tom 5AQ noticed at the meeting looking fit and well and apparently looking forward to his coming shift to Port Augusta from Leigh Creek. But for the fact that I am getting to the bottom of the paper, I would write a lot more on this joker, because he insinuated at our last meeting that now he is on s.s.b., he would not get a mention in these notes. Pooh, Pooh! I am not stuck up, I even give Arch 5XK a mention—now and again!

Bill 5ZD is passing through a period of b.c.i. and is unlucky enough to strike a no-cooperation-attitude as well. Bad luck Bill. 5ZAH has returned from an extended tour through the wilds of VK2 and VK3, and appears unscathed. Howard 5XA is reported as being somewhat put out with my paragraph regarding his liking for 6 mx. It appears that he has been criticising 6 mx as a smoke screen to disguise the fact that he is busy building some 6 mx gear! He has just returned from holidays at Victor Harbour. Harold 7MZ has been over in VK5 for a holiday visit and called in to see 5LL, 5DS and 5ZAH. Oliver 2AZX was another Interstate visitor in VK5 this month, and as he was mobile on 7 Mc. he was busy working all of the locals.

I heard a station on 7 Mc. the other Sunday afternoon, on s.s.b. at that, and after desolving, resolving or resolving, or whatever it is one is supposed to do, I thought that it was Dave 5DS. However the grapevine tells me that it was probably Joe 5RC. Anyway, it was certainly a Scotchman, of that I am certain, but, and I repeat, but can you think of anything to beat a Scotchman on s.s.b.? Of course they could have been playing the baggies on s.s.b. Oh no! Spare me that. That would be the end!

Al or John (suit yourself) 5ZC was duly married this month, on the 13th at that he walks under ladders, breaks mirrors, etc., etc. purely as a hobby) and among those present at the ceremony were 5LL, 5MZ, 5SS and 5FM. Now I know that you are not going to believe me when I say this, but twenty minutes before he was due to walk up the aisle, he was heard on 7 Mc. asking the station that he was in contact with, to QRX as he was getting married in some 20 minutes. How nonchalant can one get? All right, you don't believe me, but I have witnesses, a statutory declaration forged by a well known Amateur, and my own integrity to prove it.

It is no secret in VK5 of the feud which exists between Council and myself, and it is no secret that both sides never miss a chance to strike a blow to keep the feud going. Up until now, the feud has been fought with a certain amount of decency on both sides, but this month Council, without the slightest warning, struck below the belt. Imagine how I felt when I opened a letter from them and read that the Council of the VK5 Division thanked me for my assistance rendered at the Xmas Social, and to make matters worse, signed by the Secretary, Pat 5US. How low can they get? How can I criticise them any more? Every time that I prepare a sizzling indictment against them, up before my eyes will come their letter. Oh dear, oh dear, woe is me, woe is me! Joking aside however, cynical and base as I am reputed to be, I got quite a kick out of the letter, the first of appreciation that I have ever received in my long and happy asso-

ciation with the Division, and I feel that there should be more of it. To others, of course.

Ses 5GP heard in QSO on 7 Mc. with Bert 5BB, but as they were both engaged in a highly technical discussion on beams, ratios, etc., etc., I did not stay long with them. Both signals standing out from the evening QRM like light-houses, and good quality, too, if that counts for anything these days. Jack 5JS returned from his extended tour into some of the hither-to unexplored regions of VK3, and full of the hospitality en route. Now he is on the look out for mobile gear.

The postman delivered a letter to me today and went off into hysterics as he usually does when he delivers a letter from Lucindale. Inside the letter was a QSL card from VK-5XK/VK9, giving me a report of 5 by 9 plus 95 db. on my s.s.b. signals, dated 1st April, 1971. Ha-ha-he-he, how funny can you get, my s.s.b. signals, let me get at him. He added further insult to injury by telling me that he worked a Len Parsons (W5LLG) from Norfolk Island and continued the insults by saying the Len certainly let the Parsons name down. He turned out to be a real gent!! Arch signed the letter 73, and said bury the axe—he did not say where—but I could have told him.

Our President, John 5JC, long may he reign, has asked me to devote a few words in this month's notes regarding the payment of subscriptions for 1962-63, which by the time you are reading this (always assuming that you do read this) will have fallen due. The old practice used to be to post out to the members an account, but as postage started to rise the practice has been to include an account in the Divisional Journal which is issued around February. Last year, it was remarkable how many members did not see the account in the Journal, and until each one was contacted personally, the membership dues were in a decidedly sick condition. By this time the magazine had ceased to be delivered, and confusion reigned supreme. Now, to make a short story longer, all this amounts to the fact that your subscriptions are now due, so what about coughing up. No subscriptions—no function for the Division—and worst of all, no salary for me. What's that? How much do I get paid? Well, if you must know, NIX—plus plenty of abuse!

About this time last year my Amateur licence fell due, and I put on a winge in the notes because I had to pay it in a special place and could not pay it at a Post Office in my suburb. This paragraph turned out to be one of the best "Kites" that I have ever sent up, the reaction from all points of the compass exceeding even my optimistic hopes. I have averaged about one letter on the subject each month ever since, I even received two this month, one from Basil 4ZW and the other from Jeff 2AHM, all telling me that they had succeeded where I had failed and advising me to pluck up my courage and give it another go. All right, I will. My fees will be due in February and probably as you read this I will be in duress vile, with Doc 5MD personally feeding me with the bread and water, and at the same time whipping me with the cat-o-nine-tails! Don't think that I am retracting my original paragraph. Oh no, after all I have never received a letter from a VK5 who suggested that he had been able to pay his licence fee anywhere else but at the Receiver of Public Moneys. Don't forget, the notes were written only for VK5 consumption! 73, de 5PS (PanSy to you).

TASMANIA

We extend our deepest sympathy to Geoff 7ZAS following the death of his mother two days before Christmas last. On the same day, Alan 7MY took his father to hospital, and I understand that the gentleman is still there with no improvement.

Congratulations to Ted 7EJ on his election to the office of Federal Councillor for this Division, following upon the very close election with only one vote separating the two candidates.

The club room fund raising committee was delighted with the success of the function at Somerless Farm, held on 24th January. A sum in excess of £10 was added to the fund.

VK7 has an s.s.b. station once again. John 7AG has a tx of this type working very well

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indeed on the 80 mx band, where he can be worked almost nightly. The call sign of 7VS can also be heard regularly on 80 mx c.w. Ian 3VS is over here for a period, probably about six months and he welcomes someone to talk to.

January was the month for portable operation, and we heard 7JB, 7CT, 7RL, 7FJ and 7KH at various times during the month.

Remember that the Annual General Meeting and Dinner will be held on Saturday, 24th March, 1962, the ladies are invited to the Dinner so bring them along, and make this event the success it was last year. Also, remember to vote for the elections for Council, your vote is important.

Brian 7ZBE has recently returned, reluctantly, to work after his holiday trip to New Zealand. He has brought back some exquisite ideas on how to cook food, and we have threatened to appoint him the Institute cook, on pain of death if his culinary efforts should not live up to their promise. We were delighted to welcome George 7XL and Mrs. Groves among us. They have been holidaying in Hobart, staying with 7EJ and Mrs. Cruise.

Our existing club rooms have had a face lift over the past month due to the efforts of a few devoted workers. Our sincere thanks are due to them in this regard. The annual subscriptions are now due. Kindly forward the amount you owe to ease the job on the poor old Secretary. He does not get paid for the work he does on our behalf.

At the January meeting of the V.h.f. Group a most remarkable tape, recorded by WINDQ and dealing with modes of v.h.f. propagation, was played. One lesson which must be learnt from this tape is that c.w. is an absolute must for achieving consistent results. 73, 7ZZ.

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Extra words, 2d. each.

Advertisements under this heading will only be accepted from Institute Members who desire to dispose of equipment which is their own personal property. Copy must be received at P.O. Box 36, East Melbourne, C.2, Vic., by 8th of the month, and remittance should accompany the advertisement. Call signs are now permitted in Hamads. Dealers' advertisements not accepted in this column.

A SALE of surplus gear: 3BZ Rx, 200 Kc.-30 Mc., 230v., £13. 1,000 volt 500 mA. supply, disposals, ideal for 813 Tx, £25. Emerson 21" T.V., excellent order, £50. 7-9 Mc. Command, modified, £8½. 4-5.3 Mc. Command, with mixer and 9 Mc. xtal, £8½. Clarion Tape Recorder, as new, accessories, £40. Much junk at assorted prices, no reasonable offer refused. Wanted to Buy: H.F. Coil Boxes for HRO, top price paid. Ian Macmillan, VK3CS, 1 Norfolk Rd., Surrey Hills, Vic. Phone WF 1347.

BARGAIN: GBL516 16 mm. Sound Projector, £75. Philips TA101D Signal Generator, £12. R.F. Unit 26, £4, or exchange for good communication receiver or tape recorder. VK6RE, 10 Craddock Road, Merredin, W.A.

BENDIX Frequency Meter with V.R. Power Supply, perfect, £45. 1,150 volt heavy-duty Power Supply, ex U.S.A.F. (RA-348). Approximately two feet square, £15. Lance, VK3DS, 123 Webster, St., Ballarat, Vic.

BUY: Command Transmitter Rack. Russell 34-9268 or (home) 74-4469 Vic.

COMMUN. Receiver R.C.A. AR88, 13 tubes, bandspread all bands including 28 Mc. Good sideband receiver. A1 order. G. B. Lance, VK3DS, 123 Webster St., Ballarat, Vic.

FOR SALE: AR7 £45; converted 522 transmitter £5; also other items to value of £10-£20 to be given to the buyer of both. Phone JU 5195, VK3ZFN.

FOR SALE: Eddystone "750" D/Conversion Rx, £100. Central Electronics S.B. Slicer with AP1 Adaptor, £40. Panadaptor BC-1031-A, 455 Kc., mint cond., £45. Heathkit Sig. Gen., SG8, £19/10/0. Heath 3" t.v. Oscilloscope, £37. A.W.A. Car Phone Tx, not working, £3/10/0. Rx with Geloso Front-End, D/Conv., not working, £18. 3BZ Tx, £4. Kingsley S9er, £5. 6" C.R.O. Indicator Units, 230v. a.c. p/supply, £5. 200 mA. Chokes, 22 and 122. 12v. Vib./Trans. 600/60,000 ohm Line Trans., all 5/-, 100 watt Public Address Amp. with p/supply, no valves, £20. Command Rx 3-6 Mc. and 6-9 Mc., £4/10/0 each. Dynamotor, 12v. d.c. input, 550v. 200 mA. output, £2/10/0. Power Trans., 750 aside, 300 mA., £4/10/0. AR8 Rx, £10. Type S P/Supply, £10. Six el. 2 metre and 4 el. 5 metre Beams, 300 ohms, £6 each. Geloso V.F.O. in cabinet, £11/10/0. A.W.A. 6 volt Rx, B/C and S/W, 6-18 Mc., £8. Set of four EF50s and sockets, resistor and cond. on same chassis, 3 units, 12/6. T. Straughair, 185 Stephen St., Yarraville, Victoria.

FOR SALE: Geloso Transmitter G222R, perfect order, mike included, £90. Rotary 3 element Beam, 20 metres, height 45 ft., base 6 ft. square, steel construction, includes a.c. rotating mechanism, selsyns and azimuthal direction indicator, transformers and feed lines, cad. plated flexible guy wires. This unit is easily dismantled and erected, main tower is in two sections, permanent steel ladder on highest section facilitates maintenance, £90. Both units are in perfect order and combine to give superlative DX performance on 20 metres. Mobile Transmitter, 40 metres, commercial finish, final 2E26, mod. pr. 6AQ5s, driven 12AT7, includes loaded whip (imported U.S.A.) for mudguard mounting, £23. Inspection of all units will be welcomed. John Morris, 224 Burwood Road, Burwood, Vic. BW 1264. VK3AES.

FOR SALE: Hallicrafter SX28 Super-skyrider Receiver, 0.5 to 42 Mc., two r.f. stages, push-pull output, matching speaker, handbook, £70. VK3QF, 155 Kilby Road, East Kew, Vic.

FOR SALE: Hallicrafter SX28A Communication Receiver in excellent condition with auto transformer and instruction manual. Speaker optional. VK3LC, 1013 High St., Armadale, Vic., Phone BY 3918.

SELL, Swap: A.S.T. Supertracer, C.R.O., Mod., Pwr. Supplies, Valves, Parts of all Types, V.h.f. Gear, Panadaptor 450-470 Kc. i.f. No dealers. 97 Birkett St., Bedford, W.A.

TRANSMITTER in Rack. 100TH final. Bandswitched exciter, etc. Huge power supplies. 12 Meters (Weston), £40. Ditto 813 final, exciter and supplies, £35. Fantastic value. VK3DS, 123 Webster St., Ballarat, Vic.

WANTED: One BC348 Receiver or one of equal performance. Ring JJ 4016 after 7.0 p.m. G. Jessup, 36 Boomerang St., Turrumurra, Sydney.

WANTED TO BUY: "Short Wave Magazine" copy August 1958. F. G. Bail VK3YS, 60 Shannon St., Box Hill, Vic., WX 2213.

CRYSTALS ALL THESE FREQUENCIES £2 EACH

3.5 Mc. Ham Band:	50 Mc. Hand Band:	144 Mc. Ham Band (continued):
DC 3515 FT 3555	DC 8333.3 = 50 Mc.	DC 8016 DC 8022.5 DC 8029.5
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DC 3537 FT 3564	DC 8416 = 50.5 Mc.	DC 8017.5 DC 8024 DC 8031
FT 3534 FT 3573	DC 8450 = 50.7 Mc.	DC 8018 DC 8024.5 DC 8031.5
DC 3547 FT 3575	DC 8483 = 50.9 Mc.	DC 8018.5 DC 8025 DC 8032
FT 3549 FT 3580	DC 8500 = 51 Mc.	DC 8019 DC 8025.5 DC 8032.5
FT 3552 FT 3587		DC 8019.5 DC 8026 DC 8033
DC 3552 FT 3595		DC 8020 DC 8026.5 DC 8033.5
	144 Mc. Ham Band:	DC 8020.5 DC 8027 DC 8034
7 Mc. Ham Band:	DC 8000 DC 8014	DC 8021 DC 8027.5 DC 8034.5
Crystals of any	DC 8010 DC 8014.5	DC 8021.5 DC 8028 DC 8035
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Ceramic 4-pin Valve Sockets,	2/- each
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100 ohm co-ax. cable, 3/8" diam.,	2/- yd.
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190 Kc. to 550 Kc., new, 5/- each

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To Clear, £6/10/0 each

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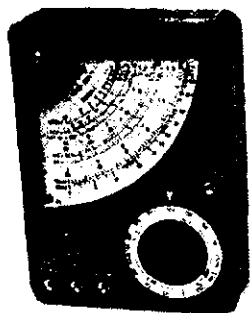
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20,000 ohms per v. d.c. 10,000 ohms per v. a.c.



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D.c. current: 0-50 µA.; 25, 250 mA.
Resistance: 0-60K ohms; 0-6 meg.
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Decibel: minus 20 db. plus 22 db.
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Battery used: UM3 1.5v. 1 piece.
Dimensions: 3 1/4" x 4 1/2" x 1-1/8 in.

Complete with internal battery, testing leads and prods.

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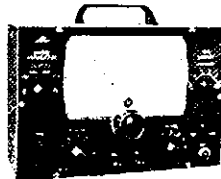
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8 Mc. MINIATURE CRYSTALS

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120 Kc.-390 Mc. Freq. range (six bands): 120 Kc. to 130 Mc. on fundamentals; 120 to 390 Mc. on harmonics. Mod. freq. 400 and 1,000 c.p.s. Tubes: 12BH7, 6AR5. Rectifier: half wave selenium. Provision for crystal oscillator (xtal not supplied). 1 to 15 Mc. 100, 117 or 230v. a.c. input. 50 60 c.p.s. Size: 7 1/2" x 10 1/4" x 4 1/2" in. Weight: 6 lb.



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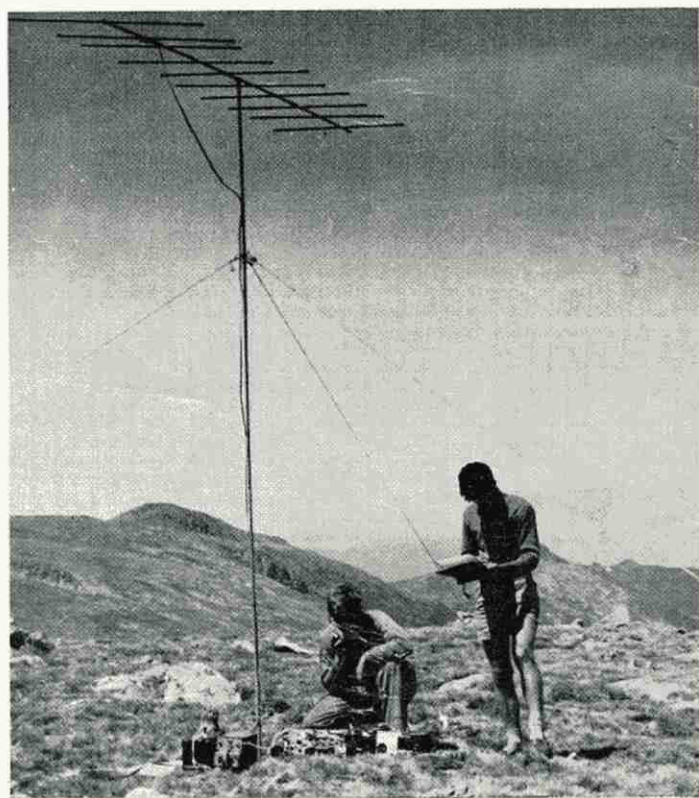
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APRIL 1962



Vol. 30, No. 4

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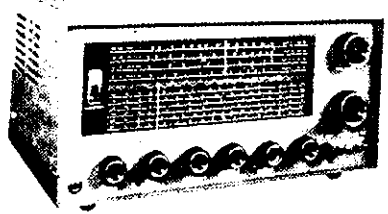
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 Modified Units, complete with 832s. Few only left at **£7 1/2**
 Receivers only, incomplete, but ideal for wrecking. To clear **19/6**

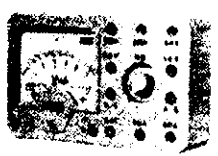
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300 µA. movement.
 AC and DC voltages: 0-10, 0-50, 0-250, 0-500, 0-1000v.
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 Complete with leads.

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Six-Pole, Six-Position, 15/-

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 Flexible cable & control box **30/-** extra.

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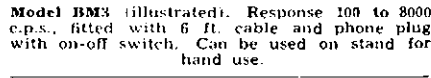
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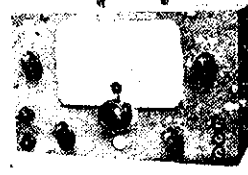
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LEADER LSG10 SIGNAL GEN.

Freq. range six bands: 120 Kc. to 130 Mc. on fundamentals, 120 to 260 Mc. on harmonics. R.f. output: over 100,000 microvolts. Mod. freq. approx. 400 c.p.s. H.f. output: 2 to 3v. A.f. output: approx. 1 v. Tubes: 12BH7, 6AR5. Power supply a.c. 50-60 c.p.s. 115 or 220v. Size: 6 1/2 x 10 in. x 4 1/2 in. Weight: 6 lb.
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"AMATEUR RADIO"

JOURNAL OF THE WIRELESS INSTITUTE OF AUSTRALIA. FOUNDED 1910.

APRIL 1962
Vol. 30, No. 4

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VK3WI: Sundays, 0900 SAT, on 7146 Kc. Relays on 3.7, 14.2, 50.02, 144 and 288 Mc. Intrastate hook-ups taken on 7125 Kc.

VK6WI: Sundays at 0930 hours WAST, on 7146 Kc. Intrastate hook-ups taken on 7085 Kc.

VK7WI: Sundays at 1000 hours EST, on 7146 Kc. and 3872 Kc. Intrastate hook-ups taken on 7115 Kc.

★

OUR COVER

The highest radio station in Australia was situated on Mt. Kosciusko. The "Command" equipment was operated by VK2ZXY and VK2ZPJ who contacted fourteen stations.

COMMENT

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FEDERAL CONVENTION

The Federal Convention—the first for three years—will be held over the Easter holiday period when some fifty odd agenda items plus general business items will be discussed. It is being held in Perth in the same year as the British Empire Games.

The discussions at a Convention affect every Amateur in Australia and it becomes mandatory that you, the Amateur, know what is being discussed and why. For economical reasons the agenda will not be published in "Amateur Radio", but a precis of the determinations will appear some time after the conclusion of the Convention. In the meantime, if you are interested in affairs which might well govern your interest in our world wide hobby, then contact the Federal Councillor of the Wireless Institute of Australia in your State and ask to peruse a copy of the agenda. Then, if there is something on which you would like a say, you record your remarks with him and he will submit them to the Council of the Division. The Council will then determine whether your ideas in part or in whole will be included in the delegate's brief to the Convention. Alternatively, you have had the opportunity over the past several months to discuss part of the agenda with representatives of your State's Divisional Council at the monthly meeting of the Division.

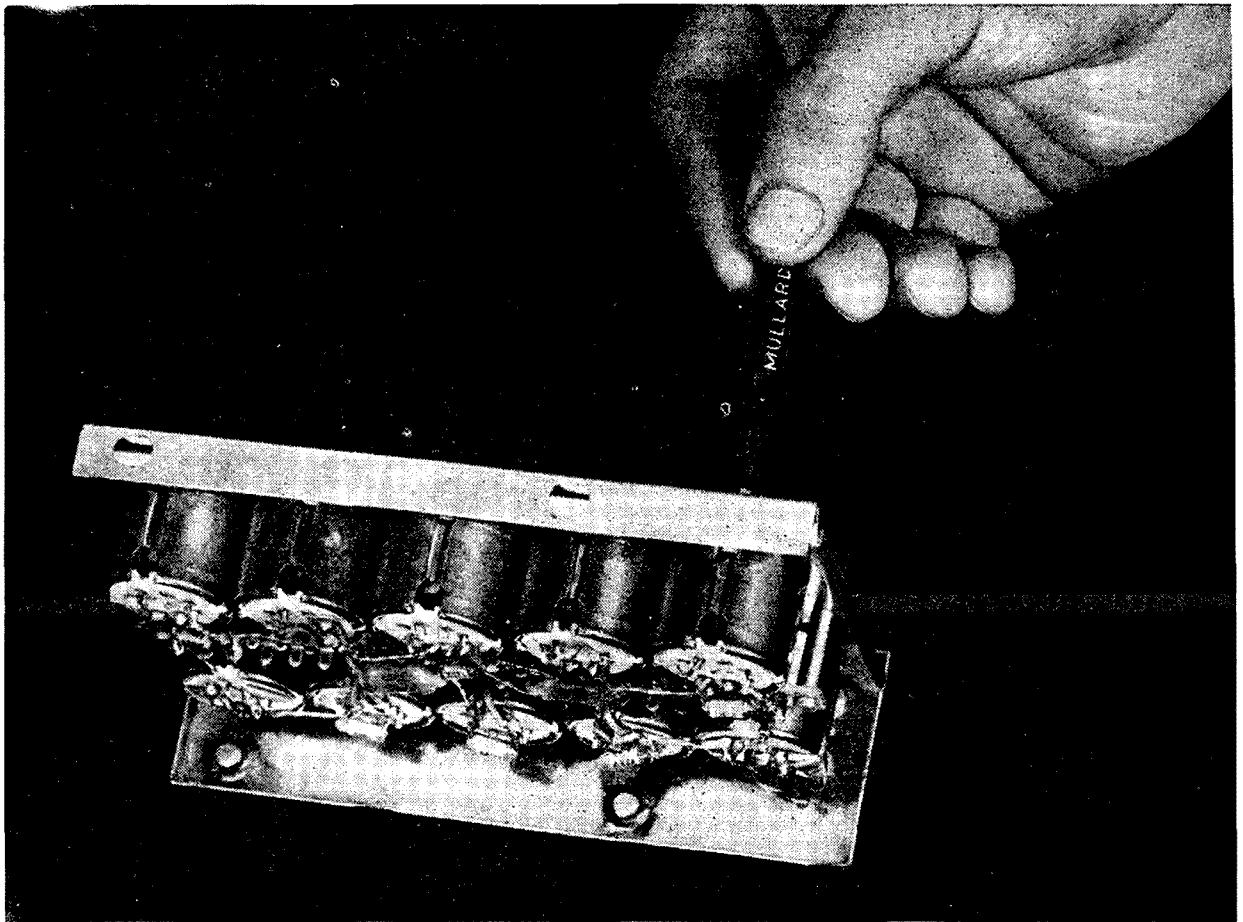
At the risk of reiteration it is said again—in fact can never be said too forcefully—that Amateurs all over the world should take more interest in the Societies and Institutions which represent them in order that their place in the spectrum can be preserved for them, and the facilities for the conduct of their unique hobby maintained.

Conventions are one way of doing this and you will find these organised in every country in the world where Amateur transmitters are permitted. It is because a hard working proportion of licensed Amateurs give of their time, sometimes against steep opposition and ill-informed critics outside the field of our activities, that you enjoy Amateur Radio. Take an interest in the affairs which govern your hobby and you assist those who dedicate their time to your problems.

FEDERAL EXECUTIVE, W.I.A.

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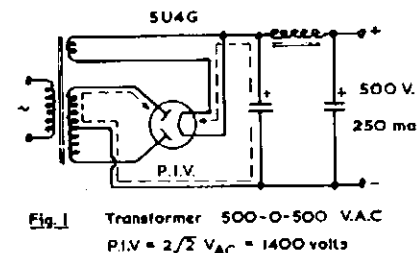
SILICON DIODES

for the RADIO AMATEUR

A. H. S. BRIDGMAN,* VK2AHO

SILICON diodes for power rectifier purposes are now on the market and are already being used in television receivers and other commercial electronic equipment. Amateurs already committed to 866As and 5U4Gs are not likely to throw these excellent tubes away. However, for those starting from scratch, and also for those who enjoy persuing the art of building more efficient, more compact, more reliable equipment, silicon diodes are well worth considering. In order to apply these diodes in the most economic way, a sound understanding of the fundamental principles of power supplies is essential. So let us start with a short "refresher course".

To avoid confusion it is best to adopt one system of rectifier ratings in preference to all others. We are used to saying that a 5U4G is a full-wave rectifier good for 500 volts d.c. at 250 mA. d.c. These figures only apply to the standard full-wave circuit such as that of Fig. 1, in which a transformer giving 500 volts r.m.s. each side of the centre tap is employed. The voltage drop across the rectifier, in the transformer windings, and in the smoothing choke, usually ensures that the full-load output voltage is about 500 volts d.c., although the peak (no-load) voltage will be close to the theoretical maximum of $500 \times \sqrt{2} = 700$ volts approximately.

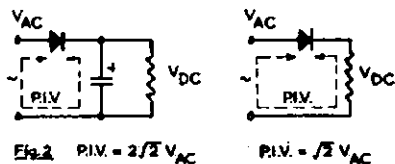


The voltage which determines the rating of each diode in the circuit, however, is the Peak Inverse Voltage (p.i.v.). This is the maximum reverse voltage which the diode is called upon to resist. In the circuit of Fig. 1, the p.i.v. is equal to the d.c. voltage across C1 plus the peak a.c. voltage acting in series with it across one diode. The worst condition is no-load, when the p.i.v. at the diode is $700 + 700 = 1,400$ volts. This, then, must be the true rating of the rectifier. If you don't believe it, look up the p.i.v. rating for a 5U4G in your valve tables!

Another point is that the reservoir capacitor C1 is charged on alternate half-cycles by alternate diodes. Each diode, therefore, passes 250 mA. (r.m.s.)

only for half the time. Its continuous rating is only 125 mA. d.c. output.

It is important to understand these "true" ratings for rectifiers because that is the way manufacturers express the ratings of their silicon diodes. Confusion may result if you don't stick to these two fundamentals, the p.i.v. and the d.c. output current.



Some manufacturers quote, in addition to p.i.v., the maximum permissible r.m.s. input voltage for a given rectifier. This immediately means that they have to give two figures, one for use with an input capacitor and one for use with a resistive load. As you can see from Fig. 2, the permissible r.m.s. input voltage for the second case is twice that for the first, because there is no steady d.c. voltage acting in series with the applied a.c. voltage on reverse half-cycles. Incidentally, the maximum d.c. output current may be different for the two cases, due to the different current wave-form in the diode.

So now we have silicon diodes. Those currently available at low prices are high-current, low-voltage types, ranging from 400 p.i.v. at 500 mA. d.c. to 800 p.i.v. at 500 mA. d.c. The problem is how to use them in an economic manner. The first impulse is to put them in series, of course. To replace a 5U4G with Philips OA210s (rated at 400 p.i.v. at 500 mA. d.c.) we would need four in series in each half of the full-wave circuit of Fig. 1, making a total of eight. The maximum d.c. output would then be 2×500 mA. = 1 ampere; unless you particularly want this current, and can back it up with a suitable transformer, the design is uneconomic, at present.

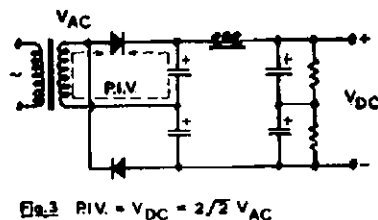
The answer is to use a voltage doubler circuit, as in Fig. 3. When used in conjunction with high value capacitors (which are also available now) the full-load output d.c. voltage is almost equal to the peak of the a.c. input voltage; in other words the regulation is extremely good. To obtain 500 volts d.c. from the circuit of Fig. 3 we are only concerned with 500 volts p.i.v. at each diode, since the d.c. voltage across each capacitor is only 250. The peak a.c. input voltage to each diode is only 250 which means that the r.m.s. voltage of the transformer secondary should theoretically be 180 volts. To allow for voltage drops this should in practice

be raised to about 200 volts. A good rule is:—

$$\text{D.c. output voltage (full-load)} = 2.5 \times \text{r.m.s. input voltage.}$$

With this arrangement we would only need four diodes type OA210, or only two type OA214, to give us 500 volts at 500 mA. Recommended values for the capacitors are 100 μ F. at 350 volts d.c. working. The cost of this power supply is well below that of the equivalent 5U4G circuit; and furthermore, it is smaller, lighter, less dangerous, more reliable, has practically infinite life expectancy, and runs at a fraction of the heat loss.

The advantages don't stop here, they only start! Owing to the large value capacitances, the a.c. ripple in the output is very low. In power supplies for p.a. and modulator stages, the inductance of the modulation transformer gives us free smoothing and the choke in Fig. 3 may be omitted. A choke is only needed in the supply line to the low-level stages, and this of course can be smaller. Omission of the big feller leads to even better voltage regulation, of course.



The next step is the omission of the mains transformer altogether.* With this arrangement, using two OA214s, we can get 600 volts d.c. at 500 mA. from 240 volt a.c. mains. The application of a circuit of this type should be limited to power supplies for p.a. and modulator stages, all other sections following normal practice. In this way the number of components connected "directly" to the mains (via the diodes) is reduced to the minimum. The chassis must be earthed in the usual way, and the cathodes taken to a separate negative h.t. line.

Provided that all the normal precautions are taken this arrangement is no more dangerous than the conventional set-up. In fact, it is safer, because the maximum voltage to earth anywhere in the transmitter is only 300, against 600 volts in a conventional arrangement.

* This is not recommended for Amateur practice. In all instances an isolating transformer should be used on mains input. The circuit is included for interest only.—Editor.

* Flat 1, 26 Spruson St., Neutral Bay, N.S.W.

Fig. 4 shows the basic requirements for power supplies to a hypothetical transmitter running 120 watts to a pair of 807s, or even 150 watts to a pair of 6146s if you can afford them, modulated by a pair of similar valves in Class B. The important features are:—

1. The driver and modulation transformers act as "isolation" transformers between the mains and the normal sections of the transmitter, and must be of adequate insulation voltage rating for this purpose.
2. The r.f. input and output capacitors C1 and C3, and also the grid

by-pass capacitor C2, must be mica types of 2,500 volts d.c. rating, or 5,000 volts d.c. "test".

3. If possible use a link coupling to the antenna rather than a direct connection, thereby completing the isolation of the mains. Otherwise the capacitor C3 should not exceed 0.001 μ F.
4. A double-pole mains switch and double-pole fuses are recommended. With this arrangement it is immaterial which mains connection is "active" and which is "neutral".
5. The mains interference suppressors C6 and C7 must not be omitted because the silicon diode power supply takes almost a square-wave of current from the mains, in other words "hash" may be radiated from the mains wiring unless suppressed.
6. Resistor R limits the surge-current into the OA214s on switch-on, and should be at least 7 ohms, 14 watts. Follow the maker's recommendations.

The writer is at present developing a table-top transmitter along these lines and hopes to feature it in a future article.

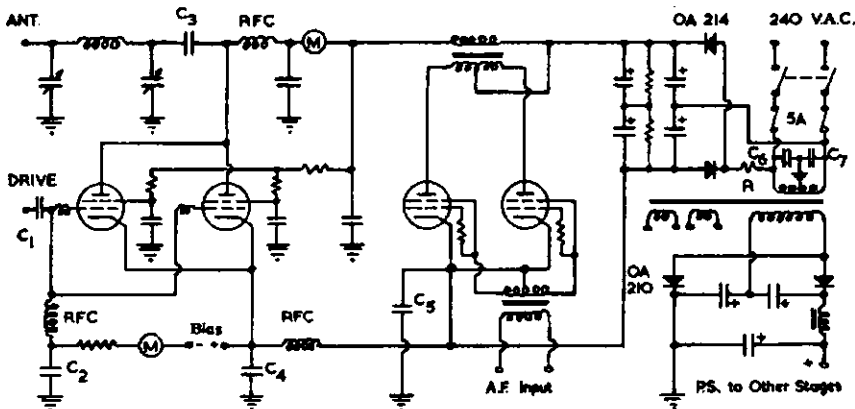


Fig. 4 BASIC CIRCUIT FOR 150 watt P.A. and MODULATOR

See Editor's comment in text re use of an isolating transformer.

ANTENNA CONSTRUCTION HINTS

DIETMAR KIESEWETTER,* VK2APK

When building a Quad, the writer found the best way of connecting the ragoon canes (bamboos) to the boom was by three pieces of angle iron as shown in Fig. 1. The cross pieces of

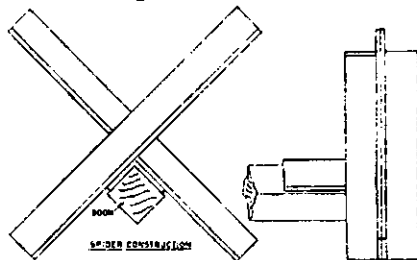


FIG. 1.

1½" x 1½" angle iron, 20" long, were welded together back to back; the third angle iron 1½" x 1½", 8" long, being welded underneath and sits on the boom. It is held by two clamps, each made of two steel angle brackets, the ends so bent that they can be screwed together. The bamboos were kept in position with the same type of brackets (Fig. 2).

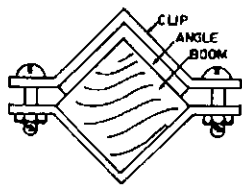


FIG. 2.

Before use, all iron parts should be painted with a zinc chromate metal primer. The centre of the boom rests in an angle iron bracket which is welded on the top of a water pipe socket the size of the supporting pipe (Fig. 3). Again the position of the boom is as-

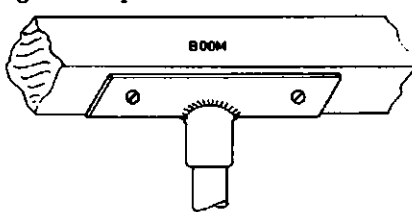


FIG. 3.

sured by two clamps as described before (Fig. 2) and some wood or machine screws. (For the writer's Quad the boom is made of 2" x 2" Pacific maple, 9 feet long.)

For a 6 metre four element beam, the 12 feet long boom is of dural, 1½" square by ¼" wall. The elements are held by home-made all-aluminium fittings, as shown in Fig. 4.

The Omega matching box (4½" x 2½" x 2½") fits just underneath the driven element. Both tuning condensers and the co-ax connector are on the bottom side, to make protection against weather easier. The Omega rod (⅜" diameter) is spaced 12" centre to centre from the element, is drilled, tapped and screwed on the feed-through insulator on one side of the matching box.

ALL SCREWS ¼" WHIT. — 2 SCREWS EACH SIDE

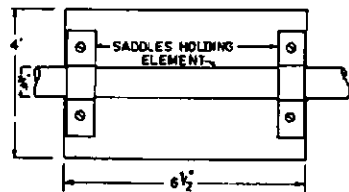
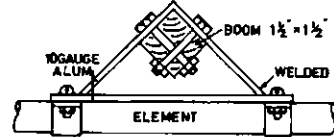


FIG. 4.

This antenna construction makes it possible to assemble and dismantle the antenna in a very short time and to carry it on the top of a car, therefore it is ideal for propagation tests and field days.

★

WORLD CALL SIGNS

The Federal Treasurer has, as usual, back numbers of "Call Book Magazine" for sale at £1 post paid, which is about one-third new price. These have been used by W.I.A. Federal Officers and are in near-new condition. Available are—America only: Jan. '60, Sept. '60, Jan., April, July, Sept. '61. World except America: Nov. '60, May and Sept. '61.

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THE BEST BAND FOR V.H.F.

P. EDWARDS,* B.Sc.(Hons.), VK7ZAJ

A GLANCE at the title of this article will probably be sufficient to raise the ire of many a v.h.f. man. Every Amateur has his favourite frequency band and most can find some argument to justify their choice.

Strictly speaking of course there is no best band for all purposes. So many factors are involved that it is in general impossible to make a choice of the optimum frequency. If we agree on a few basic matters however, the choice is quite easy. I shall attempt to show how to deduce the optimum frequency for a v.h.f. link operating to the optical horizon. I shall then give an answer to the following question:

What choice of frequency minimises the power output required by stations operating over a near-horizon path?

For (a) A "smooth" earth.

(b) An undisturbed atmosphere (no ducts, etc.).

(c) No ionospheric propagation.

(d) No man-made noise, total noise being the sum of receiver and sky noise.

(e) Frequencies between the 50 Mc. band and the 1,215 Mc. band.

Before explaining these assumptions I shall unashamedly admit that they are simplifications of real conditions. In practice things may often be quite different. However, by first restricting the problem it becomes easier to draw more general conclusions.

PROPAGATION OVER THE EARTH'S SURFACE

The earth's surface acts as a reflector at v.h.f. and the reflected signal may partly cancel the direct signal. As a result signals exchanged by earth-bound Amateurs (this includes you) are generally weaker than they would be in space. In addition if the signal travels in the vicinity of the optical horizon, the bulge of the curved earth will obscure the view that either antenna has of the other. The result of all this makes the path loss not only greater than in free space but dependent on frequency and distance in a different way.

Neglecting the effect of distance for the moment, doubling the wave length will raise the signal transmitted between two dipole antennae in free space by one S point. If two stations are well within line of sight, however, the earth may be considered flat. In this case change of frequency has no effect on path loss at all, providing the frequency is less than about 10,000 Mc. Above this frequency atmospheric absorption sets in.

The signal from a station at the optical horizon will depend on frequency because of the earth's curvature, in fact it will drop by 4 db. (2.5X) every time the frequency is doubled. In

★ The writer puts forward in a concise manner the effects of all factors governing the choice of a v.h.f. band. It is of particular interest in relation to satellite communication, and also has application in every-day ragchewing.

general then the presence of the earth's surface makes the strength of a signal less dependant on frequency than in free space.

It will be seen later that the choice of optimum frequency does not depend critically on the path loss. Restrictions on antenna size are much more important and will be discussed in the next section. So far dipole antennae on a smooth earth have been assumed. Since most propagation paths lie over rough terrain the ground does not act as a mirror reflector. Over a rough earth the strength of the reflected wave is therefore reduced and results in net increase in signal strength above that expected for a path over the sea. Exact calculation of terrain effects is too difficult to carry out so we assume that the earth is smooth, bearing in mind the fact that what may appear to be a smooth earth to a 50 Mc. signal may in fact be "rough" at 576 Mc. Other things being equal this would mean a stronger signal at the higher frequencies.

ANTENNA LIMITATIONS

In order to make a comparison between signal strengths at different frequencies it is necessary to specify the antennae to be used. The preceding discussion involved dipole antennae. A more realistic approach is to assume that the physical size of the antennae is fixed. Landlords, city councils, XYLs and car roofs being what they are, it is probably fair to limit the antenna in this way.

Now the power gain of an antenna of fixed dimensions (capture area) increases as the square of the frequency. That is, you gain one S point simply by changing from, say, 2 metres to 1 metre if you possess antennae for these bands of equal capture area. Suppose two stations were to conduct an experiment in which they exchanged signal reports on these two (or any other) bands. If both operators had built a set of antennae of area independent of frequency, then neglecting other considerations they would expect a rise of two S points (one S point at each end of the link) for every doubling of frequency. For example, in going from 50 to 576 Mc. the signal would increase from, say, S2 to S9 for the same radiated power. Although these figures apply only over a flat earth in the absence of noise, they indicate the importance of the antenna in determining the link performance at different frequencies.

NOISE

In any communication system the presence of noise sets a lower limit on the readability of a signal. If the noise is impulsive (e.g. ignition) it may be possible to discriminate against it. The amount of man-made noise of this type obviously varies markedly from place to place and is therefore difficult to take into account. We shall assume that either man-made noise is absent or that it is possible to remove it by suitable techniques. At v.h.f. two sources of noise remain—the sky and the receiver.

SKY NOISE

The galaxy, of which our solar system is a member, is a source of radio noise of extremely high intensity. The radio temperature of the sky depends both on frequency and direction. The most intense region coincides with the Milky Way and has a temperature exceeding 30,000° Kelvin at 50 Mc. This means that if a 50 Mc. antenna points at this region the amount of noise received will exceed that from a resistor (of the value of the antenna impedance) to this temperature. Now a good 50 Mc. receiver may have a noise figure of 3 db. The noise internally generated in this set is equivalent to the noise from the input resistor heated to a mere 300°. In other words the noise pick up is over 100 times that generated in the receiver. The effective noise figure in this case would therefore be more than 100 times (20 db.). The futility of trying to improve a hook up by reducing the receiver noise figure under these conditions is clear. Fortunately the Milky Way will not always get in the way of the signal. Also by going to a higher band the amount of sky noise may be cut to a very low figure.

RECEIVER NOISE

Above 400 Mc. the highest sky temperature will be less than that of the earth (300 degrees). In this part of the frequency spectrum receiver noise becomes the limiting factor. Since we are concerned with equipment readily available to the v.h.f. Amateur we shall not consider masers or parametric amplifiers in this discussion. Instead, we shall take as the sole contributor to receiver noise an ideal 6AK5 pentode working under optimum conditions. This noise figure is given in Table 1 for the various Amateur bands. As will be seen these figures can easily be obtained (and in some cases bettered) in practice.

Values of the maximum and minimum effective noise factors (taking sky noise into account) are also given. If the Milky Way passes across the antenna beam during the day the maximum values will be reduced somewhat at the lower frequencies because of absorption in the D layer of the ionosphere.

When comparing the values at different frequencies it should be borne

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10 μ F. 6v. d.c.w. 2/1 " "	10 μ F. 12v. d.c.w. 2/1 " "	10 μ F. 25v. d.c.w. 2/4 " "	10 μ F. 50v. d.c.w. 2/4 " "
25 μ F. 6v. d.c.w. 2/2 " "	25 μ F. 12v. d.c.w. 2/4 " "	25 μ F. 25v. d.c.w. 2/5 " "	25 μ F. 50v. d.c.w. 2/5 " "
50 μ F. 6v. d.c.w. 2/2 " "	50 μ F. 12v. d.c.w. 2/5 " "	50 μ F. 25v. d.c.w. 3/2 " "	50 μ F. 50v. d.c.w. 3/2 " "
100 μ F. 6v. d.c.w. 2/4 " "	100 μ F. 12v. d.c.w. 2/6 " "	100 μ F. 25v. d.c.w. 3/9 " "	100 μ F. 50v. d.c.w. 3/3 " "

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In mind that noise factor and required radiated power are directly related. For a drop of 3 db. in e.n.f., transmitter power may be halved and the same signal-to-noise ratio maintained.

OPTIMUM FREQUENCY

To summarise briefly, we are attempting to find the frequency at which the various frequency-dependent factors combine to reduce the required radiated

u.h.f. This is, of course, a result of the high antenna gains obtainable. Comparing the 60 and 1,215 Mc. bands it can be seen that $\frac{1}{2}$ milliwatt of radiated power at 1,215 Mc. will do the job of one watt at 60 Mc. There is one drawback, however—beam width. A 1,215 Mc. antenna of the same area as a 5 metre antenna with 10 db. gain would have a gain of 36 db. but a beam width of only a couple of degrees.

of the actual power required for various paths may also be worthwhile, but deserves a story of its own.

One of the interesting conclusions is the advantage of u.h.f. when antennae of the same size as those on the lower bands are used. With modern tubes the drop in transmitter efficiency at u.h.f. will be completely swamped by the increase in antenna gain.

If minimum input power is the criterion for the optimum frequency, the tables and graphs must be modified. In general the advantage of the higher frequencies will be reduced and the optimum frequencies will be slightly lowered.

Table 1. Effective Noise Figures.

Frequency (Mc.)	50	60	144	288	576	1215
E.n.f. (max.)	21	19	10.5	7.5	8.5	11
E.n.f. (min.)	11.5	10	5	6	8.5	11
Receiver n.f. (db.)	2	2	4	6	8.5	11

Table 2. Relative Power for dipole to dipole horizon link.

Relative Power:						
Max. (db.)	21	20	16.5	17.5	22.5	29
Min. (db.)	11.5	11	11	16	22.5	29

Table 3. Relative Power for dipole to fixed aperture horizon link.

Relative Power:						
Max. (db.)	23.5	20.5	10.5	5.5	4.5	5
Min. (db.)	14	11.5	5	4	4.5	5

Table 4. Relative Power for fixed aperture horizon link.

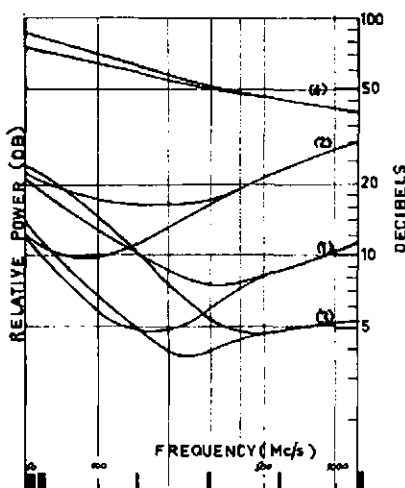
Relative Power:						
Max. (db.)	61.5	56.5	40.5	29.5	22.5	17
Min. (db.)	52.0	47	35	28	22.5	17

power to a minimum for a given path. The path we are considering is one close to the optical horizon. When these factors are mathematically examined it is found that the type of propagation path does not have a marked influence. The limitation on the antenna size, the external noise level and the receiver n.f. are the three important variables. Neglecting the first factor for a moment we have seen that since sky noise predominates at the low frequency end and receiver noise at the high frequency end, the sum of these is smallest at intermediate frequencies. If the antenna effect and the path loss to the horizon are fed into the calculation it is clear from the preceding discussion that the optimum frequency will be raised above that for which the n.f. is least.

Referring again to Table 1, the band for which the e.n.f. is lowest is the 2 metre band for minimum sky noise and the 1 metre band for maximum sky noise. These would be the optimum bands for dipoles well within line of sight. For dipoles at the optical horizon the situation is somewhat similar. Table 2 shows relative power (again in db.) for this case. The superiority of the 2 metre band is clear.

Now take a look at the graphs. Curve 1 shows the e.n.f. Curve 2 represents the figures in Table 2. Table 3 and Curve 3 show the situation where one station uses antennae of constant size while the other uses a half wave dipole for each band. Curve 3 would also apply if both stations used Yagis of constant length. The higher bands begin to come into their own! Table 4 and Curve 4 apply when both stations use constant aperture antennae. Here there is no doubt about the superiority of

Note that each of the four curves has two branches. The upper branch is drawn for maximum sky noise, the lower branch for minimum sky noise. The figures for the two branches of any one curve are directly comparable and they are given in the Tables. The vertical scale of the graphs is given in db. and it is compressed towards the top. The position of the curves on the graph is quite arbitrary. The figures have



simply been adjusted so that the curves do not pile up on each other. The scale figures are correct for Curve 1 and allow the e.n.f. to be read off directly in db. for any frequency.

In order to keep the article brief I have omitted mention of the relation between distance and power. Discussion

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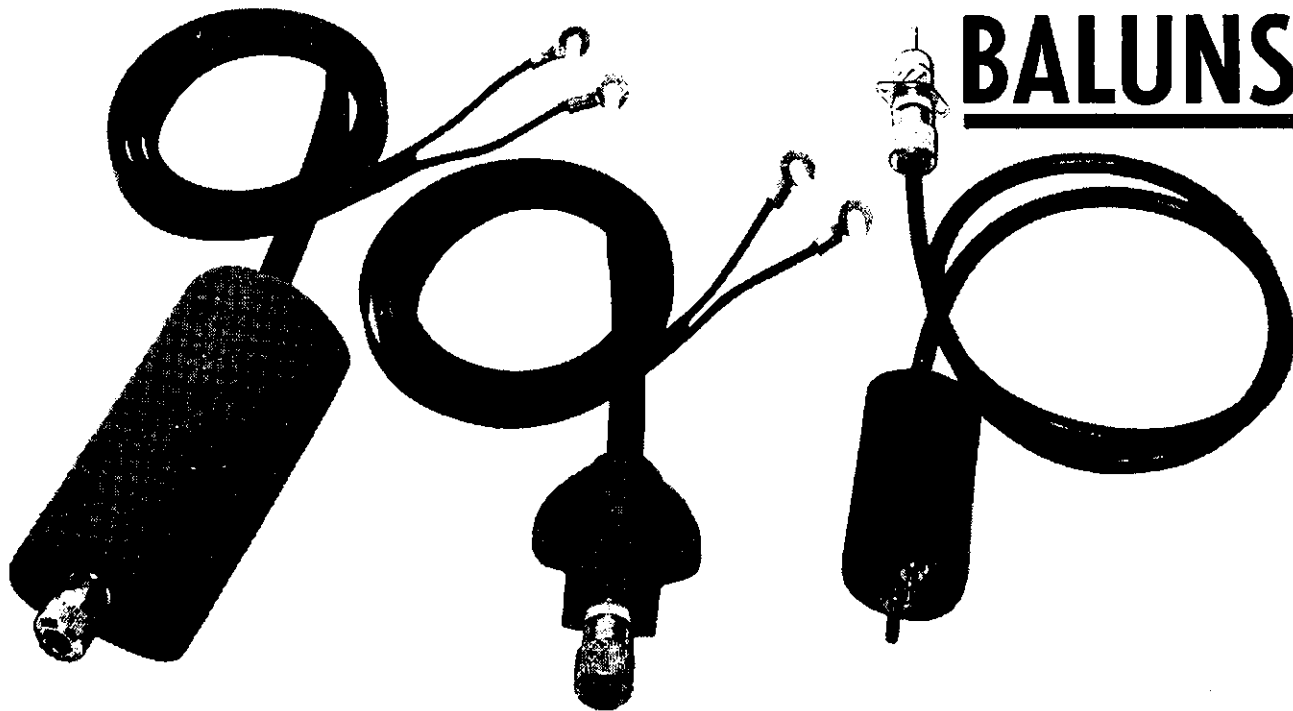
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TRANSISTOR RADIOS*

DESIGN CRITERIA

For a specific receiver, the minimum battery voltage considered by the circuit designer is largely dependent upon the circuit configuration adopted in the audio output stage. (The various circuits will be described in future issues.) For the conventional transformer, coupled push-pull stage and the single-ended or transformerless output stage, the design criteria is that all stages of the receiver shall continue to operate normally when the supply potential has fallen to the minimum designed value—some two-thirds of its normal value.

To a first approximation the load on the battery constituted by the receiver may be considered as a fixed resistance. Consequently, when the supply potential falls to two-thirds of its nominal value the current consumption of the receiver will also fall to two-thirds of the nominal figure. The power consumption at this "end of life" point is therefore $(2/3)^2$, i.e. 44% of its original value. Since the a.f. output stage has the largest power consumption of any section of the receiver, it becomes clear that the circuit designer contends that the end user will replace the battery before the a.f. output power of the receiver has fallen to half its rated value and the increase in distortion with class B operation that this drop in supply potential entails.

Normally, the listener will request battery replacement before the arbitrary "end of life" point is reached because of inadequate volume, excessive distortion or both. Under extreme conditions, the local oscillator may cease to function over the entire tuning range, and obscure faults may appear to be present.

The fall in battery potential results in a smaller increase in distortion with the "split load" type of output stage (to be described in a future issue).

END OF LIFE

The variation of terminal voltage with life, of the type of cell normally used in radio receivers, exhibits, after the initial "jump," a gentle decline for most of the working life, falling rapidly at the end of life. It is wise, therefore, to discard and replace any battery delivering as low as three-quarters of its nominal value on load, as in a comparatively short time it will have reached the end of life point manifesting in the receiver the effects previously discussed.

In contrast, the mercury cell maintains closely its rated terminal voltage throughout life; however, the higher cost factor does not normally permit its use in transistorised receivers.

MEASUREMENT UNDER LOAD

Battery voltage measurements must always be carried out under load conditions, i.e. with the receiver tuned in to a local station and with the volume turned up to a reasonably high level for the type of receiver concerned. Of course, where battery replacement fails to ensure satisfactory operation, nor-

• This article is another of the series on transistor portable receivers and cordless radios. In this issue particular attention is given to problems associated with battery replacements and to the basic techniques of printed wiring.

mal fault-finding technique (to be described in later issues) must be applied.

POLARITY OF SUPPLY

Where energisers are used the connections are made with flying leads having non-reversible contacts. With single cell supplies, the spring contacts are usually arranged so that contact will not be made unless the cell is correctly inserted.

Although reversing the polarity of the power supply may not destroy transistors of the alloy junction type, it could well result in a deterioration of performance.

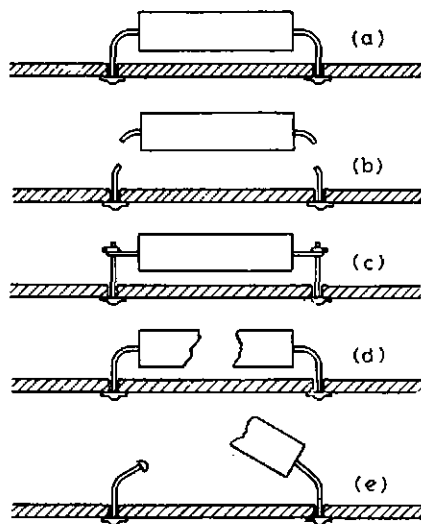


Fig. 1.

PRINTED WIRING

Techniques now being encountered by service engineers include printed wiring, a term used to describe electrical circuits which take the form of thin copper strips on insulating board.

Since the techniques necessary in servicing printed wiring are somewhat different from those used in conventional circuitry, it is desirable for service personnel to acquire a thorough knowledge of the subject. There are a number of manufacturing processes including photocopy and offset printing and the following brief description of the most commonly used manufacturing process may help readers to become familiar with the technique.

SILK SCREEN PRINTING

The circuit diagram is first rearranged so as to form a convenient flat layout which is photographed and

transferred to a silk screen. An acid resist paint is then squeezed through the screen to the copper surface, the painted areas representing the conducting surface required.

The board is then transferred to an acid etch bath where the unwanted copper is removed. After etching, the acid resist is removed and the board thoroughly cleansed. It is then provided with a protective layer of flux so that it may be stored without tarnishing. The board is now ready for component insertion through pre-punched holes.

IMPORTANCE OF PRINTED WIRING

Once a correct layout is achieved in printed wiring, all further models are identical. The complete item is compact, lightweight and reliable. Components are easily added by automatic methods and high production rates are possible.

TYPES OF PRINTED WIRING

Individual manufacturers use different techniques of printing, but the boards will all have much the same appearance. In some processes, the circuit is not etched but punched out of foil and attached to the board. This method is slightly more expensive than the more usual etching process. In others, the bituminous coating is not applied, the ink resist being sufficient for most requirements. Sometimes the wiring printed on to both sides of the board.

Where the printing technique includes printed inductors, capacitors and resistors, the name "printed circuit" is more correctly used.

CARE OF BOARDS

The preceding information should assist in appreciating the precautions which are necessary when servicing printed circuits.

The "wiring" produced on the laminate boards is extremely thin—about 0.0015" to 0.003"—and is bonded to the board. Flexing the board will result in the foil being stretched and the strain may fracture the copper, thus forming hairline cracks in the conductor.

When connections are made to the foil, great care must be taken to prevent excessive heat from melting the adhesive and damaging components. A 25w. soldering iron will be quite sufficient to effect repairs and, if applied only long enough to melt the solder, should not damage the circuitry.

Acid fluxes should not be used on printed wiring; however, the more common cored solders do not contain this type of flux.

CIRCUIT TRACING

Due to the single-plane layout used in printed wiring, circuit tracing is somewhat simplified. The components are not normally on the same side of the board as the wiring, however the problem of locating components when fault-finding may be obviated by placing the board in front of a bright lamp.

(Continued on Page 13)

* Reprinted from "Mullard Outlook," March-April and May-June, 1961.

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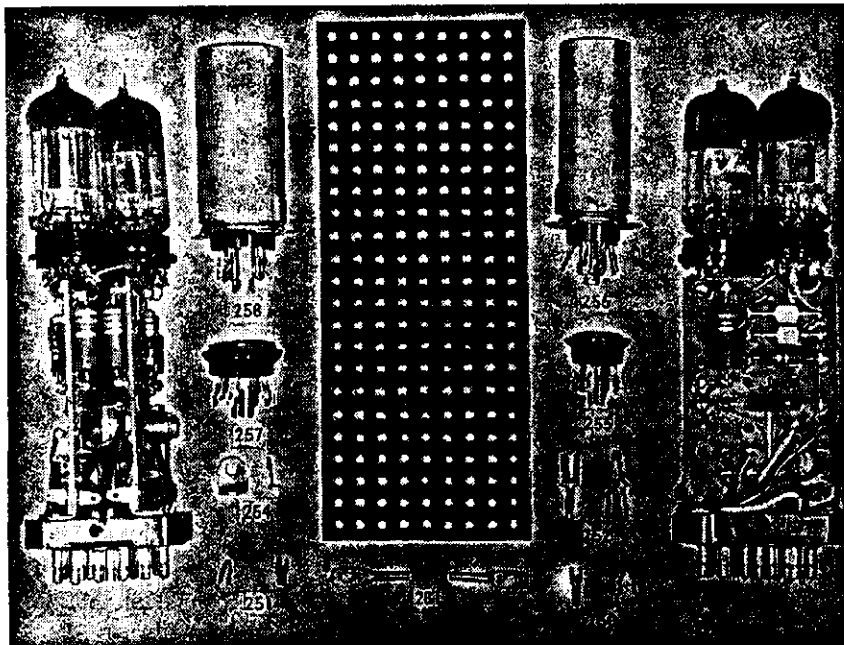
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Noise Factor of Some V.H.F. and U.H.F. Glass-Base Valves*

G. R. JESSOP, A.M.Brit.I.R.E., Assoc.I.E.E. (G6JP)

DURING the past few years Amateurs and professional Radio Engineers have spent a great deal of time and effort in searching for ways and means to improve the input stages of converters and receivers for the 2m and 70cm bands. Each new valve type that has been released has been given a very thorough testing in one way or another and the results have been reported from time to time, often with outstanding noise performance claims. Some such claims are even to be found in advertisements appearing in Amateur

at 45 Mc.† while the potential introduction of television in the higher frequency bands in the region of 400-1,000 Mc. has prompted work on valves and measurements for this range. The latter has, of course, had a marked bearing on the economic aspects of v.h.f./u.h.f. valve design. So much so, that the glass base form, which is always cheaper than the disc seal style, has made such advances as to be a strong competitor to the disc seal type for use below 1,000 Mc. except where wideband amplifiers are required.

The following comparative figures of noise factor from Fig. 1 are interesting:

Valve	45 Mc.	145 Mc.	430 Mc.
6AM4	2.4	5.9	10.2
417A	2.1	4.9	8.7
A2521/ A2599	1.4	3.8	7.0
A1714	1.9	4.6	8.2

It is clear from this data that the best u.h.f. triodes on glass bases are available in the U.K.

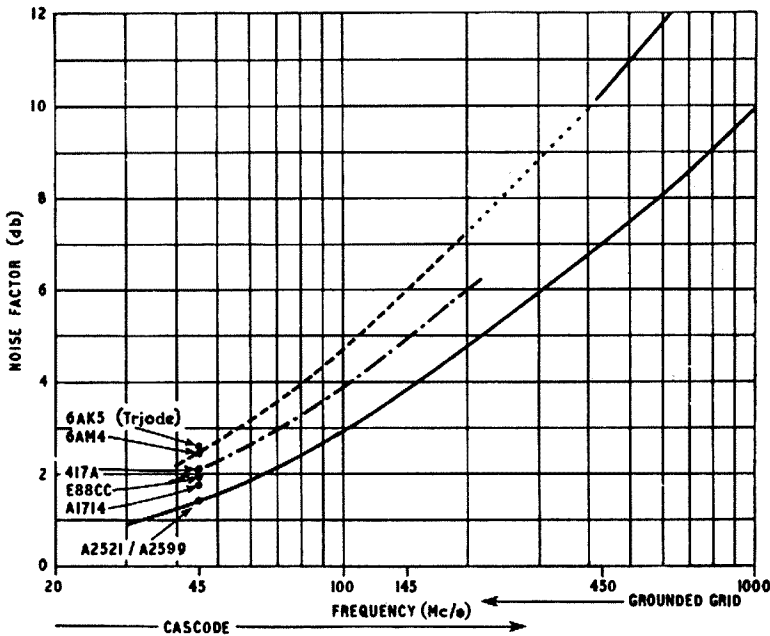


Fig. 1. Graph showing the variation of noise factor with frequency for some of the better valves for use in r.f. stages.

Valve Type	Origin	Noise Factor at 45 Mc.
ECC85	Holl'd	2.5
E180F (as pentode)	Holl'd	3.5
" (as triode)	Holl'd	2.4
D3A (as pentode)	Germ.	2.6
" (as triode)	Germ.	2.0
6AM4 (u.h.f. triode)	U.S.A.	2.4
6AJ4 (u.h.f. triode)	U.S.A.	2.4
6AK5 (as triode)	U.S.A.	2.5
417A (wideb'd triode)	U.S.A.	2.1
6CW4 (narrowb'd tri.)	U.S.A.	2.1*
E88CC (double triode)	Holl'd	2.0
A1714 (u.h.f. triode)	U.K.	1.9
†A2521 (u.h.f. triode)	U.K.	1.4
‡A2599 (u.h.f. triode)	U.K.	1.4

* By de-tuning, a noise factor of 1.6 db. is obtainable.
† U.S. type 6CR4.
‡ U.S. type 6CT4.

Table 1.

★



Lionel VK2CS and Vic VK2VL at the Gosford Field Day on 26th February.

★

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77	VKXJ	780	48
84	VK5JT	610	43
93	VK4SD	365	21
99	VK2OW	245	13
	*VK5RO	145	16
	*VK5RK	115	11
* Invalid—No declaration.			
LOW POWER SECTION			
Posn.	Call Sign	Pts.	Contacts
6	VK7SM	1200	93
9	VK4SS	880	64
10	VK3ZC	835	59
13	VK2CK	700	56
17	VK3RJ	244	17
18	VK7RY	135	7

Radio periodicals. Very little real data, however, appears to have been published regarding the noise factors of the valves produced by the various makers and the purpose of the information presented in this article is intended to clarify this somewhat unsatisfactory state with some comparative information recently made available to the writer.

No doubt some of the claims that have been made in the past have been due to the belief that a thermionic diode noise generator, like a camera, "cannot lie." The noise generator is capable of repeating its results, but they will not necessarily be correct. In fact, a considerable amount of work has had to be done in recent years to obtain agreement between one establishment and another, let alone between one country and another.

The need for very low noise i.f. amplifiers for radar and other applications has helped in the production of reliable methods of noise factor measurement

Readers will probably have seen noise factors claimed in some advertisements which are theoretically unattainable. These are probably due to the noise measuring apparatus being even more optimistic than that used by the writer! The valves on which measurements have been made using the same apparatus are shown in Table 1.

These figures, together with the curve of Fig. 1, give a fair picture of the performance of valves available at present.

From Table 1 it can be seen that a valve such as the 417A, which was designed for wideband applications, is a significantly poorer performer than the A2521-A2599 valves which were designed specially for u.h.f. input stage service.

† It has now been agreed by the industry and Services that this frequency should be 48 Mc. for future tests.

* Reprinted from R.S.G.B. "Bulletin," March '61.

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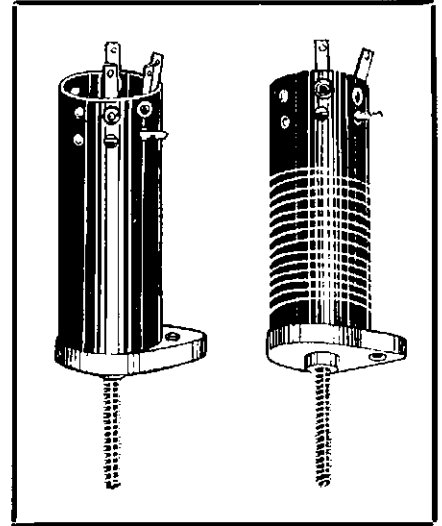
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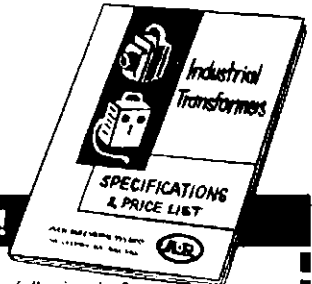


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National Field Day Misadventure

TRANSISTOR RADIOS

(Continued from Page 9)

Some manufacturers print component references on the same side of the laminate as the wiring, and this of course simplifies circuit tracing.

The use of service information is the best solution; most service sheets include a drawing of the board as it will be seen during servicing, with component references clearly marked.

FAULT-FINDING

Most boards are coated with an insulant after manufacture, therefore, care must be taken to achieve proper contact with the copper foil. The insulant serves not only to prevent accidental short-circuit of the exposed foil to other parts of the circuit, but also helps to reduce oxidation.

The protective coating must be removed from the measuring points before any connection can be made—acetone applied with a soft cloth or brush will serve this purpose.

The detection of hairline cracks in the foil is facilitated by the use of a powerful lamp and a magnifying glass.

COMPONENT REPLACEMENT

Faulty components should be removed with great care. Flexing the laminate, peeling the foil or dropping solder on to the remainder of the circuit should be avoided.

SMALL COMPONENTS

Transistors, capacitors and other components may be removed as illustrated in Fig. 1. The leads should be cut as close to the component as possible. The wires left on the board should be cleaned and the leads of the new component looped around them as shown in (c). Solder may then be applied, care being taken to ensure that the heat does not damage the board or component, or melt the solder under the board.

Should the cutting of the leads be too difficult, it may be possible to cut the component in half as shown in Fig. 1 (d). The parts remaining on the leads should be removed and the leads cleaned as in Fig. 1 (e). The new component can then be added as before Fig. 1 (c).

LARGE COMPONENTS

Audio and i.f. transformers may be removed by heating the soldered connections then lightly brushing-off the solder with a stiff brush. A bristle or camel-hair brush is also suitable but may not survive many operations. Alternatively, a sharp-pointed metal rod, such as a scriber, may be used to pick off the molten solder. With any of these methods, the splashing of solder on to other parts of the circuit must be avoided.

(To be continued.)

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it took 4 lbs. of dripping to cook 4 lbs. of steak and 8 eggs." "Ya learn every breath ya take!" "Belch!" "Who called the cook a ———"

Anyway at ten o'clock, a terrific clatter announced that one "donk" had broken its crankshaft. To add fuel to the fire, the 40-80 metre rig went bad and was not immediately repairable. "Will I tell 'em what was wrong with it, Ted?" Blush!!



Sid VK2SW with Pierce VK2APQ in the background.

"Fatty," sorry, Pierce VK2APQ, had a whale of a time on 2 metres, working a total of 45 stations with an average report of 5 and 7 to 8 into Sydney—and he's still crowing.

Ron VK2ZRM did a terrific job on antennae and washing greasy dishes, whilst Ron WIA-L2025 was plant engineer and worked like a trojan keeping power up to the operators.

Sunday evening saw six weary, dirty, but nevertheless happy Hams wending their weary way homeward, vowing that next year they would really be prepared and give the VK3 boys a blooming run for their money!

With the National Field Day approaching, great plans were made by VK2 Stations, viz.: Sid VK2SW, Pierce VK2APQ, Ted VK2FE, Roy VK2KO, Ron VK2ZRM, and Ron WIA-L2025 in anticipation.

Equipment, tucker, location, etc., were gone into with fantastic detail, the major decision from all the meetings being the selection of Roy VK2KO as "Greasy"—beg your pardon!—Kook.

Anyway, came the day. Bright and early three car loads of miscellaneous started south, the leading car carrying Ted VK2FE and Roy VK2KO got as far as Tom Ugly's Bridge and "bang!!" A trailer tyre blown to smithens and no spare!

With great determination and fortitude the party scouted the hills of Hurstville trying to purchase a second-hand tyre and tube—19". What!! (Noah used this size as bollards on the Ark.) After 1½ hours' search, Roy VK2KO located one. He's still crying about the price he paid.

Proceeding onward after repairs had been effected, the party arrived at their destination, being a mountain peak nine miles south of Macquarie Pass, and proceeded to set up camp. Other than losing pints of blood to leeches, extracting thorns, plus a twisted ankle, tents and antennae were erected.

Power supplies and radio equipment were installed and then the fun started! "Sid!! You do have to filter 522 generators! They do push out a bit of QRNellie!" "And take the blasted thing from under my chair!"

The noise was terrific—three engines belting away—four raucous voices calling CQ! Brother!! Aspro will ease it!!

Ten o'clock Saturday night the rot set in. Sorry, it set in earlier, "belch!!" Roy outdid himself and nearly "did" everyone else with his steak, chips and egg tea. "You beauty!" "Didn't know

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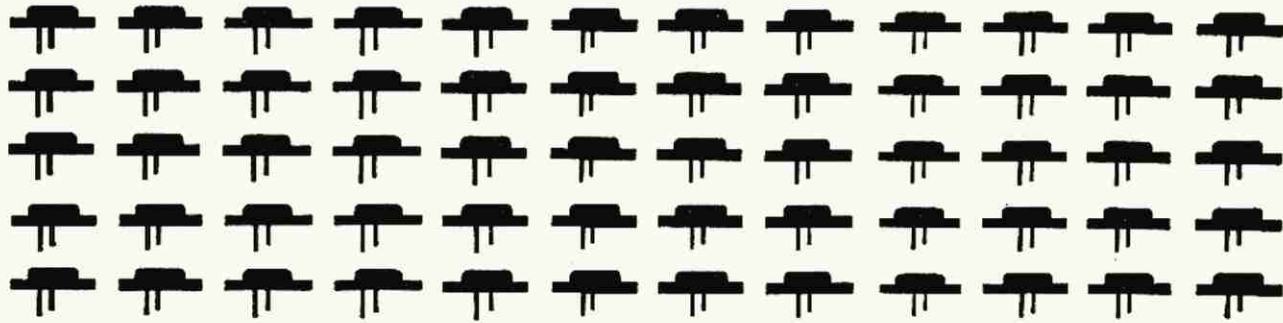
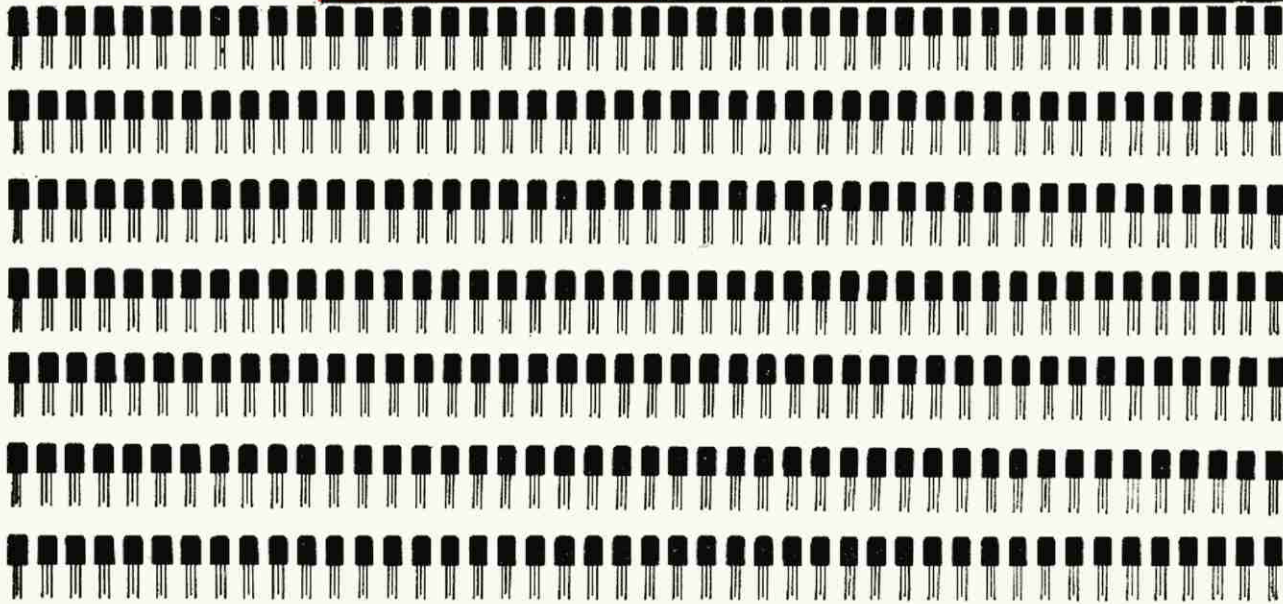
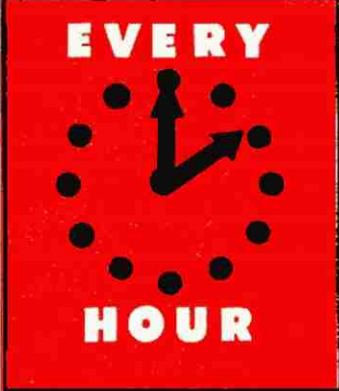
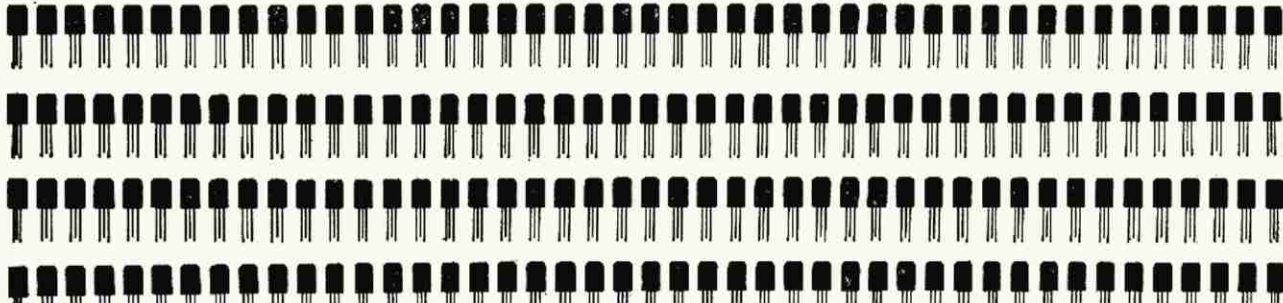
SALMON STREET,
PORT MELBOURNE, VIC.

Phone: 64-3351 (10 lines)
Telegrams: "Metals," Melb.

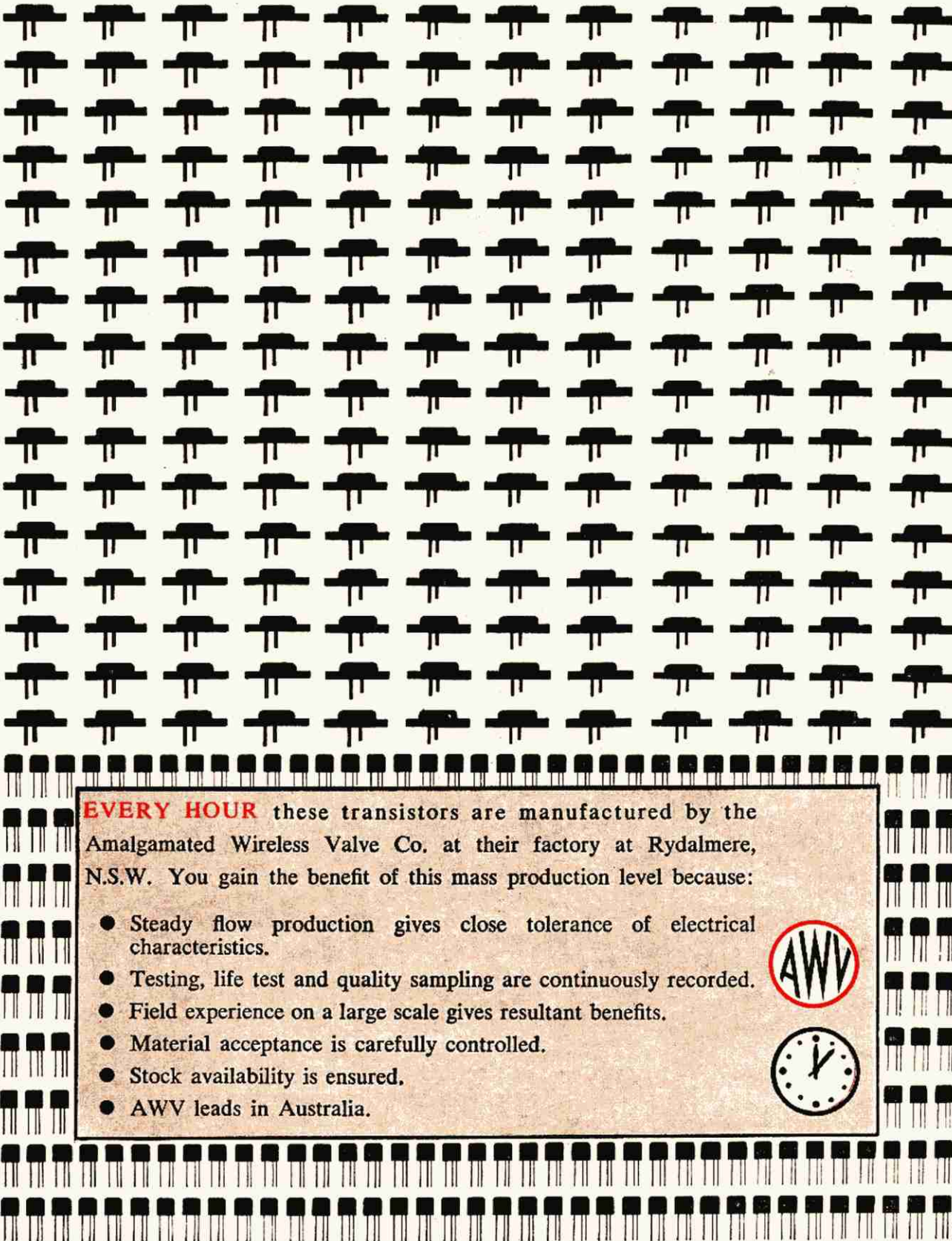


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Sub Editor: ALAN SHAWSMITH, VK4SS, (Phone 4-6526-7 a.m.-4 p.m.)

35 Whynot St., West End, Brisbane, Qld.

ADDRESS CORRESPONDENCE FOR THIS PAGE DIRECT TO THE SUB EDITOR

How did you find DX this past month? Overall, it would seem that the bands have been as expected; that is, only fair, with signals generally somewhat down and uncertain.

In an attempt to find out just how much DX can be heard and worked on 3.5 Mc. my listening this past few weeks has been concentrated on this band with, I am sorry to say, not very encouraging results. For the first two weeks of Feb., this band was very poor indeed and the noise level very high. However, it improved considerably towards the end of the month. All continents were heard, with the exception of South Africa. The nights of the 24th and 25th were perhaps the best of the month, when W was easily workable and some Oceanic prefixes were S8-9, such as ZK1, KH6, KG6, etc. Later on, towards morning, the Europeans were very good, but not workable with my QRP and 80 mx dipole. With a bit of power and a good antenna, I see no reason why these Europeans can't be worked on 3.5 Mc. They seem to be fairly consistent and best an hour or two before dawn. I would like to know if any VK can, and does, work them at this hour.

The 7 Mc. band still has a fair bit of DX on it, from 1500 hrs. G.M.T. onward to 2100 hrs. G.M.T. North Europe shows up firstly, and then the SR seems to expand like a magic eye and stations from Mediterranean, North Africa, South Africa and Northern Asia come in at workable strength.

14 Mc. has been very scratchy in the early afternoons to the East, but the L.P. circuit to the West in the mornings around 2100 hrs. G.M.T. has been open with good signal strength. This latter circuit on 7 Mc. seems to be a thing of the past. I would like to know if some of those VK5s who have done so well previously can still work W on L.P. around 2100 hrs. G.M.T., on 40 mx.

NEWS AND NOTES

DX-peditionist Danny, says he had a really tough time in the good ship "Yasme"—covered over 800 miles from the Marquesas Islands to Tahiti. He nearly got wrecked, but this wouldn't be a new experience to him. He is operating now with the call F08AN—actually he's using George's (F08AC) rig from George's shack. The only other Hams active from F08 are F08AB and F08AQ. F08AC is the only sideband station. Dick KV4AA and Jock ZL2GX are both helping in the preparation for his future DX, but he expects to be in Tahiti for about three months. He was disappointed in the lack of publicity in VK about the Marquesas adventure—hopes that this part of F08 will become a new country, in the foreseeable future.

The only Ham on Campbell Island is Ian ZL4JF; in fact, he's the only Ham that's ever been on the island. He is active on both a.m. and c.w., and says there is a chance of a sideband signal emanating from that lonely isle next month. His QSL is one of those attractive fold-over types—manager is Jock ZL2GX.

Incidentally, Jack ZL3VB has left Chatham Island and is now in Wellington. I believe that there's a chance that he will not return. This would be unfortunate as he's the only Ham on this island too.

Mention was made last week that Mike G3JFF/MM (formerly YJ1MA) had arrived in Fiji. Now comes the news that his new call is VR2EA.

Quite a few VK9 (Papua) stations are on the air, but probably the only active Ham from New Guinea is Ian VK9VM, from Rabaul. Work him on c.w. in the evenings E.A.S.T. FJ2AA can be worked on 14 Mc. s.s.b. from his QTH of Aruba, Netherlands Antilles (or to give it its old name of Netherlands West Indies). This is a good one, but you may find some difficulty in his coming back to your call. George runs a sked with W land. Look for him on the high side of the band about 1145z.

For those wanting Zone 12, Ray CE3CR has been very active and working many VKs over the last couple of weeks on 14 Mc. s.s.b. at about 9 p.m. E.A.S.T. He uses a 2 element 3 band quad and a KW1 provides the r.f. His signal is really strong in VK. QSL to Box 3463, Santiago, Chile.

More new prefixes: UW3 (Eugene UW3UF, from Gorky, which he spells as Gurkiy, is a s.s.b. operator; work him at 1210z). UW9 (Vlad

UW9KC from Sverdlovsk; work him at 1145z). Perhaps all the UA prefixes will be augmented by UW ones. You might think that 8J1AD is some new African Republic. It is just the new prefix for a Japanese Antarctic station. Listen for Nishi from Syowa Base, Antarctica, at about 5.45 p.m. E.A.S.T. on 14 Mc. c.w. QSL via the J.A.R.L. (Very many thanks Ken VK3TL, for all the above informative notes. —Al.)

Did you work VR5RZ? For QSL clarification, he is John VK4RZ. (Where to next, OB, Al.) DL8FF says he is going to FC land next June for a two weeks' DX-pedition, de K6JC. VU2NR, contrary to previous reports, does not have permission to operate from AC3. He is unable to go due to the political situation there. Some of the Ws are trying to contact AC3PT who is presently in N.Y.C. with the U.N., in hopes that he may be able to help. VU2NR says he would leave immediately after receiving permission.

TL8AC has a new Drake rx and expects to be on s.s.b. in the near future.

ZD8JP is reported active on either 14020 or 14065 kc., around 2100 G.M.T. He must QRT around 2150 G.M.T. for lack of power. He skeds ZD7 every Thursday, but didn't say what time.

Jordan: Bryan MP4QAO, etc., has applied for a licence to operate for a short period from Jordan, but has met with difficulties, because of JY2NZK's previous activity in that country. The conditions of JY2NZK's licence, seem to have been overstepped considerably.

5H3 is the new prefix for VQ3, Tanganyika. ZS2MI Marion Island. ZS5UP says that ZS2MI is active only on Sunday between 1400 and 1500 G.M.T. around 14060 c.w.

Rodriguez Island: VQ8BC will be going to Rodriguez in May 1962. His call will most likely be VQ8BCR. He will be active on 14 and 21 Mc. c.w.

Bajo Nuevo HK0: The HK1QQ trip with the Malpaolo gang is now set for April 27, if all goes as planned.

(All the above by courtesy of Bob K6CQM, Editor DX'er.)

Gus W8BFD gives us some info. about his next DX-pedition, which will commence from VQ8 shortly. If you still need a QSL for a QSO from Gus' first expedition try a card to W4ECI, who will be the QSL manager from now on. Freqs. to be used are 14035, 14065 kc. for c.w. and 14120 and 14130 for s.s.b. on 15 metres, 21034, 21065 c.w., and 21120 to 21130 s.s.b. Call him no closer than 10 kc. up or down. 3.5 and 7 Mc. will also be used if conditions permit. (From Frank VK2QL.)

ACTIVITIES

Ken VK3TL had a quiet month, but worked the following—14 Mc. c.w.: KMC6E, UW9KCA, VQ9GP, VK9VM (New Guinea). 14 Mc. phone: F08AN, HS1X, HZ1AB, I1RM, OH2NB, VS4BY, XW8AS, ZL4JF (Campbell Is.). 21 Mc. c.w.: OH2PO, OH3WH, SMSBVF, SMSLF, VU2JA. QSLs rcd. during month: AP5CP, DJ2AE, DJ2RE, DL1XZ, DL7EN, DL9KP, DU8TY, EA7HZ, HA1KSA, HS1X, I1IF, I1WBK, I1ZTF, KJ6BV, KW8CGA, OZ4H, UA3LZ, VS4BY, VS4RS, VS9ACS, YJ1MA, ZC4TX, ZE7JR, ZL4JF (Campbell Is.), 457YL.

Eric BERS-195 added the following to his already huge log—3.5 Mc. c.w. hrd.: JAIYL, JA6AK, OK3JF, UA3KAA/3KAB, UB5CW, UT5CQ, UC2BW, W 7 Mc. c.w.: DJ4SF, KL7MF, KR6AU, KR6MD, LA7RF/VK2, SP5KAB, UA3KW, UA0JX, UA0EW, UA0MI, c.w.: AP5CP, UB5YW, VR2DK, 9M2ER, 14 Mc. c.w.: AP5CP, BV3HPT, DU1FM, EP2BK, HP1IE, HZ1AB, KC6BD, OAAFN, OX2LR, KV4CI, TI2WA, UG6KAA, UH8BI, UQ2KDD, VK9GP, UD6AT, VR2EB, VR4CN, VS1FZ, VS4RS, VS4RM, YJ1MA, YV5AE, 457NE, 4X4HK, 9K2AM, JA0WW/MM, LA7RF/M, W3MCM/MM. QSLs rcd.: BV1USC, HL9KT, JZ0BM, KX6AJ, OH3WM (3.5 Mc.), UP2KNP, UR2DZ, VQ3HZ, G3GJQ/V59K, ZC4TX, 6W8DD, 9M2FS.

Hal VK4DO reports that conditions were poor during the times he was active. His list —14 Mc. c.w. wkd.: W, K, JA, F9BG, F08AC, HC5CN, HC2IU, KR6AB, UA1KBB, UA3CT, UA3TY, UA4KHU, UQ2KDD, VS1KF, YS4RM, YV5AQ, SN2LZK. 21 Mc. c.w. wkd.: W, JA, KH6, VS6EM, ZC4TX, 14 Mc. c.w. phone wkd.: W, KH6, F08AC, VS1FZ, VS4RM, 14 Mc. c.w. hrd.: W, K, KH8, BV3HPT, DJ5LT, DL5XF, F8FE, F4TC, HC1AGI, HZ1AB, KP4C, LU9WA, MP3ATZ, HPI4M, UA1DR, UA1KAQ, UA2AW,

UA3KT, UA3RM, UA3KWA, UA4KAB, UA4KR, UA9EW, UB5JX, UB5KAW, UB5KSR, UC2CS, UC2KAR, U18KAA, U18KBA, UL7FA, UL7KDT, UM8KAA, UF2KAF, VU2GE, VU2KU, VU2TN, XZ2BB, XZ2TH, ZK1AR, 457EC, 457NE, 5T5AD, 9K2AM, 14 Mc. phone hrd.: W, K, DU1AN, DU1MR, HK3TS, HK3TZ, I1ANY, KR6AU, OAAFC, VS1GC, XW8AL, ZK1BY, 21 Mc. c.w. hrd.: W, K, JA, SV0WZ, UA3KYA, UA9OC, VS9MB, 14 Mc. phone hrd.: W, EP2BK, VS4RS.

Don L2022 reports a fair month with these hrd.: 3.5 Mc. c.w. W61ZD, W2KQT, 7 Mc. c.w.: LA1VG/MM, Ws, VP6PJ, VR2EA, DU7SV, KR6AF, JA1CG, VR1B, UA0KCI, UB5FP, VP8EU, VE3PK, VR6CV, 14 Mc. c.w.: CI2NT, 4X4MB, HC2IU, ONADY, LZ2KAB, VS4RM, OK1ZI, OH5RH, BV3HPT, UQ2KDD, U18KAA, OK1ZI, UM8KAA, VU2RA, UD6AX, PZ2CD, UF6OF, EA1BC, 14 Mc. a.m.: YV1CQ, VU2FP, HM9A, KR6MU, 457YL, 14 Mc. s.s.b.: UA0VQ, KR6BA, K6GAA, KX8BU, XW8AS, OAAJ, CX2AX, PY2BPE, FK8AE, HS2M, HS1B, KH6SB, EP2AG, K56BV, F9HF, UA2DW, HB9SI, GI3IVJ, 21 Mc. a.m.: G5JZ, JAs, 21 Mc. c.w.: JA1HG, UA0LLI, G31X, UL7FA, F2MA, UA9KOG. QSLs rcd.: GC2FMV, KH6EDY, KH6EGO/KH, ZS6AOW, 457EC. (Don now has 100 continents confirmed.)

Rob VK9RO comes to light with the following DX worked: 14 Mc. s.s.b.: JA6MAZ, KR6KS, VR2BK, KR6DZ, 21 Mc. a.m.: DU1MR, KR6LY, G2CNOY, G2KO, UA1DZ, G3OKQ, G6DW, KNSMOY/MM, F2YT. (Thanks, Rob, and welcome to the ranks. Can I sked you each month for any DX news? Please let me know —Al.)

Frank VK2QL has been active on 80 mx and reports working the following: JA6AK, JA0SU, KL7AUG, VE7VC, VE3AGX, VR5MC, KV4CI, and numerous Ws. He hrd. DL6BL, UC2AD, UO5AA, 7 Mc. c.w. on the long path, he wkd.: G5WPF, G6QB, CX2BT, W4HD. Hrd.: HZ1AB, ZCAIP, CN2BK, CT1DJ, UP2NM. QSLs rcd.: UC2AA, PJ3AD, G3GJQ/V59, VS9KAC, HP1IE, VR1M, KC6AT (ex-KC6ZZ).

Yours truly, Al VK4SS, worked on 3.5 Mc. c.w. (between 0900-1100z): G3JFF/MM, ZK1BW, VK9RO, JA0AC, Ws, KH6, ZLs. Heard very weakly at 0750z on 27/2/62, G5WP.

ADDRESSES

BV1USC—Box 196, A.R.S.E.C. (S.A.A.T.), APO 90, San Francisco, California.
HL9KT—Radio Co., 304 Sig. Btn., APO 301, San Francisco, California.
JZ0BM—Bert Modderman, C/o. Huize Midden-dorp, Midden Dorplaan, Warmond, Holland.

SUMMARY

Conditions may live up for a while during the autumn period. Between the two extremes of mid-summer and mid-winter, i.e. spring and fall, the bands seem to be at their best. I'm hoping that 80 mx may let a few signals through during April and May. The QRN should subside as the summer fades.

Eric BERS-195 reports that the YLs are taking a hand in things on 3.5 Mc. c.w. at 10 p.m. E.A.S.T., Monday nights. Heather VK2HD, Freda VK2SU, and Mavis VK3KS apply the feminine hand to the Morse key. (Nice work Girls, keep it up, but remember we read your mail!) This is not exactly DX, but our bands could stand more YL operators, for sure.

Ken VK3TL wants the times for working Europe S.R. on 7 Mc. Try leaving your nice warm bed around 1600 hrs. G.M.T., and from this time through to 2100 hrs. you should be able to pick up a few good ones. Good hunting!!

My bank teller gave me this one. One day a very, very young and newly-wed bride of a limited-licensed Ham came into the bank with a cheque; obviously the first she had handed. "Please endorse it," said the teller, turning it on its back. She stared at him with beauty and bewilderment. "Just sign it, there, as you would a letter," said the teller, trying to help. She wrote, "Lovingly yours, Margaret."

Once again very many thanks to all those who have supplied info. for DX news. They are VKs 3TL, ZL, 9RO, 4DO, BERS-195, L2022, and others. 73, de VK4SS.

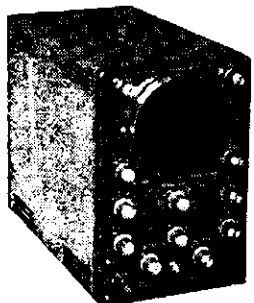
STOP PRESS.—Arch VK5XK advises that he is despatching QSL cards for Norfolk Island contacts. Any Ham who wants this VK9 QSL should send for one as soon as possible.



PRICES REDUCED!

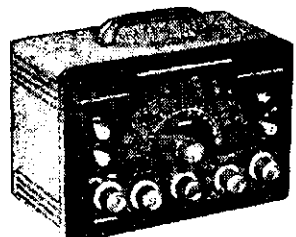
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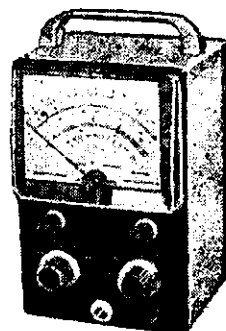


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Sub Editor: BUD POUNSETT, VK2AQJ,

6 Alice Street, Queanbeyan, N.S.W.

ADDRESS CORRESPONDENCE FOR THIS PAGE DIRECT TO THE SUB EDITOR

S.S.B. AT 288 Mc.

While quite a large number of the Australian Amateurs have not yet transmitted an s.s.b. signal on such d.c. bands as 80 or 40 metres, Lance 3AHL is a long way ahead with equipment capable of producing sideband on 288 Mc. There are quite a few stations on 50 and 144 Mc., but Lance's is the only s.s.b. station on 288 Mc. in the Melbourne area, if not in the whole of the country.

Fig. 1 shows a block diagram of the 3AHL 288 Mc. system. The 50 Mc. sideband tx is used to drive the CV5116 mixer where a 238 Mc. signal from an impressive number of multipliers and amplifiers, heterodynes the s.s.b. to 288 Mc. The 50 Mc. equipment is v.f.o. controlled resulting in the same rate of change in frequency at 288 Mc. In fact, the stability of the 288 Mc. signal is the same as that obtained in the 840 to 1840 Kc. Franklin v.f.o. used in the 50 Mc. gear.

You will also note that the 238 Mc. signal is used in the receiver converter to change the 288 Mc. signal to 50 Mc. for use in another converter and thence to a communications receiver.

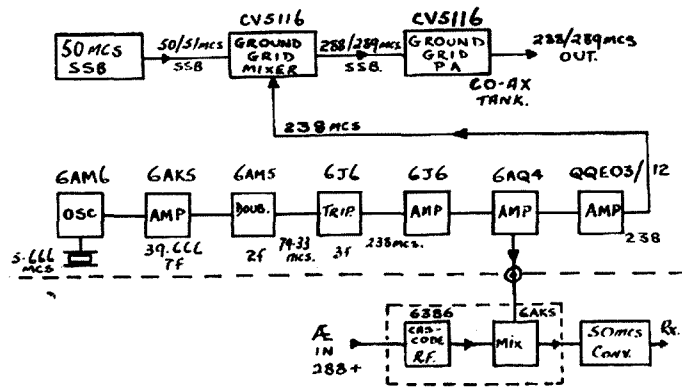


Fig. 1.—VK3AHL 288 Mc. S.s.b.

Some of the tubes used may not be familiar. The converter cascode r.f. stage uses a 6386 which is similar to a 6BK7, and the CV5116 is equivalent to the S.T.C. 3B240M tube. As a full treatment of the circuit would entail a large amount of preparation, Lance will be glad to reply to any queries and to furnish details of any part of the circuitry in which you may be interested.

THE 6B8 PRODUCT DETECTOR

Much cheaper than the excellent 7360 tube is the 6B8 which makes a good product detector. Fig. 2 shows the simplified circuit of the 6B8 product detector which appeared in "CQ" Aug. 1958. The method of coupling the oscillator output to the 6B8 is my own. Using the 6B8 tube in this role has three big advantages over the usual 12AU7/6BE6 product detectors. The i.f. input does not have to be attenuated, the b.f.o. injection is very small (2 to 3 volts) and the output is more than sufficient to drive the audio output tube without the need for an audio voltage amplifier.

You are probably wondering about the cathode follower output from the oscillator. I found that when taking the output from the grid or plate of the oscillator tube, the b.f.o. frequency varied with s.s.b. input to the 6B8, thus giving rise to distorted audio output. Placing a 1,000 ohm 1/4 watt resistor in the cathode circuit of the oscillator tube and coupling the b.f.o. signal with a 0.001 μ F. capacitor to the 6B8 control grid resulted in clean undistorted audio output. In my case, the oscillator circuit is that used in the BC453 receiver, the frequency is 85 Kc., and the tube is half of a 12AU7.

PORTABLE VK9

Well known Melbourne sidebander, Ron Harrison, has recently been moving around New Guinea, appearing in such places as Lae, Mt. Hagen, Madang, Wewak and Port Moresby.

Ron has been installing radio equipment for the airline for whom he toils. He took along his mobile equipment which performs so well on 20 metres from the streets of Melbourne and suburbs and has been kept busy handing out VK3AHJ/VK9 contacts with the aid of a simple dipole. At the time of writing, Ron had not yet appeared in Port Moresby so, for those who need Papua (and who doesn't?), keep your ears peeled for Ron on the high end. One amusing sidelight, was an American who asked Ron to rotate his antenna. "Jeeves, pull up that coconut palm and plant it again over there."

THE AUSTRALIAN S.S.B. REGISTER

Comps Daw, VK5EF, has gone to a lot of trouble to compile a very interesting booklet giving details of who is on s.s.b. in Australia. The book lists the call, name, location and equipment (receiver and transmitter) of the 230 or so sideband operators in this country. Maybe Comps has missed a few of us and some of his entries have blanks in them, so how about letting him know the details, very briefly, of your gear. Comps is very active

will contain the mechanical details. The LWM-3 is an s.s.b. transceiver employing 23 tubes and a Collins 2.1 kc. mechanical filter or an alternative full lattice crystal filter may be substituted. All bands from 3.5 Mc. to 30 Mc. are covered in eleven 200 kc. segments.

The LWM-3 delivers 5 watts p.e.p., ample to drive a pair of 8146 tubes or similar linear amplifier. This transceiver looks very similar in appearance to the Collins KWM2 and the construction is not beyond the advanced Amateur with a reasonable workshop.

Address your inquiries to Editor "A.R.," who has the above bulletins. It may be possible to post it on a round robin.

WHO

Steve VK0VK made DXCC from Wilkes in 1961 using the same gear now used by VK0DS. VK1SB is back on 20 mx, much to the delight of the DX. Stan is the only VK1 on 20 and is much sort after for W.A.V.K.A. and W.P.X. I knew he would not be long on 40 mx only.

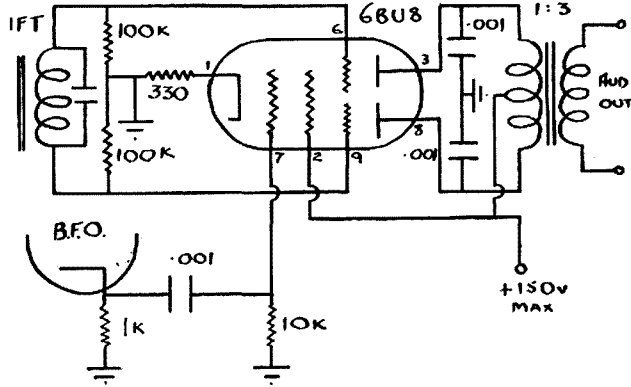


Fig. 2.—Simplified 6B8 Product Detector.

on the bands, but if you miss working him, write the information on the back of a QSL and drop it in the mail. The address is: VK5EF, P.O. Box 44, Gawler, S.A.

VK0 1962

This year could be a lean year for VK0 contacts, although this will not be the fault of Don 3ZIE, who is signing VK0DS until next January. Don is an ionospheric physicist at Wilkes and when not going about his official duties, will be on 20 mx using the modified KWS1 and 75A4 combination that did such a sterling job for the chaps last year. A ground plane radiates the signal which often has that polar flutter on it. Here again single sideband shows to very great advantage. A.m. signals rapidly lose their intelligibility under these flutter conditions.

Another call you will hear from Wilkes is VK0CG, while from Mawson VK0BW is expected, although it is understood that s.s.b. equipment is not available at this base. At Macquarie Island there is believed to be some Amateur activity but again not on sideband; the call sign is not known at present either. Contrary to what one or two overseas journals have stated, there is definitely no Amateur activity from Heard Island nor can any be expected as the island is uninhabited except for seals, sea elephants, penguins and the like.

At Wilkes just a hundred yards or so from VK0DS, the American personnel of the base operate KCAAC on s.s.b., mostly in phone-patches to their families and friends in the United States. What a wonderful boost for the Australians in the Antarctic, if this facility was available to them.

THE LWM-3

The Nov.-Dec. 1961 issue of G.E. Ham News gives circuit details of a very fine piece of home-grown equipment. The Jan.-Feb. issue

As we anticipated last month, Col Harvey, ex-VK2AQU, is now on from Singapore, signing VS1AU, and is on or about 14,300 Kc. from 1000 to 1200 G.M.T., almost every evening. Col, who is a Wing Commander in the R.A.A.F., is on loan to Far East Air Force Headquarters, R.A.F., based at Changi and is expected to be there for two years or so.

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A common cause of annoyance on both the six and two metre bands is the very broad, splattering signal, and what is hard to understand is that most Amateurs do not seem to care about it.

It appears to have become accepted practice to place about 200 per cent. modulation on the carrier to try and blast the intelligence (?) through the noise level of the DX station's rx.

Granted, it does help somewhat in this regard, but what about the other stations using the band? Are they expected to copy signals through your 100 to 200 kc. wide splatter?

Just remember what your thoughts are when somebody's spreading sidebands obliterate the station you are in contact with, and then check your own transmission to see if it is clean.

There is a number of excellent methods of increasing the "talk power" of your transmission, such as clipping and limiting, so that there is really no valid excuse for over-modulation.

Other causes of spreading signals, of course, include incorrect bias and drive to the final, incorrect neutralisation and parasitics.

Another thought that must be carefully taken into consideration in the matter of judging wide signals is the ability of your receiving set-up. Many receivers have poor selectivity and still others suffer from overload in various stages. (A classic example is the owner of a 622 rx telling a local that he was splattering.)

So before you start telling everybody that they are splattering, make absolutely certain that your rx (or your operation thereof) is not at fault.

Unfortunately, Roy 8RY has had to give away his post as scribe for Western Australia, but we welcome 6ZDR and 6ZDM (ex-3ZGA) to the page. Thanks very much for a job well done Roy, and all the best to you in the future. Bill, 3ARZ.

NEW SOUTH WALES

Thirty-seven members attended the March meeting and heard three lectures. The first by Neville 2ZNM on his "Micro-mitter," a transistorised 144 Mc. tx/rx. It consisted of a xtal controlled tx and a regenerative rx. Transistors used in the r.f. sections were OC171s which are readily available at a price comparable with tubes. Power input is 50 milliwatts. The circuit, parts list, etc., have been sent to "A.R.". The second lecture was by Tim 2ZTM on the "Mini-mitter," a miniature tx using tubes which can be made for either 50 or 144 Mc. These tx's have been built by the dozen and acquit themselves very well. The third speaker was Barry 2ZAH, who spoke of techniques and ideas at 1296 Mc., and suitable tube types for the proposed band on 432 Mc. It is anticipated that 432 Mc. will be more popular than 576 Mc.

The night hidden tx was hidden at Burraneer Bay, near Cronulla. Paul 2ZPJ was first, followed by 2ZCK and 2ZKP.

Midsummer Field Day. Over 40 stations participated in this event, but only 10 logs were received—7 portable and 3 home stations. Winner of field stations was 2AWZ, followed by 2ZKF and 2ZPJ. Home station winner was 2RX, followed by 2ZLB and 2AVN. Logs were mostly well set out and mileages fairly accurate. It would assist in future events if participants gave their grid reference on the appropriate 4-mile and 1-mile army survey maps. These being the maps used for log checking.

144 Mc.—This band is very quiet but some are reported experimenting with transistors and portable equipment. Les 2ZBT has a transistor rx using 14 transistors, but no details yet. Also some activity on s.s.b. by 2RX and 2AAB.

1296 Mc.—On Sunday, 4th March, Dick 2ZCF took his 1296 Mc. rx to Glenbrook on the lower Blue Mountains and worked Bill 2ZAC at Croydun. Signals were 5 and 7 over the 30-mile path. Contact was one way, the return being on 144 Mc. Bill's tx ran 20w. input to a 2C39 tripler and fed a 32 element phased array. Dick's rx has a xtal mixer in a trough line and is xtal locked. Ant. is 16 element phased array.—2ZDP.

QUEENSLAND

DX on 8 mx is gradually slowing down now. On 6th Feb. the t.v. station from ZL was heard but no stations were worked. On 9th, VK3

and VK5 stations were worked. A really good opening occurred on the following day when VK3-3-5-7-8 were heard. Then was a lull in DX until 14th when VK3 and VK7 were worked. 15th, Korean f.m. station heard, but no JAs. 17th, VK5 was worked. 19th, VK3 and VK5 worked and ZL t.v. station heard.

On 21st and 22nd magnetic storms occurred which resulted in an excellent opening to JA on 24th and another opening which was not quite as good on 25th. 21st, Korean f.m. station heard. 26th and 27th, Russian t.v. station heard. 28th, VK3-5-7 were worked and on 5th March, JAs were again worked.

On 21st, 4ZAX was working mobile and portable 6 mx from Byron Bay in VK2 and he had no trouble in working Brisbane stations. The signal he put into Brisbane was fantastic. Other notable accomplishments of the month were when 4ZBZ, portable at Lismore in VK2, worked Brisbane on 2 mx. As the result of Ron 4ZBZ stirring local activity in Lismore, 2ZFS worked 4ZAX on 2 mx also.

On 16th Feb., the V.h.f. Group meeting was held at the home of the scribe, 4ZBT. The following evening a 6 mx mobile night was held and a good time was had by all.

On 2nd March, 4ZAX and 4ZBF secreted the 2 mx hidden tx near the remote corner of a local aerodrome. Finding it proved so difficult that it would have been far more convenient to hire a helicopter than to drive vast distances where no roads existed.

Royce 4ZRH announced his engagement to Alwyn. And George 4ZGD announced his engagement to Dell. Congratulations you lucky people.

4ZDJ has recently returned from a trip to Sydney where he spent much money—some on Amateur gear. Brand new call sign is 4RX, who was 4ZAP. Congrats., Brian. Rare calls recently heard on 6 mx include Alf 4OL, who is normally heard on 40 mx, and Bill 4EN, who usually switches on once a year.—4ZBT.

SOUTH AUSTRALIA

50 Mc.—This band has been quite good over Feb., with sporadic E DX holding up quite well towards the end of the month. Good openings occurred on 10th, 11th, 19th and 28th of Feb. No band openings to VK3, VK3, VK6 or ZL were recorded, although other States were well represented. The ZL t.v. sound was heard on 21st and 22nd Feb. by 5ZMK; no ZL contacts however.

Quite a deal of thought has been devoted here in VK5 recently to the construction of a 50 Mc. beacon station. Most operators are in favour of a beacon and the problems will be considered at a V.h.f. Group meeting to be held soon. The views of other States, particularly as regards the operating frequency, would be appreciated.

Rodney 5ZCD of Bordertown is on both 50.12 and 144.5 Mc. running 20-30w. on each band. He looks for contacts on Sunday nights at 2030 hrs. E.A.S.T. Recent 2 mx contacts for Rodney include 5ZDR, 5BC, 5ZMK, 3NN. Thanks for the news Rod, and please keep it up (send to 5ZCR). Brian 5ZBR in Gawler is now running 100w. on 50 Mc. to a pair of 807s. Brian is about 25 miles north of Adelaide, and now puts in a good signal on 6 mx.

Two metres has been quite reasonable recently. Keith 5ZMK has his 2 mx yagi up to 50 ft. now and joins 5ZDR for the nightly sked with 3NN. Keith reports a big increase in the strength of 2 mx signals since he has put the beam higher. Keith has recently worked Tony 5ZAI (144.3 Mc.) in Bordertown. (Tony is 10 miles from 5ZCD, on 144.5 Mc.)

Gary 5ZK has got a 6CW4 going in his 2 mx front-end, and reports a big improvement over his triode connected 6AK5.

288 Mc.—The only news of interest on 288 Mc. is that John 5ZDZ is now running 80w. to a 6/40. John's tx is xtal controlled.

General News.—At the last meeting of the V.h.f. Group the election of officers was held. President for the coming year (1962) is Gary 5ZK, Vice-President Mick 5ZDR, and Councilors 5ZAW, 5ZCR and 5BQ (also Sec.).

David 5AW is now living in Elizabeth (10 miles north of Adelaide) and hopes to have his gear set up soon. Joe 5ZCP is moving to Whyalla, we hope he will get going from up there. Barry 5BQ has moved to Coronation Ave., Marden, and will soon have gear on air.

Wally 5DF in Trow Knob is showing an interest in v.h.f. Let's hope something eventuates. Jack 5ZSS had a bumper barbecue evening at his home recently. Most of the v.h.f. gang attended and an excellent time was had by all.—Al, 5ZCR.

WESTERN AUSTRALIA

Roy 6RY, who has been doing a sterling job as publicity officer, has been forced to withdraw from the position because of personal commitments. We all extend our warmest thanks to him for his untiring efforts in this position.

The National Field Day proved to be a complete success in VK6 due largely to the friendly co-operation of a great many of the local Amateurs. Special thanks are hereby extended to 6ZCB, 6RU and 6BU for their willing loan of necessary gear. To top off an extremely successful day, segments of the event were televised by a local t.v. station. This contributed greatly towards the cause of publicising the Amateurs of VK6.

Mac 6MM has been worked on s.s.b. on six and with his balanced mod. rig. has a very clean signal. Others are also experimenting with s.s.b. and Kevin 6ZCB is almost on the breeze with it.

The last fox hunt was won in a photo finish by 6ZBT from 6ZCE. The tx was hidden, perhaps a little too skillfully, by 6ZAA.

Much to the disappointment of some of the newcomers to the 6 mx band, no DX break of any magnitude occurred during Feb. Several of these newcomers were reported to be gazing hopefully in the direction of Japan with that certain DX look in their eyes.

As a break to Japan seems unlikely, the VK6s would be well advised to turn their beams towards Derby on Saturday between 1 and 2 p.m. 6ZBP in Derby is trying hard to obtain contacts on 6 mx and will be calling CQ between above specified times.

As the authors of these notes are compiling them for the first time, comments, good or bad, would be appreciated. Any such comments or recommendations may be personally passed on to the authors at the next V.h.f. Group meeting at D.C.A. Regional Workshops in Guildford Road.—73, 6ZDR-6ZDM.

NORTHERN TERRITORY

Not much to report this month. One opening on 50 Mc. on 11th Feb. during the N.F.D. I heard the following: 3ZCW, 3GV and 3ZCC and worked 3ZIC, 3WK and 3UT, the latter two in Warrambool.

I will probably have 150w. to a QB3/300 soon and am also contemplating a 32 el. phased array strung between a couple of trees.

On 4th March, between 2215 and 2230 hrs., heard some JAs on T.E. and also HLKA and other stations. Same thing around 2315 hrs. on 5th March. So far no JAs worked.

The chap in Darwin has received word that he has to sit for the exam. again in April, but he is getting his gear all ready to go.

I spend most evenings on 20 mx and can be found around 14220 kc. about 2000 hrs. E.A.S.T.—David, 8AU.

PAPUA

Six mx DX this month has been most noticeable by its absence. Only two DX openings were observed. 5th Feb. 9CK and 9NW worked into VK4 Rockhampton. 1200-1300 hrs., then on 25th Feb. 9AU worked 4NG at Rocky at 1925 hrs., also heard other VK4s including 4PU, 4ZB, and 4ZBZ between 1900 and 2100 hrs., but could not break through to them.

Brisbane, Channel 2, t.v. audio signals heard on 5th Feb., 1100-1300 hrs., and 1900 hrs. on 25th. 49 Mc. T.E. signals from N.N.E. heard at S9 plus on 5th Feb., 2015-2230 hrs., also on 1st March S8 from 1900-2100 hrs.

No other DX was in evidence during the month. 9AU has the beam on Cairns at 1900 hrs. most evenings, but has not heard anything around 50.7 Mc. as yet.

Gordon 9NW has recently swapped his 4-wheel Ham shack for another of the same type and is off the air for the present. Paul 9ZBV has been heard testing a new ground plane on 50 Mc. 9AU has a new 144 Mc. converter using pair 6CW4s in cascade into 12AT7 mixer/cathode follower, xtal osc. chain is 6AK5/12AT7. So far best DX is 9ZBV, approx. ½ mile away and low power commercial circuit 10 miles away on 156 Mc.—9AU.

VICTORIA

Last general meeting of the Group, 14 members were present. It was suggested by members to make a recording of the S.w.l. Section of the b.c. from Warrnambool on week-end of the Convention, the recording was made on Saturday night. It was transmitted on 80 mx from 3FX to 3OM and re-broadcast from 3W1/Portable on Sunday morning.

At construction nights, it was suggested by Maurice Cox to construct simple radio gear such as single-tube converters to feed into b.c. sets. The younger members can afford to build this gear, and will also get them interested in the listening side of radio.

Ian L3065 has arrived back in Melbourne from VK1 and has his nose back to the grindstone once again. He has managed to find some time for a little DX hunting and has improved his DX total a small amount, but has heard no new countries.

Noel L3101 has not had the opportunity to do a great deal of listening this month. 20 mx has been fair to W land in early morning via the long path, and has been much better from 19th Feb. The 40 and 80 mx bands have not been the best. At present Noel is building a W8JK antenna and with a bit of luck it should be in operation by Easter time. The next job is to move the rx up into the spare bedroom for the winter months and settle down to some solid listening to boost his score.

Maurie L3055 is still listening to rare DX on 20 and 15 mx and is still waiting for an opening on 10 mx (wish you luck, OM). He has wired up a speaker and headphone network so as either the H.R.O. or the BC348 can work into the one speaker. He is thinking seriously of disposing of the vee beams and erecting two 20 mx Windoms. Also he thinks he may put up a ground plane antenna for 10 mx. Cards received: DU7SU, G3NVA, LASID, XE1CV/XF4, VK9GP.

Ken L3117 has not been able to attend the meetings because of the transport problem. He was hoping to attend the Convention, but his parents disapproved. The rx line-up at Ken's QTH is a Philips No. 4 with an extra audio stage and several other modifications. The antenna consists of two folded dipoles, one for 7 Mc. and the other for 14 Mc. The shack is made of corrugated iron sheeting and is about

8 ft. square by 7 ft. high. Ken reports that 80 mx is opening up for DX now that winter is coming on.

TASMANIA

Activities are very quiet according to Neville 7ZEE/L7013, who has been away for two weeks, therefore very little DX was heard. He is active on 2 mx also. David 7ZAY has been practising c.w. and will sit for his full licence soon. He has been hearing some good signals on 40 mx with his new 9R/9S receiver.

Ted 7EB has recently purchased a BC454 which is working really well. He is planning some modifications to it so as he can hear the rare DX.

Greg Johnston has been away most of the last month and has not been very active.

RADIO MAIL

The mail this month is from the following listeners: Peter Drew, Chas Abernathy, Eric Trebilcock, Peter Fields, and Don Grantley.

Peter L6021 has found 20 mx very good every night from Asia and Europe and good in the mornings to U.S.A. During the month Peter heard his first ZS and VE on 40 mx phone, also Europeans were heard at 1600 G.M.T. on 40 mx as well as two ZS stations. One new country confirmed by Peter was XE1HHT. Cards received by Peter during the month: ZL1IB, VK5DC (7 Mc. s.s.b. mobile), W6RO, XLIHHT.

Chas. L2211 reports that conditions for the Ross Hull Contest were perfect for most of the four weeks. In fact he has not listened on h.f. since Nov. 1961. He has sent out 38 reports and to date received 12 confirmations, which include three ZLs. Chas. has received the four ZL districts and now has the four confirmed. He is wondering if he is the first s.w.l. to have four ZL districts confirmed on 50 Mc. Chas. missed out on the elusive VK8 and VK9, and would have liked to have collected them. Also heard enough VK5s to qualify for the Elizabeth Award and is now waiting on confirmation while all the logging is taking place on v.h.f. Quite a few s.w.l. are climbing up the DX ladder, but Chas. has no intention of leaving 50 Mc. for quite a while yet.

Eric Trebilcock's best QSLs from Feb. to March: BVIUSE, JZ0BM, OH3WM (3.5 Me.),

UA0MO, UR2DZ, HL9KT, KK6AJ, UP2KNP, and VQ3HZ. Eric is very interested to know from which source did Bill John (Feb "A.R.") receive a QSL card from ZL5AI. He has had no luck as yet with this one.

Peter L5039 sends his DX QSL cards received this month. They are from JA1ENI, UR2BU, UA0LBQ, WA6JIM/MM, K4TRV, F8BO, VR1F, CTIYE, DLIN, KC6TM, ZS6AWO, DL9LZ, WA6MQL, W2ZX, BVIUSE, LA4VQ, 9M2FK, ZETJR, JA2KX, JA3IW, SA4AF, also a few VKs. Peter was over in VK3 in January. He visited Geelong, Bendigo, Swan Hill, Mildura and other places for a few days. He has just installed a 14 Mc. dipole and a one mx beam. A 6 mx beam has been up since Xmas.

Don L3088 has now reached the century in countries confirmed—a card from KH6EDY/Kure made the above possible. The following day GC2FMV came good with a card to start the second century. 83 countries have been heard in 33 zones in 1962 to date. Plenty of Ws have been heard on 80 mx c.w. mid evening, mainly being worked by 2QL. 7 Mc. c.w. is well and truly active for DX, but most pleasing is the DX coming through on 15 mx at 9 p.m. on 22/2/62. 20 mx was also very good at the same time. Don logged VP2SY for a new country. His QTH is P.O. Box 80, St. Vincent, West Indies.

Well chaps, that's all for this month, and will be looking for more news from you next month. 73, and best of DX—Robert, L3076.

S.W.L. DX LADDER FOR APRIL

	Countries		Zns.	S.s.b.		W
	Conf.	Hrd.		Conf.	Hrd.	
E. Trebilcock	274	280	40	—	—	5
D. Grantley	101	245	37	14	81	34
A. Wescott	80	158	31	33	92	—
M. Hilliard	67	208	33	5	100	11
M. Cox	41	210	22	8	118	14
C. Abernathy	30	57	21	—	—	13
P. Drew	29	172	18	7	75	4
P. Fields	28	133	—	—	—	—
N. Harrison	28	48	20	—	—	23
I. Thomas	17	131	16	6	70	8
D. Jenkins	10	141	7	—	—	—
H. Burger	6	185	5	1	19	—
N. Fisher	3	36	3	—	—	—

Correspondence

Any opinion expressed under this heading is the individual opinion of the writer and does not necessarily coincide with that of the publishers.

"INCREASED AUDIO WITHOUT SPLATTER"

Editor "A.R." Dear Sir,
The article "Increased Audio Without Splatter" in the March issue of "Amateur Radio" has left me, (amongst, I should hope, a considerable number of others) dismayed and shocked.

Dismayed, Sir, that your Technical Committee should have accepted such an article for publication—although it was probably no more fallacious than the article on the effects of a high s.w.r. in August 1961 "Amateur Radio".

My issue of "Amateur Radio" arrived only yesterday and this letter needs to be posted tomorrow to reach you in time for publication in the next issue. Obviously, then, I cannot produce a complete technical article in time. However, I consider it important to state, before anyone has time to try the circuit published that—

- It is incorrect to say that "The addition of the extra load proposed in B during the negative voltage excursion, if of proper value, results in nearly perfect symmetry loading of the Class B transformer secondary during the negative as well as the positive voltage excursions."
- The article infers that the modulator looks into a load widely varying over the audio cycle. Such is not the case in any reasonable transmitter. It also infers that distortion and splatter result from this. This is incorrect.

(c) The result of connecting the extra diode and resistor suggested across the secondary of the modulation will result in much increased distortion, a broad signal, overloading of the modulator tube and the modulation transformer, and, more importantly, will not prevent splatter.

—L. Vale, VK5NO.

GENTLEMEN'S AGREEMENT

Editor "A.R." Dear Sir,
The recent barrage of replies to my earlier letter pointing out the dictatorial attitude of F.E. in fostering this so called Gentlemen's Agreement warrants space for reply which you, Mr. Editor, being a true democrat will (I hope) let me have instead of curbing a controversial discussion with the blunt "correspondence is closed".

Some of the letters such as the satirical note from Jeff Vale, VK5NQ, who wants a statue of Samuel Morse erected outside my home, are ignored for the simple reason he endeavours to ridicule sincerity which is never fostered in a British society.

Frank Hine's outburst has my complete support for I think it wrong that a healthy correspondence is curbed without any justifiable reason. I have spent many years in journalism and worked with editors in many countries and rarely has any subject being discussed in the correspondence columns been stopped by The Editor; on the contrary it is encouraged. I hope this time the correspondence will be allowed to flow in the hope that right will prevail.

Now to get back to your correspondents to date. Les Brennan, VK4XJ, claims the Gentlemen's Agreement is recognised throughout the world. This is quite wrong. In America it is by regulation. The plea by the A.R.R.L. recently to get W stations off the top 15 Kc. of 14 Mc. has been a complete flop. In Europe

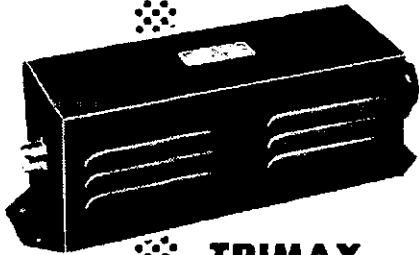
the top 50 or 100 is a mad house but at least there's plenty of activity. I've just returned from a world tour and spent some time with my dear friends in the Arab world and they just operate where they wish with most satisfactory results. At least their bands are busy—in sharp contrast to the Australian scene. Let's point that c.w. is international is really too silly for reply. Listen to any of these average DX contacts. Apart from swapping RST numbers and the plea for QSL, it is all over bar the shouting. It is the most impersonal means of communication I know.

"Tubby" Vale, too, says these market surveys are to suit the boss. Here I can speak with quite a good deal of authority as an executive in perhaps the most competitive industry in the world today. We rely on market surveys completely and without them we would all be out of business, especially when such huge capital investment is at stake. To say these figures of mine were to suit me is equivalent to saying I'm a Gentleman without Honour. They were taken independently by a very well qualified researcher with degrees in economics from three countries behind him.

It is quite obvious from what has already been published and what I hope will be published in the future that there is a genuine desire for a vote on the subject whether the c.w. territory should be curbed. One only has to listen any day or night and note the complete absence of activity on the c.w. end. Those who are so prolific in their replies to me are the minority who are on c.w. quite regularly but here it stops. It is this minority so outspoken in their defence that rise to put the claim of the c.w. world. Let us hear from more, who, I hope, are balanced like myself and willing to let justice and democracy prevail.

Like the Swiss, only facts convince me.
—Roth Jones, VK3BG.

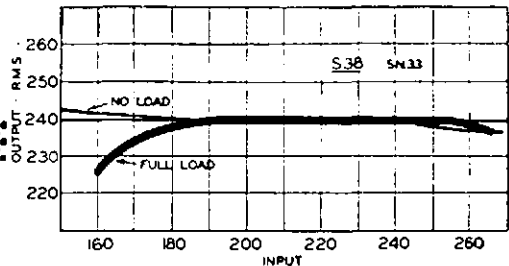
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FEDERAL AND DIVISIONAL MONTHLY NEWS REPORTS

(SEND CORRESPONDENCE DIRECT TO DIVISIONAL REPORTER NAMED AT PARA. END)

FEDERAL

NEW CALL SIGNS (OCTOBER)

VK— Australian Capital Territory
IRS—R. D. Stephenson, 3 Carnegie Cres., Narrabundah.

New South Wales

2IT—P. H. Long, R.A.A.F., Richmond.
2ASD—T. A. Dineen, 52 Glasher Pde., Cronulla.
2ZEH—D. G. Hocking, No. 86 (T) Wing, R.A.A.F. Richmond.
2ZLC—L. M. Carlton, 33 Edgar St., Auburn.
2ZRH—R. A. Hord, 106 Stapleton St., Wentworthville.
2ZRM—R. B. Mayall, 41 Crown St., Fairfield.
2ZSM—M. C. Smith, 5 Perth Ave., Lindfield.
2ZWG—G. D. Wilson, 36 Virtue St., Condell Park.

Victoria

3RA—B. W. Poulter, Lot 21 Astley St., Montmorceny.
3WK—W. J. Bell, Staywood Park, Wangoom.
3ACI—R. K. Hobby, 50 Adeney St., Kew.
3AIU—I. R. Upton, 34 Delacy St., Maldstone.
3ASY—O. W. Guy, 22 Williams Rd., Shepparton.
3AWY—L. T. White, Downey St., Alexandra.
3AYE—G. M. Nicholls, 14 Somerset Rd., Glen Iris.
3ZIO—B. L. Hearn, 6 McBain St., Altona.
3ZLL—K. R. Halse, 18 White St., Glen Iris.
3ZME—R. J. A. Little, 10 Albert Rd., South Melbourne.
3ZMG—G. V. Comber, 11 Peace St., Highett.
3ZND—N. G. Daniel, 19 Williams Rd., Laverton.

Queensland

4EZ—R. D. Slyver, 26 Jack St., Kedron.
4JM—J. McGrath, Elliott St., Elliott Heads.
4OS—Oakleigh Boy Scouts Radio Club, Station: High St., Dorrington; Postal: 15 Noeline St., Dorrington.
4RO—R. V. Ramo, Station: Canberra St., Ayr; Postal: P.O. Box 805, Ayr.
4ZDH—D. R. Hamn, 37 Ironside St., St. Lucia.
4ZEF—Evelyn F. Bahr, Station: 177 Bowen Rd., Townsville; Postal: 187 Bowen Rd., Townsville.
4ZKR—K. L. Ross, 5 Thirteenth Ave., Kedron.
4ZRR—R. R. Robinson, 22 Hughes St., Hermit Park, Townsville.
4ZWL—W. H. Lake, Station: Prior St., Machans Beach, via Cairns; Postal: P.O. Box 1152, Cairns.

South Australia

5RC—J. Reilly, Station: 85 Leveve Tee., North Adelaide; Postal: C/o E.M.I. Electronics P/L., Box 176, P.O. Salisbury.
5ZAH—V. N. Blackmore, 2 Yarralin St., Klemzig.
5ZEC—A. B. Cleave, Commercial Rd., Strathalbyn.
5ZGK—K. L. Gore, 20 Hawkins Ave., Flinder Park.
5ZHB—A. G. Halley, 16 Dunstan Ave., Kensington Park.
5ZJB—J. R. Beaumont, 28 Ranelagh St., Glengowrie.
5ZJW—A. J. Whittall, 38 Simpson Ave., Dudley Park.
5ZMS—C. D. Packham, 7 Pembroke St., Kensington Park.

Western Australia

6DC—W. A. Wilson, 25 Ougden Way, Medina.

Tasmania

7BS—13th Hobart Group Boy Scouts Radio Club, 4 Strickland Ave., South Hobart.
7JF—J. E. Forster, 12 Denison Ave., Poatina.

Territories

9LA—L. C. Allen, C/o D.C.A., Cocos Island.

FEDERAL QSL BUREAU

A change in the A.R.R.L. QSL Bureau set-up is: VEB—Mr. Russ Allen, VEBBC, Aeradio Station, S.N.A.G., Yukon Territory, Canada.
WPE2AK, Leroy Waite, 39 Hannum St., Ballston Spa, N.Y., U.S.A., advises that he handles cards for all W. K. VE s.w.l's. He has performed this service since 1957.

The Burma Amateur Radio Society has been changed to the Burma Amateur Radio Transmitting Society. The President is XZ2ST and the Secretary XZ2SY with address as Box 800, Rangoon, Burma.

Cards handled by the Federal Bureau for the W.I.A., year ending Feb. '62, totalled 44,538—the highest since 1958.

The P.Z.K. (Polish Section of I.A.R.U.) is holding a Contest to celebrate the thousandth anniversary of the Polish State. Contest dates are: c.w. 2000z April 7 to 2000z April 8; phones 2000z April 14 to 2000z April 15. Bands 3.5 to 28 Mc. Rules, etc., from this Bureau.

The above body is also sponsoring an Award called "Millenium S.P. Award." SP contacts made between Jan. 1, 1962, and Dec. 31, 1966, are eligible. Non European Amateurs need 20 contacts with SP stations located in at least five SP call areas. A list of QSLs held covering above contacts and certified by Australian Awards Manager, together with five I.R.C. should be sent to Awards Manager P.Z.K., Box 320, Warsaw 10, Poland.

—Ray Jones, VK3RJ, Manager.

FEDERAL AWARDS

During February 1962 V.h.f. Awards were made as follows:

V.H.F.C.C.

No. 14—Barry Cleworth, VK3BQ (ex-VK5ZBZ), 50 Mc., 165.
No. 15—David Rankin, VK3QV (ex-VK3ZAQ), 50 Mc., 105.
No. 16—Max Lindsay, VK4HD, 50 Mc., 104.
No. 9—Bill Rushby, VK2ABR, 50 Mc. total 166.

W.A.S. 50 Me.

No. 30—Quentin Porter, VK3IM, plus JA, VR2, ZL and Papua.
No. 31—John Barker, VK5ZZ/T (ex-VK5ZCJ), plus JA, ZL.
No. 32—Roy Taylor, VK9AU (ex-VK2TR), plus JA, KH6, and Papua.

—Alf Kissick, VK3KB, Manager.

NEW SOUTH WALES

GENERAL MEETING

The Feb. meeting of the N.S.W. Division was held at Science House, Gloucester St. Sydney, on Friday, 23rd Feb., with an attendance of about 40 members. The President, Bill 2YB, opened the meeting at 8.20 p.m. and welcomed the visitors, John 4DD and Ted Mulholland. Apologies were received from 2ZNM, 2ST and Alan Chato. New members admitted to the Division totalled seven full members and 14 associate members.

Reference was made in correspondence to the Sefton Boys' High School Radio Club which is progressing with an initial membership of 12 boys.

The lecturer for the evening was Barry 2ZAG, President of the V.h.f. Group of the N.S.W. Division, who spoke on the "Future of Amateur Radio". Tracing the history of Radio from the time of Hertz and Marconi, whose initial experiments were conducted on the very high frequencies, Barry pointed out the many phases of v.h.f. techniques, its expansion over the years, and its appeal to the more youthful enthusiasts. The vote of thanks to the lecturer was moved by Bob 2AWA.

The time remaining was taken up with the discussion of agenda items which will be discussed at the Federal Convention to be held at Perth at Easter. The meeting closed at 10.50 p.m.

HUNTER BRANCH

Following close upon the Dural Convention, the Gosford Field Day attracted quite a number of zone members. The double postponement apparently resulted in a greater interest and all to whom I spoke were loud in their praise of the Gosford boys in selecting such a perfect spot for the annual get-together. It seems that this may become the regular venue and if so, should result in an even greater roll up than this year's record. Two of the local 144 men were successful in the second fox hunt, those clever types being Bill 2XT who came in first and President Stuart 2AYF who was 2nd.

Surely the greatest news for the month, other than the Field Day, is the opening of the new television station on the hills beyond Roseville. Shannon, our mutual friend, has at last found a use for his thirty bob t.v. set and now finds that two well soaked pieces of string, secured to the antenna terminals with 300 ohm ribbon, suffices to give him a strong signal with which not even his well loved Geloso will interfere. Now that a good signal

can be obtained in most of the zone, the problems of many members will be partially solved, especially those in very difficult areas. At least two Harrys are particularly jubilant about all this. In G land the authorities were persuaded to allow the R.S.G.B. to use the f.m. mast in Kent for a v.h.f. beacon on the 2 mx band. I wonder what reception NBN would give the Institute? Apparently the service area of the new tx is quite extensive.

National Field Day activity in the zone was slight, that is on 40 and 80 mx and at one stage all that could be heard was the ring of an axe in the hills behind Teralba as a most scientific wire was changed from one tree to another. Yes, it rained about 100 points during the process.

Jim 2AHT from Toronto has now a beam for 40 mx directed to the land of kilowatts and is having a great deal of success with it. During the A.R.R.L. DX Contest he was, as reported, top scorer for VK.

Returning to the Field Day, Ron 2ASJ was on 40 for a time and in good voice, too, as well as Charlie. It was a delight to hear these chaps coming through so well. It is to be hoped the t.v. problem is partly solved for you both. Of course the regular customers were there including Bob and Bill. I suppose you heard that shocking display last Sunday when the failure to switch on the final was blamed on a burnt out fuse? Another most unlikely story.

Chris 2PZ treated the branch to an excellent lecture on gear in the shack at the Jan. meeting, illustrating his discourse with a great deal of fine equipment and some well chosen colored slides. In addition, Peter 2AIY showed slides of the I.R.E. visit to the Parkes Radio Telescope, concluding one of the most informative meetings for some time. A total of nineteen members, nine associates and five visitors were present including five of the Superior Radio staff to carry the gear! Come again soon Chris.

By the time this appears the new officers for 1962 will have been chosen and if you missed

W.I.A. D.X.C.C.

Listed below are the highest twelve members in each section. New members and those whose totals have been amended will also be shown.

PHONE

Call	Cer. C'tnt- No. ries	Call	Cer. C'tnt- No. ries
VK5AB	45 268	VK6KW	4 206
VK6RU	2 258	VK3ATN	26 204
VK6MK	43 252	VK4HR	12 192
VK3AHO	51 236	VK4RW	23 184
VK4FJ	21 229	VK3BZ	3 176
VK3WL	14 211	VK4WF	18 173

New Member:

VK4RQ .. 57 110

C.W.

Call	Cer. C'tnt- No. ries	Call	Cer. C'tnt- No. ries
VK3KB	10 300	VK4HR	8 218
VK3CX	26 288	VK6RU	18 218
VK4FJ	29 268	VK3XU	48 213
VK3NC	19 255	VK7LZ	17 212
VK3FH	15 226	VK3YL	39 211
VK3BZ	6 222	VK9XK	41 204

Amendments:

VK5RX	23 203	VK3ARX	63 174
VK3RJ	42 175	VK3JF	70 125

OPEN

Call	Cer. C'tnt- No. ries	Call	Cer. C'tnt- No. ries
VK2ACX	6 299	VK3HG	3 241
VK6RU	8 274	VK3AHO	76 238
VK4FJ	32 274	VK4HR	7 233
VK3NC	77 260	VK3BZ	4 231
VK6MK	74 256	VK3JA	43 229
VK2AGH	83 245	VK3WL	45 225

Amendments:

VK4WF	40 177	VK2APK	82 158
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the meeting, it's your own fault, but don't miss the next meeting whatever else you do. It happens to be on Lucky Friday, 13th, and as well is a "Do It Yourself" night. No doubt some interesting and perhaps even hilarious demonstrations will be on view so remember 8 p.m. at the University College, Tighes Hill. And Bill 2XT still welcomes visitors on the third Wednesday of each month at his hostelry, April 18 that is, so see you there. 73, 2AKX.

BLUE MOUNTAINS SECTION

The Feb. meeting, held as usual at Lawson, was once more well attended with 17 members present. Several business items provided plenty of discussion. There being no lecture, the meeting closed for supper and the usual rag chew. Some films have been made available to the Club so it was put forward that net meeting be a film evening, the only hitch being a projector which according to my spies has been organised.

Gossip for this month is shorter than ever. Club band activity seems poor. Where is everybody on 8 mx? Six has been good, they say. I hear that Bob Pinning has received his ticket from the last exam. Congrats. Bob, hope we hear a lot of you. Whilst on exams., Noel Walker has not received any word as yet, but is still going ahead with his building programme. Jack Ferris is geared up again if he can find a tutor? Had words with Al 2ZFB on 6 mx and I understand he can only go on one band due to power supplies. Wal 2MZ has been carrying out some more checks on 1296 Mc.

Don 2ART and yours truly journeyed to 2WI the other day to help with the broadcast. The broadcast went OK, but the car gave plenty of trouble. After extensive repairs, we were able to return on four cylinders instead of three. My spies tell me that Sid 2AVK has been on the bands with his small rig with good results. Jack 2ADF is now busy getting a 3BZ tx on the air in place of the Geloso as a standby. Lorry 2ZJC is having antenna trouble and is using a vertical as a temporary one. 73, 2ADA.

CENTRAL COAST ZONE

Major 2RU was re-elected President at the Feb. meeting of the Gosford Radio Club. Lindsay 2ON is Vice-President, Reg 2AI continues in office as Secretary, and Ernie 2EH is now Public Relations Officer. Does any other Club have a P.R.O.?

The 5th Annual Field Day at the new venue, Gosford Racecourse, was more than well at-

tended, about 111 Hams checking in. The luncheon was prepared and served by the XYLS of 2RU, 2AI, 2ALA, 2RF, 2MV, 2AVJ and 2YA. Bob 2IN and Perce Day officiated at the registration desk. The spacious setting with trim green lawns and shady trees for parking meant much to the success of the day. Twenty-two cars set off in the 144 Mc. hunts. The morning search led to Somersby, eight miles up in the mountains, and I understand the winner arrived on the scene at 50 m.p.h.! He was Dave 2AWZ. The afternoon hide-out was at Terrigal on top of a small hill and, because of the reflections from a hilly terrain, only four cars finished. This was won by Bill 2XT.

A scenic trip to Ettalong by launch from 2 to 4 p.m. was greatly enjoyed by the XYLS and harmonics.

The 7 Mc. scramble was won by Jim 2PM with 20 contacts in 30 minutes. The lucky dip was well patronised and a supply of Gosford oranges was popular with the children. A small amount of disposals gear was handled during the day. Johnny 2GA and Geoff 2MV helped the visitors to liquid refreshments below the main grandstand.

The programme concluded at 5 p.m. with presentation of prizes. Apologies are tendered to those who were inconvenienced by the double postponement, but there is no doubt the weather on 26th Feb. was ideal for a field day.

Alec 2AAK has left for parts unknown, taking no mobile gear. Len 2AMU will be asked for a lecture soon on "Dams I have seen" with coloured slides of Warragamba and others. Congrats. are in order for Ken 2AFH on the safe arrival of daughter number five. Now things are more settled the 144 meg. project will get more attention. Frank 2AFJ has his 2 mx converter working and the tx is not far behind. Ernie 2EH now appears on the 3.65 meg. Central Coast net every Monday at 2030 hrs. Stewart 2AYF had a close contact QSO with 2RU on 144 while racing through Gosford the other day at 8 a.m. Geoff 2AIF is heard on 80 at times when not appearing on the stage or selling a certain brand of tractor.

Your scribe, 2ON, finds DX much easier to work with the quad. Although giving a variable gain of 0 to 2 S points over a dipole, it really sparkles on the rx. Line-hash is almost absent on the quad and the effect is about 6 S points of improvement in signal-to-noise ratio.

BOORAGUL HIGH SCHOOL RADIO CLUB

Time table alterations have given us a slow start this year, but already the numbers are up to 20. Thanks to the Slow Morse boys, the night sessions are now being taped and re-played at lunch time so as to give more time for theory and practice in the afternoons.

The long awaited higher power tx now looks to be almost ready and should be on in April. Those who are waiting on QSLs should have them by now and if anyone has been missed, a call at 0600 G.M.T. Tuesday or Friday, should bring results.

Our thanks to those who have helped with gear, especially Rex and Rudy. The demonstration cavity magnetron is available for loan to any school club. Unfortunately it is not a working model, but it is a current British type and quite small enough to post. Mr. Colhoun, of the A.B.C., has kindly arranged a visit to the studios and tx at 2NA and it is hoped that we may also see NBN soon.—73, 2ATZ.

CHRISTIAN BROTHERS' COLLEGE BOYS' RADIO CLUB

This year looks like being very good for club activity. The boys are highly interested and we do have enough time available to make regular appearances on 20 and 40 mx. At the time of writing the boys are new to the hobby, and running a 150w. s.s.b. rig is somewhat confusing. On 20 mx very interesting talks have been given to an entire class by Amateurs in different parts of the Pacific. It's a fine way to learn some geography. We will always be pleased to hear from any Amateurs in other States or countries who can tell us a little about their own district; trouble is our working hours are confined to 2300-0500 G.M.T.—that's during working hours in Eastern Australia. The signal needs to be S9 too, for all the class to hear.

The boys' best effort so far on 20 mx has been four continents in an hour, one day when Africa unexpectedly came in at 0630z on 20 mx. Chief "ops" for the year look like being Paul, Terry and Gary. Paul has an advantage, living just across the road from the school.

We found the guy wires on our beam were ruining the 20 mx signal. The addition of a dozen insulators to the eight guy wires worked wonders. Other people might find food for thought here—a field strength meter held near a guy wire tells its own story.

A flying visit was made to the Gosford Field Day recently, but only the local boys were able to come. They saw some wonderful gear and worked the world's nearest DX on 2ACQ's mobile; thanks Frank. 73, 2ATQ.

VICTORIA

Mr. John Hill, of Electronic Industries Ltd., was the lecturer at the March meeting held as usual in the Radio Theatre of the Royal Melbourne Institute of Technology. Mr. Hill started his talk with the remark that he held an Amateur licence just before the war, then without further ado got busy with the mathematics of radar and developed the "radar equation". Then he showed how the equation could be used to calculate the power and other requirements needed to meet a given performance specification. Mr. Hill then went on to explain the mechanism of azimuth stabilisation, true motion compensation and other mysteries, and concluded with the projection of a series of slides showing typical p.p.i. displays and commercial radar equipment. The lecturer devoted considerable time to answering the many questions asked. The appreciation of the members for such a fine lecture was expressed by Ken 3AFJ in moving a vote of thanks.

The President, David 3ADW, read out the names of new members. Federal Councillor read a letter from F.E. to the effect that rumours of a compulsory change of a.m. to s.s.b. for Amateurs are groundless; the true story is that this recommendation (and that is all that it is!) applies to commercial stations only.

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A lively discussion about the possible reasons for poor attendances at general meetings then took place with the result that a number of constructive ideas were brought forth. Council will consider these matters at its next meeting. The next meeting will be the Annual General Meeting and will be held in the Radio Theatre, R.M.I.T. on Wednesday, 4th April. See you there? 73, 3AEL.

WESTERN ZONE

Sorry chaps that zone notes seem to have gone astray somewhere along the line recently. Rather unfortunate that we have already lost one of our members, and will be losing another shortly. Keith 3QG has left Murtoa and is now residing in Rosanna. We wish Keith all the very best of luck in his new location. He is still working as a radio technician at one of the h.c. stations in the city.

Gordon 3GW, of Rainbow, is also leaving for the "big smoke". We will certainly miss Gordon very much as he has been one of the most active and hard working members. Thanks a lot Gordon for taking the W.I.A. broadcasts over the past years and we also wish yourself and good wife all the best of future happiness.

News has been a little on the scarce side over the holiday period, however guess there will be more activity during the winter months when conditions are better for Hamming. 3AKW

MOORABBIN & DISTRICT RADIO CLUB

Once again the National Field Day has come and gone, and although our activities were curtailed to some extent by the lateness of notification of Rule 6A, we did very well indeed and results will be published in due course.

VK3APC/P was situated at Wonga Park near Crocydon, and occupied three sites on high spots within the area laid down. At site one, 144 and 7 Mc. were operating; at site two, 50 and 14 Mc.; and at site three, 21 and 3.5 Mc. Operating the station on the different frequencies it was found that 144 Mc. was normal while 50 Mc. lay wide open on Sunday afternoon. VKs, VK3, VK9 were all contacted, and VK5ZAX/M was worked while using only 5w. input and travelling at 60 m.p.h. 21 Mc. came good also on Sunday afternoon, while 14 Mc. was just ordinary. 7 Mc. was very depressed for a start, but later proved the old stand-by. The highlight on this band was the number of ZLs worked on c.w. A Contest in ZL land coincided with our N.F.D., hi! 3.5 Mc. was very disappointing but we found out from a local who operates the bush fire network that the particular spot where we were operating was no good for transmission on 3 Mc.

The following members were responsible for the organisation and operation of VK3APC/P: Peter 3APD, Harold 3AFQ, Ken 3ACS, Alf 3JC, Arthur 3AWO, Bob 3NZ, Kevin 3ARD, Ray 3JL, Bill 3JE, George 3NQ, Graham 3ZMQ, and Graeme 3ZIP. These members were assisted by junior members John Chandler, Hal Shirley, John Antonella and Lindsay Stronell.

In all, we had a very enjoyable week-end and as usual are looking forward already to the Field Day next year—be it the National Field Day or a memorial to the late VK2JU.

Other than the above our activities are getting into gear again for 1962. The first 80 mx tx hunt was run in March, and social events are again current. Visits to Lyndhurst Transmitting Centre and to Essendon Air Control were well patronised, and the 80 mx net is proving more popular every week. 73, 3LC.

QUEENSLAND

GENERAL NEWS

At last, that once-a-year week-end is almost here again. We hope there's a circle on your calendar around the week-end of April 13, 14 and 15 for the Queensland Convention at Alexandra Headland between Maroochydore and Mooloolaba on the near North Coast. The site at Alexandra Park is just 80 miles from

Brisbane and 63 miles from Gympie. Both you and your family will be welcome from 4 p.m. Friday to 4 p.m. Sunday, and there'll be a great chance to enjoy the famous sunshine and surf. Every effort is being made to make the Convention as attractive as possible for family groups, with charges on a pro rata basis (half price for children).

Organiser Vince 4VJ has included these attractions; competitions with prizes, club participation events, a barbecue on Saturday night, continuous operation of 4WI, the holding of the Wide Bay and Burnett hook-up from the site, displays of the most modern Ham equipment available, and an auction of secondhand gear. The week-end promises to be the most successful Convention yet, so don't be in the ranks of those who are sorry later they didn't attend, and let's see your happy smiling face at the Alexandra Headland Convention.

Latest news on the Jamboree of the Air in Queensland is that Hdqrs. Commissioner A. A. "Skip" Jackson has been appointed organiser on the Scout side of things. "Skip" has had an interest in Amateur Radio for many years, being a foundation member of the W.I.A. in Queensland and helping to build the first 4WI tx! Rival interest is being shown by Rockhampton Mayor (Alderman Rex Pilbeam, M.L.A.) and Redcliffe Mayor (Alderman Jim Houghton, M.L.A.) and press t.v. publicity seems certain.

Good deed might be done by the v.h.f. boys over the Easter week-end. Arrangements are going on for their taking part in the communications set-up for the big South-East Queensland Senior Scout venture in the Too-womba-Lockyer area. If the gear doesn't spark on the Convention, then there'll be four days to find the fault.

The slow Morse sessions being offered by Alan 4SS are being much appreciated by Amateurs in the Brisbane area. Transmission is now on 3550 kc. between 0700 and 0730 and 1900 and 1930 on Sundays, and 1900 and 1930 on Wednesday nights. The Morse is offered in two sections, the first five to eight w.p.m. with some words repeated, and the second 10 to 12 w.p.m. The second section will be speeded up as the exam. draws near.

Several members and associates on the mend again after being on the sick list. Stan 4SA after a couple of weeks' holiday, had a little leg trouble and had to be taken to Greenslopes Repat. Hospital by ambulance, but is back on the air again. The keen caravaner, Steve 4BB, came to the big smoke from Bundaberg for an op. late in Feb. but should be home well by now. The frilly apron of Howard 4WO has been worked overtime since his XYL was admitted to hospital for an operation. Enthusiast Neil Drane is showing interest in Radio again after recovering from bad head injuries received in a road accident.

Like to keep the smile on the face of the inward QSL man, Jack 4JF, because of the success in keeping the cards moving? The following can do their bit this time: 4XR, 4NR, 4OH, 4RP, 4RR, 4MD, 4WG, 4ZBZ, 4ZHG, 4ZBF, 4ZNS, 4ZBS, 4ZBT, 4ZL, 4ZMG, 4ZAX, 4ZAA, 4ZDJ, 4ZAF/P, 4ZAW, 4ZCP, 4ZRH, and 4ZDA.

Watch (we hope) for a sudden swelling in the Amateur ranks in the Sunshine State during the year. What with such large classes as 20 at the Northern Command Signals Amateur Radio Club's A.O.C.P. course in Brisbane, and another 20 at Bundaberg, the bands will be rocking with new call signs. The Bundaberg effort is first class as the intense interest there has already brought almost a score of new associates to the W.I.A.

The interest almost puts to shame the efforts of members on Sunday mornings around 0915 on 7105 kc. during the 4WI hook-up after the news. Give the station men Stan 4SA and Alf 4OL some reward for their time and effort in arranging the news and the hook-up by calling in, even if only to say you are listening. Surely from all of Brisbane in particular more than a couple of call signs can be acknowledged.

We in VK4 land offer our sympathy to the PanSy patient in VK5 land who must by this be struck down with the mysterious illness of frustration at not being able to pay his licence fee without untangling miles of red tape to find the Receiver of Public Moneys. I could say the only remedy is to shift camp to the Sunshine State with its numerous Post Offices for Amateurs, but, shame, I look out to find the rain pelting down. Must be a passing light shower. 73, Don.

WIDE BAY AND BURNETT BRANCH

The Feb. monthly meeting at the Central School, Gympie, was presided over by Eric 4XR, with members from Maryborough, Nambour and Gympie. The absence of the Bundaberg boys was regretted but the distance is a bit far. Main items at the meeting was a ballot for the disposal gear, and one member went home with the guardians of his car resting on the wheels (didn't you, Ken!). After a

discussion on projects for the year, John Lind gave a talk illustrated with slides on transmission lines from power house to public which was most appreciated by all.

John, an electrical engineer, is now going through the classes at Gympie, and will soon be adding QRM to our bands (not a.c. I hope). A comparative stranger to our ranks was Col 4TW with his XYL and their new pigeon-pair harmonics. John 4PU looks like being up with the top scorers in the Ross Hull Contest, while Mac 4HD is now holder of W.A.S. on 50 Mc. after a 12-year wait for that VK8. Congrats. go to Mac also for working into VK3 and VK5 on 144 Mc. Harry 4ZHG has had a whale of a time on 50 Mc. and is now playing with 144 Mc. gear. 73, 4ZHG.

SOUTH COAST

The local press says that old timer J. Thompson 4XP will soon be back on the air from up Natural Arch way as power mains are being extended to his locality. Welcome back, OM.

Not much pleasure from the National Field Day because of extremely poor conditions. Few contacts on Saturday were followed by a stormy Sunday.

With the assistance of Bob, president, members of the Southport Radio Club, and Scoutmaster H. Blake and a number of Scouts, the vertical antenna for Del 4RJ was erected. By now, an excellent tx and rx built by Frank 4FN, a very old and esteemed friend of Del, should be installed. Del and his XYL extend their thanks and appreciation to the very willing workers. 73, 4WS.

TOWNSVILLE AND BURDEKIN DISTRICT

At the last meeting of the Townsville Amateur Radio Club the main item of the night was the ballot to see if the members wanted to affiliate with the W.I.A. The result was a unanimous vote to affiliate with the W.I.A. As the newly formed club in Ayr is affiliated with the Institute also, it points out the fact that all Amateurs should belong to the W.I.A. and so strengthen our voice when sundry powers want to take great strips of our frequencies from us.

Frank Sturgess gave a very interesting lecture on the equipment used at 4TO, and to finish off an interesting evening, Jim Daly gave a lecture dealing with structural strains and stresses, etc., that occur when aerial towers are constructed.

John 4DD has departed for Sydney on a spot of leave and has taken his new s.s.b. rx with him. Bob 4MF has at long last decided what the best set is and is anxiously awaiting delivery of a Hallicrafters rx. Bert 4LB has also invested in a certain well known make of s.s.b. tx. Does it run on batteries, Bert, or do you just keep it in a dry cell? Looks like Alan 4PS is getting prepared for lots of DX or possibly to help get the R.D. trophy for VK4 this year, as he has thoroughly overhauled his beam and tropic-proofed his motor.

One of our P.M.G. boys at Ingham has entered the ranks of Ham Radio and has a Z call. His name? Bill Pickering.

The Burdekin Radio Club had its monthly meeting a few nights ago and after much discussion a constitution was adopted and I noticed certain sums of money being eagerly grabbed by our Secretary John McKenzie from members who want to join the W.I.A.

Joe 4OJ is still determined to get his 128 going on a.c. Norm 4ND still prolonging the agony of the local Hams, of whom five live within stone's throw of him, by not indicating when he will be on the air and what freq. he will use. Had an official visit from Graham 4BX in his capacity as R.I., and am pleased to state that all gear inspected passed the test. A rather versatile Ham is Graham.

Flash! Just got a ring on the phone from our regular scribe 4RW. He has arrived back home from his overseas trip and was full of news. He also has a new s.s.b. rig that he brought back with him. Also has bundles of xtal. up to 12 megs. Another Ham has moved into Ayr in the person of Don Reed. He hasn't taken out a call sign yet and is living in a flat at the moment. When you get around to finding a house Don, there isn't any in Ayr, but I believe that houses are very easy to get in Home Hill, on the other side of the river.

Well apart from doing my shift at the Best Broadcasting Station in Queensland (too modest to say it is the best in Australia, even though it is), working some DX, keeping young (three of 'em), and keeping my wife convinced that a Ham rig is essential in the home (I have it in the lounge), I haven't anything to report on my own doings. But if you hear any vicious rumours that my wife Jess keeps the grass down, with no assistance from me, I can assure you that it is a terminal illogice inac., inecak . . . ikex . . . oh heck, a fib, because I mix up the petrol and oil and when she is really weary, I fill the mower. 73, Cloud 4UX.

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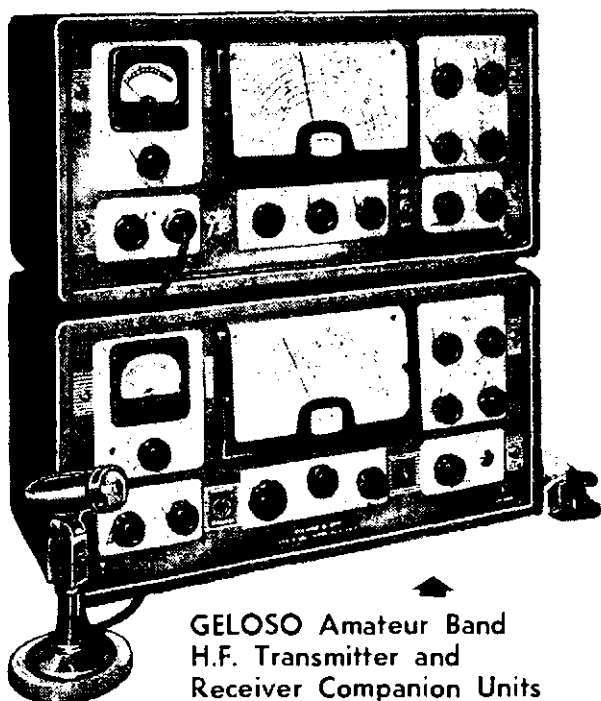
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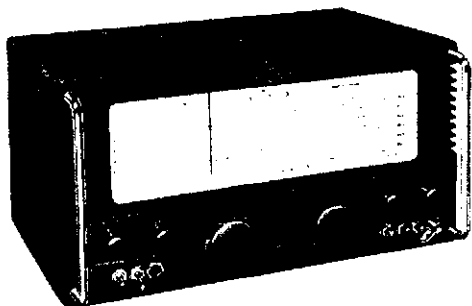
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SOUTH AUSTRALIA

The annual general meeting plus the monthly general meeting of the VK5 Division was held as usual in the clubrooms to a representative gathering of members and visitors, a little below normal in number, although I feel the answer to that is because the foxy ones woke up to the fact that two general meetings were being held together on the one night, and the prospect was one that did not please. It was heartening to see the number of young members present, although there again that might have been because they were not a wake up, and were caught before it dawned on them that their heads were in the noose. However, be it as may, the roll-up was quite pleasing, and this I can guarantee, a good time was had by all.

The annual general meeting opened quietly, carried on quietly, and closed in the same manner, so much so, that the chairman, John 5JC was forced to adjourn it for a while whilst the votes were being scrutinised by the two appointed scrutineers, Leith 5LG and Mick 5ZDR. Incidentally, there is no truth in the rumour that Leith used a pair of binoculars to do his scrutineering, that's just the way he holds his hands when he is concentrating.

Whilst the annual general meeting was in a state of coma, awaiting the results of the ballot for Council, the monthly general meeting was opened and proceeded also quietly on its way coming to a stop on Federal business, as two inscrutable scrutineers came from behind a curtain with the results of the Council voting. No surprises occurred in the voting, all of the sitting members being returned, with the addition of a couple of new ones.

Smoko was then called for and the QSL cards handed out by George 5RX, and then the general meeting got under way again. It had not proceeded very far before Luke 5LL came back from a little trip he had apparently made on his magic carpet and asked the chairman were we in the annual general meeting or the monthly general meeting? In the ensuing confusion, gay repartee, and general hilarity, the chairman was hard put to decide whether he was in the annual general meeting, the general meeting, or the general ward of the "nut house". However, with characteristic vim and vitality, the chairman firmly brought the meeting back to sanity and business proceeded.

At this point Council sprang what can only be described as a bombshell and a stab in the back. The chairman told the members present that Council had been examining its Honorary Life Membership list and felt that the time was ripe to enlarge the list and with this in view it asked the membership to endorse its choice of George 5RX and Warwick 5ES as the two Life Members for 1962, in recognition of their services over a long, long period of association with the Division. The members present unanimously endorsed George, and to the tune of some coarse and ribald remarks reluctantly endorsed me. To George it came as a bombshell and a complete surprise, and in his short speech of thanks he thanked all present for the honour bestowed upon him, and made it quite plain that anything that he might have done at any time was done for the benefit of the Division, and it had always been a pleasure to do so.

To me it came as somewhat of a surprise, although I am always prepared for any move that Council might make to muzzle me. I ask you, how can I fight and battle with Council if the said Council bestow on me such an honour, and so soon after their recent letter of thanks for my assistance at the Xmas Get-together. I am stripped of my weapons, my spirit is humbled, and nothing but remains than for me to drain my fountain pen of ink and sit in the front row of all Divisional meetings and say yes, yes, and again yes. Joking

aside, I was deeply honoured, and can only say, like George, that anything that I have attempted, has only been attempted in an endeavour to put back into Amateur Radio a little of what I have received from it during my long and happy association with the finest and best Division in VK!

There will now be a slight pause whilst we all fall on each other's shoulders and have a good weep.

Agenda items were then read and discussed by Phil the photographer, 5NN, may he get a pinhole in his bellows, curse him. Brian 5JR addressed the meeting in connection with the Glandore Boys' Home Radio Club and the Magill Boys' Home Radio Club. Luke asked some sticky questions regarding the picnic, several asked questions on the agenda items. Keith 5KH (5WI) answered several questions on the building fund, and with the time rapidly approaching zero hour, the chairman applied the gag and the meeting, or meetings, broke up with the knowledge that a good time had been had by all present, and as the time was now 11.05 p.m., a few hardy souls stayed behind to clean up the room, intermingled with a little discussing here and there of the every-day problems associated with our hobby.

A welcome visitor to the meeting was Freddy 5FH, almost a stranger these days, more's the pity. Listed in the members renewing their subs. was Bob 5LP. Have not heard this one on the air since we both lived on the Esplanade at Henley Beach. His QTH these days is "Pine Lodge," Mount Lofty (ADS7 to you), and apparently he has come under the influence of some of the bods up there.

A lot of work goes on behind the scenes of Amateur Radio and a deal of it does not see the light of day. Witness the little talk of Brian 5JR at the meeting concerning the Radio Clubs established at the Glandore Boys' Home and the Magill Boys' Home. Without any fanfare of trumpets he told us how he had played a part (probably a lot bigger part than he let us know) in the formation and operation of these two clubs, with no more incentive than a desire to help these boys along a somewhat difficult path. Unfortunately, due to circumstances beyond his control, he now found that he could no longer give of his time to the boys and he wondered if any member or members would be prepared to help. Think about it fellows and if you can help in any way, or you would like some details, then contact him and he will be only too pleased to oblige.

Doc 5MD did not nominate for Council this year, and except for 1959-60, this will be the first year that he has been out of office of some sort or other since the Division commenced after the last war. He has in his time held every executive post on Council, and for many years he and the Division have been synonymous. He has not been in the best of health recently and this probably decided him to give Council duties a rest, although he will always be available from the sidelines.

Jim 5JB from Leigh Creek, and Joe 5JO, the newly-weds, heard in a short contact on 7 Mc. just before the 5WI session the other Sunday, but did not stop with them very long because Joe was openly boasting, with a smirk on his face that could be heard miles away, of how he had just had breakfast in bed. How do you do it, Joe?

Jim 5JB was heard later on in the morning in QSO with Keith 5WI and said that he was not on very much as he was still QRL around the house. It was the first time that he had been in the call-back but expected to be in all of them now. Welcome Jim, good idea to get in the call-back, it is the best way to get known far and near.

Talking of Leigh Creek reminds me of Port Augusta, and talking of Port Augusta reminds me of Tom 5AQ, who was also heard in the call-back passing on the news that Hughie 8AZ was leaving Daly Waters and had already closed down his station at the locality. There you are Tom, everybody gets a mention, s.s.b. or any other peculiar form of behaviour. Chortle-chortle!

John 5YA, probably better known as ex-5ZAZ, was heard on 7 Mc. with an extra good signal from Port Pirie on Sunday morning. More will be heard of this signal. Bill 5XB from Kingston heard talking to 5WI and using s.s.b. to boot. Don't hear this one very often, but when we do he is always coming in at more than average strength. Heard him calling Charlie 5ON later in the morning. Wally 5DF heard going great guns on 7 Mc. and saying how he had settled down after a spot of annual leave. Now and then a gulp was heard in his voice as he talked, probably caused by his collar being too tight. What I won't say to get a laugh!

Comps 5EF, my once-a-year journalistic friend, heard on 7 Mc. mobile somewhere near Tanunda. Was using a commercial s.s.b. transistorised set-up in his Model A Ford, and

to prove to him for once and all that I can (when I deem it necessary) read s.s.b., he gave the name of the maker of the gear, which was "Coonawarra". How subtle can I be?

Les 5AX had also been listed among my missing operators from the hamlet of Gawler (that will make him do a fandango in parallel), but I think that I heard him mobile on 7 Mc. the other day. Can't be sure, I just heard him as he went by, only went by the voice. Tom 5TL, who at the moment of writing appears to have mislaid his pen, was heard on the call-back the other Sunday with an unusually strong signal, although I thought his coarse remarks about a certain suave, sophisticated, athletic and debonaire sub-editor as being "broad-banded," somewhat in bad taste. To me anyhow!

Heard this week that Neil 5ZAW is awaiting his new call sign. Nice work OM. Now you can sit on my side of the room at the meetings and become one of the "Squares". If you listen intently, very intently, you might, I say, you might, hear my signal and we can have a contact on 7 Mc. I even QSL.

On and off in these notes, reference has been made to one, Dale. Well now it has happened, Dale now boasts the call of 5ZER and is all stoked up for 6 mx. Congrats., OM. This will be his last mention in these notes as he now becomes the property of the v.h.f. scribe and therefore untouchable to me, not that I am frightened of the wrath of the said scribe, just careful.

Talking of being careful. Did you notice how those VK4 scribes reacted to my slight, ahem, reference to them. I was putting on my battle dress, prepared to do to the death, when my 5YL lifted me up by the arms and said, "Petals, don't play with those VK4 boys, they might play rough". Don't think they have scared me. Oh no, it is just that whenever my 5YL thinks me to do anything, I always obey. I think!

5ENY heard mobile on 7 Mc. en route to a tennis tournament. A good signal down here. Arthur 5HY heard on 7 Mc. with a low power s.s.b. rig, and talking about a linear on the way. Dear oh dear, another good man bites the dust.

Joe 5RC was heard plaintively calling 5WI on s.s.b. the other Sunday morning. He tried, and he tried, and he tried, but all in vain. My suggestion is to you Joe, get out your bagpipes and do a bit of rock and roll and Keith will call you first in sheer protection. Mind you, Joe, I am a bit Keith's way, after all, a Scotchman on s.s.b.! Lance 5XL was another to call a couple of times, but he was lucky, he managed to get in the act after an hour's wait. His harmonic, a somewhat big harmonic now, Layton, has been issued with his call sign (5CR) and the activity in the Clare area has to be seen to be believed.

Les James has been advised of his success in the last exam, and by the time this is being devoured by all my avid readers (perhaps), Les will be a new call sign on the S.E. list. It is good to welcome Les and Dale to the ranks of the Mt. Gambler boys, as the last intake goes back quite a few years.

Col 5CJ has also been on holidays but has been heard at times on the now famous "lunch time sked" on 7 Mc. As a member of the rival b.c. station, I manage to pick up quite a lot of news of the opposition from those skeds, so beware, little brother is looking and listening! Received a welcome letter from Les 5UX, "Uncle Xray" to you, in which he raves in ecstasy about his return to the fold after an absence of 7 or 8 years. He gives a list of DX worked which would even turn George 5RX green with envy, including a c.w. contact with Ralph 8NK three doors away. He gives the picture, as he sees it, of Amateur Radio in Alice, and says that 8OW is very active at Darwin with s.s.b. (oh that dreadful word), 8AV is on with a.m., c.w. and s.s.b. (oh, oh, oh) in Bachelor, and in Alice Frank 8AE is on only occasionally. 8NK is on fairly regularly with c.w. on 14 Mc., 8EW is not terribly active with s.s.b. (oh, will it never stop!), and 8XU is on 24 hours a day, from his own lips. Apparently the poor kids at Alice are running the school by themselves. I would say it is time that they gave their headmaster six handers on where he sits down!

Well, again we come to the close of another month's notes, and unless I am prepared to be called a coward, I cannot dodge referring to what has now become known in VK5, with chortles of glee and other expressions of hysterical mirth, as the "PHOTO". There is not much I can say in my defence, other than that I was taken advantage of, but I feel that I must thank all those who wrote, or rung up, or otherwise annoyed me with their funny har-hars, especially the person who posted up the photo on the staff notice board with the caption, "Wanted—dead or alive—preferably dead". Also the humourist who sent me a pair of child's handcuffs through the post, also with

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the caption, "Try these on for size, and then report to Doc 5MD". To say nothing of the wellwisher who went to the bother placing a sponge cake on my front doorstep, inside of which was a file!! I ate the cake, anyway, and nothing has happened as yet. To the Magazine Committee, Ye Ed., and to the committee's secretary who sent me a letter of derision informing me that my photo would be in the March issue of "A.R." and, incidentally, tricked himself, because it was already in the Feb. issue, and last but not least, to the "old chassis giver-away" who descended so low as to allow his linotype machine to join in the conspiracy. Mortified, embarrassed, cut to the quick, and disillusioned, I sign, more in sorrow than in anger, 73, de 5PS—PanSy to you.

P.S.—Excuse the verbosity—but they all want a mention—and who am I to discourage them!!

TASMANIA

We extend our deepest sympathy to Alan TMY upon the death a few weeks ago of his Father. The old gentleman was 86 years of age, and remained active and well until his final short illness.

The club room fund raising committee was delighted with the result of the auction after the Feb. general meeting. The auction realised £20/17/6, which will help to swell the fund.

Len 7LE has moved into his new home at Lindisfarne, right on the water's edge. We confidently expect to hear Len, both on the h.f. and v.h.f. bands in the near future, once he has fully settled in.

The c.w. section of the A.R.R.I. Contest in Feb. was favoured by excellent conditions as far as the 7 meg. band was concerned, and a contact per two minutes could easily be maintained. It might be appropriate at this point to draw the attention of phone-operating Amateurs to the gentlemen's agreement as to the division of the bands. I have noted a VK6, a VK5 and a VK2 regularly operating on about 7030 kc., and this occurred during c.w. contests as well.

While growling, we can only express disapproval of the invasion of the 80 mx band by commercial operators, which has taken place during the past few months. This band is now approaching the condition of 7 megs. We must operate within our allocations, so we can only hope for a similar approach by licensing authorities elsewhere in the world.

The 80 mx band on Monday evening, 6th March, produced the best DX I have heard and worked on that band, with Ws and JAs and other Americans coming through during several hours. It was a joy to work the band.

Ted 7EB has finished his new final and he is delighted with its efficiency. Chas 7CH and Ken 7KA had the long week-end at the beginning of March away on the yacht Moorina, when they worked back to the metropolis on mainly 80 mx. It was also good to hear Bob 7OM again.

Visitors during the past month to Hobart have been Alan VR4CB and his XYL, Bessie; Bernie 3ZIO and Den 7DK.

I am sorry to report that Doug 7DW feels unable to stand for re-election to Council for the ensuing year, due to the fact that he will be very busy installing new gear at the place of his employment. Doug has worked well for Council, and we look forward to his re-appearance at the helm of things. 73, 7ZZ.

NORTH-WEST ZONE

First, my most humble apologies fellows for missing out on previous notes. However, we are in business again, but news is scarce. A tx hunt was held during Feb. and although the attendance was small, a good time was

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had by all. 7KH, 7SF, 7XL and 7MX made the grade, but TMS fell by the wayside some place. The idea of planting a tx alongside a railway line has little to commend it if you happen to be on the receiving end. Several XYLs were present and they, too, enjoyed the show, as did the harmonics.

Was most intrigued to hear Frank and David on the band the other night talking shop. Could be they were looking for a monkey for that organ.

7ZW is a consistent occupier of the band now and is making many contacts. Good show. Athol, you must use 'em or lose 'em. Unfortunately, this is borne out by recent events. TMS appears to be in rx trouble lately, but these things are sent to try us lately, David. Had my share of blow-ups here lately as well. Was privileged to visit the QTH of 7JF, at Poatina, recently and saw a very neat set-up. Nice work, John.

7TT is making more sporadic appearances lately. What is going on? Have not heard Wynyard or Stanley lately, so wonder what is cooking that-away. Heard a whisper that Harold was in VK5. Once again the Gawkbbox has reared its ugly head in our midst. Despite explanations, I know that the array above the QTH of 7XL has nothing to do with 50 Mc.

Have just returned from the March meeting of the zone, and we were all delighted to meet George from W-land, who is stationed at Burnie for a time. Welcome to the zone, George. Bob 7ZAA gave an interesting lecture on v.h.f. with demonstrations to match, rounding off the show with some very nice colour slides he has taken in scenic spots. Thanks Bob. Following that, 7XL produced a mystery box which proved to be a s.s.b. rig. Anybody got a Class A amp. with a gain of about 5 megavolts to finish it off. Would be well received. 73, 7MX.

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FT 3552 FT 3587		DC 8019.5 DC 8026 DC 8033
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	144 Mc. Ham Band:	DC 8020.5 DC 8027 DC 8034
	DC 8000 DC 8014	DC 8021 DC 8027.5 DC 8034.5
	DC 8010 DC 8014.5	DC 8021.5 DC 8028 DC 8035
Crystals of any frequency, £2.	DC 8013 DC 8015	DC 8022 DC 8028.5 DC 8035.5
	DC 8013.5 DC 8015.5	DC 8029

CONDENSERS

Superseal Paper Type:

0.047 μ F. 1000v. 0.0033 μ F. 600v.
0.0047 μ F. 400v. 0.001 μ F. 1000v.

ALL 6d. EACH

Metalpak Electrolytic Type:

25 μ F. 25v.d.c.w. 2 μ F. 150v.d.c.w.
2 μ F. 200v.d.c.w. 2 μ F. 250v.d.c.w.
and others.

ALL 6d. EACH

Electrolytic Chassis Mounting:

24 μ F., 350 peak volts 2/- each
32 μ F., 200 volts working 2/- each
25 μ F., 40 peak volts 2/- each

Mica Condensers:

15 pF.	68 pF.	270 pF.
20 pF.	70 pF.	300 pF.
25 pF.	100 pF.	500 pF.
47 pF.	220 pF.	750 pF.
50 pF.	250 pF.	1000 pF.

ALL 9d. EACH

Metalpak Pig-Tail:

0.022 μ F. Sprague 1/- each
0.0022 μ F. Sprague 1/- each

VALVE SOCKETS

Ceramic 4-pin Valve Sockets, 2/- each
" 5-pin " " 2/- each
" 6-pin " " 2/- each
" 7-pin " " 2/- each
7-pin Miniature Valve Sockets and Shields. New. 15 for £1.
9-pin Valve Sockets, McMurdo, 9d. ea.
Octal Valve Sockets 1/6 each

CO-AXIAL CABLE

100 ohm co-ax. cable, $\frac{3}{8}$ " diam., 2/- yd.
98 ohm co-ax. cable, $\frac{3}{8}$ " diam., in 100 yard rolls £5, or 1/3 yard.
Twinex co-ax cable, 75 ohm 2/- yard
72 ohm, 3/16" diam., 2/- yard, or 100 yard roll £8/15/0.
50 ohm co-ax. cable, $\frac{3}{8}$ " diam., 2/- yard or in 100 yd. rolls £8/15/0.

We have stocks of the latest—
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COMMAND RX CGIL BOXES

190 Kc. to 550 Kc., new, 5/- each

COMMAND P.A. COILS

For 3-4 Mc. Tx. (Serial No. 7247).
Price 7/6 each

COMMAND INDUCTORS

Single layer coil (Serial No. 6035).
For 5-3.1 Mc. and 7-9.1 Mc. Tx.
Price 7/6 each.

SAKURA CIRCUIT TESTER

Model TR-6S

Sensitivity: d.c. 20,000 ohms/volt, a.c. 10,000 ohms/volt. Ranges—d.c. volts: 6, 30, 120, 600, 1,200v.; a.c. volts: 6, 30, 120, 600, 1,200v. D.c. current: 60 μ A., 6 mA., 60 mA., 600 mA. Resistance: 10K, 100K, 1M, 10M ohms. Capacitance: 0.001-0.2 μ F., 0.0001-0.01 μ F. Inductance: 30 3,000H. Decibels: -20 to +17 db. (0 db.—0.775v.—600 ohms). Dimensions: $4\frac{1}{2}$ " x $6\frac{1}{2}$ " x $2\frac{3}{8}$ ". Weight: 1.3 lbs.
Price £9/10/0 inc. tax.

FERROCART VACUUM TUBE VOLTMETER

V.T.V.M. £19/17/6 inc. tax
H.V. Probe £3/5/0 inc. tax
R.F. Probe £2/10/0 inc. tax

ECKO NO. 88 TRANSCEIVER

Portable, xtal locked 4 channel, 40 to 43 Mc., 14 valves. 1L4, 1T4, 3A4, etc., 12v. 3a. input power supply. Less crystals, mike and headphones, etc.
To Clear. £6/10/0 each

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TMK "Syncretape" 7" Rolls, PL-12 (Standard) £1/16/6
TMK "Syncretape" 7" Rolls AC-18 (Long Play) £2/10/6

V.H.F. RECEIVERS

Type R89/ARN-5A. 300 Mc. Valves: seven 6AJ5s, two 12SN7s, one 12SR7, one 23D7, six relays, and three crystals of 6522.9 Kc. As new. £5 each.

MULTIMETER Model 200H

20,000 ohms per v. d.c. 10,000 ohms per v. a.c.



Specifications:
D.c. volts: 0-5, 25, 50, 250, 500, 2,500.
A.c. volts: 0-10, 50, 100, 500, 1,000.
D.c. current: 0-50 μ A.; 25, 250 mA.
Resistance: 0-60K ohms; 0-6 meg.
Capacity: 0.01-0.3 μ F. (at a.c. 5v.); 0.0001-0.01 μ F. (at a.c. 250v.).
Decibel: minus 20 db. plus 22 db.
Output range 0-10, 50, 100, 500, and 1,000.
Battery used: UM3 1.5v. 1 piece.
Dimensions: 3 $\frac{1}{2}$ " x 4 $\frac{1}{2}$ " x 1-1/8 in.

Complete with internal battery, testing leads and prods.

Price £5/17/6 inc. tax.

1155 GENEMOTORS TYPE 34A

Input 93v., output 225v. at 110 mA. Complete with relays and filters, in case. Weight 30 lbs. 19/6 each. 5/- handling charge.

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High or Low Imp. Headphones, 12/6 pr.
Morse Key and Buzzer Sets, new, 12/6
SCR522 28v. Genemotor power supply, 20/- 5/- packing fee.
English Filter Chokes, 40 mA., 100 ohm resistance 3/6 each
"Scope" Soldering Iron, to clear, 45/-; complete with transformer, £4/10/0.
Carbon Microphones 12/6 each
Carbon Mike Transformers, small, new, 5/- each
Vibrators, Oak/M.S.P. 6v. synchronous 7-pin AV5211R £1 each
Octal Plug and Socket, American Ampenol. in metal screw case, 8/6 set

8 Mc. MINIATURE CRYSTALS

Band-edge market Miniature Crystal and socket, £2.

LSG11 SIGNAL GENERATOR

120 Kc.-390 Mc. Freq. range (six bands): 120 Kc. to 130 Mc. on fundamentals; 120 to 390 Mc. on harmonics. Mod. freq. 400 and 1,000 c.p.s. Tubes: 12BH7, 6AR5. Rectifier: half wave selenium. Provision for crystal oscillator (xtal not supplied), 1 to 15 Mc. 100, 117 or 230v. a.c. input. 50 60 c.p.s. Size: 7 $\frac{1}{2}$ " x 10 $\frac{1}{4}$ " x 4 $\frac{1}{2}$ " in. Weight: 6 lb.
Price £16/17/6 inc. tax.



HAM RADIO SUPPLIERS

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Design for communications



Designed for rugged service;
the AKG D17 cardioid microphone
provides:—

- Frequency Response: 50-15,000 c/s
- Front-to-Back Ratio: 18 db
- Impedance: 60 or 200 ohms



A lightweight communication set, the AKG Headphone/
Microphone set combines the well-known K50 headphones
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Distortion less than 1% at 1mW
- Microphone: Frequency Response: 50-12,000 c/s
Impedance: 200 ohms

For further particulars please
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Division.



AMALGAMATED WIRELESS (AUSTRALASIA) LIMITED

Head Office: 47 York Street, Sydney. 20233

A M A T E U R R A D I O

MAY 1962

JC/EH



VICTORIA

TELEPHONE :
63 0221, 26 LINES
REGD. NO.

PREMIER'S DEPARTMENT
MELBOURNE, C.2

22nd January, 1962

Dear Sir,

Now that the danger seems to have passed, may I convey to you the sincere appreciation of the Government for the part played by your organization in the recent bush fires.

I understand from the Chief Fire Officer of the Country Fire Authority that the radio equipment you so readily offered was of great assistance to him, and that the efforts of your operators contributed in no small measure to the vital task of covering the area with communications.

I would be glad if you would accept my personal grateful thanks for your public spirited action in this emergency, and if you would convey to all concerned the sincere appreciation of the Government for the part they played in this disaster.

Yours faithfully,

A.C. Bayliss
Deputy Premier.

The Secretary,
Wireless Institute of Australia
(Victorian Division)
478 Victoria Parade,
EAST MELBOURNE



Vol. 30, No. 5

2-

"HAM" RADIO SUPPLIERS

(KEN MILLBOURN, PROP.)

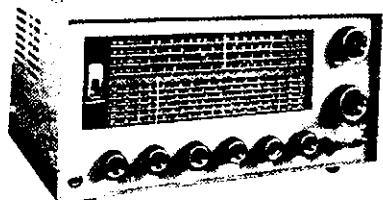
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North Balwyn Tram Passes Corner. All parcels sent ordinary post unless otherwise stated. Phone 86-6465

Money Orders and Postal Notes payable North Hawthorn P.O. Packing Charge on all goods over 10 lbs. in weight, 5/- extra.

TRIO COMMUNICATIONS RECEIVER

Model 9R-59



Specifications: Freq. range: 540 Kc. to 30 Mc. in four bands; bandspread on 10, 15, 20, 40 and 80 metres. Sensitivity: 10µV. for 20 db. S/N ratio. Selectivity: Variable from 93 to 60 db. (in "Q-Multi." operation, with +10 Kc. detuning). Output 1.5 watts. A.V.C. or manual control, phone jack or speaker (voice coil impedance of 4 or 8 ohms). Tubes and function: 6BA6 (r.f. amp.), 6BE6 (mixer), 6BE6 (local osc.), two 6BA6s (i.f. amps.), 6AV6 (det., a.f. amplifier and a.n.l.), 6AV6 (Q-Multiplier, b.f.o.), 6AQ5 (power amplifier), 5Y3 (rectifier).

Price £61 + 25% tax

SCR522 TRANSCEIVERS

Clean condition. Complete with valves. 5/- handling charge **£5**

Modified Units, complete with 832s. Few only left at **£7 1/2**

Receivers only, incomplete, but ideal for wrecking. To clear **19/6**

NEW TAPE DECKS

"Collaro" Studio Type, Model BM-2. Three Speed.
Collaro "Studio" Stereo Tape Decks. Prices on Application.

VARIABLE CONDENSERS

(Ceramic)

Trimmers, Ducon, 4-30 pF., 3/6 ea.
Philips air trimmers, 3-30 pF., 3/- ea.
Compression trimmers, c.f. 3-55, 1/- ea.

TECH MULTIMETER

300 µA. movement.
AC and DC voltages: 0-10, 0-50, 0-250, 0-500, 0-1000V.
Current ranges (mA): 0-1, 0-100, 0-500 mA.
Ohms range: 0-100,000 ohms.
Size: 3 1/4 x 2 1/4 x 1 1/4 inches.
Complete with leads.

Price only £2/17/6, post paid.

CERAMIC SWITCHES

Six-Pole, Six-Position, 15/-

NEW VALVES

1A3	2/6	10 a	£1	6SF5	7/6	3 a	£1
1A5	5/-	5 a	£1	6SF7	7/6	3 a	£1
1A7GT	7/6	3 a	£1	6SH7	4/-	5 a	£1
1C7	3/-	7 a	£1	6SJ7	12/6		
1D5GT	5/-	5 a	£1	6SK7GT	12/6		
1D8	7/6	3 a	£1	6SL7GT	12/6		
1F5	7/6	3 a	£1	6SQ7	12/6		
1H4	5/-	5 a	£1	6SS7	7/6	3 a	£1
1H5	5/-	5 a	£1	6T7	7/6	3 a	£1
1H6	5/-	5 a	£1	6V4	11/4		
1K4	5/-	5 a	£1	6X5	10/-		
1K5	5/-	5 a	£1	6Y6	5/-	5 a	£1
1K7	5/-	5 a	£1	6Z7	7/6	3 a	£1
1L4	5/-	5 a	£1	7A4	5/-	5 a	£1
1M5G	5/-	5 a	£1	7A8	2/-	11 a	£1
1N5	5/-	5 a	£1	7C5	5/-	5 a	£1
1P5	2/-	10 a	£1	7C7	2/-	12 a	£1
1Q5	5/-	5 a	£1	7E6	3/6	7 a	£1
1S4	7/6	3 a	£1	7W7	2/6	10 a	£1
1S5	10/-			12A6	4/-	6 a	£1
1T4	5/-			12A7T	7/6		
2A5	7/6			12SA7GT	10/-		
2A6	7/6			12AH7	5/-	5 a	£1
2D21	15/-			12C8	5/-		
2X2	5/-	5 a	£1	12H6	3/6		
3A4	10/-			12J5	5/-	5 a	£1
3AP1	25/-			12K8	5/-	5 a	£1
3BP1	35/-			12SF7	5/-	5 a	£1
3Q5	5/-	5 a	£1	12SG7	5/-	5 a	£1
3Q4	10/-			12SK7	5/-	5 a	£1
5V4G	15/-			12SQ7	5/-		
5Y3GT	13/9			12SR7	5/-	5 a	£1
5Z3	17/6			14A7	3/6	7 a	£1
6A3	7/6	3 a	£1	117Z6	5/-	5 a	£1
6A6	7/6			1625	5/-	5 a	£1
6AG5	5/-			1626	5/-	5 a	£1
6AG7	12/6			1629	5/-	5 a	£1
6AJ5	7/6	3 a	£1	30	1/3		
6AK5	15/-			35T	30/-		
6AM5 (EL91)	10/-			45	5/-		
6AM6 (EF91)	10/-			717A	7/6	3 a	£1
6B4	10/-			726A	10/-		
6B7	10/-			80	10/-		
6B8	17/6			805	45/-		
6BE6	12/6			807	7/6	3 a	£1
6C4	5/-	5 a	£1	808	10/-		
6C5	5/-	5 a	£1	809	20/-		
6C6	5/-	5 a	£1	815	15/-		
6C8	10/-			830B	15/-		
6D6	5/-	5 a	£1	832A	19/6		
6E5	5/-	5 a	£1	866	32/6		
6F5	7/6			954	5/-	5 a	£1
6F6	12/6			955	5/-	5 a	£1
6F7	10/-			956	5/-	5 a	£1
6F8	5/-			958A	2/6	10 a	£1
6G6	7/6	3 a	£1	2051	5/-		
6G8G	17/6			9003	7/6	3 a	£1
6H6	Glass	2/6		AV11	2/11		
6H6	Metal	3/6		DL75	2/6	10 a	£1
6J6	10/-			EA50	2/-	10 a	£1
6K7	5/-	5 a	£1	EC91/6AQA	10/-		
6K8G	20/-			EF36	5/-	5 a	£1
6K8GT	12/6			EF39	5/-	5 a	£1
6L7	5/-	5 a	£1	EF70	5/-	5 a	£1
6R7	7/6	3 a	£1	EF72	5/-	5 a	£1
6SA7	7/6			EF73	5/-	5 a	£1
6SC7	7/6			EL41	10/-		

BC433-G COMPASS RECEIVERS

Freq. range 200 Kc. to 1750 Kc., 14 valves—6.3 volt series, 6K7, 6J5, etc. i.f. freq. 142.5 Kc. Clean condition. Priced only **£10/0/0**
Flexible cable & control box 30/- extra.

JAPANESE METERS

0-1mA, square, 1 1/2" hole, MR-21P **£2**
0-1 mA., 2 1/2" square, MR-52 **£2**
0-1 mA., 3 1/2" round, MR-65 **£1/15/0**

PIEZO CRYSTAL MICROPHONE

Price only **57/6**
Stand to suit 15/- extra.
Model BM3 illustrated. Response 100 to 4000 c.p.s., fitted with 6 ft. cable and phone plug with on-off switch. Can be used on stand for hand use.

COMMAND TRANSMITTERS

3-4 Mc. range **£7**
7-9 Mc. **£6**

5.5 Mc. VIDEO COILS

Contains slug-tuned coil former. 6d. each.

OA79 and OA81 DIODES

Well known make. Brand New.
To Clear—**2/6** each

SCOPE SOLDERING IRON TIPS

Instrument and wedge type tips, 1/- ea. or 5/6 packet of 6. Carbon elements, 1/- ea., or 5/6 packet of 6.

R1155B COMMUN. RECEIVER

Frequency range 75 Kc. to 18 Mc. New condition. Few only. **£25.**

FILAMENT TRANSFORMER

240v. primary, secondary: 5v. at 2 amp. and 10v. at 3 amp. 35/-.

No. 122 COMPONENTS

Headphone and Microphone Sets. Good condition **25/-** set
Aerial Pack, complete with aerial, base, ropes, pegs and wire **50/-** to clear

TRANSISTOR POWER SUPPLIES

A. & R. Types PS21 and PS25. Prices on Application.

VALVES—NEW & USED (Continued)

EY91	5/-	VR102	5/-	5 a	£1		
QV04/7 15/-		VR103	5/-	5 a	£1		
QE04/10 15/-		VR136	2/-	12 a	£1		
QQV06/40 97/6		VR150	10/-				
RL18	7/6	3 a	£1	VT52	5/-		
TT15 (CV415)	5/-			VT127	4/11	5 a	£1
1L4	7/6	3 a	£1	VT501	7/6	3 a	£1
VR53	5/-	5 a	£1	Y65	5/-		
VR101	5/-	5 a	£1				

"AMATEUR RADIO"

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MAY 1962
Vol. 30, No. 5

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before the 8th of the month preceding publica-
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should be large and done in Indian ink.

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"A.R." and change of address should be
made to the Secretary of the member's
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★

OUR COVER

At 6 p.m. on 14th January, 1962,
the Victorian Country Fire Authority
requested the W.I.A. to provide a
communication link from Mt. Dan-
denong to Melbourne (about 25
miles); by 8 p.m. this link was oper-
ating and providing valuable service
during the disastrous bush fires
which were sweeping the area. Two
metre f.m. mobile car phone sets on
145.8 Mc. were used, due to a variety
of circumstances.

Regrettably, due to space limita-
tions, the full story is not told.

The known Amateurs who took
part in this vital community service
were: VK3s ZCB, ZCZ, ZEO, ZBW,
CS, BX, QU, ADW, ZCO, ZJY, ZIC,
ZBF, ZFZ, ZHT, OF, ZW, ZGP, ZJC,
YS, QO, DF, ZGO, ZGM, ZBJ, ZKK,
ZDK, ZGH, ZEC, ZDE, ZIR, ARZ,
ZFP, ZGW, YA, and ZU.

Our cover is a replica of the official
tribute to the Amateur Service, which
gave unsparingly in long hours of
duty, a true example of community
service.

We are no longer "Hams".

COMMENT

★

THE GROWTH OF AN ORGANISATION

By the time this issue of the magazine is printed, the 26th Annual Convention will have come and gone, and the Federal Councillors returned to their respective Divisions to report the results of discussions. Although the work of the Convention will have been strenuous and time-consuming with more than 60 items to discuss, the real work is that arising from the Convention—work for the Executive to carry out the wishes of the Council and work for the Councillors in implementing the various decisions. Two items of great importance on the agenda deal with differing proposals for a new Federal Constitution.

One of these is based on a Federal Company of which the Divisional Companies or unincorporated associations may become members, and the other is in essence a Federal body to which individuals may subscribe as members but for administrative purposes be organised into Divisions, as at present. We cannot predict as this early stage which of these two alternatives will be accepted by the Federal Council; but whatever the outcome, the decision will only be made after due and careful consideration and in accordance with the wishes of the majority of the Divisions.

The Institute has maintained an unspectacular, though steady, growth over the years, but recent events in various spheres of our activities point to the fact that the present Institute organisation is about to emerge from its adolescence into adulthood. Constitutionally, the Institute on a Federal plane has been weak, but the findings of this Convention on the two items aforesaid, could well set the pattern for a stronger Federal body which is capable of expansion and at the same time lay the foundation on which our administrative successors may build a solid structure.

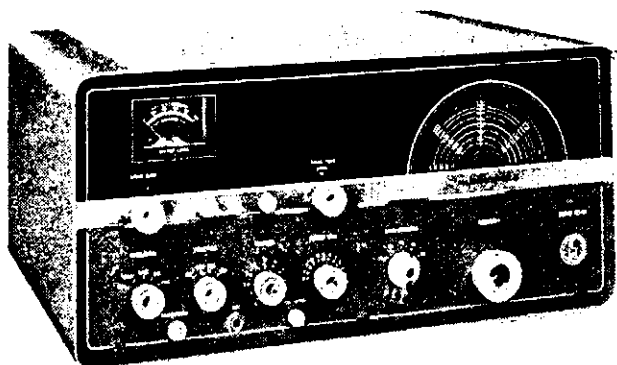
Our keyword should be progress, and you, the member, must make every effort possible and within your particular abilities to assist in the growth of our organisation. You can do this in many ways—come regularly to your Divisional meetings, volunteer to help when required and, most important of all, air your opinions to your Council. If you determine to do even these few things, then our Institute will not look back but should continue to grow into a mature organisation of which we may be justly proud.

FEDERAL EXECUTIVE, W.I.A.

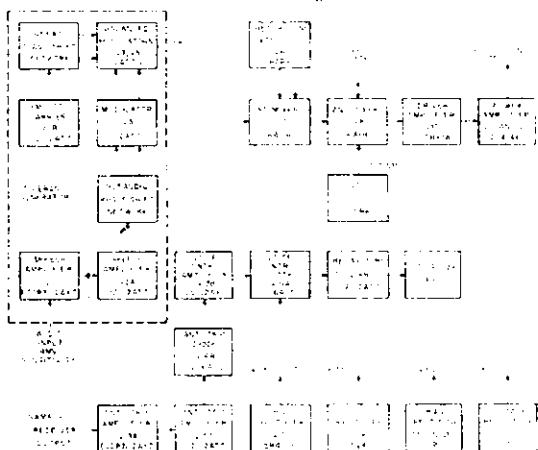
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HALLICRAFTERS



HT-37 Block Diagram



MODEL HT-37 TRANSMITTER

Hallcrafters new HT-37 employs a carefully designed phasing type sideband generator developed by the famous team which produced the HT-32A. At signal frequency all tubes, most components and voltages are equal to the HT-32A. The wealth of production and engineering skills which has made the HT-32A the most wanted transmitter now provides you the best in a phasing unit at a moderate price. The HT-37 is a complete table top, high efficiency Amateur band transmitter providing s.s.b., a.m. or c.w. output on 80, 40, 20, 15 and 10 metres.

FEATURES

- ★ 144 watts plate input (p.e.p. two-tone).
- ★ Five-band output (80, 40, 20, 15, and 10 metres).
- ★ All modes of transmission—c.w., a.m., and s.s.b.
- ★ Unwanted sideband down 40 db. at 1 Kc.
- ★ Distortion products down 30 db. or more.
- ★ Carrier suppression down 50 db.
- ★ Modern styling.
- ★ Instant c.w. cal. from any mode.
- ★ Both sidebands transmitted on a.m.
- ★ Precision v.f.o.
- ★ Rugged heavy duty de luxe chassis.
- ★ 52 ohm pi network output for harmonic suppression.
- ★ Dual range meter for accurate tuning and carrier level adjustment.
- ★ Ideal c.w. keying.
- ★ Full voice control system built in.
- ★ Tubes and functions:—

Two 6146s power output amplifiers.	6AL5 voice control.
6CB6 variable freq. osc.	12AX7 audio amplifier.
12BY7 r.f. driver.	12AT7 audio amp. and carrier oscillator.
6AH6 first mixer.	12AT7 audio modulator.
6AH6 second mixer.	Two 12AT7s balanced mod.
6AB4 crystal oscillator.	5R4GY h.v. rectifier.
12AX7 voice control.	5V4G l.v. rectifier.
12AT7 voice control.	OA2 voltage regulator.

Front Panel Controls, Functions and Connections:

- Operation: Power off, standby, Mox, Cal., Vox.
- Audio level 0-10.
- R.f. level 0-10.
- Final tuning: 80-40-20-15-10 mx.
- Function: Upper sideband, lower sideband, d.s.b., c.w.
- Carrier balance.
- Calibration level, meter range.
- Driver tuning 0-10.
- Band selector: 80-40-20-15-10 mx.
- High stability v.f.o.
- Microphone connector.
- Key jack.

Rear Chassis:

- Co-ax antenna connector.
- Line fuse.
- Control connector.
- A.c. power line cord.

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Sole Victorian Agent: **ELECTRONIC SERVICES**, Douglas Street, Noble Park, Vic. Phone 746-8446
Sole South Aus. Agent: **TELEVISION & RADIOTRONIC CO.**, 11a Gays Arcade, Adelaide
Sole Queensland Agent: **GENERAL IMPORT DIST.**, 135 Lutzow Street, Wellers Hill, Brisbane
Sole West. Aust. Agent: **NEIL JAMES & CO.**, David Jones Arcade, Barrack Street, Perth.

INDUCTANCE, CAPACITANCE, & RESONANCE

AN "A.R." DATA SHEET

The following provides a collection of useful information regarding capacitance, inductance, resonance, and tank circuit design. In addition, data is provided regarding air wound coils.

TANK CIRCUIT CAPACITANCE

The required tank circuit capacitance in any transmitter is:

$$C = \frac{3600 I_p}{f E_{pc}} \dots \dots (1)$$

where C = total circuit capacity in pF.
 I_p = total plate current of the valve(s) in mA.
 f = frequency in Mc.
 E_{pc} = plate to cathode voltage in volts.
 (for a coil Q of 12)

L AND C REQUIRED

The combination of inductance and capacity required for resonance in the main Amateur Service frequency bands is as follows; this is based upon the relationship—

$$LC = \frac{25330}{f^2} \dots \dots (2)$$

Amateur Service Frequency	LC Product in $\mu\text{H.} \& \text{pF.}$
80 metres (3.5 Mc.)	2065
40 metres (7 Mc.)	517
20 metres (14 Mc.)	129
15 metres (21 Mc.)	57.4
11 metres (27 Mc.)	34.7
10 metres (29 Mc.)	30

Table 1.

Thus from equation 1 and equation 2, the required inductance and capacity for any Amateur band can be calculated.

Note that capacity refers to the total circuit capacity, and the required variable capacity will be less by the amount of capacity (i.e. the "strays") inherent in the circuit.

E.g.: A 10 pF. condenser would require an inductance of 206.5 $\mu\text{H.}$ to resonate at 3.5 Mc. ($10 \times 206.5 = 2065$, see Table 1). A coil of 5 $\mu\text{H.}$ would require a tuning capacitance of 6 pF. for resonance in the 10 metre band ($5 \times 6 = 30$).

WIRE GAUGE

In designing tank circuit inductances it must be remembered that the circulating current in the final tank will be $Q I_p$, where Q is the quality factor (wL/R) and I_p is the measured plate current. Therefore the gauge of wire used in the plate circuit inductance must be heavier than required solely to carry the plate current normally considered flowing in the circuit.

Table 2 takes all factors into account and suggests wire sizes which are adequate for conventional design.

Frequency of Circuit	DC Power Input	Wire Gauge SWG
Up to 3.5 Mc.	300	16
3.5 to 7 Mc.	watts	14
7 to 14 Mc.	"	14
14 to 21 Mc.	"	12
21 to 28 Mc.	"	10
Up to 3.5 Mc.	150	18
3.5 to 7 Mc.	watts	16
7 to 14 Mc.	"	16
14 to 21 Mc.	"	14
21 to 28 Mc.	"	12
Up to 3.5 Mc.	75	24
3.5 to 7 Mc.	watts	22
7 to 14 Mc.	or	20
14 to 21 Mc.	less	18
21 to 28 Mc.	"	16

Table 2.

CONDENSER SPACING

In a plate modulated final p.a. the condenser must be able to withstand the applied d.c. plate voltage plus the modulation signal, thus the peak plate voltage rating required is about twice the applied d.c. plate voltage.

In Table 3 are suggested spacings for final plate circuit condensers. All shafts should be bonded direct to earth by a flexible lead to prevent any possibility of the operator being electrocuted in the event of a breakdown in insulation, or in the case of condenser being above earth, use an insulated coupling.

Applied DC Plate Voltage	Suggested Plate Condenser Spacing
2000 volts	0.150 inches
1000 "	0.05 "
750 "	0.03 "
500 "	0.015 "

Table 3.

CAPACITY VARIATION

In any circuit, the required capacity variation (dC) to tune from a high frequency (f_h) to a lower frequency (f_l), both measured in Mc., is given by the following equation:

$$dC = C [1 - (f_l \div f_h)^2] \dots (3)$$

where C = total circuit capacity in pF.

INDUCTANCE

The inductance of an air wound solenoid can be calculated from its dimensions, and for optimum Q (wL/R) the ratio of length to diameter should be about twice.

$$L (\mu\text{H.}) = \frac{a^2 N^2}{9a + 10b}$$

$$\text{or } \frac{0.2 a^2 N^2}{3a + 9b + 10c} \dots \dots (4)$$

where a = coil diameter in inches.
 b = coil length in inches.
 c = wire diameter in inches.
 N = number of turns.

Thus N/b gives the winding pitch in turns per inch.

Table 4 gives the details of coils made by various manufacturers, and may prove useful in designing a suitable coil. The information has been collated from current details supplied by the makers.

Manufacturer's No.		Len- Turns	Dia. in.	gth per in.	L $\mu\text{H.}$
1	2				
3001	404T	3	1/2	2	4 18 0.4
	406T				6 18
3002	408T	1-08	"	"	8 18 0.96
	410T				10 18
	412T				12 18
3003	416T	1-16	"	"	16 20 3.2
3004	432T				32 24 13.7
3005	504T	%	2	4	16 0.56
	506T				6 18
3006	506T	2-08	"	"	8 18 1.4
	510T				10 18
3007	516T	2-16	"	"	16 20 4.9
3008	532T				32 24 19.2
3009	604T	3/4	13	4	16 0.94
	606T				6 18
3010	608T	3-08	"	"	8 18 2.9
	610T				10 18
3011	616T	3-16	"	"	16 20 10.9
3012	632T				32 24 42.5
3013	804T	1	3	4	16 1.9
	806T				6 18
3014	808T	4-08	"	"	8 18 4.8
	810T				10 18
3015	816T	4-16	"	"	16 20 19.9
3016	832T				32 24 73
3017	1004T	1 1/4	10	4	14 2.56
	1006T				6 14
3018	1008T	5-08	"	"	8 16 9.4
	1010T				10 18
3019	1016	5-16	"	"	16 18 37.5
3020					32 24 145
	1204T	1 1/2	10	4	14
	1206T				6 14
	1208T	"	"	"	8 16
	1210T				10 18
	1216T				16 20
3021	1404T	1 3/4	14	4	14 4.5
	1406T				6 14
3022	1408T	"	"	"	8 14 17.2
	1410T				10 16
3023	1408T	"	"	"	16 18 72
3024					32 28 280
	1604T	2	10	4	12
	1606T				6 14
3900	1608T	"	"	"	8 14
3907-1	1610				10 16
	1616T				16 18
	2004T	2 1/2	10	4	12
3905-1	2006T				6 12
3906-1	2008T	"	"	"	8 14
	2010T				10 16
	2404T	3	10	4	10
	2406T				6 12
	2408T	"	"	"	8 14
	2410T				10 14

Reference 1—Barker and Williamson, U.S.A.

Reference 2—Illumitronic Engineering, of U.S.A. It will be noted that the first two figures of the manufacturer's number state the coil diameter in eighth inches, and the last two figures give the winding pitch in turns per inch. Add an "0" suffix to all three-figure coil numbers, thus (0)604T gives a coil 6/8 (3/4") diam. x 4 t.p.i. The trade name is "Air Dux".

Reference 3—William Willis Pty. Ltd., 428 Elizabeth St., Melbourne.

Note.—The gauge refers to B. & S. and corrections should be made if S.W.G. wire is used.

* Length 3 inches only for "Willis" coils.

† Length 2 inches only for "Air Dux" coils.

‡ 20 gauge for "Air Dux" coils.

§ Length 10 inches for "Air Dux" coils.

Table 4.

FOR BEGINNERS:

A 2-VALVE SUPERHET. WITH BANDSPREAD & B.F.O.

Construction Hints and Alignment Data by A. F. W. Haddrell*

THIS set is designed for a.m. and c.w. reception using multigrad valves, one a pentagrid converter (6K8) and the other a double triode (6SN7). The intermediate frequency is approx. 1600 Kc. A double triode (6SN7) performs the functions of regenerative detector and audio amplifier.

L2 is the aerial coupling coil and the r.f. circuit (L1-C1) is tuned to the signal frequency. C7 is a by-pass across the 1.5v. battery, used to bias the grid of the 6K8 and one half of the 6SN7 used as an audio amplifier.

The local oscillator circuit is formed by L3, C3 and C4. Condenser C3 is for band setting with C4 for band-spread.

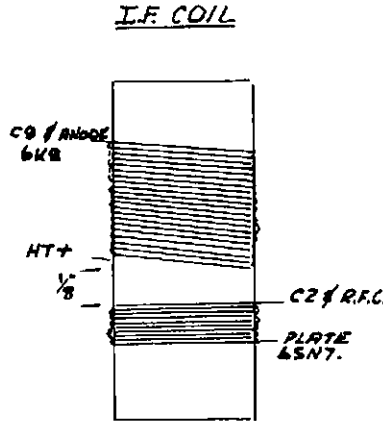
The i.f. tuned circuit (or regenerative detector circuit) is L5 C5. (This needs to be a high C circuit to obtain good stability). L6 is the tickler coil for regeneration. (If L5 is wound to specification, it will be tuned to approx. 1600 Kc.) C2 is the regeneration control.

The second section of the 6SN7 is transformer coupled to the detector.

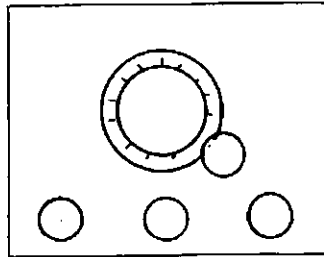
Looking on top of the chassis layout, from the front, the r.f. or input circuit is at left, with C1 below chassis. L1 and L2 are just behind it, and the 6K8 is to the rear of the coil. The oscillator padding condenser C3 is in the centre underneath the chassis and adjacent to the socket for L3-L4, with the 6SN7 to the chassis rear. At right, underneath the audio transformer T1, is the regeneration control C2. The band-spread condenser C4 is mounted on the front panel about 4" up from lower edge and a pair of terminals at the

(Continued on opposite page)

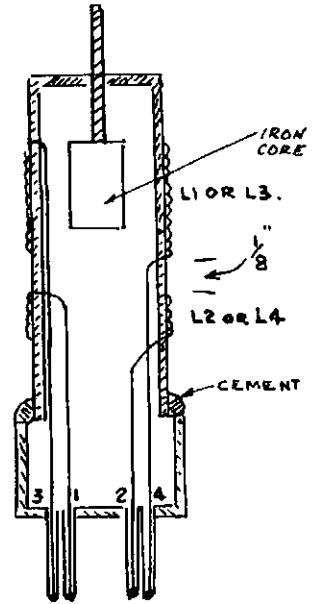
* 13 Reid St., South Morang, Vic.



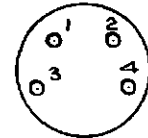
PANEL FRONT VIEW



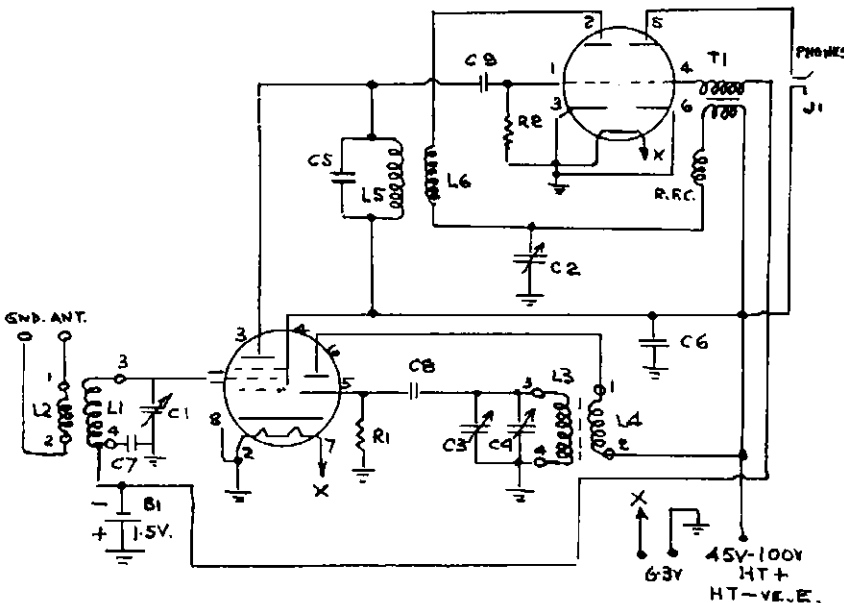
R.F. & OSC. COIL ARRANGEMENT



COIL LEADS TO BE DRESSED CLOSE TO SIDES OF FORMER.



VIEW UNDER COIL BASE



- C1, C2, C3—140 pF. (ex Ham Radio).
- C4—15 pF.
- C5—240 pF.
- C6—0.01 μF.
- C7—0.0047 μF.
- C8, C9—100 pF.
- R1—47K, ½w.
- R2—1 megohm, ½w.
- L1, L2, L3, L4—¾" diam. See Coil Table.
- L5—55 turns No. 30 en. close wound, ¾" diam. former.
- L6—18 turns No. 30 en. close wound, same former as L5.
- B1—1.5 volt cell.
- J1—Open jack.
- RFC—2.5 mH. r.f. choke.
- T1—Audio inter-valve transformer.

COIL TABLE

- For L1 or L3
- Coil A—80 turns of No. 30 enamel, close wound.
 - .. B—65 turns of No. 28 enamel, close wound.
 - .. C—45 turns of No. 22 enamel, close wound.
 - .. D—24 turns of No. 22 enamel, spaced 1¼".
 - .. E—20 turns of No. 22 enamel, spaced 1¼".
- For L2 or L4
- Coil A—20 turns of No. 30 enamel, close wound.
 - .. B—15 turns of No. 26 enamel, close wound.
 - .. C—15 turns of No. 26 enamel, close wound.
 - .. D—15 turns of No. 28 enamel, close wound.
 - .. E—15 turns of No. 28 enamel, close wound.
- | Frequency Range | Coil A | Coil B | Coil C | Coil D | Coil E |
|-----------------|--------|--------|--------|--------|--------|
| 1700-3200 Kc. | Coil A | Coil B | Coil C | Coil D | Coil E |
| 3000-5700 Kc. | Coil B | Coil C | Coil D | Coil E | |
| 5400-10000 Kc. | Coil C | Coil D | Coil E | | |
| 9500-14500 Kc. | Coil D | Coil E | | | |

side of the chassis are used for aerial and earth connections with a jack at the rear for headphones. No power supply is shown on the chassis, but 6v. for heaters and 45v.-100v. are required.

The chassis size for the set is 7" x 7" x 2" and the front panel is 9" x 9" in size.

The i.f. coil is constructed on a 3/4" diameter former with no core (see sketch).

The r.f. coils are constructed on 3/4" diameter formers (with iron cores) cemented to standard 4-pin plugs (see sketch).

Around the four-pin socket for the coils a screen from an old 1 1/4" i.f. transformer should be fitted.

ADJUSTMENTS

To test the receiver, apply power, and first try out the i.f. circuit. Put a coil in the h.f. socket only and both valves in their sockets and advance C2 from minimum capacity, when a soft hiss should be heard, indicating oscillation. If this occurs before approx. half capacity, remove turns from L6, but if a hiss is not heard add turns, after reversing connections to L6. It is not advisable to have oscillation commencing before mid-capacity.

Plug in an oscillator and r.f. coil for a band on which signals are likely to be heard. (Note coils are arranged so that only a minimum number are required, i.e. some coils are used on two bands.) Say coils C and D are inserted,

set C1 at mid-scale and turn C3 slowly around mid-scale until a signal is heard, then tune C1 for maximum strength. On lower frequency ranges, when it is possible to find two tuning spots on C1, the lower frequency peak is the correct one. The coils are so arranged that the local oscillator frequency is 1600 Kc. higher on the three lower ranges, and lower on the high range than the incoming signal frequency. (This circuit originally appeared in

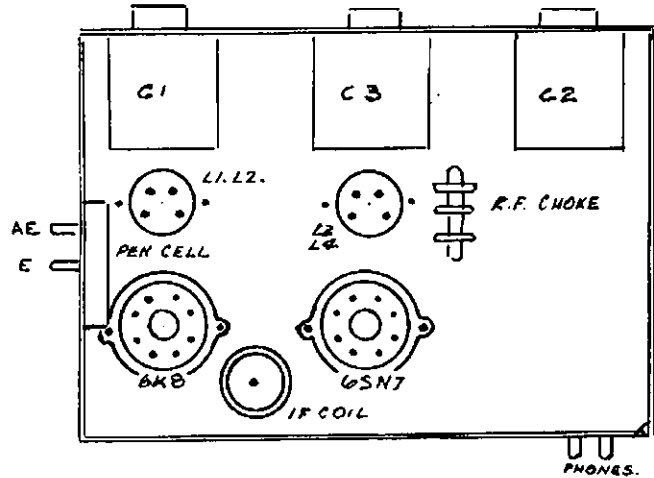
"QST" in 1942—Ed.) Iron cores are used to adjust this requirement.

The regeneration control can be set for maximum sensitivity whilst tuning, and the bandspread control is set for fine tuning.

The power drain is of the order of 10 mA. (more modern valves such as 6U8, etc., could probably be tried to advantage).

If any points are not clear, a s.a.e. to the writer will bring a reply. ●

UNDER CHASSIS VIEW



MULTIBAND FOLDED DIPOLE

R. E. W. MAY,* VK1PM

AS the sunspot cycle approaches its minimum level and our lower frequency Amateur bands become more useful, the problem for many of us is, how to fit the longer length of wire needed for the usual half-wave dipole into the available space. For instance, the normal 80 metre dipole requires about 134 feet between supports.

One simple and successful multiband antenna is the so-called "100 Foot Flat-Top," centre fed with open wire tuned line. A more recent version, known as the G5RV Multiband Antenna

("A.R." Jan. 1961) uses co-axial transmission line.

The standard half-wave folded dipole is well known for the excellent match presented for 300 ohms line over a wide band of frequencies. However, this antenna normally will not work on even harmonics, that is, if it is cut for the 80 metre band it is not available on the 40, 20 or 10 metre bands, as a folded dipole.

The multiband folded dipole now described, may be regarded as a "cross" between the "100 Foot Flat-Top" and the half-wave folded dipole. It carries the advantages of both these types, plus an extra advantage of its own.

Firstly, it has the wide band properties of the folded dipole. It will operate efficiently on all bands above the fundamental with a small s.w.r. on the line for each band. It may be fed with open wire line, 300 ohm ribbon, or, in G5RV style, with co-axial line (34 feet of open wire line, or 29 feet of 300 ohm ribbon connected from antenna, to any length of 72 ohm co-axial line). It requires only 80 to 100 feet between supports, for 80 metre operation and above.

Fig. 1 shows the basic design for the antenna, for operation on 80, 40, 20, 15 and 10 metres.

Although the antenna is shown as 100 feet in length, the radiation from about 10 feet at each end tends to cancel on the lower frequency bands. Therefore, up to 10 feet, or even more, may be turned down at each end without appreciable decrease in effective radiating height, so that the antenna may be strung between supports about 80 feet apart.

The radiating section may be made of ribbon, or of open wire as shown in Fig. 2. The resistive point on the open wire feed line occurs at 34 feet from the antenna, but for practical purposes, any length of transmission line may be used, as the s.w.r. is small on any band.

This antenna (Fig. 2) was the only one used by the writer, operating on the 80, 40, 20 and 15 metre bands, in the recent Remembrance Day Contest. ●

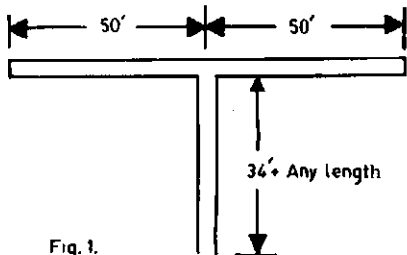


Fig. 1.

Fig. 1.—Multiband Folded Dipole, 80 to 10 mx bands. Dimensions are not critical. 300 ohm ribbon may be used without regard for velocity factor.

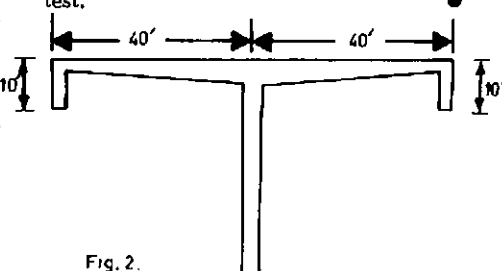


Fig. 2.

Fig. 2.—Open Wire construction for restricted space. Spacing between top and bottom radiating elements at centre of antenna allows for about 2 feet of sag when suspended at each end only. Spacing of feed line and turned-down end sections is as for normal open wire transmission line.

* 30 Meehan Gardens, Narrabundah, Canberra.

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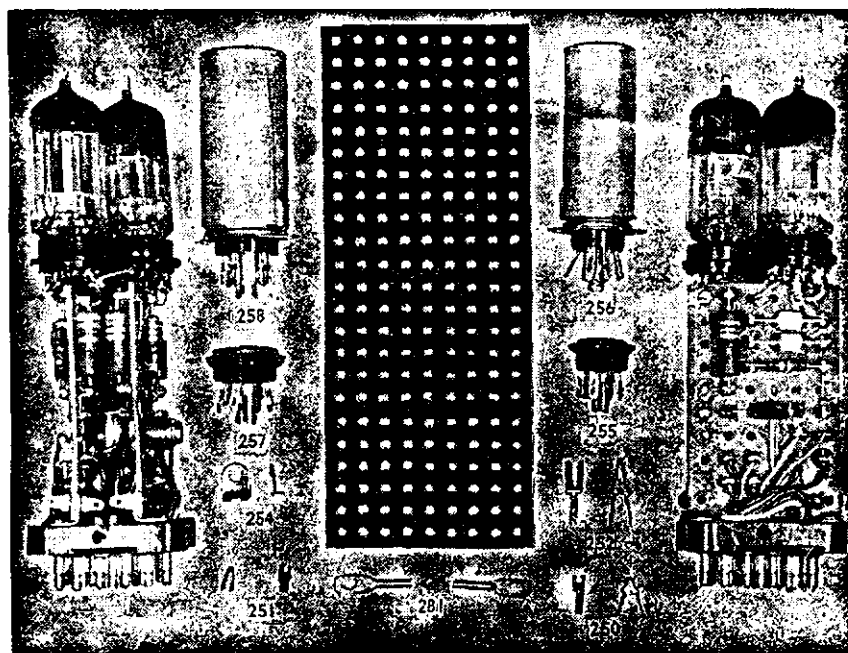
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FOR 288 Mc. ENTHUSIASTS*

R. G. ROPER, VK5PU

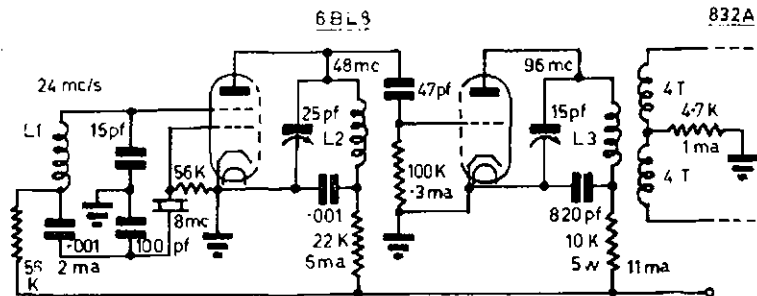
One tube (6BL8), output on 86 Mc., sufficient to drive an 832A tripler to 288 Mc., which will drive another as a final amplifier.

The circuit is not original, being an adaptation of the Jones' harmonic oscillator. However, particular attention has been paid to circuit parameters to enable disposals crystals (not special overtone cuts) to be used.

* Reprinted from S.A. Division, W.I.A., Bulletin.

To make full use of the output available from the triode section doubler, inductive coupling is used, the grid coil of the 832A multiplier being dipped (with g.d.o.) to self resonance with the tube's input capacity.

With sluggish crystals, decreasing the value of the capacitor C1 will increase the feedback. However, to minimise spurious oscillations, this value should be as large as possible, consistent with reliable starting.



HINTS AND KINKS

TUNING A MOBILE WHIP

The simplest way to tune a 40 metre mobile whip "nose-on" is to resonate it somewhere slightly below the centre of the phone band, say 7.0 megs., then after everything is firmly cemented down, giving rigid stability, the top section is trimmed $\frac{1}{2}$ " at a time until the s.w.r. in the co-ax reaches a minimum at 7.1 megs. (centre of phone band).

No matter what type of whip you may be using, 1" at the top represents approx. 30 to 50 Kc. At any one dimension of the whip, the exact point of resonance can be read off v.f.o. which is tuned for minimum s.w.r. (N.B. regulations).

—Clem Maloof, VK2AMA.

CHEAP METAL CASES

Can't afford metal cases for your converters, etc.? Then do what I did. I used half a one-gallon gas can for my converter. These painted, and with the joint facing downwards, make excellent cases after extracting the end section with the handle attached to it.

—Brad Booth, VK5/ZL3.

★

R.D. CONTEST AWARD WINNER

F.C.C. have advised that the call sign and name of R. J. Baty, VK9GP, was omitted from the results published in December issue in the awards section of the R.D. Contest.

He is the winner of the Award for VK9 with a total of 600 points in the open section.

★

RADIO AURORA INCIDENCE

The following letter from the General Secretary of the Radio Society of Great Britain has been received by the Federal Secretary of the W.I.A. All replies to same are requested to be sent to David Rankin, VK3QV.

Dear Mr. Secretary,
In connection with the analysis of I.G.Y. radio aurora information, the Society's Scientific Studies Committee are anxious to ascertain from your Society the dates, if any, when Australian Amateurs were able to use the aurora for 2 metre work. In particular the following dates are of the utmost importance and any information concerning radio aurora on these dates (for example extent and types) would be most useful. Dates are:—

1957—
September 29-30
1958—
July 7-9
November 12-14
1959—
March 26-28
July 14-16
August 15-17
December 4-6
1960—
April 1-2
March 31
April 30-May 1
October 5-7

This information is required to establish correlation of radio aurora incidence between the Northern and Southern Hemisphere.

The Society's Scientific Studies Committee will be most grateful if you can furnish information on this important matter at your earliest convenience.

—John Clarrieoats, General Sec., R.S.G.B.

★

E.D.R. JUBILEE CONTEST

It is with great pleasure that the Radio Amateurs of Denmark invite all brother Hams to participate in their 35th year Jubilee Contest on 3.5, 7, 14 and 28 Mc. The c.w. section starts at 1200 GMT, May 12 and ends 2400 GMT, May 13. Phone: 1200 GMT, May 18, to 2400 GMT, May 20, 1962. Logs should be sent to E.D.R. Traffic Department, Box 335, Aalborg, Denmark.

THE OSCAR II. PROJECT

It is hoped that Oscar II. will be launched in the late April, and the only differences between Oscar I. and Oscar II. are in the telemetering circuits. New data acquisition methods based upon measurements of doppler shift will enable you to compute all orbital parameters.

High gain beams become unnecessary as simple three or four element beams will suffice, even to a ground plane type. A simple type is shown in "QST" for March 1962. The launching time of Oscar II. cannot be given until the parent vehicle is in orbit. The same path will be used for orbit, North to South. So set your beams either to the North or South, and there is no need to move them at all; unless of course you are set up to really track Oscar from start to finish.

A simple converter will pick up Oscar just as well as the more elaborate ones. Remember that any reports are very important even to the simplest, providing you use the proper report forms. No reports will be used unless they are on the report forms.

I have written to all States and have sent a sample copy of the correct Oscar II. report forms. Now if these look too complicated, don't worry as there is a space there even for a strength report only, providing you give it in db. This is quite simple, for example, first check the reading on your S meter on noise. Say the noise is S3 for instance. Now when you hear Oscar come in, and say the S reading is S6 (assuming that the S unit equals 6 db.), then the report will be 18 db, and you enter this in signal strength above noise column No. 16 on your report form.

Another simple report you can give is the time you first heard Oscar. Record

the time in G.M.T., next record the peak signal strength, and then the time you last heard the signal in this orbit. Another very important observation you can make is the number of seconds for ten HI's.

The next comes the Doppler frequency shift. This can be done in a very simple way. Make up a crystal oscillator, place a variable condenser across the crystal, calibrate it plus and minus a few kc., beat it against the signal from Oscar when you first hear it, and turn the dial as Oscar comes closer and read off the difference in frequency, and plot a curve which will resemble the letter S.

Another method is in an article in "QST," written by Don Norgaard, W6VMH, March issue. If you cannot understand the report form fully, take a look at the article by Ed Hilton in "QST" covering data acquisition.

Now chaps, there were 2,700 tracking reports on Oscar I. and 1,300 letters, but Australia only sent about four at the most. Yes, I know that a lot of you heard Oscar I. and tape recorded it, and so on, but how many took the trouble to compile the data they got, and sent it in? Don't let this happen this time. Let's give it the works. I know you will say I didn't know about it until too late, but this time most know about it in all States.

I must thank those fellows who wrote me, showing how keen they were, and I have sent all the information I have.

I suggest that each State print their own forms. I feel sure that the W.I.A. State Divisions are only too keen to help. I also thank the N.S.W. Division for their assistance.

Give this project all the publicity you can, as it is the greatest boost the Ham has had so far.

—VK2HO, Australian Co-ordinator.

Official Opening of New H.Q. Building for N.S.W. Division, W.I.A.

SOME few years ago the Council of the N.S.W. Division of the Wireless Institute of Australia formulated a plan which has culminated in the opening of the extensions to the headquarters property of the Division at 14 Atchison Street, Crows Nest.

The property, as originally purchased, consisted of a house situated in a central position on the north side of the harbour, one which is of easy access by public transport, and one with excellent parking facilities. The land on which the house is built allowed of considerable extensions to enable a building to be erected in the foreseeable future to form the headquarters of the Division, which with its present membership of 1250 members, requires a building to house all the facilities of the Division and to provide a meeting hall which will accommodate the members at the general meetings, v.h.f. meetings, s.w.l. meetings, and at the A.O.C.P. classes which are run by the Institute.

The main hall, which has been erected at the rear of the premises, is a large one, some 60 x 30 feet, tastefully constructed in texture brick, and surmounts a basement which will house disposals and the Bulletin activities.

Despite the delays due to bad weather which has been experienced in Sydney during our "summer," the building was in due course completed only one month behind schedule.

The Official Opening occurred on 17th March, 1962, and was attended by some 300 members, their friends and XYLS.

The Opening Ceremony was performed by Wal Hannon, VK2AXH, who is well known as the only surviving member of the Foundation Committee which established the Wireless Institute here in Sydney in 1910; supported by the President of the Division, Bill Lewis, VK2YB; Mr. Jack, M.H.R.; Group-Captain Waddy, M.L.A.; Mr. Christain,

the architect; Mr. C. Carroll, representing the Superintendent Radio (Mr. Riley, who was unfortunately unable to attend); Ald. Hardwicke, Deputy Mayor of North Sydney.

The President in his opening address welcomed the dignitaries, members and their friends, and referred to the support which had been given by Divisional Council and members which had made this building a reality, and furthermore,



referred to the amicable relations which the Division has with, not only the P.M.G. Dept. through their officers, but also the assistance given to the Amateur Service recently by the members of the House of Representatives in Canberra. He thanked those members who had subscribed to the appeal for chairs which was organised so well by Frank Pearson, VK2ACQ.

Responding, Ald. Hardwicke, Deputy Mayor of North Sydney, stated that his

Council was pleased that yet another cultural organisation had chosen the North Sydney area in which to expand their activities, and wished the Division all success in their endeavours.

Mr. C. Carroll, P.M.G. Dept. representative, referred to the work of the Advisory Committee on our behalf, and also drew attention to the co-operation which the Department is always ready to give to Amateur and Viewer alike in cases of t.v.i., but stressed the importance of friendly relations between the Amateur and Viewer.

Mr. Jack, M.H.R., spoke on the outstanding public service given by the Amateur Service, referring to the work done by Amateurs during the disastrous floods some years ago and on the many occasions when the Amateurs have stepped into the breach and maintained communications in times of distress.

The final speaker, Mr. Waddy, further exemplified the importance of the Amateur Service in its capacity to provide ready trained operators for the Armed Services.

Wal Hannon, VK2AXH, reminisced on the past history of the Division in N.S.W. and referred to the work done by the many members through the 50 years of existence. Finally, Wal declared the extensions officially opened and unveiled a handsome plaque commemorating this historic event.

Our thanks are expressed to all those who assisted, especially in the final stages, to enable this event to proceed on schedule; to the many ladies who formed themselves, with Frank Pearson's assistance into an auxiliary, to provide afternoon tea for the large crowd attending; and to make this function one to remember.

V.H.F.C.C.		
Cer. No.	Call	Confirmations 144 Mc. 50 Mc.
1	VK2VO/T	100
2	VK5GG	114
3	VK3QV	185
4	VK2HE	102
5	VK2HE	118
6	VK7LZ	112
7	VK6BE	300
8	VK2HO	132
9	VK2ABR	143
10	VK5ZAX	100
11	VK4ZBE	100
12	VK3FW	157
13	VK4ZAZ	847

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"	3006	"	8	6/3
"	3007	"	16	6/3
"	3010	"	8	7/4
"	3011	"	16	7/4
"	3014	"	8	8/5
"	3015	"	16	8/5
"	3018	1 1/2"	8	10/6
"	3019	1 1/2"	16	10/6

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ROSS HULL MEMORIAL V.H.F. CONTEST 1961-62 RESULTS

The Ross Hull Memorial V.h.f. Contest has passed and the Federal Contest Committee has pleasure in presenting herewith the results.

The new scoring system has brought forth many comments. We regret we cannot acknowledge each one individually, but we thank all those who have sent us their comments and we assure you that they will all be considered, when the next Contest is prepared.

The Contest Committee is very pleased to see from the letters received that the majority of contestants are in favour of the new scoring system, with perhaps a few adjustments, and some contestants suggest that activity has increased. However, the number of logs received was less than last year. The poor support of the Open Section seems to indicate that this section might as well be done away with as a separate section so that in future there is only one transmitting section, allowing all modes of transmission.

The duration of the Contest has come under fire again and some suggest that operators select a period of 7 or 14 days from the total operating period of two months for their Contest log. This, of course, would make it extremely difficult to cross-check logs. Another suggestion is that operating times be limited to evening hours and weekends. Suggestions have been plentiful and very helpful.

The general feeling seems to be that the densely populated areas have the advantage under the present scoring system and that some allowance is required in that regard. We have shown the location of each station, taken from the Call Book, alongside the scores so that interested operators can have a better idea what the situation is. This is another matter for review next year.

In conclusion, we would like to congratulate VK5ZDR for winning the trophy this year, and we also congratulate the other award winners.

We have had many queries about outstanding award certificates. We regret there has been a rather long delay in the supply of certificate blanks and want to assure all those concerned that their certificates will be forwarded as soon as the new forms are available.

Best 73 and good operating,

—Federal Contest Committee, W.I.A.

TROPHY WINNER

VK5ZDR—M. J. McMahon ... 3357 pts.

AWARD WINNERS

Section A—Transmitting, Open

VK4PU—J. D. Purdon ... 1189 pts.
VK5TN—B. G. Tideman ... 1134 "
VK6HK—D. F. Graham ... 889 "

Section B—Transmitting, Phone

VK1VP—E. Penikis ... 116 pts.
VK2ZLP—D. L. Price ... 1359 "
VK3ZEA—G. W. Small ... 1619 "
VK4ZAZ—J. L. Bickford ... 2038 "
VK5ZDR—M. J. McMahon ... 3357 "
VK6BE—J. R. Elms ... 2394 "
VK7ZAO—R. K. Emmett ... 905 "
VK8AV—A. E. V. Molineux ... 220 "
VK2TR/9—R. Taylor ... 386 "
ZL1AUM—C. Maddock ... 670 "
ZL3RK—T. J. McKenzie ... 650 "

Section C—Receiving

WIA-L2211—R. Aberneathy ... 1660 pts.
VK4—T. H. Lane ... 69 "

INDIVIDUAL SCORES

Section A

VK4PU—Woombye ... 1189 pts.
VK5TN—Adelaide ... 1134 "
VK6HK—Wembley Downs ... 889 "
VK6VF—Wembley Downs ... 197 "

Section B

VK1VP—Canberra ... 116 pts.
VK2ZLP—Armidale ... 1359 "
2ZFB—Cronulla ... 1288 "
2ZCF—Sydney ... 847 "
2ZGL—Inverell ... 664 "
2ABR—Milperra ... 653 "
2ZDA—Miranda ... 517 "
2ZAD—Delungra ... 480 "
2ZGM—Ungarie ... 344 "
2ZBI—Via Junee ... 135 "
2ZBM—Lismore ... 10 "
2HE—Check log
2ZEX—No mileage shown, disqual.
VK3ZEA—Rainbow ... 1619 pts.
3ZGZ—Via Mildura ... 1221 "
3ZCG—Morwell ... 724 "
3QV—East Malvern ... 547 "
3ZMK—Ferntree Gully ... 505 "
3ALK—Melbourne ... 437 "
3ZDO—Melbourne ... 370 "

Section B (Continued)

3ZKM—Ferntree Gully ... 347 "
3ZLP—Via Geelong ... 283 "
3ASW—Via Renmark ... 279 "
3ZMC—Frankston ... 235 "
3AIJ—Newport ... 165 "
3FW—Canterbury ... 147 "
3ANG—Bentleigh ... 68 "
3NB—Camberwell ... 67 "
3GW—Rainbow ... 23 "
3ZKO—Frankston ... 15 "
VK4ZAZ—Rockhampton ... 2038 pts.
4ZBE—Townsville ... 1538 "
4ZHG—Gympie ... 887 "
VK5ZDR—Henley Beach ... 3357 "
5AW—Penola ... 3016 "
5ZBR— ... 914 "
5ZBL—Vermont ... 728 "
5ZDI—Penola ... 594 "
5ZDA—Salisbury ... 369 "
5ZBC—Mile End ... 166 "
5ZCD—Via Bordertown ... 14 "
5GG—Check log
VK6BE—Lesmurdie ... 2394 "
6ZAA—Mt. Pleasant ... 1461 "
6RY—Palmyra ... 852 "
6ZDS—South Perth ... 625 "
6ZCD—Albany ... 563 "
6MM—Nedlands ... 453 "
6FM—Mt. Pleasant ... 438 "
VK7ZAO—Hobart ... 905 "
7ZAQ—Hobart ... 815 "
7ZAV—New Norfolk ... 456 "
7ZAC—Hobart ... 141 "
7ZAX—Hobart ... 67 "
VK8AV—Daly Waters ... 220 "
8AU—Batchelor ... 60 "
VK2TR/R—Port Moresby ... 386 "
ZL1AUM—Auckland ... 670 "
ZL1AKY—Papakura ... 340 "
ZL3RK—Christchurch ... 650 "

Section C

WIA-L221—R. C. Aberneathy, Sydney ... 1660 pts.
VK-4—T. H. Lane, Brisbane ... 69 "
WIA-L3074—J. M. Hilliard, no mileage shown, disqualified.
VK-5—K. A. Wehr, no mileage shown, disqualified.

P.S.—Although listeners cannot agree with the stations on the mileage, the showing of distances is a requirement of the present rules and distances could have been worked out by use of a map and the Call Book.—F.C.C.

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Tube Number	Diam. Inches	Heater Volts	Heater Amps.	Anode 1 Volts	Anode 2 Volts	Grid Volts	Anode 3 Volts	Diam. mm.	Sensitivity mm./volt		Colour	Persistence of Scan	Deflection Type	Base Type
									X Plates	Y Plates				
2AP1	2	6.3	0.6	250	1000	-60	—	52	0.110	0.13	Green	Medium	ES	U11
3BP1	2½	6.3	0.6	575	2000	-60	—	76	0.127	0.172	"	"	"	U14
VCR139A	2½	4	1.1	800	120	-10	800	64	0.217	0.217	"	—	"	PS12
3FP7	3	6.3	0.6	575	2000	-60	4000	76	0.1	0.14	"	Medium	"	U14
3API	2½	2.5	2.1	430	1500	-50	—	76	0.223	0.233	"	"	"	USM7
DG7/5	2½	6.3	0.3	—	1000	—	—	76	0.16	0.25	Blue	Short	"	B9G
5FP7	5	6.3	0.6	250	7000	-45	—	127	—	—	Green	Medium	MG	O
VCR517C	6	4	1	2000	525	-80	3000	160	0.12	0.14	Blue	Long	ES	CK12
VCR97	6	4	1	200	450	-100	2000	152	0.3	0.57	Green	Short	"	CK12

ES = Electro-static; MG = Magnetic. All above are electro-static type focus.

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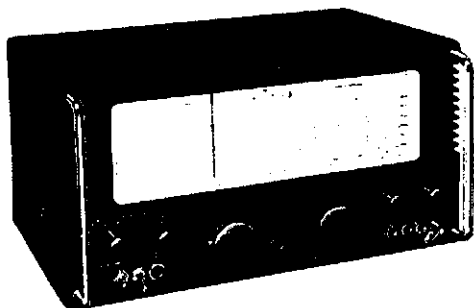
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Correspondence

Any opinion expressed under this heading is the individual opinion of the writer and does not necessarily coincide with that of the publishers.

GENTLEMEN'S AGREEMENT

Editor "A.R." Dear Sir,

The literary eloquence of Mr. Jones no doubt will add to the ranks of the "fone only" clan but as far as I am concerned much of what he quoted is biased hogwash.

He appears to have completely forgotten the main issue at stake! Amateur Radio is our hobby and this is still a free country—even though we are forced to read, hear and watch what the great and almighty press wish.

Unlike the above gentleman, I am a lowly technical soul whose choice of chore is tele-communications in which field I come in contact with all types of equipment from plain c.w. to facsimile.

Even the most advanced communications system still uses c.w. as "the old stand by". Perhaps it is outmoded as a form of commercial communication, but it still is, and will continue to serve its purpose long after Mr. Jones' ideologies have been forgotten.

May I ask him if he can still work 100% intelligible DX and have a good rag chew on 40 or 80 and still get a thrill out of it? Can he rake up some little 30 watter who can't speak English but can make himself understood with "Q" signs and still get a thrill?

Practice tolerance, Mr. J.! We all like Hamming—you like phone—I like c.w. (and s.s.b.). You stick to your end of the band and I'll stick to mine and what's more, you stick to your brain washing and let other people do and live the way they want.

—"Another VKS"

[Name supplied to Publications Committee and withheld by them.]

Editor "A.R." Dear Sir,

Mr. Jones' recent letter is, of course, as ridiculous as his previous ones. It is devoted to a plea in the name of democracy, for the continuance of this one-man soap box, yet Mr. Jones fails to acknowledge the fact that, as yet, he has had no legitimate support in these columns for his wild claims.

Mr. Jones' assumption that those who replied to his previous correspondence "are the minority who are on c.w.," implies a lack of interest on the part of the remaining body of members, which lack of interest Mr. Jones construes to be an indication of tacit support for his cause—this conceit, of course, is ridiculous.

The statistics presented by Mr. Jones' soap-salesman friend, were obviously compiled by a person with no technical knowledge of the subject with which he was dealing. Mr. Jones admits to having "spent many years in journalism," and his associate is alleged to have "degrees in economics from three countries," but I fail to see the connection with analysis of the frequency spectrum and rate of information transfer, yet we are expected to accept, even believe, these obviously fallacious claims.

It is apparent that past correspondence has indicated the feeling of members on this subject, so I feel that no further purpose can be served by this interminable correspondence, or by the referendum proposed by Mr. Jones.

I would suggest that Mr. Jones may be better appreciated by his "dear friends in the Arab world," than by the vast majority of Australian Amateurs.

—Ian N. Cousins, VK5IK,
Editor: "Splatter"

Editor "A.R." Dear Sir,

This time, Mr. Editor, please don't exercise the editorial hatchet, until after some of us have an opportunity to reply to Mr. Roth Jones, who appears to have burst into song once more.

Mr. Jones' main difficulty appears to be the fact that so far, except for the efforts of his distinguished, but anonymous, business friend, all his vocalisation has been solo work. He appears to be unable to rustle up one single supporter. On the other hand, it is quite apparent that Mr. Jones' opponents are so numerous that their replies are an embarrassment to the Editor.

As far as facts and figures are concerned, Mr. Jones, you were given them last month, but apparently preferred to keep your head under its customary sand dune.

I quote Cyril Rylett's letter: ". . . c.w. 34%, a.m. 28%, s.s.b. 23% . . ." the figures come from the R.S.G.B. Bulletin, which is quoting the A.R.R.L. report. Even your businessman, no matter how clever he is, cannot refute those.

Finally, Mr. Jones, most of the interested parties over here prefer to ignore your comments, since, in their opinion you are only trying to stir up an argument. I also have come to that conclusion. I suggest that you make use of your obvious talents in the next Federal election; if successful, you possibly won't be able to persuade the Amateur to part with his beloved c.w., but you could certainly give much needed support to the Amateur cause.

—Bob Elms, VK6BE.

[The above three replies, taken at random, are readers' opinions. Unless other readers can offer new facts, not discuss personalities, then correspondence on this matter will be closed.—Editor.]

★

Emergency Services & S.S.B.

Following the recent disastrous bush fires in Victoria, Group Capt. W. R. Garrett, M.L.C., in whose Southern Province most of the fires occurred, spoke to C.F.A. communications people and learned that interference on the emergency channel had been quite serious and had hampered the handling of the fire fighting personnel.

In mentioning this to Geoff 3AC (ex3GT), the idea of a demonstration of what s.s.b. nets are doing every day on 7.1 Mc. was decided on and a date set for such a demonstration.

Group Capt. Garrett duly arrived at 3AC's shack on a Thursday afternoon at 4 o'clock and 12 active sidebanders were ready and waiting to go.

The method of clearing the air was to use a 500 cycle tone at 3AC's rig. 3AC functioned as the controlling station to carry out the following demonstration with the following stations in the net: 3JK Mornington, 3OZ Ringwood, 3HG Coleraine, 3AHO Kyabram, 2AKC Tomingley, 3XM Ormond, 5EF/M Gawler, 3KB Brunswick, 2ADV Forster, 2ABD Edgecliffe, 3IV North Balwyn. At 3AC's QTH all stations were 5 and 9 with the exception of 5EF, who was 5 and 6 from his car near Gawler.

The programme was carried out as follows:—

(1) Each station was called in to identify itself and to give its location.

(2) It was explained that when a 500 cycle tone was heard all stations should cease transmitting and should listen. All stations using fast action vox.

(3) All stations were asked to insert carrier wave and to detune to give Group Capt. Garrett a demonstration of heterodyning by a number of a.m. signals slightly off frequency. However, for the one minute of the demonstration, all that could be heard were a couple of low frequency growls. It appeared that each station had relied on the other fellow to detune his rig. So this one was repeated with stations detuned various amounts up to about 3 Kc. This then resulted in a duplication of the chaos we sometimes hear on Sunday mornings on 7 Mc.

(4) The next demo. was to ask all 11 stations other than 3AC to hold an 11-way QSO, throwing the ball round as it were. This resulted in a most interesting performance. It was noted that particular voices could be picked out and followed when more than one person was talking.

(5) The next demonstration was to show how four stations could carry out two QSOs on upper and lower sideband on the same frequency. It was possible to tune from one sideband to the other and resolve each separate QSO without trace of interference from the suppressed sidebands, which disappeared below a strength 5 noise level that was prevailing.

Group Capt. Garrett replied to the stations concerned and thanked them for their interest in the emergency services. He promised to bring the details of s.s.b. before the special meetings of parliament which were convened to deal with the problems associated with emergency operations.

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We are heading into the winter months again and it has become apparent, as usual, that activity on the various v.h.f. bands is rapidly declining. Why? Surely the winter evenings are the best time of the year to enjoy on-the-air activity with Amateur Radio.

Admittedly the DX is not so common, but it is still there. Besides, there are other interesting on-the-air activities as well as DX hunting.

During the past couple of years, over two hundred and fifty stations have been heard on two metres in Melbourne, but at the present time you are lucky to hear more than four or five stations on the air on any one evening. This state of affairs also applies to six metres, and I understand that the other States are experiencing the same problem.

How about rectifying this position? V.h.f. operation should not be a seasonal aspect of our hobby, but a good solid, all-the-year-round part of Amateur Radio.

Forsake the "idiot box" at least one night per week and make your signal heard on the ether. 3ARZ.

NEW SOUTH WALES

Project Oscar: Roy ZHO has been appointed Oscar co-ordinator for Australia. Support for this project in VK has been disappointing. It is not necessary to have an elaborate laboratory to participate in this project, just normal 144 Mc. receiving equipment. Full details on the reporting procedure have been given in recent issues of "QST". Let's prove that we too have an interest in the new age of space communications.

144 Mc.: S.s.b. is gaining a hold on 144 Mc. after several false starts. Stations heard on s.s.b. were 2AAB, 2RX, 2ZBW and 2ZVW. Most excitors are of the 9 Mc. phasing type. Geoff Z2GM, of Ungarie, 250 miles west of Sydney, is also using s.s.b., upper sideband, 120w, to a 4X150C feeding 32 elements on a freq. of 144.18 Mc. Geoff is looking towards Sydney, so get yourself a better rx and turn the beam west. Another new station to the south of Sydney is 2ZNL, at Bulli, on 144.6 Mc.

General: A report has been received of hearing the Sunday broadcast of 2WI on 50 Mc. in Mudgee, 120 miles over mountainous terrain. With the decline of conditions on 3.5 and 7 Mc., the v.h.f. coverage has become important. Plans are in hand to increase the tx power and construct high gain antennae at Dural. DX reports of the 50 and 144 Mc. coverage should be sent to Tim Z2TM.

The lecture at the April meeting was on s.s.b. for v.h.f. bands by Keith 2BK, a topical subject. Prior to Keith's lecture, a new committee was elected for the coming year, so a new scribe for the next 12 months, give him your support and send him any news for inclusion in these notes. Details of DX, new stations heard, unusual conditions, new techniques, etc. Z2DP.

VICTORIA

At the meeting for March, 25 were present to elect the following members to the management committee for the coming 12 months: President and Chairman, Bill 3ARZ; Secretary, Len 3ZGP, Peter 3ZGM, Bruce 3ZMR, Ken 3ZKK, Guss 3ZIC, Michael 3ZCZ, John 3ZCO, Bill 3ABP and myself. Thanks to the retiring committee members for their assistance during the past year.

The latter part of the meeting discussed activities such as field days, fox hunts, scrambles, etc. Some lively criticisms were forthcoming and a number of suggestions for alterations and improvements will be further discussed.

The bands are already extremely quiet and even though winter is still a few weeks off, the usual lull is well in swing. Rex 3OB worked Don 3AKN at Broadwater on Monday 12th and Tuesday 13th. Sigs were good on the 12th but c.w. was necessary on the Tuesday. A new call on the 2 mx band is James 3ZIJ, located at Glen Waverley. He runs 30w. to a 522 rx with a 6ES8 pre-amp.

Ron 3ZER is building xtal controlled gear for 576 Mc., using large strings of 6J6s in both converter and tx. He is particularly interested to hear of others with xtal locked gear. Mac 3QO, Jeff 3AUX and Ivan 3ASG have also been active on 578 Mc. Mac has a scaled-down 40 ft. 144 Mc. yagi for use on 576 Mc., while Jeff

3AUX is about to attempt to convert a BC625 tx to the band.

New stations on 6 mx are Terry 3ZOB at Hightest and Fred 3ZNT at Mt. Waverley. Alan 3ZJS was back on the band from his new QTH at Brighton only one week after returning from his honeymoon. Another Alan, 3ZCJ, is the proud father of his first harmonic. XYL and daughter are both well. Not so sure about Alan though!

The first of the 2 mx daylight fox hunts was voted a success at the picnic and rag chow held at the final location afterwards. The next one takes place on 6th May and 6 mx stations will be included this time. Meet at the loop in Studley Park near Dlight's Falls at 2.30 p.m. if you are interested. 3ZLT.

QUEENSLAND

A few JAs have been in this month and openings occurred on 5th, 10th, 11th, 15th, 21st, and 26th March; possibly many other openings occurred of which I am not aware. The Russian t.v. station was heard on a number of other occasions also.

Ron 4ZBZ was mobile on the week-end of 24th and 25th March to the outback portions of Queensland and worked into Brisbane from Millmerran on 6 and 2 mx. Ron also has frequent skeds with 2ZFS on 6 and 2 mx, and from the results obtained from these skeds and the outback trip, it is obvious that 6 mx is far superior to 2 mx for reliable, consistent, long-range ground wave communication.

The V.h.f. Group meeting was held at the home of 4ZRH, after which a supper of extravagant size and quality was served. The matters discussed related to the provision by v.h.f. types of communication to ensure the safety of Scouts who will be on a trek from Toowoomba to Lockyer on the Easter week-end. A visitor to the meeting was Paul 9ZBV, who brought along a transistorised miniature 2 mx tx. 4ZAZ brought along a miniature 2 mx rx. 4ZGD had a good idea, so he raced outside to his car and worked a VK9 mobile on 2 mx—very smart!

V.h.f. types are getting ready for the annual W.I.A. Convention. Certain unusual types of equipment are rumoured to be under construction. I hope to give full details after the Convention takes place.

A few Amateurs are starting to get ready for Oscar II tracking, and it is hoped that it will not be left to a mere handful to uphold the honour of VK4 land. 4ZBT.

SOUTH AUSTRALIA

50 Mc.: For the month of March there have been no band openings at all on 50 Mc., however the appearance of newcomers, including a new mobile, has helped maintain interest. Ivan 4IB was portable over here, towards the end of March. Ivan had portable gear on 51.3 Mc. and worked quite a number of local chaps. The high freq. Ivan was using may have resulted in some of the chaps missing him. Recent newcomers in this State on 50 Mc. include Howard 5ZBE, Ian 5ZGG, David 5ZDP, Ken 5AL and Carl 5SS. These stations represent quite an increase in activity and it is good to hear them on.

Speaking of new activity, Doug 5KK has got s.s.b. going on 50.01 Mc. Doug is using a phasing type generator and although the p.e.p. is only 20-30w., the quality of the signal is excellent. Keith 5ZMK has his new 50 Mc. mobile going very nicely. Keith is running a QQE03/12 on 50.2 Mc. and on a recent 50-60 mile trip enjoyed good contacts all the way.

With the introduction of 2 mx fox hunts, quite a few of the chaps use their 2 mx mobile rx's in conjunction with their 6 mx mobiles for some very interesting mobile-duplex contacts. Probably the main item of 50 Mc. news is that application has been made to the P.M.G. for permission to run a beacon station on 50 Mc. The beacon will be on 50.5 Mc., running 30w. input. An omnidirectional antenna will be used. Type A1 emission will be used at 15 to 20 w.p.m. and (most important) it will run 24 hours a day. (Officialdom permitting.) The location will be (for the time being) at Geoff 5ZCQ's place in Adelaide. Further data will be given as time proceeds.

144 Mc.: This band has been used lately for fox hunts, and quite successfully. On 30th Mar. three fox hunts were held. There was a reasonable roll up and although Bob 5ZFG and Bob 5ZDX won all three hunts (on 144 and 288

respectively) some of the results were quite close. Having tried 50, 144 and 288 Mc. for fox hunts, we in VK5 seem convinced that 144 Mc. is the band to use.

Bill 5ZAX, near Maitland, has put up a 28 el. array on 144 Mc. and big signals are expected from him. Another 2 mx man, Tony 5ZAI was in Adelaide over March and in addition to announcing his engagement, Tony did quite a little visiting of local gentry. Congrats., Tony.

General News: A V.h.f. Group meeting was held in March, the main item of interest being the 50 Mc. beacon. President Gary 5ZK was in the chair. Two chaps have recently returned from the Northern Territory; they are Eugene 8AV and John 5ZDL. Eugene was worked from Daily Waters on 50 Mc. during his long stay up there. That doyen of the v.h.f.'s, Neil 5ZAW, has passed his c.w. and is now 5WN. Neil will be missed on the v.h.f. bands. (Surely he is not going to forsake the v.h.f. bands.—V.h.f. Ed.) 5ZCR.

WESTERN AUSTRALIA

March meeting: 40 members attended at the D.C.A. workshops. Two new members were voted into the Group. After the general business, Vic 6VK gave an informative lecture on s.s.b., its generation and reception. It is hoped to get Vic to give follow-up lectures on this subject.

March fox hunt proved different to recent events. A large following of hounds turned out and many old dogs not seen lately were sniffing at the trail. Mac 6MM provided a touch of humour when his vehicle was seen to be a Model T complete with long yagi 20 ft. high, which disintegrated shortly after the start! (By design or accident, Mac won't say.) Roy 6RY was the outright winner.

Operation Oscar II. A committee was formed and a meeting held to co-ordinate the groups' efforts for tracking and reporting the Oscar II satellite. The receiving site will be Cedric's (6ZBC) QTH. Mac 6MM has loaned a caravan and designed and constructed the antenna mounting to track both azmth and elevation. Information and doppler shift will be co-related from tape recordings of the actual signals received through two receiving set ups, made available by the members pooling their equipment.

144 Mc. activity has increased as a number of the Group have purchased SCR522 sets, etc. Main differences in modification has been the treatment of the modulator. Some very interesting audio has been heard from these units.

50 Mc. slow Morse is run every night except Saturday by Roy 6RY and Mac 6MM from 2000 to 2030 hrs. There is a news exchange session on Sunday nights at 2115 hrs., run by Bob 6BE and Roy 6RY. All stations are invited to report news items for the V.h.f. Group Bulletin and inclusion in these notes.

S.s.b. has gained a number of converts, who are building gear for 50 Mc. Kevin 6ZCB has almost completed an impressive unit and Vic 6VK is re-building his 50 Mc. s.s.b. Mac 6MM has been operating s.s.b. for some months now. Some of the local Amateurs are discussing and constructing d.s.b. equipment prior to going all out on s.s.b.

Two new calls have been heard on 50 Mc. lately, John 6ZDN and John 6ZDX. Welcome to v.h.f. and apologies to any other new stations we have not heard.

Amateur Radio received a boost locally when three members co-operated with a local car club and operated a radio controlled and timed hill climb as part of 4HR rally. Pat 6PH, Len 6ZCS and Alyn 6ZDM participated, using commercial gear loaned to the car club, which had P.M.G. sanction to use the freq. provided. These members were thanked by the sporting body for helping to make the rally a success.

288 Mc. and above, no news is to hand regarding these frequencies. Have heard whispers of xtal locked gear on 576 and may have information next month. 6ZDR and 6ZDM.

NORTHERN TERRITORY

A bit of activity here on 6 mx at the moment as I write, the band is open to JA in a sort of fashion. JAs have been heard and worked on many days during March. Unfortunately there is one less Amateur in the Territory now, 8AV has returned to VK5. 8AU.

(Continued on Page 16)

D X

VP4, OA4, BV, ZM7, 7G1, FP, AC5, MP4, ZC6, TY2
Sub Editor: ALAN SHAWSMITH, VK4SS, (Phone 4-6526-7 a.m.-4 p.m.)
35 Whynot St., West End, Brisbane, Qld.
ADDRESS CORRESPONDENCE FOR THIS PAGE DIRECT TO THE SUB EDITOR

Well fellows, did you get with it this month?
DX has picked up on all bands, especially 20
mx, which has treated us to shades of her old
self this past few weeks. The long path cir-
cuits have been open to East and West for
long periods each day. 80 and 40 mx also have
been lively, although, of course, the former
is very chancy. There has been quite a bit
of VK activity on the bands which is a good
thing, and many have been kind enough to
send me in DX notes. I have the biggest fan
mail of my career alongside me, and the prob-
lem will be to fit it all into this column, so
if someone's notes are a little abbreviated, you
will understand.

NOTES AND NEWS

VP8GQ is active on 7 Mc. (low freq. end
mostly); a good time is around 0730 E.A.S.T.
He also works 80 mx.

Also active on 80 mx are: ZS1A, VP2VI s.s.b.,
VP5BP c.w., EP2BK c.w., JA6AK, KV4CI,
ZK1BW, ZK1AR.

CR7IZ, CR6QP, 5H3HD, ZS6KO and other
South Africans are workable on 7 Mc. in the
mornings around 2030 hrs. G.M.T.

Still want Pitcairn Is.? Then try this method:
Firstly find W50LG, and request a sched with
VR6TC. These scheds are on Tuesday morn-
ings only between 14160 and 14165, using c.w.
or a.m. Tom Christian calls the stations ac-
cording to the list of stations he is supplied
with. It is no use calling him unless you have
pre-arranged a sched. (Best of luck with this,
because you're sure going to need it, Al.)

VP2GAC, in Granada, is operating around
14300 kc. each day, and W4OPM for his QSLs.
(The Call Book QTH of VP2GAC is incorrect.)
VQ1HU is coming up and will be on for
six months: Box 84, Zanzibar.

By the time you read this, the HK0AA Ex-
pedition to Bajo Neuvo will be just about
finished, and the same gang will be ready to
start up from KS4BF. All QSLs via W4DQS.
SM5ZS/ZC6 is reported as a phony.

Danny Weill in the Yasme may have his
itinerary interrupted, or changed, if the U.S.
Govt. announces its intention to resume Atomic
Tests using Christmas/VR3, Johnson/KJ6 and
Jarvis/KP6 Islands.

(All the above by courtesy of the Florida
DX report.)

A Chinese station BY1PK is operating on
about 14040 from Peking in the evenings. Hope
you can be picked from the dog pile.

Paul K6CQV/KS6 is on 20 mx s.s.b. His QSL
is P.O. 307, Pago Pago, American Samoa. Paul
is the only active Ham on this island, the
other Ham KS6AL is not active.

(Thanks to Ken 3TL for the above.)
Has anyone worked FB8WW. Crozet Is.,
14020-14050 c.w.? He is supposed to have been
active for some time.

If you still don't believe there is DX on 7
Mc., the following are active as from now:
FO8AN, UP0LB 7003, ZS1A 7007, KC6BD 7015,
ZS1JA 7096 s.s.b., HM4AQ 7008, KG1CC 7105,
KB6BR 7113, KV4AA 7001, OH9NG 7006, KR-
6NW 7007, DU7SV 7010, HP1IE 7003, CR7CI
7004, CR9AH 7019, 9M2FZ 7012, VU2TN 7009,
MP4MAH 7010, ZD6RM 7015, VP1WS 7010, VR1B
7005, ZK2AD 7010, and countless Europeans
and Asians.

AMONGST THE VK'S

80 mx DX. A report from Sweden says that
VKs 5KO, 3AHO, 3HG, and 3BM have been
working Europeans in the past month around
1830-1930 GMT. (Nice work fellows, I wish
I could do it.)

Am told on the grape-vine that Tubby VK-
5NO has made it for the NCDXC award. (Is
this correct, Tubby?)

VK3AHJ/VK9 will be on s.s.b. from various
parts of N.G. and Papua. Ron is up there on
installation work for T.A.A.

I may have told you earlier that Frank VK-
2QL has the honour of being the first VK DX
member of the United States QRP Club (any-
thing under 100 watts). W6CIS or Frank can
supply the details.

I have just received three Russian Awards:
They are R-6-K, W-100-U, and P-150-C. I
would like to know if any other VK has the
latter? I am No. 47 world listing.—Al.

ACTIVITIES

Bud VK2AQJ reports the following s.s.b.
QSOs. 14 Mc.: ZL1JF (Campbell Is.) 0824z,

KX6AM 1102z, KC4USP (U.S.S. Vance) 1006z,
UA3KQB 1126z, KA2AO 1000z, VK3AHJ/VK9
1015z.

Ian VK3ZHR logged the following good ones.
20 mx phone: W4MMC/KH6, OA4CV, Ws,
I1WSG, F3JN, G3NNT, DU1MR, KR6LZ, JA-
6YG, 9M2GV, TI2CT, F2UT, ON4OC, VK0BB,
VP8WB, KH6IJ, LUTTA, KH6ACC, I1ANY,
ZK1AA, KC8BI (West. Carolines), G3JF/MM,
KR6KV, KA2HO, ZK1AR, YS1JN, VK00S, OA-
4GI, I1TUQ, VK9GP, YOYBZ, I1ZZG, LU4DFD,
DJ1NY, F9UK, EA3JE, G6DW, VR2AB. 20 mx
s.s.b.: KH6OJL/MM, KJ6BV, KC4USR, HS1X,
UA0VQ, K5OMR/KG6, HS1B, VK0DS, W01Q/
KB6, HC1FG, Ws, HB9SI, DJ6QH, K0GV/ML,
CP5EA, F8AG, KASAS, HL9KT, CN8FU, HL-
4AQ, KR6BA, SM3BIZ, KA2RF.

Len VK3ALD worked on 21 Mc.: MP4BDC,
VE6AA, W6BHM, VS6EM, JA0SZ, JA2KK,
FK8AT, EA7ID, G8AW, JAITJ, U48OW, KH-
6BJ and heard ZS5G, VQ8BC, CR7AE, Ws, etc.

Ken VK3TL worked on 14 Mc. phone: CE,
1AGI, KR8AH, DL3IR, EA4GZ, HB8KU, HB-
9SI, HL9KT, W01Q/KJ6, W6YCW/KJ6, K6-
CQV/KS6, KH6BMM/Aero Mob., VS1G. 14
Mc. c.w.: BV2A, F8WK, F9VK, LA8WG, OE-
5LX. 21 Mc.: W01Q/KJ6, UA9OC, VR2K.
7 Mc.: W6BCA. QSLs red. for month: CE1AGI,
CM2QN, DU1OR, FO8AN, G2BB, G3JF/MM,
KI1HL/MM, OH1NK, OK1YZ, PJ2AA, SM5CCE,
UA3RM, UA4HC, UA4IF, UL7JA, VK9VM.

Hal VK4DO worked the following—14 Mc.
c.w.: CX2BT, DL3PY, DL4NAC, DL1XZ, DJ-
7IK, F8VN, HK3DX, KL7BCW, OH3TH, OH-
3WM, OK3DG, OK3AKG, OK1US, SP8CK,
SP7HX, SP5ADZ, UA0KGF, V7RGK; hrd.:
AP5CP, CR9RI, DJ5JI, DJ5MX, DJ7CZ, DL8LD,
DL3TV, DL9TF, G5WP, HC2IU, HK3RQ, HM-
4JA, I1FO, KW6CS, OH1RO, OH2DW, OH3RC,
OK1FL, OK1RX, OK2QR, ON4CI, OX3AI, PY-
2RT, SP4JF, UA0ZB, UA0KJZ, UA1JF, UA1ND,
UA1DQ, UA4KCC, UB5KCD, UB5KCN, UB-
5XW, UL7KA, L7KBA, UL7KBB, U8KAE,
UO5FP, UR2KAN, VPSMJ. 14 Mc. phone wkd.:
VK9RH, ZK1AA. 21 Mc. c.w.: DJ4SF,
EA5TF, HB9MO, OZ7UU, UA9VK. 21 Mc. phone
hrd.: KH6IJ, JA2SBM, DJ2JA, XE2DO, 9M2AD.

Chas. L211 heard these all on 14 Mc., times
between 1700-0100 hrs. E.A.S.T. G3BUV, F3JN,
F2UT, KW6AL, AP2MR, YU3YU, JA1QM, DL-
7CX, VP6W, VPSY 9M2AD, SM5BIC, VEZVY,
VG4GT, ZE1AR, ZL1JF, YN6HH, HK3HJ, HK-
3AFB, OA4CV, KR6AS, GOEE, VR4CB, KC-
6GJ, VR1B, ZK1BV, CN2BK.

Don L2022 landed some nice ones amongst
the following: 15 mx a.m.: KC8BJ (West Car-
olines). 20 mx c.w.: KP4BEA, OA4AJ, LU4OA,
SM5BIC, GW8CY, GW8BQ, UQ2AS, UP2NM,
UR2AR, OE1CJ, UO5KAA, LA8D, VS4RM, OH-
3TH, VS9OD, TF2AS, EA3CP, YU6FA, FY4CG,
VR4CV, O44FN, ZBIHG, 5A2TD, YN1BC,
5A3BC, CX2BT, F9UK, YV1GT, FB8XX, PA-
0DRA, 4X4HC. 14 Mc. s.s.b.: KP4CJ, HL9K,
G1SDE, OH3PC, CX2AX, FY4CB, KA2EB, VK-
0DS, T1AZK, VP2GAA, KC4USR, G3KZJ, YV-
5AO, YN1BE, OA4CV, BV1US, PYSAS, PY7MP,
14 Mc. a.m.: VP8VP, 9M2AD, VPSY, ZK1AR,
ZK1AA, EK2AD, VR1G. 7 Mc. c.w.: DJ8LO,
UB5KEB, K4PMO, DJ7CP, HA5AW, OZ8LD,
FA2VY, OK3AG, DU7SV, LZIKBL, VE2YU,
G13OGR and many more. 80 mx c.w.: UA1FS,
UA3QH (2030), VR2EA, VE1ZZ (1000z), and
W2AYJ. QSLs red. KH6EDY (Kure), KH-
6GO/KJ6, GC2FV.

Eric BERS195 reports in with 3.5 Mc. c.w.:
ZK1BW, VE2AYY, VE2NI, VE2WW, VE3KE,
VR2EA. 7 Mc. c.w.: LA2P/MM, KR6MD, U-
8LB, UB5KYC, SP9KAJ, VQ4HY, UB5IF, ZE-
1AU, 457NE, 9M2FZ, VR2DK. 14 Mc. c.w.:
BV2A, DU7SV, CX2BT (0845), HK3LX, HM4AQ,
KC5CN (0530), JT1KAA (1200), KR8AP (0900),
KM6CE, KR6LJ, MP4TAM, LUTHB (0800) (PY-
7MP (0830), PY2CD (1000), UJ8KAA, UR2KAN,
VK8NK, VK9LA (Cocos Is., 1630), VK9GP
(Norfolk Is.), VR1B (0600), VR4CV, VS4RS
(1400), ZB1HC (0800), ZC4PB (1430), 5N2RSB
(0630), VK0BB (0945). All times are GMT.
QSLs red. to date are JZ0ML, KH6EDY/Kure,
KR6LJ, KV4CI, UA1KED (Franz Josef Is.),
UG6KAA, U8KAD, YJ1MA, ZSSUR, VR1M.
Eric's heard score is now 277.

Pete L6021 comes up with a large list which
shows that he has his ear on the job quite a
bit this past month. He lists on 20 mx a.m.:
EL2V, YE1CE, 9M2AD, VP6PV, XW8AL, VP-
2SY, 9M2CL, 457YL, XZ2VK, VU2PF, 9M2EF,
SM5BIC, 9M2DX, BV1USF, VR1G, KA9MF,
VU2RA, DU1MR, VR2BV/VR1, MP4TAO, VS-
9AZE, VU2US, F3PL, ZETUR, UO5KVC, VS6GS,
DL7FT, UO5PK, SL5AB, KC6BI, ZS1CD, VQ-

8AV, EISA, FB8XX, 5R8BC, VP2SQ, VQ8BC,
ZS2FA, DU9VUL, EL2Q, TG9MO, YV5ASR,
HK3AFB, 4X4DH, ZS4Z, W4TOH/VP9, T12HK,
VK9GR, VP9WB, MP4BDF, CX6CZ, HL9KS,
DL6LL, I1ACQ, CN8JO, HP1AP, FK8AM, ZS-
2CF, XE2RV, YV5ACL and many other good
ones on this band too numerous to mention.
20 mx s.s.b.: KR6DZ, KX6BM, UB5KKA, 5H-
3GC, HS1W, E14Q, KC4USG, KC4USP, VU2NR,
YV5AFF, K3CJM/KG6, ZS5JM, KR6MA, ZS-
1DO, VP5BP, HP3DA, PY1AE, KC4USV, TI-
2EH, VT9GZ, KG6NAB, VQ4HX, MP4BBW,
9K2AM/M, SM5BL, 9M2DL, XE1AB, XE1RF,
4X4IX, VS6EK, U8AJ, KR6QW, KM6CG, KA-
2JL, UW9AF, YN1CK, ZS5CZ, CR9AH, KH-
6AVX, ZS6AJ, KR6HL, HZ1AB, EP2BM, KW-
6CT, KC4USE, SM5CO, DL5BV, W4UAF/KH6,
ZS6AZI, KG6AAV, ZS6PC, MP4TAO, XW8AS,
TI2CF, YN1BE, HB8SI, SM5BPJ, DJ3CP, KA-
2EB, G14RY, 9M2GA, KX6DC. 20 mx c.w.:
LZ1KSP, VU2XZ, VU2AD, UB5CG, SM5ZI/
9Q5, UR2AT, UA9KUK, UA0AG. 40 mx s.s.b.:
K6EVR, ZL3DX, VPIWS, ZL2AKD, W9YZ,
W6PQW, K2GXJ, K80HJ, KH6GJ, CT1SQ,
WS4JY, K2GDT, K4TMM, G2PU, G8FO. 40
mx c.w.: W6EZM, W9AND, W6EZF, VS1DK,
JATAKQ, UA0KDA, JA1CO, UA0KFG, UA-
0KKB. (Thanks for the photo, Peter, it's on
the wall.)

George VK5RX as usual has picked up some
nice ones. All on 14 Mc. time GMT: CP5E2
0710, PY7MP 0915, FY1BC 0936, PY5ASN 0948,
LU2EN 1031, LU5ABL 1100, JT1KAA 1135, FB-
8XX 1113, 5A1YV 1440, ZE7JV 1135, VQ8BM
1413, HC2IU 0630, 5N2RDO 1600, SM5CCE 1340,
F8VN 0800, ZS2KX, ZS1OU, ZS6ARE 1330.

Harry VK5MY writes to say that the long
path in the mornings to East W is still open
sometimes on 7 Mc. To prove it he wkd.
W2KQT 2230z and G5DQ 2215z.

David VK3QV sends in his 28 Mc. phone
QSOs and says the band has been fair at odd
times. JA4OI, JA8QR, KB6BO, KH6DPT, KX-
6AS, UA0LBO, VE7VJ, VE7BBG, XE1KE, ZL-
2MU, ZS6AJH, 5H3PBD and lots of Ws.

Frank VK2QL landed these nice ones; 3.5
Mc.: DL1FF, KL7FBM. 7 Mc.: DL1FF, KP-
4AOO, CX2BT, and heard XE2LA, PY5FO.
14 Mc. wkd.: 5UTAC, ZA1AI, DL9US/SUO
(Rhode Is.), all on c.w. QSLs red. UA1KED,
VS4RS, VQ5IB, UL7FA, HB1TT/ML.

Lu Bud VK2AQJ just makes this edition with a
further list. All s.s.b. on 14 Mc., times GMT:
KA2AO 1305, VS1AU 0940, KA2AO 1000, KB6BZ
1000, VK0DS 1005, KA2MM 1010, KA2AO 1010,
KX6AX 1100, VK3AHJ/VK9 0820, VS1AU 1030,
KR6DA 1030, WA6GLF 0800, K6RFU 0815, UA-
OKR 1100 (Dixon Is.), W7GWB 0528, K5FLD
0544, UA1DZ 0549, ZL2AA 0604, I1BFA 0657,
DL3LL 0628, KOLRW/KL7 0639, W1QFD 0674,
SM6SA 0700, KL7DOU 0811, KASAS 0820, GW-
2DUR 0822, G3NUG 0828, HM4AQ 0852, LU-
2DAW 0856, HL8KT 0858, KA2EB 0906, CN8FU
1020, XZ2SY 1110, KV4AA 1118, K5TSC/KH6
1135, KX6AE 1152, UA3CR/UAE 0920, Franz
Joseph Land, GM8MN 0925, KA2AO 1015. (I
will look up the Dixon Island verification, Al.)

ADDRESSES

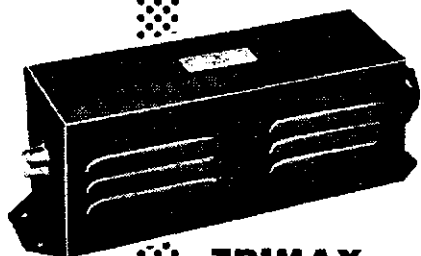
VP2SY—Box 80, St. Vincent.
VS1ZF—Box 777, Singapore.
YN1BE—Box 825, Managua.
FB8XX—Box 587, Tanarive, Madagascar.
ZC4TZ—Box 219, Limassol.
VP8QV—QSL via GSPAG.
9K2AN—Via R.S.G.B.
KR8AP—Via O.A.R.C., Okinawa.
VP1WS—Via K8ONV.
EA8CV—Via K1DCL.
EP2BK—Box 224, Abadan, Iran.
EP2BE—Box 1742, Teheran.
VQ2W—Box 1149, Kitwe.
5H3PBD—Via R.S.G.B.

SUMMARY

We can only hope that the fair conditions on
20 mx will last till the end of May or so.
During the winter months of June and July,
the 14 Mc. band usually falls into a period
of what you may call "hibernation". Although
the band may be fair in the afternoons, it
mostly dies as the night progresses and open-
ings to the West in the mornings around 2030z
are chancy indeed.

My thanks to the following for assistance with
this column: VKs 3AWS, 2AQJ, 3ZHR, 3ALD,
3TL, 4DO, L2211, L2022, BERS195, 3QV, L6021,
5RX, 2QL, 5MY, 73, de AL VK4SS.

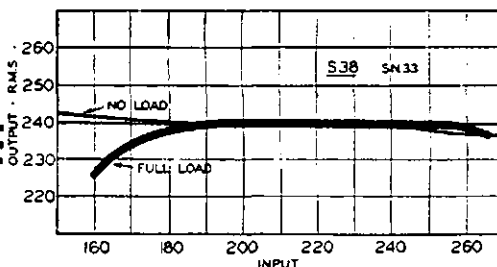
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SIDEBAND

Phasing, Xtal Filters, Balanced Mod., Linear Amps., Vox

Sub Editor: BUD POUNSETT, VK2AQJ,

6 Alice Street, Queanbeyan, N.S.W.

ADDRESS CORRESPONDENCE FOR THIS PAGE DIRECT TO THE SUB EDITOR

BRITISH PRODUCTS

When high quality sideband transmitters and receivers are mentioned, most Australian Amateurs immediately think of the impressive array available from the U.S.A., but making an impression on the Australian market are some products of K.W. Electronics, of Kent, England. Quite a number of VKs are already using the K.W. "Viceroy" s.s.b. transmitter and there are now three models, the Mark I, II, and III, in use in various parts of the world. A disadvantage of the Mark I. "Viceroy" was the upper sideband only being available on 40 mx, but this has been amended in the Mark II and III models. The s.s.b. is generated at 435 kc. and a crystal lattice filter is used for this purpose. A high stability temperature compensated Clapp v.f.o. is used, tuning from 3065 to 3765 kc., resulting in s.s.b. output in the 80 mx band. Suitable crystals are used in the second mixer to give output in the other bands, 40 to 10 metres, with i.s.b. on 80 and 40, and u.s.b. on 20, 15 and 10. A pair of 6146 tubes in Class AB1 in the final give 180 watts p.e.p. input, the output circuit being a pi-network and the final stage is neutralised and completely screened as a t.v.i. precaution. A sample of the output is used to provide automatic level control, resulting in an increased average level of output without splatter and objectional distortion. C.w. is also available and a lower level of a.m. is possible by inserting carrier to about the 90 watt input level. Vox with anti-trip is incorporated and is also used to give break-in on c.w. The mk. II. "Viceroy" has a separate power supply, while this is included in the cabinet of the mk. III.

The KW77 communications receiver is a fine companion for the "Viceroy" transmitters. The physical appearance is very attractive and while it may have excellent XYL appeal, the design behind the front panel will be appreciated by today's discerning Amateur. This receiver has a crystal controlled front-end, covers all Amateur bands from 160 mc to 10 mx, has selectable sideband, and a choice of i.f. selectivity giving bandwidths of 0.5 kc., 1.8 kc., and 3 kc. at the -3 db points. The second intermediate frequency is 50 kc. and an L-C filter, made up of switchable bandwidth "pot-cores", is employed. The inductances are shielded in cans to give best possible circuit isolation for optimum spurious response figures. The maximum frequency coverage is 600 kc. on any one band so that the 10 mx band is covered in three segments, 28.0-28.6, 28.6-29.2, and 29.2-29.8 Mc. The performance figures claimed are for sensitivity, 0.5 uv. for a 10 db. S/N ratio and a frequency stability of better than 100 c.p.s. after warm up. The physical dimensions of the KW77 receiver are 16 x 6 3/4 x 12 inches.

MODIFICATIONS TO K.W. "VICEBOY" MK. I.

The lack of lower sideband on 7 Mc. has been a serious disadvantage to owners of the "Viceroy" tx Mark I. It is fairly easy to modify the Mark I. for lower sideband production on 7 Mc. and we show details hereunder.

Components required:-

- 1 only 3-pole M/B relay, contacts normally open.
- 3 only 110 pF. trimmer capacitors C1-2-3.
- 2 only 60 pF. silver mica capacitors C4-5.
- 1 only 4815 kc. crystal.

The relay can be operated from the 250v. rail or any other suitable supply. The purpose of the relay is to switch in additional capacitance across the mixer transformer IF74 and the grid input to the second mixer. This relay can be operated from the spare 40 metre connection on the rear section of the wave change switch.

Step 1.—Insert C1 and C4 (paralleled) between ground and anode of V2B through relay contact 1. Contact closed only on 7 Mc.

Step 2.—Insert C2 and C5 (paralleled) between ground and anode of V2A through relay contact. Contact closed only on 7 Mc.

Step 3.—Insert C3 from hot end of L5 (in parallel with C49) through relay to ground. Contact closed only on 7 Mc.

Step 4.—Replace existing 40 mx crystal with one of 4815 kc.

Step 5.—Re-resonate anode coil L1A at 9630 Mc.

* Local agents, R. H. Cunningham Pty. Ltd.

Step 6.—Adjust C1, C2, C3 and L1A for maximum drive in "tune" position.

The dial calibration should remain the same as before. It is advisable to conduct any tests into a dummy load and to check output against a frequency meter.

The adjustments listed under Step 6 are the only ones which should be made. Any other adjustments would impair the performance of the transmitter on other bands.

Many thanks go to Bob VK3ML for supplying the details on the K.W. equipment.

S.S.B. DX CONTEST

The week-end of March 24/25 was devoted to the 1962 "CQ" World-Wide S.S.B. DX Contest in which many VK stations participated. Conditions were generally quite good in Eastern Australia and most Eastern States contestants would have had little trouble in making W.A.C., particularly on Sunday afternoon when, it seemed, the whole world was on 20 mx at the one time.

This Contest was a very well mannered affair without the dog-eat-dog aspect of some past experiences of a.m. and c.w. days. Possibly the reason for this is that operator's nerves are far less frayed by the lack of screaming heterodynes. The superior readability of sideband and the operating convenience afforded by Vox also makes for much faster exchanges.

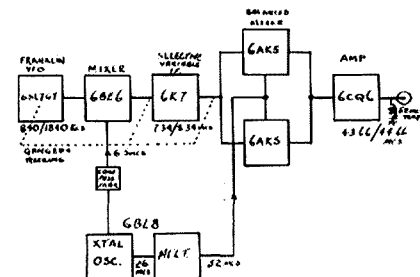
There are some lessons to be learned from a contest such as this. It is essential that Vox be employed so that the operator is not slowed down by having a switch or worse, switches to throw. Transceiver-type tracking of rx and tx would eliminate the need to net, tuning the rx automatically positions the tx on the same frequency. An alternative to this is to use a proximity switch on the v.f.o. control so that when one puts a hand near the v.f.o. control knob, the netting circuit is operated. "QST" has described a very simple such device called "Proxos".

A good over-drive monitor should be employed, one is inclined to get a little anxious and turn up that audio gain. Of course the only way to be sure is to use an oscilloscope. Automatic level control, similar to that used in the VK20N tx ("A.R." Feb. '62, p.23), not only removes this worry, but your average level or "talk-power" is greatly increased. A sideband tx lends itself for the easy installation of this a.l.c., it has the same effect as a speech compressor in an a.m. modulator, but only uses a mere handful of components.

Now is the time to start preparing for next year's battle and now is also the time to send your log to "The CQ Sideband" Editors, 12 Elm St., Lynbrook, New York, U.S.A. The deadline is for your log to reach there not later than May 30, 1962, so DO IT NOW.

HETERODYNE V.F.O.

Last month mention was made of the v.f.o. control that VK3AHL has on the 288 Mc. band. Fig. 1 shows a block diagram of the heterodyne v.f.o. unit that Lance uses in his 50 Mc. equipment which in turn drives the 288 Mc. unit.



You will notice that at no time is the actual variable oscillator's frequency multiplied, only the output of the 6.5 Mc. crystal oscillator is multiplied in frequency. While some may say that this adds up to a lot of components and space, the end result of superb stability fully justifies this.

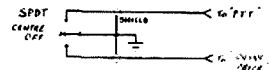
Some of you may give thought to applying this technique in producing a 16 Mc. signal for that 9 Mc. phasing exciter to give a really stable signal on 40 mx.

40 AND 80 METRE DX

I know that quite a few of you have been working all sorts of DX on 3.5 and 7 Mc. How about sending the details, frequencies, times and so forth to Al Shawsmith, who runs the DX section. Al will be delighted to receive these reports and it will help to spur some of our other sidebanders to greater achievements.

KWM2 CONTROL CIRCUIT

Some of us are lucky enough to have a KWM2 to play with so this item, taken from the S.S.B.A.R.A. "Sidebander" should be of interest. It was written by KZ5SW, Box 2519, Balboa, Canal Zone, and appeared in the December "Sidebander".



Without buying the handy-dandy control box for the KWM2, push-to-talk operation is not normally available with this little gem. Also disabling the vox, to prevent noisy Jr. Ops. from tripping it entails lifting the lid and reducing the vox gain. This is not always convenient. Here is a simple, cheap way around the situation. Obtain a single-pole double-throw switch with a "centre off" position, two lengths of shielded phono cable and two R.C.A.-type phono-pin plugs, along with a bracket to mount the switch in a convenient position. Proceed as follows:-

1. Attach phono plugs to one end of each cable.
2. Connect centre conductor of one cable to end terminal of switch.
3. Connect centre conductor remaining cable to other end terminal of switch.
5. Insert one pin plug into PTT jack of KWM2 or 32S1.
6. Insert other pin plug into phone patch jack on WM2 or 32S1. (Note. If this jack is in use connect lead in parallel with existing lead.)
7. Test operation as follows: With switch in centre position, operation should be normal vox. With switch in position to ground out PTT, tx should be in keyed on operation. With switch in position to ground the phone patch plug, all audio input will be grounded so vox will not operate, and the rig will be "receive only".
8. Mount switch in a convenient position.

★

The Publications Committee requests all readers to forward details of apparatus they have built. Technical description and photographs of equipment are particularly welcome.

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VICTORIA

Last general meeting of the Group, 11 members were present. Suggestions for the running of the construction night were put forward by Craig Cook but nothing was finalised. Noel L3101 reported that 10 mx was wide open on 25th March; he heard the following stations at 5 and 8-9: VK6HK, VK6QL, VK5CV and ZL2ABL. Noel has completed the construction and erection of a WBJK antenna and is receiving very good results from it, other antennae in use are a 20 mx doublet and also a 15 mx doublet. Noel has now settled down in his new shack, being a spare bedroom, and is all set for the winter months. I wish to welcome a new s.w. listener who is very keen, to the Group, the new member is Noel's XYL.

Mac L3074 has recently purchased a 40 ft. steel tower with rotating motor and turning indicator. The only thing holding up the project is permission from the Council to erect it. Mac was active in the recent S.S.B. Contest; he heard 50 countries during the Contest. During the month, we were heard during the mornings and also a few Europeans.

Maurie L3055 is still listening and climbing steadily up the DX ladder, latest cards received by Maurie are UB5WF, 15GN, HA8WS.

Craig L3093 is eagerly waiting for a 2 mx converter which he is getting for a swap for a 522 rx from an Interested Amateur. He hopes soon to be receiving on 2 mx.

Ian L3006/VK3ZBI has had a sudden urge to get on the 2 mx band and has now under construction a xtal locked converter and tx for 2 mx.

Ian L3065/VK3ZHR has recently become very interested in hi fi stereo sound. He recently purchased a stereo amplifier and together with his new job as a teacher at the Springvale High School still finds time for listening to the DX, but as yet has not constructed a tx for 6 mx, however plans are being put together for the tx.

Twelve members attended our first visit for the year, to Channel 7 tx at Mt. Dandenong. We were shown over the station and saw the main tx, the emergency tx, the micro-link tx and also the plumber's delight, being the dummy load antenna and the antenna coupler. The technician on duty, who we later found out was VK3AWA, explained in detail how everything worked including the setting up of parabolic reflector amplifier, to receive the outside broadcast van which could be fed into the main tx if required. It seems the only way to get a job at Channel 7 is to be an Amateur because out of the staff of five, there are four Amateurs.

Other visits have been arranged for the next three months by Ian Woodman. They are: May 4, Rockbank receiving station at 8.30 p.m.; June 1, Diggers Rest tx station at 8.30 p.m.; and July 6, Moorabbin Radio Club at 8.0 p.m. Persons requiring transport for the above visits meet at 478 Victoria Parade one hour before the stated time of the visits. So chaps, don't forget to attend, after all the visits are arranged for your interest.

Someone called Ian L3006 alias VK3ZBI, who tells me was the special UZ spy at Warrnambool at our S.w.l. Convention. He reports that was not the riot wagon on Highway 1, it was Peter's (3FX) Holden station sedan with nine people on board, seeing the sights of Warrnambool. Did the Mt. Gambier boys go to the Olympic pool for a swim or to catch mermaids with their one metre halo?

What Amateur had trouble making contact until he used a microphone that worked? Is it considered fair to hold a xtal set over the tank coil of a tx, then demand a QSL card for having received the signal? The listeners got the card anyway.

Maurie and Ian called CQ 6 mx for ten minutes without success, but finally scored a contact when the h.t. was turned on for the tx.

That stack of timber in Korlot Street was Peter's (3FX) shack. It burst at the seams when 19 listeners tried to squeeze into it. Robert Young still won't tell what happened after the Pride of Erin on Saturday night. (Sorry Ian cannot tell, but it had nothing to do with radio, hi.) VKs 3WK and 3FX drove through the undergrowth of Tower Hill to show us the volcano crater. Yes we saw it, we almost ended up at the bottom of it!

Who was the listener that claimed the weak 6 mx signal was 2VK? It ended up a terrific

contact with 3WK who talked us right into the back yard of the hotel.

A well known Amateur from Smoko stood up well to severe rubbishing while in contact with the boys attending the Convention. Have you got rid of the xtal set yet Arthur? Eric Trebilcock was seen distributing a mass of QSL cards and collecting just as many to take back to Melbourne.

The Mt. Gambier gang decided to convert their 288 Mc. gear to the 50 Mc. band, where 3ZBI and 3WK were operating. We heard a rumour that new coils brought it down to 70 Mc., but then a socket was slightly abused. The official statement read "Owing to mechanical difficulties, we will not be able to operate." Hope you got the damage repaired, boys. So beware, this spy will be getting information at the next Convention. See you there. Well now chaps, the above information is the story of what went on at the Convention, rather amusing I think.

All members and myself wish to thank the Amateurs at Warrnambool for their hospitality and arrangements for visits to various places of interest. Without the help of these Amateurs the Convention would not have been such a success. I wish to thank Eric 3ANQ, Peter 3FX and Bill 3WK for their help.

RADIO MAIL

The mails received this month are from the following: Peter Drew, Don Grantley, Afton Westcott, and Chas. Aberneathy.

Eric Trebilcock this year has heard 92 countries, 33 zones and has sent out 269 reports. This month's inward cards include UAIKED (Franz Joseph Land) which came via air mail, which is a new one. Others for the month so far are JZOML, KH6EDY (Kure Island, the third from that country), KR6LJ, KV4CI, SM7BEY, UIRKAD, VETAGV, VETKX, VK8NK, VR1M, VR2EB, K2AGJ (YL), W8MMZ (3.5 Mc.), YJ1MA, ZC4TX, ZL2AYL, ZS5UR, and VK3OZ/M. Eric's log entries total 252,776 and QSLs total 7,442.

Bill John, from VK4, has collected quite a few more QSL cards since he last wrote, but unfortunately the list of the cards that was enclosed in the letter has been mislaid. The VK4 Division of the W.I.A. want Bill to form a S.w.l. Group after receiving information about starting a group from us at VK3.

Afton L2136/VK4 unfortunately is tied up with business interests and is unable to spend the time he would like to in listening. There has been no further break through from VK on 50 Mc. and strangely enough no sign of the JAs as yet, but Afton is monitoring the band for a while each night. Maybe they will be later this year.

Chas L2211 has at last received confirmation of receiving the four ZL districts on 50 Mc., after trying for some time, also he received the Elizabethan Award from VK5 on 50 Mc. On 16th Feb. Chas decided to change back to some h.f. listening and heard a large number of DX stations on 14 Mc. phone. That Eddy-stone is certainly performing very well. Chas has just completed his first two years as a s.w.l. and is more than pleased with the results during that period. Recent cards received—50 Mc.: VK2s, 3, 4, 5, 6, 7 and ZL; 14 Mc.: HK4BQ.

Peter L6021 reports that 20 mx has changed completely. It is now useless at night and fair in the afternoon for Europe and the States. 40 mx is very good for Ws on s.s.b. at about 0830-0930 GMT. Also heard G2PU and G8PO on about 7100 kc. on s.s.b. at the same time. It looks as though conditions are changing for the winter period. The bands are much quieter and peaceful for the winter conditions.

Now a few words from Don L2022. He asks: How many of the listeners tuned in to the saga being played out on 20 mx sideband on March 18 at 0930z, when KH6BMM/Aero Mobile was searching for a U.S. Navy seaplane which was forced down in the Pacific earlier that day whilst searching for the crashed commercial airliner? The seaplane was forced down when an engine caught fire, and on extinguishing it, the craft was unable to take off. Bob KH6BMM located and shepherded the floating plane until relief came. The location was 13 degrees north, 127.43 degrees east. Just another case of the Amateur providing an emergency service, for as well as the search, communication was maintained between Bob and KR6KS.

A local Amateur was looking at my log the other day and noticed some c.w. entries on 80 metres where I had been logging W stations. The chap concerned was amazed, not so much that I had heard the very weak DX, but that they had been found in the first place. OK so you want to know eh? It's simple, just listen for the steady swinging key of Frank VK6QL, wherever he is, the DX is close by. Talking of 80 mx, it has really been active this month, the States are coming in frequently, and there is plenty of DX about as well.

The DX front looks particularly good from Albury, last year was the best year L2022 ever had, with 165 countries logged for the year. This one looks better, 20 mx has been more consistent of late, whilst there has been a wealth of DX on 40, 80, 15, and 10 mx is open regularly to the States between 8 and 10 a.m. daily—that is if you are home to listen to it. It's good to hear something from 10 metres, it is a good band and an asset during the contests.

On the DX side of things, we note such stations as TU2AK, EA8CP, TF2AS, VP2GAA, UH8BI, CX2AX, VS9OD, UO5KAA, UQ2AS, UR2AR, UP2AS, 6W8BQ, CY, CTINT, VP6PV showing up using various modes this month. It is great to find some really good DX about again.

Well chaps, that's all for this month. 73, and best of DX, Robert L3076.

S.W.L. DX LADDER FOR APRIL

	Countries	Zns.	S.s.b.	W
	Conf. Hrd.	Conf. Hrd.	Conf. Hrd.	Hrd. Stat.
E. Trebilcock	277	282	40	—
D. Grantley	101	249	37	14 85 34
A. Westcott	84	159	31	33 92 —
M. Hilliard	67	208	33	5 100 11
M. Cox	44	210	24	8 121 14
C. Aberneathy	32	71	22	— — 13
P. Drew	31	176	18	7 87 4
P. Fields	26	133	—	— — —
N. Harrison	26	48	20	— — 23
I. Thomas	17	131	16	6 70 8
D. Jenkins	10	141	7	— — —
H. Burger	6	185	5	1 19 —
N. Fisher	3	36	3	— — —



VHF NOTES

(Continued from Page 12)

PAPUA

March opened very quietly in VK9. No 50 Mc. breakthroughs were observed at all during the first three weeks. The first breakthrough to JA came on the evening of 20th, when weak JAs were heard from 1915-2145 hrs. For the remainder of the month, JAs were heard or worked each evening, with the exception of 29th and 31st. Very few JAs were heard calling CQ in English, which would indicate that no DX was being observed by them. On two occasions JAs were heard calling VK8AU, but no sign of David at this QTH.

On 20th, a KR6 was heard amongst the JAs, but the full call sign could not be identified. Band openings have been from approx. 1930-2200 hrs. with, as yet, no daytime opening here. No sign of any VK stations during the month and t.v. Channel 2 was only heard once, during the morning. A t.v. picture channel around 69 Mc. has been heard twice (beam heading north) during JA openings.

9NW is back on 6 mx again after a few weeks' absence from the air. Newcomer to 6 mx is 9BS, of Port Moresby, who has a converter in operation and a tx all set to go, so we expect to hear you soon, Bob. At the time of writing, 9ZBV is in Brisbane on leave, but should be back here by the time these notes appear. DX man from the lower bands, Rob 9RO, has appeared at 9AU's shack on a couple of evenings recently to hear the JAs on 6 mx; with a little coaxing he may even get around to emitting a signal on 6 mx. With the absence of 9ZBV there has been no activity on 2 this month. 9AU has recently added a cascade 6CW4 pre-amp. to his 6 mx converter and 9CK is engaged in a similar project at the moment. 9AU.



FEDERAL AND DIVISIONAL MONTHLY NEWS REPORTS

(SEND CORRESPONDENCE DIRECT TO DIVISIONAL REPORTER NAMED AT PARA. END)

FEDERAL

OBITUARY

The W.I.A. offers Peter Dunne its sincere sympathy on the loss of his wife. Peter was originally a P.M.G. licence examiner at Melbourne but was transferred to Hobart. He is now at 10 Blaine St., Mt. Gravatt, Qld.

NEW CALL SIGNS (DECEMBER)

- VK— Australian Capital Territory
- 1QJ—R. K. Roseblade, 38 Finnis Cres., Narrabundah.
- 1SG—T. A. Brinkley, 9 Faunce Cres., O'Connor.
- 1TM—T. R. Moore, 16b Eyre St., Griffith.
- 1WP—P. V. Inglis, 28 Green St., Narrabundah.
- New South Wales
- 2DU—D. R. W. Fullerton, 50 Larmer St., Narrandera.
- 2FC—F. Finlayson, 59 Newcastle Rd., Wallsend.
- 2HD—Mrs. H. M. Davies, 32 Langtry Ave., Auburn.
- 211—B. Dale, 19 Robinson St., West Wollongong.
- 2TK—E. Thompson-Boyd, 2 Jill St., Blacktown.
- 2WG—W. J. Melville, 54 Travers St., Wagga.
- 2AAY—H. C. Burton, 50 Edgecliff Rd., Woolahra.
- 2ANO—J. A. Simensen, Lot 16, Koorabel Ave., West Wollongong.
- 2ZAW—D. G. Allen, "Lyndan," Fitzroy St., Walcha.
- 2ZCH—C. Henderson, 649 Blaxland Rd., Eastwood.
- 2ZIM—I. A. Mackenzie, 103 Denison Rd., Dulwich Hill.
- 2ZLE—L. E. Thorne, 25 Harefield Close, North Epping.
- 2ZPL—P. F. Lowe, 16 Edgar St., Auburn.
- 2ZRU—R. C. Usher, 24 Falcon St., Crows Nest.
- 2ZVW—D. E. MacNaughton, 50 Killeaton St., East St. Ives.
- 2ZWC—P. W. Campell, 3 Earle Ave., Ashfield.

Victoria

- 3ADF—G. M. Nicholls, 14 Somerset Rd., Glen Iris.
- Queensland
- 4RF—F. J. Lubach, 21 Bovelles St., Camp Hill.
- 4ZRH—R. S. A. Hazlett, 372 Cavendish Rd., Coorparoo.
- 4ZJR—R. C. Harris, 6 Gurley St., Wavell Heights.

South Australia

- 5BM—M. R. Winterson, 21 Elmgrove Rd., Salisbury North.
- 5WV—W. D. Verrall, 8 Pertwood Rd., Elizabeth North.

- 5YA—G. M. Gluyas, Station: Section 451, Hundred of Telowie, S.A.; Postal: Private Bag, Pt. Pirie.

- 5ZQ—M. R. Burford, 85 Belair Rd., Panchito Park.

- 5ZZ/T—J. E. Barker, 41 Gertrude St., Glandore.
- 5ZEA—J. C. Batty, 3 Gilbertson Rd., Seacliff.
- 4ZJR—F. J. Russell, 28 Richmond Rd., Westbourne Park.

Western Australia

- 6TS—A. G. L. Schofield, 87 Streatham St., Kenwick.

Northern Territory

- 8AU—D. D. Tanner, Bachelor.
- 8GY—G. K. Jenkins, Railway House 1001, Alice Springs.

FEDERAL QSL BUREAU

Any information on the station on 14 Mc. c.w. during March and April signing CR10AB would be appreciated by this Bureau.

Results of the 2nd Asian DX Contest, staged by the J.A.R.L., show that the winner was 4X4NJ with 54,910 points. Australian scores were: VKs 5NQ 4,800, 6RU 3,600, 2GW 2,482, 7WA 336, 2DI 215, 4ZB 108, 2APK 808, 4SD 504, 5RX 140, 3CX 18, 4SS 48.

The 3rd Asian DX Contest will again be staged by the J.A.R.L. and is again restricted to c.w. only on bands 3.5 to 28 Mc. inclusive. The Contest period is from 1000 GMT, 25th August, to 1600 GMT, 26th August. The serial numbers exchanged will consist of five figures—RST report plus age of operator. (Apparently no provision is made for centenarian operators!) YL operators may substitute 00 in lieu of age!!

Points and multiplier: For non-Asian Stations—A contact only with an Asian Station

will count one point and a multiplier of one for each Asian country on each band.

Scoring: The score of each single band is the country multiplier for that band, multiplied by the total contact points on that band. The total of all band score is the sum of country multiplier of all bands, multiplied by the sum of contact points on all bands.

All logs must be postmarked not later than 30th September, 1962. Send all logs directly to J.A.R.L., Att. Contest Committee, P.O. Box 377, Tokyo Central, Japan.

A supply of rules and log forms has been distributed to Divisional QSL Managers and a further supply is held at this Bureau and may be had on application with s.a.e.

Plans for a DX-pedition to Nuevo Baja and Swan Island have been completed. One of the operators will be W4DQS. The expedition reaches Nuevo Baja on 27th April and will remain there for four days signing HK0AB. They expect to reach Swan Island about 1st May and remain for two days signing KS4BF. All bands and modes will be used.

—Ray Jones, VK3RJ, Manager.

NEW SOUTH WALES

EXTRAORDINARY GENERAL MEETING

The first meeting to be held in the new headquarters building at 14 Atchison Street, Crows Nest, was an Extraordinary General Meeting held to consider the following Special Resolution:—

"That the Honourable Allen Fairhall, VK2KB, be elected an Honorary Life Member of this Division in recognition of his services to the Amateur Radio movement in the political field."

The President, Bill 2YB, opened the meeting at 7.58 p.m. to an attendance of approx. 100 members. He referred to the outstanding work done by Mr. Fairhall in this regard and which it will be recalled had the result that a representative of the Wireless Institute was appointed to the Delegation to Geneva, the late John Moyle, VK2JU, and later a representative was appointed to the R.F.A.R.C., thus enabling the Amateur Service to present their case on Frequency Allocations.

The motion was supported by Frank 2QL, Dave 2EO, Graham 2AGH, Pierce 2APQ and Ken 1AIL. It was carried unanimously by the meeting.

ANNUAL GENERAL MEETING

The Annual General Meeting, which followed, was opened by the President at 8.10 p.m. Apologies were received from 2OM, 2FA, 2ABK, 2AUK. The minutes of the previous Annual General Meeting were read by the Minute Secretary (Max 2MP). The Returning Officer, Barney L2001, was appointed and six scrutineers were selected to conduct the business of the ballot for the election of officers of the Division for the ensuing year.

The Treasurer's report and balance sheet was read by the Honorary Auditor, Jim 2PM, who disclosed that despite the great call on the funds of the Division during the year, it had been satisfactory. The report was adopted. Graham Hall praised the work of the Hon. Auditor and his motion, Jim was appointed for yet a further year.

The President's report, which had been sent to all members, was adopted on a motion which commended the President on the manner of its presentation.

A notice of motion, moved by Jim 2YC, and seconded by 2AVI and 2ABO: "That as the Institute has its own Emergency and Transmitting H.Q. situated in Quarry Road, Dural, and its own business H.Q. situated at 14 Atchison

Street, Crows Nest, so the Annual General Meeting should discuss the present and future activity and the position on importance in the affairs of the Institute regarding the headquarters." Codicil: The position and activities listed above should be discussed under three headings: (1) Dural H.Q., (2) Atchison Street H.Q., (3) Position of the N.S.W. Division of the Institute taking into consideration the points raised in headings (1) and (2) above.

The mover of the motion explained his motion and owing to the limited time available on a large agenda agreed that the motion be discussed at a general meeting during the next three months.

Following an adjournment between 8.55 and 9.15 p.m., during which the general meeting proceeded, the Returning Officer announced the result of the ballot. Members of Council elected for the year 1962-3: H. F. Burtoft, VK2AAH; K. Jeffcoat, VK2BK; T. I. Mills, VK2ZTM; V. Moleworth, VK2VO; A. D. Nutt, VK2DN; M. Pfeffer, VK2MP; K. Squires, VK2SD. Thanks to the Returning Officer and his scrutineers was moved and carried.

Jim 2PM moved a motion of thanks to the retiring Council and referred to the great amount of work done and the results achieved during the year. The Annual General Meeting closed at 9.32 p.m.

GENERAL MEETING

At the general meeting minutes of the previous meeting were read by the Minute Secretary, Max 2MP. A notice of motion, "That all future meetings of the Division be held at headquarters, 14 Atchison Street, Crows Nest" was moved by 2CB and was carried unanimously. New members admitted to the Division numbered 11, six Full Members and five Associate Members.

The balance of the meeting consisted of the discussion of some 40 agenda items which will be discussed at the forthcoming Federal Convention to be held in Perth at Easter, and on which the Federal Councillor, Pierce 2APQ, was briefed on the action desired by the Division. The general meeting closed at 12.10 a.m.

COUNCIL 1962-3

The Council and officers of the N.S.W. Division for the coming year are as follows:— President, Vol 2VO; Vice-Presidents: Max 2MP, Harold 2AAH; Councillors: Keith 2BK, Tim 2ZTM, Alan 2DN, Ken 2SD; General Secretary and Treasurer, Bill 2EG.

DISPLAY—FAIRFIELD

On Monday 19/3/62 the N.S.W. Division presented a lecture and display of "Amateur Radio as a Hobby" to the members of the Fairfield Methodist Church. For nearly three hours the large audience of over 200 were introduced to Amateur Radio with lectures, slides and practical demonstrations.

Part of the activities was filmed by A.B.C. Channel 2 News team. The lectures were recorded and will be included in the Tape Service.

COLLINS DISPLAY AT HEADQUARTERS

An interesting afternoon function was held on March 31 at headquarters when a demonstration of Collins Radio equipment was held, in conjunction with United Radio Distributors Ltd. A large audience, of over 130 people, attended and heard an informative lecture by Mr. White, of Collins Radio Company, who explained the functions of the various types of transmitters and receivers in the range.

Afternoon tea was provided by the ladies committee and many interested persons became very engrossed with the gear which was operating on the 14 Mc. band, and a number of excellent DX contacts were achieved.

TAPE SERVICE

Attention is drawn again to the Tape Service which has been conducted by the Division under the supervision of the Education Officer, Harold 2AAH. Reference to previous issues of "A.R." or your Bulletin will show the wide range of tapes on diverse subjects which are available to clubs and small groups on application.

These tapes could form the nucleus of your next meeting, as they are all of lectures which have been given before the Division. No

SILENT KEY

It is with deep regret that we record the passing of:—

VK5MD—E. A. ("Doc") Barbier

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Frequency	Type No.	Details
50 Kc.	J.5	No. 1. Extremely high selectivity.
	J.6	No. 2. " " " "
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455 " Kc.	J.22	Nos. 1, 2 & 3. High select. Designed for communicational research use! Bandwidth: 3.6 Kc. at 6 db., 15 Kc. at 60 db.
"	J.23	
"	J.9	Nos. 1 & 2. Standard universal. Bandwidth: 7 Kc. at 6 db.
"	J.10	
"	J.32	Nos. 1 & 2. Midget universal. Bandwidth: 7 Kc. at 6 db.
"	J.33	
"	J.39	Recommended for use in cascaded half-lattice crystal filters. Nos. 1 & 2. Midget low-gain replacement type.
"	J.45	
1900 Kc.	J.26	Bandwidth: 10.5 Kc. at 6 db. Nos. 1 & 2. Universal. Recommended in double conversion superhets.
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		No. 3. Recommended for use in a double conversion superhet.

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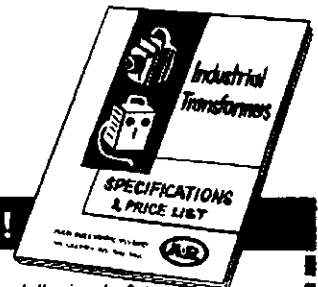


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SILENT KEY

The N.S.W. Division would like to express its sympathy to the relatives, friends and the VK5 Division in the loss of one of its long-standing members, Doc Barbier, VK5MD, who passed on recently.

HUNTER BRANCH

Friday, 9th March, saw the Annual General Meeting and election of officers of the Hunter Branch. At this auspicious meeting we were favoured by a visit of four councillors from the big smoke, namely Bill 2YB, Frank 2ACQ, Tim 2ZTM and Tony Patterson. Dave 2ZXA, Kevin 2ZKW and three other visitors whose names I cannot decipher also attended, together with five associates and fourteen full members. This proved to be a jovial bunch as you may well imagine and, as I forgetful, there was much loud and coarse comment from time to time.

The retiring President, Stuart 2AYF gave a very full report of the happenings in the Branch during the year. State President, Bill 2YB, was then invited to take the rostrum for the ceremony of election of officers. For some unknown reason this was called a democratic vote. The fact of the matter is that the whole thing took such a short time that I still do not know exactly what happened, but I did have thrust into my hand a list bearing the names of the new officers. The only phrase that I can recall from the whole 28 seconds was, "I move that nominations be closed." So there it was and the result was as follows:—

President, Stuart 2AYF; Vice-President, Lionel 2CS; Hon. Sec., Gordon 2ZJG; Hon. Treas., Bill 2XT; Social Sec., Stan 2AYL; Social Treas., John 2ZJG; Zone Corresp., Keith 2AKX; Liaison Officer to V.h.f. and T.v. Group, Ian 2ZIF.

Bill 2YB also gave some interesting information on the workings of Council and the Institute in general, and all members gained a great deal of knowledge from the discussion. A special word of thanks was given to Frank 2ACQ for his excellent organisation of the slow Morse practice sessions. This met with hearty accord from all present, many of whom are regular listeners to the session. My personal thanks and congratulations to Frank for a job well done.

The Annual General Meeting then closed and the ordinary monthly meeting opened. This, like the election, was a very short lived affair as far as business went, but as soon as the matters in discussion were dealt with, our Sydney visitors, Tim 2ZTM and Tony, came forth with wonderful and mysterious packages and many printed sheets prepared to tell us something of the world above 50 Mc. There followed an interesting discourse on "Minitrans" and "Micromitter", two most interesting items of v.h.f. gear. Display items were passed around for all to see and the only regrets the visitors appeared to have was the magnetic attraction some Branch members have for 8025 crystals. Never mind, next time they come they are going to take the crystals out first!

I heard that a telephone conversation the other day to a local v.h.f. man caused some mirth. He, the v.h.f. man, has a son and the question was, "How is the idiot box (t.v. set) going?" The reply, which came like a flash, "Dad's OK, he's alongside me now."

Congrats. to Jim 2AHT for his mighty score in the VK-ZL Contest; aeriels apparently pay. A very worthwhile signal has been heard on 40 from Cessnock with Peter 2AYI on the mike and Ian 2AJF is reputed to be on 40 and 80 c.w. I imagine however that this is a fabrication as I am unable to hear him on my 0-V-1. Come along to our next meeting which will be held in the usual place, University College of N.S.W., Tighes Hill, at 8 p.m. on 11th May. On the fourth Wednesday (23rd) you are invited also to the social gathering at Bill Hall's tavern, Cooks Hill, where you may talk about radio, billiards or whatever subject you choose. See you, 73, 2AKX.

THE BLUE MOUNTAINS SECTION

The monthly meeting held at Lawson saw the election of officers for the ensuing year and resulted as follows: President, Dave 2NK; Vice-President, Bob 2ASZ; Treas., Norm 2QA; Publicity, Ron 2ADA; Catering, Sid 2AVK; Construction Committee: 2ASZ, 2ZFB, 2ADF and 2AWW; W.I.A. Rep., Keith 2ABK. Members present totalled 18 and judging by the nominations for various officers, we, as a small club, had more ballots than the parent body in 10 years; lots of good fun. The club carried a motion to buy two chairs for Atchison H.Q.

There being little business, the meeting closed and retired to a film evening with Dennis 2AWW providing the films and Norm 2QA the projector. Sid 2AVK moved a vote of thanks to Dennis and Norm for an excellent evening.

Sat. afternoon, March 24, the Blue Mts. Civil Defence held an exercise in Glenbrook Park with 2QA, 2MZ, 2ASZ, 2ADA, 2ART, 2AVN providing 2 mx communications. Although we could all see one another, it provided some good fun and as all tx's were on the same freq., it made things a lot easier and quicker. Dave 2NK, as C.D. Communications Officer, received from Col. C. A. Strachen a letter of appreciation for the work that had been carried out during the past year. Afternoon tea was served and a good day was had by all.

Bill 2FZ represented the Section at the opening of Atchison St. and judging by the reports it was an excellent and well attended afternoon. Five members journeyed to Atchison St. on Sat., March 31, for the Collins demo., they were 2ART, 2ASZ, 2ADA, Jack Ferris and Jay Zylstra. The afternoon was very enlightening. The general opinion of those attending the demo. from our Section was in support of the Atchison St. development and were all pleased with what was to be seen and our congrats. go to the retiring Council.

Gossip for the month is short, but I understand Al 2ZFB was testing on Les' 2ZBJ tx at Camden the other night, so what is the new weapon Al? 73, 2ADA.

BOORAGUL HIGH SCHOOL RADIO CLUB

Theory is taking a major part of our time at the present and three of the boys are preparing themselves for operation of the tx. Quite a number of individual projects are in hand including one self-powered transistor rx. This uses the rectified signal from a strong local station to operate the transistor amplifier. This really is economy plus!

The visits to local places of interest are now well in hand and it is hoped that by this time next month we will have been to the Beresfield tx. Some of the senior boys are concentrating on the Leaving Certificate at the present and have had to curb their club activities. They may have some more time for Amateur Radio next year! Thanks once again to Rex 2YA for the additional parts for projects. 73, 2ATZ.

VICTORIA

ANNUAL GENERAL MEETING

The Annual General Meeting of the Victorian Division was held in the Radio Theatre, Royal Melbourne Institute of Technology, on Wednesday, 4th April, with an attendance of about 40 members.

The President, David 3ADW, read a detailed report of the activities of the Division during the last twelve months. In moving the adoption of the report, Len 3LN congratulated the President on the clear and informative report and thanked the office-bearers for their work during the year. George 3AHN supported these remarks in seconding the motion which was carried. The Treasurer, Keith 3YQ, read his balance sheet and answered the questions which were raised.

The following members were elected to Council: David 3ADW, Keith 3YQ, Fred 3YS, Michael 3ZEO, Michael 3ZCZ, Peter 3AFJ, Ken 3AFJ, Ken 3ACS, Frank 3AYR and Alan 3AEL. The meeting recommended to Council that David Wardlaw be re-appointed as President and F. Bail and A. Elliott as Vice-Presidents.

GENERAL MEETING

The general meeting for April followed the above meeting. The President was in the chair and welcomed the visitors.

The following new members were approved by the meeting: Full Members P. Gleeson, 3ZOI; R. Dobson, 3AYD; C. Lobb, 3AVU; A. Hislop, 3ZNB; J. Warner, 3WA; R. Miller, 3RF; D. Timms, 3AZT; S. Coleston, 3AXK; and as Associate Members, T. Ashfield, G. Lancaster, B. Theodore and I. Phillips.

The main business of the meeting was a discussion of the agenda items which will be considered at the next Federal Convention.

The next meeting will be held on Wednesday, 2nd May.

COUNCIL MEETING

It is hoped that in future members will be kept informed of Council activities through the medium of these columns. The April meeting, being the first meeting of the new Council, mainly routine matters were dealt with.

On the recommendation of the Annual General Meeting, David Wardlaw, 3ADW, was re-elected President with Fred Bail, 3YS, and Alan Elliott, 3AEL, as Vice-Presidents.

The two new members were found useful employment. Ken 3ACS was appointed Publicity Officer and Frank 3AYR is joint Instrument Librarian with Michael Osborne.

The Magazine Librarian submitted suggestions to improve the service and Council agreed that these facilities be improved, subject to costs being reasonable. This aspect is being

investigated, and full details should be available next month.

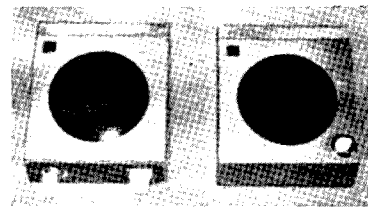
In order to make more use of the instruments, a project has been planned, whereby a fully equipped test-bench will be set up in the rooms. Michael and Frank are now working out the details and an early start on the actual constructional side is anticipated.

W.I.C.E.N. matters will be co-ordinated by 3ADW and 3ZEO with 3OM as h.f. controller and 3ZCB as v.h.f. controller.

EASTERN ZONE CONVENTION

The Annual Convention of this Zone was held over the week-end April 7 and 8 at Morwell. It commenced with dinner, then the meeting on the Saturday evening, with the best

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roll-up for several years, numbering approx. 30 including visitors: 3SS, 3ZEO, 3ATP, 3HK, 3ZCZ (Melbourne), and 3XN, 3AKN (S.W. Zone), which we trust all had a safe journey home.

Peter 3ZDP was elected President. Other officers elected: Bert 3BB, Vice-President; Stan 3ZAB, Hon. Sec.; David 3DY, Emergency Co-ordinator; Cliff 3ALT, official call-back station, backed up by Graham 3QZ, Michael 3ZEO, enlightened us very much so on Divisional matters, and the emergency work done in the recent Dendenong fires. Unfortunately, little zone activity took place over the preceding twelve months, except for several of our members participating in the N.F. and V.H.F. field days. However, this year we hope to change this, and we have arranged several family field days at suitable spots.

On the Sunday we had perfect weather, and had a conducted tour by John 3ZFO over the Gas and Fuel in the morning, then travelled out to a beautiful spot called Walker's Park, near Yinnar South, for a barbecue lunch and family gathering, where 71 turned up. The organisers really did a marvellous job, catering especially for the children and everybody enjoyed the fine cooking, treasure hunts, disposal hand outs, etc., and I sincerely feel that everybody will remember this Convention.

The next Convention is to be held at War-ragal on April 6 and 7, 1963, or the nearest convenient week-end.

Our next family field day will be on May 6 at Alf McCrowl's place near Woodside, between Yarram and Sale, starting time around 10 a.m. Please, all our members try and attend and I feel quite sure they will enjoy the day immensely. See you there? '73, 3ZCG.

NORTH EASTERN ZONE

Approx. 40 members, with families and friends, were at Benalla on 1st April to attend the first annual meeting held for several years. The business meeting was held at the Regal Theatre where 3UW was elected as President, 3KR as Vice-President, 3AUL as Sec./Treas., and 3ASY as Co-ordinator.

The Zone hook-up was discussed rather animatedly and we will continue to hold it

The name of Pee Wee Hunt is familiar to all followers of American Dixieland music, but less familiar is the fact that he can regularly be heard and contacted on the 7 Mc. band using single sideband transmission with the call sign of K1AYA.

on Fridays at 2000 hrs. on 80 mx; 3AUL was re-selected as co-ordinator, with strict instructions regarding operating procedure in order to ensure that hook-ups do not take too much time in future.

A decision was made to award a prize next year for the best piece of mobile equipment brought to the Convention, however there must be at least six entries. Commercially built units will be given a handicap.

Several representatives from Melbourne explained matters pertaining to institute buildings and W.I.C.E.N. The latter evoked much interest and we were all set to go into business wicewise but were advised to await details of a uniform procedure to be shortly decided upon by the appropriate authorities.

After a picnic luncheon in the gardens, 3KR once again captained tours of inspection. The new drive-in theatre, Sydney-Melbourne co-ax repeater, and GMV6 were visited. The party broke off at 1700 hrs.

3AYD and 3ACK have been doing much c.w. work (mainly practice) of late; the former however reports juicy contacts with Italy, Alaska, Germany and U.S.A. 3AAQ did start up a month or so back but has apparently gone cold on the mode. Hear tell he has currently embarked upon a rx building scheme with converters, xtal lattice filters, heated dial knobs, etc. For the next two or so years he is going to use R1155.

3AWT making queries re click filters, shaping networks, etc., and no doubt will be practising c.w. with 3ASY. 3ASF still shaping his mobile units whilst 3APF is figuring on trying out klystrons for a change. 3ZKW was successful in the January test and is now awaiting a full call. Understand he is almost ready to speak to us except for a mod.

That's all for now; this correspondent would appreciate hearing tit-bits of news relating to N.E. Zone members, either direct or otherwise. In the meantime, I will monitor all transmissions with an entirely different attitude. Also, Mr. Editor, keep a stop press for next two months as 3AUL predicts a zone shattering event will come to pass. All omens and portents indicate strange goings on.

WESTERN ZONE

Bert 3EF, of Warracknabeal, is one of our most active members. His rig consists of a Geloso rx, Geloso v.f.o. driving a single 807 with a pair of 6L6Gs as modulators. Antenna is a G5RV, which seems to work extra well on the 3.5, 7, 14 and 21 Mc. bands. Bert works

consistently into Europe, States, Pacific Islands, and has contacted a ZK on the 3.5 Mc. band.

Herb 3NN, of Yannac, and Trev. 3ATR are also contacting their share of DX as well as being on the v.h.f. bands. Merv. 3AFO, of Horsham, and Vic 3AEQ, of Murtoa, are furthering their studies in doing a night school course at the Horsham Technical School. The Birchop boys, Clyde 3ACE and Ray 3ATN, while still working some DX, are most active on the v.h. frequencies these days. '73, 3AKW.

QUEENSLAND

Thirty-five members attended the March Divisional meeting at which two sound films were shown by the courtesy of Col 4CI. Some of the night went to a talk by Winc 4VJ on the transistorised g.d.o. published in "QTC" and much appreciated by all. It's a pity more members can't make the effort to offer their little hints and kinks.

Those who have been on the air on Sundays in the 4WI hook-up have noticed the use of a new method of passing the call directly from one to the other to speed up the proceedings. Have you found this satisfactory? Others are waiting to hear what you have to say. Talking of the hook-up, Harry 4IA will in future be giving monthly conditions predictions for the Amateur bands out of Brisbane.

Again of 4WI, station manager Stan 4SA has been advised to take things easily for a while so is only rarely on the air. (Beware! Although it's hard to believe, we hear he's a good listener too.) In the meantime, assistant manager Alf 4OL is doing the good work. Les 4EH is another on the not-so-well list, he himself deciding when doctors disagreed.

Here is a note for branches and clubs who may not have heard, or a reminder to those who have not done anything about it. Would you kindly send to Box 638J your regular and special meeting dates, places, and times? This is for regular publication and distribution to let other members know who is where and what is when as well as a reminder to your own group.

This last month has also been the Urunga Convention, and at the time of writing, George 4GG and Bill 4WS intended making the trip. Bill 4WS was busily trying to complete the mobile gear he has been playing around with for ages. Our admiration goes to the boys down the northern rivers way for the speed with which they had a W.I.C.E.N. operating on the week-end of April 7 and 8 when floodwaters were only starting to rise. Some very fine signals were heard in Brisbane. Very quickly the word spread a net was operating and the frequencies cleared.

POISONAL PARS

Talking of floods, we in VK4 have heard about the drought in VK5 since PanSy called on his fellow members to weep for his deep gratitude for being granted honorary life membership of the Division. PetalS must be drooping too at being pressed too strongly under the thumb by his XYL and told not to play with the rough boys up this way. Tut, tut.

Wireless Institute of Australia

Victorian Division

A.O.C.P. CLASS

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THURSDAY, 2nd AUG., 1962

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The Division's celebrated bard, Howard 4WO, will by now be holding his chest out with pride. One Sunday night recently on a Brisbane t.v. channel, one of his poems was read in a special poet's corner session. For those who may not have heard, Howard's poems have been published in two books, one of which he printed and bound in his own home printery, now where his radio gear stands.

Herb 4KM has been having a little fun with meters so he told all and sundry on the air recently. Seems Herb who, incidentally, owns one of those weird electric fence gimmicks, has found he is his own e.m.f. Two fingers across the terminals gave him a reading of 10 micro-amps which dropped quickly to a steady value of four micro-amps. The laugh came the next morning. First thing out of bed and he gave a steady reading of 10 micro-amps. Herb was last heard propounding some theory about static electricity and friction.

Jim 4HZ has been heard dashing hither and yon over the vast expanse of south-east Qld. from Rockhampton south. One day he was at the QTH of Frank 4FN. Another week-end he spent at Herb's at Mundubbera and they ching-wagged until some unearthly hour of the morning. He certainly gets around that fellow.

Queensland isn't such an out of the way place (quiet PanSy) but there are plenty of foreign correspondents about, so foreign in fact only rarely does word reach the outside world of Amateur doings in their areas. Please chaps, if you can only offer a few lines of news, do so and your effort will be appreciated. After that outburst, let's see what happens next month. Until then, 73, Don.

SOUTH COAST ZONE

Absence from the QTH for a week, a week-end, and several days on odd occasions have not given opportunity of news gathering in this neck of the woods. Had an enjoyable visit to the shack of Cres 4ZAO who has quite a lot of very good equipment including a Heathkit 2 and 8 mx tx, Eddystone rx, plus many other quality items and several projects of similar quality in view.

Del 4RJ's tx with temporary aerial and rx was installed but the modulator refused. After quite a time spent on it, the fault was located, but necessitated the transport of the instrument to Brisbane where Alf 4OL could do the necessary at his leisure. Later tried out at its permanent location, very good reports were received. Dell should, after a little time getting the feel of it, be heard regularly. The tx was the work and design of Frank 4FN who deserves high praise for the excellent job done.

The representative of the landed gentry up on the heights, Tex 4TX, has bobbed up a couple of times on 40 with the Kingfishers. Sorry Tex if you felt neglected, but feel sure you will be able to square with them. 73, 4WS.

CAIRNS AREA

Six mx activity still continues to be the main interest in this area. The latest to the band was Mickey 4ZJM, who is out at Gordonvale. He is running a converted 522 to a cubical quad which puts a pretty good signal into Cairns.

Was yarning away the other night to Bob 4TK when we had a break-in from Graham 9DJ, who started his Ham career as 4DJ. He was trying out his new tx using screen mod. which, unfortunately, was not very efficient. He has left the seafaring life and is now at a sawmill about 200 miles from the Fly River. Now a tailpiece published somewhere to set you thinking—

I never have frustrations,
The reason is, to wit,
If at first I don't succeed,
I quit.

73, 4ZW.

TOWNSVILLE DISTRICT

My thanks go to Claude 4UX for so ably writing the notes while I was away overseas on holidays. Know that he had once been vaccinated with a gramophone needle, fully expected the Editor to make overtime use of the blue pencil. But glad to see he so ably kept the space occupied in "A.R."

While overseas, a visit was paid to the home of G3JAF (Art) where I spent a very pleasant week-end, visiting all the Amateurs for miles and miles around. Even going to Ted G8PO for an evening cuppa; the fog did not let me see too much of the new aerial he is using on 80 mx. The boys in this area have a club station signing GB3LY.

Whilst in Hong Kong the boys really turned it on, and as only one night was spent in port, they invited me to an evening meal at a Chinese restaurant. Those present were VS's 6EC, 6DS, 6CL, 6EK, 6EL, 6EM, together with their wives. A very pleasant time was enjoyed.

In Tokyo the opportunity was taken to visit some of the boys whom I worked on 50 Mc.

JAIDVO did all the necessary spade work in arranging my visits to all, even to the different radio factories, etc.

Coming home down the Queensland coast our ship made world headlines—"suspected cholera" on board. Thanks to all the Amateurs who worried over my safety. Glad to be back home as Aussie is still the best place.

Things have really looked up while I was away; the tip previously published about the formation of a new club in the north did take place. Thanks to 4UX and the others in the Burdekin area, the club is off to a healthy, if not wealthy, start, membership being over 15 and soon to be swelled, as a class is being formed of 12 who intend to take their A.O.C.P. licence. Claude, being a Scout Master, is working hard for the local Scouts to have their own club station. (Any bits and pieces necessary can be picked up at my shack, Bob.)

The local radio club under the guidance of Frank 4PF again will get a class going for the budding Amateurs. So this augurs well for an increase to the ranks in the Sunshine State as by April "A.R." I see over 40 attend classes in the southern part of the State. What has happened to Rockhampton not having classes? Get to it Frank and Hal.

Owing to the pressure of back yard chores, unable to work the boys during daylight hours. Grass is over 7 ft. high around the fence. That is what the "wet season" does while I was away. Even the white ants ravaged my benches in the shack and partially destroyed the case around the multimeter. They are under control now, literally millions of them poisoned.

Bert 4LB heard on s.s.b., just itching to help me get my rig going. No hurry, all those chores to be done are necessary for my peace of mind. A visit was paid to Olaf VK3AHY/MM on the Kuranda while he was in port and showed him the sights of the district in daylight, while Bob 4MF did the honors the night before. Sorry I missed VK4AUS/MM while in port as I did not know; anyhow worked him off Cooktown on the Binburra. Enjoyed a QSO with Middy ZS1CD the other afternoon. The local boys will remember his visit last year; he enquired after you all. 73, Bob 4RW.

SOUTH AUSTRALIA

The monthly general meeting of the VK5 Division was held this month to a capacity audience in the clubrooms, and took the form of a buy-and-sell night. John 5JC was in the chair for the opening part of the night, and bustled the business for the night with record speed, and after the QSL cards had been distributed by George 5RX, the entertainment commenced.

Now there is not much that can be written about buy-and-sell nights that has not already been written many times, but there is no doubt that this type of general meeting always attracts the largest crowds and the crowd present at this meeting was almost a record. So much so that the standing room was at a premium, and at times it was not quite clear whether or not human beings were up for auction or just radio gear. Just after the bidding had been in progress for a few minutes, for some unexplainable reason, it was decided to suspend the buy-and-sell night and distribute a batch of crystals that the Division had obtained at a recent disposals sale.

Gilbert 5GX, who had handled this matter in his usual efficient and methodical style from start to finish, then took over and distributed the packets of crystals to the lucky ones, and the auctioneer for the night, that debonaire and athletic type who occasionally gets a mention in these notes, mounted his umbrage and rode off into the corner to sulk in private. Eventually the auctioneer permitted himself to be led back to the front of the stage and the bidding commenced once again, only to stop at 11 p.m., when not even one solitary valve socket remained for sale.

Of course this did not mean that the night came to an end, because when I bid a fond farewell to those remaining, after telling them just what they could do with their junk, although nobody took up my challenge there was still more than half of the meeting sorting money, paying out money, earbashing, etc., and for all I know they may be still there yet. However, one fact stands out like organ stops, this buy-and-sell night is without doubt the most popular form of general meeting held, as far as VK5 is concerned anyway. My natural modesty forbids me to enlarge on the matter to any extent, but when I look back on how many of these nights have been held in the past, and how many shekels they have brought into the Divisional coffers, then I can only say that the halo which is sprouting on top of Norm Coltman and myself, is fitting like a glove. Saint Norm and Saint Panse they call us!

OBITUARY

EDWARD A. ("Doc") BARBIER, VK5MD

Members and non-members alike of the VK5 Division together with many members of other W.I.A. Divisions, heard with sadness and shock the news of the passing of Edward A. ("Doc") Barbier, VK5MD, on the night of March 21.

During his long association with the Division he held every executive position possible, was mainly responsible for the re-formation of the Division after World War II. spent considerable time and energy on the preparation of the new constitution, together with the incorporation of the Division, and his elevation, many years ago, to the Divisional Honorary Life Membership was a fitting reward for his unstinting service to the Division and Amateur Radio in general.

His position as Keeper of the Adelaide Gaol, from whence he operated his station, forced him at times to assume a mask of stern and unyielding authority, which was at complete variance to his normal kindly, jocular and understanding nature, and no greater tribute could be paid him than the fact that the prisoners under his control, male and female, voluntarily approached the authorities seeking permission to arrange among themselves for the sending of floral tributes to his funeral.

His name has been synonymous with Amateur Radio and the Division since he was first licensed in 1932, and his passing will be mourned by all with whom he came in contact.

To his sorrowing wife, May, we extend our sincere and heartfelt sympathy, and can only hope that the hand of time will soften the blow of his passing.

The genial face of Keith 5KH (or 5WI) was conspicuous by its absence, but he is at the moment at Whyalla on duty bent and will be there for a while longer. The 5WI session will be carried on whilst he is away by that man of many parts, John 5JC and as Keith expects to be absent from the city of cities quite often during the coming months, it looks like John filling in as required.

I very much regret having committed the sin of sins in calling Gilbert 5CX Gil, in these notes a long time ago, because he has never forgiven me, and now that he is on the Council and has their backing, he never lets up. Fancy butting into my buy-and-sell and trying to sell his xtals. Cheek!

My savage friend from Norfolk Island, with the ring through his nose and the bones through his ears, Arch 5XK, has been telling the world of his experiences whilst DXing around that area. Judging by the publicity he has been receiving from the W magazines he must have spent a fortune, and to cap it all, he expects me to believe that at one of the nearby islands he discovered a new language in which there were no small words. To prove his point, he tells me that "Wendicobuctodostocklyctobdx," when freely translated means "No." He added that by the time the female members of the sex got round to saying "Wendicobuctodostocklyctobdx," it was usually too late anyway!

Despite all the advice and stories given to me about the paying of my Amateur licence at any local post office, I had no luck again, and had to wend my weary way up the Receiver of Public Monies. However, this week I received a letter sheet (priced sixpence) from Tom 5TL who is the Postmaster at Renmark, and I quote: "I recently came across a new issue of an accounting form introduced for use at money order offices, and there is a column provided to cover the accepting of Amateur license fees." He goes on to say that although he, a postmaster, has always had to pay his license fee at Adelaide he can now accept these payments and bring them to account. Well, I will have to wait for twelve months to prove him right or wrong, but if any VK5 dares to put him to the test, I would be pleased to hear the result. I mentioned the matter to Ses 5GP who is the Postmaster-General or something at Nairne, but he has not seen any such form. Wouldn't it?

You have probably read of footprints in wet concrete, the burying of historical documents in the foundations of new buildings, etc., etc. Well, along the same lines, Frank 5MZ, at the time the gang were erecting Luke's (5LL) new tower, placed a penny in the new concrete to the tune of hurrahs and sundry groans, hoots and cheers from the assembled gathering. What you have not read or heard is that when the gathering had departed Luke gently removed



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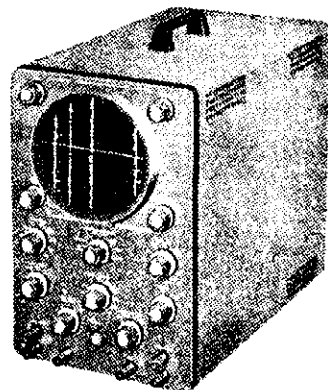
Sensitivity: 0.025 volt (r.m.s.) per inch at 1 kc.
Freq. response: Flat within plus or minus 1 db. from 8 c.p.s. to 2.5 Mc. Flat plus 1.5 to minus 5 db. from 3 c.p.s. to 5 Mc. Response at 3.58 Mc., minus 2.2 db. (All response measurements referred to 1 kc.)

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I notice, with astonishment (I was going to say consternation, but I can't spell consternation), that Basil 4ZW from that slightly known hamlet of Cairns rudely suggests that I am not capable of running down to the post office and renewing my licence. Proudly drawing myself up to my full four foot two inches, I retort that as I always pay my licence on the due date, there is no need for me to run. My conscience permits me to stroll sedately down to the P.O., sorry, Receiver of Public Monies.

'Tis rumoured that Roy (Buck to you) 5DA has joined the ranks of the retired idle rich. No doubt about it, some people have all the luck, fancy having 24 hours a day available for Amateur Radio and nothing else to worry about. What's that Buck, speak up?

Bert 5BB heard on the 5WI call-back with a signal that had to be heard to be believed. Nothing less than a kw. could compare with it, Bert.

John 5JC who, as before mentioned, is standing in for Keith on the 5WI session, has changed his opinion over night as to the 7 Mc. band. On his first Sunday broadcast, the band was as dead as a dodo, and he was quite coarse in his remarks about it. The second broadcast however was right on top and in the call-back he was handling the calls in batches of five at a time and was hungrily looking for more. Just goes to show you.

Les SAX heard on the call-back proudly telling all and sundry that this was his first time he had contacted 5WI for 1982. Unusually for him, he also commented on the high noise level. My, my, Comps 5EF also heard on, and to again prove that I can read his s.s.b., he was having a dig at the predictions given out just previously by John 5WI. Don't let him needle you John, to 5KW inputs predictions don't mean a thing. Ho, ho. Tom 5AQ still relaying the 5WI session to the N.T. and Darwin on 14 Mc. He commented on the fact that he had not heard from anybody as to whether or not it was serving the purpose for which it was designed. Going on my personal experience, you never will hear anything until the day that you miss out, and then you will hear plenty. Keep up the good work Tom.

Lance 5XL not heard much so far this year, but as he is absent from Clare most weekends, this is natural. However he is looking forward to resuming again soon. By the way, Lance, I had a letter from a canny Cairns citizen, one 4ZW by the name of Basil, and he wishes me to pass on his 73 to you. I will do this when, I say when, I work you, but until I do I must say that I am a bit leery of the company you keep, or kept at some time or other! John 5YA heard calling 5WI on Sunday morning, but when called into the fold I could not hear him again. Never known a signal to disappear so quick, even on 7 Mc. Must be the Port Pirie air.

Bill 5XB heard with his usual f.b. signal from Kingston. This station is another one who either comes in at unbelievable strength or can't be heard for the noise. Wally 5DF heard on the 5WI call-back, but had little to report. Apparently he still is a little colt-proud from the vacation, but without a doubt he sure puts in a consistent signal into the City of Churches. Peter 5FM noticed at the general meeting, and seemed to be enjoying himself. Has been heard on 7 Mc. consistently these days and as Master of Ceremonies of the famous, and at times infamous, "Lunch-time Network," can be tactfully heard calling the wanderers off frequency in the network back to the fold.

Jack 5JS has for some time been complaining of the lack of DX signal and a general falling down of receiving conditions in general. He is maintaining a discreet silence as to the final cause, his headphones were stuffed up with paper dated 1935. Nothing further need be said, but what I would like to know who was his last visitor to his shack! Howard 5XA driving round and round to all his mates, demonstrating his new automobile, with a look of pride on his face which has to be seen to be believed. Wo! No 6 mx mobile installed yet, Howard? Associate member John Parkyn, at the moment of writing, is recuperating from a recent operation and still eating his meals off the dining room mantelpiece.

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With remarks tending to the coarse, he refuses to allow me to see his operation. How mean can one get? Brian 5ZBI from Maitland is down in the big city on annual leave. When holidays are finished he will remain a further 14 days for a refresher course with the P.M.G. at the training school. Not bad, eh?

Bob 5BG, Dave 5DS, Les 5NJ and Luke 5LL heard conducting a marathon QSO on 3.5 Mc. devoted to the past history of paddle steamers on the River Murray. A considerable degree of authenticity was behind the discussion as Bob's father was a one-time fireman on a paddle steamer, an uncle of Les was an old river captain, and Luke's maternal grandfather was also a river boat captain. Bob was heard next day complaining about a sore back, probably from towing so many river boats up the Murray the night before. Oh dear, oh dear, how funny can I get?

George 5GD heard on 7 Mc. working W stations galore. Had me tricked for quite a while just where he was snaring them in, but a quick look at the high end of the band gave the show away. They were up there on s.s.b. in large numbers and looking for VKs. George was plugging the fact that they should look for VKs outside of their s.s.b. segment in the States and this suggestion, whilst coming as a surprise to most of them, certainly appears to have increased the activity between them and VK5. If you hear them up there, don't be afraid to call them from your end, they are now listening for calls from the VK segment of 7 Mc.

Talking of George 5GD, reminds me that his son is the secretary of the University Amateur Radio Club. The University takes his full time at the moment, but when the studies are over he looks like a good prospect for a call sign of his own. Talking of the University Amateur Radio Club 5UA also reminds me that the members of that club put their best foot forward during the University Orientation Week. They set up their Amateur Station in full view of the passing students and contacted the world with the greatest of ease, as a matter of fact they even contacted me, which according to them was an event on its own. Is that so? Anybody would think I was never on the air. (Are you?—Editor.)

The club also looked through and through its imposing list of those who had passed through the University, in the hope that they might obtain the services of some celebrity who would honour their first meeting for the year, by being the guest speaker. After considerable debate on the qualifications of several names submitted, it was finally decided to ask a South Australian, one who was quite a figure in the community, one who could not be missed even in a huge crowd, and last but not least, one who could do justice to his subject. When approached to be the guest speaker I was quite overcome with the honour being bestowed upon me, especially as my academic qualifications consisted of having passed through the University on my bicycle one day, no mean feat for the bicycle!

Although I must admit to having some doubts as to the final outcome of my lecture, especially when in reply to my question as to how long I would be required to talk, the Project Officer (Ian 5IK) replied, "Don't worry, when the tomatoes and eggs start to fly, that you will know your time is up!" However all was well and as I left the George Murray Lounge by the window, with the cheers and acclamations of the crazed members ringing in my ears, I could not help but feel that I had at last left my mark on the University.

As a gesture of defiance, and also as a sign that my undergraduate days still lingered in my memory, I sailed out of the University "no exit" gate, with the nostalgic creaking of my bicycle chain in my ear, and coarse language from the gatekeeper speeding me on my way. To crown my efforts, John 5JC rang me the next night and informed me that I was booked for a repeat performance at a Divisional general meeting at an early date, and no police protection at that. Oh dear, oh dear, life gets tedious, does it not?

I have commented in these notes many times over the years that one of the hardest jobs included in the duties of a Divisional Sub-Editor was the writing of the obituary of the members who have passed on. Writing "Doc's" (5MDD) obituary this month was extremely difficult in view of our personal relationship and also in view of having so much to say and so little space available. A large gathering of members attended the funeral and the floral tributes were an outstanding indication of his position in the public eye. To those members who were close to him and mourn his passing, may I say that his name will live on in the history of the Division and Amateur Radio for ever.

Well, it would never do to close these notes on such a note of sadness, and in an endeavour to brighten up things a little, I can release

the news that next month's notes will be written, I think, by that doyen of the s.s.b.'s, that Beau Brummel of the Backblocks, that welder of the vitriolic pen, none other than Comps 5EF from the hamlet of Gawler. I shall be on my well-earned vacation, sitting hither and thither around the countryside, awaiting with some trepidation to read just what the pangs of jealousy will cause the acting Sub-Editor to write. Remember, dear and gentle reader, sticks and stones may break my bones, etc., etc., and a couple of tut, tuts. 73 de 5PS (PanSy to you).

TASMANIA

The Annual General Meeting and Annual Dinner are again in the past. We were delighted to welcome the following to both functions: Den 7DK, Bob 7ZAH, Syd 7SF, Max 7CA, Ken 7KH, together with their respective lady companions. These visitors from the north and north-west helped to swell the dinner attendance into a most convivial and enjoyable function. Our gratitude is due to Snowy 7CH and Len 7LE for arranging the details of the dinner, together with several media of enjoyment and entertainment provided.

As a result of the elections, Council for the ensuing year is as follows: Tom 7AL, Terry 7CT, Len 7LE, Snowy 7CH, Ken 7KA, Alan 7MY, and yours truly (7ZZ). Office-bearers will be elected at the next Council meeting and notified in next month's notes.

The tx hunt on 11th March raised £3/5/0 towards the fund for our projected club rooms. The attendance at this function was rather disappointing, and the fund-raising committee is very keen to hear of practical ideas how to vary the activities acceptable for this most worthy object. So what about some ideas from you?

Fat 7GV should soon have a modulator and v.f.o. operating, so some phone QRM should soon occur from Taroon direction. Cros 7CW and Bob 7AF, after long silences, have both been heard on the bands again, and we active licensees hope that this is only a forerunner of increasing activity from both stations. Bert Clarke and Mrs. Clarke have been located at Cygnet during the last two weeks of March, hence the call sign 3LU portable VK7 heard regularly on 7 megs. during that time.

Two Contests produced quite a lot of activity during March. The B.E.R.U. Contest resulted in some very fine activity on the 3.5 Mc. band, with some quite rare DX. ZK1AR was exceedingly popular for that reason. The A.R.R.L. c.c. DX Contest was favoured with good conditions for the second week-end of its currency. I personally managed to work 42 States during this week-end alone.

I have again noted frequent examples of phone stations operating in the c.w. section of the various bands. Although the gentlemen's agreement is not binding on operators, yet for orderly operation, observance of this agreement can only increase our enjoyment of our hobby. How about it chaps? 73, 7ZZ.

NORTHERN ZONE

The annual meeting of the Northern Zone was held at the home of the retiring President, Mr. Carl Waldon on 9th March, and it is with pleasure that we are able to report that during the year the Zone showed a steady but definite increase in strength, interest and membership.

Welcome additions to our ranks of full members were Ted 7EC and John 7JF, also Ted Burns and Eric Cooper were successful in obtaining their Limited tickets and are at present waiting to receive their call signs. 7BR, late of Wayatinah, is now Postmaster at Evandale and Harry is also expected to give strength to our ranks.

Officers elected for the following twelve months are John 7JF, President; Col 7LZ, Vice-President; Den 7DK (ex-5DK), Secretary; Max 7CA, Librarian.
Peter 7PF recently received a letter of thanks from WGSAT for his comprehensive report on Oscar and Peter was asked if he would be co-ordinator for this country. Understand a VK2 was also approached. (Perhaps Tasmania is going to be "elevated" to separate country once more.)

Meetings of the Northern Zone are conducted in different members' homes each month, supper being provided by each member bringing a small offering. This results in a comfortable and congenial meeting in pleasant surroundings. Unfortunately there are Amateurs in the Zone, some inactive, who do not attend the meetings. To these Amateurs a hearty invitation is extended. Make an effort and come along some time.

Meetings are on the second Friday of each month and a phone call will immediately bring you up-to-date information as to our next meeting place.

The aim of the incoming office-bearers is to make 1962 a bumper year for this Zone and an all-out effort by everyone will help them to achieve their goal.

NORTH WEST ZONE

Another month of QRM gone past and there is again little to report. The monthly zone meeting was held first Tuesday in the month as usual. We were pleased to welcome Peter 7PA from the Southern Zone and some back-in-the-corner yarns took place. Leon 7JP reported that he has completed and installed another mobile unit for the Burnie Fire Brigade. Nice work Leon and we are grateful for your efforts. We also took the opportunity to say farewell to Harold 7MZ who is migrating to the Southern Zone. We wish Harold all success in his new QTH.

At long last it has happened. George 7XL has come up on duck talk. And putting out a very nice signal if I am any judge of s.s.b. Even at this QTH at close distance there is no bandspread or splatter which cannot be said of all s.s.b. sigs.

Had the pleasure of a visit from those well known Kilmore identities Bert and Peg 3KU on their way to and from the south of VK7. Both appeared to be "Applied up" but in good form.

Apparently the monster, and I refer to the one-eyed variety, has done a great deal to sponsor absenteeism from Ham activities. We notice that most of the empty seats at meetings are made thus by missing monster addicts. How about a night off occasionally chaps? If you read this before 1st May boys, bring along a few colour slides for the next meeting. 7MX.

HAMADS

Minimum 5/-, for thirty words.
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Advertisements under this heading will only be accepted from Institute Members who desire to dispose of equipment which is their own personal property. Copy must be received at P.O. Box 38, East Melbourne, C.2, Vic. by 8th of the month, and remittance should accompany the advertisement. Call signs are now permitted in Hamads. Dealers' advertisements not accepted in this column.

FOR SALE: A.m. and c.w. xmtr., band-switched 80 through 10, up to 50 watts input, Gelson v.f.o. with in-built reg. p.s., 807 p.a., pi coupler output, commercial cabinet, meters in p.a. plate and grid, £30. Separate mod. in own cabinet, pr. 807s AB1, plate meter, £17. Will sell complete or separate. Collins 50 watt mod. transformer, pri. 15,000, sec. 7,300, excellent order, £6. W. M. Crawford, Box 142, Kingston, South Aust. VK5XB.

FOR SALE: Collins 75A2 Rx and Spkr., mint condition, £175. Tx, 150w, 80-10 mx, 813 final, mod. 830Bs Class B, in-built separate power supplies for final, exciter, mod., relay supply etc., in steel cabinet on rubber casters, £75. Tx, 100w., 2-6 mx, final QQE06/40 and 807s, steel cabinet on rubber casters, £25. Rx, 2 mx suit above, £7/10/0. Genemotor Ballantine, U.S.A., mounted on filter, new condition, 6v. or 12v. input, 500v. 160 mA. o/p., £10. Kingsley S9er and coil boxes, £4/10/0. Kingsley n.b. f.m. adaptor, £1. Kingsley 6 mx Converter, £4/10/0. Genemotor and filter, 12v. input, suit 522, £3. Taylor Valve Tester and Multimeter, Model 47A, as new, £25. University Super Tester, £10. C.r.o. power supply, 1900v., £5. A.W.A. Pyrox Tape Recorder, £35. VK3NZ, R. Hall, 17 Colledge Grove, Black Rock, Vic. Phone 98-5763.

FOR SALE: Converter and Q5er 20 metres, converter consists of A.R.R.L. circuit using 6BX6s with full bandspeed and vernier dial, feeds into BC-433G Radio Compass Receiver with built-in a.c. supply, £14. Command

Receivers, 3-6 Mc. and 6-9.1 Mc., in excellent working condition, £5 each. Type C Wavemeter, 1.470 to 10.260 Mc., £5. Signal Strength Meter and Monitor 20 metres, £2/10/0. Antenna matching unit 20 and 40 metres, commercial finish, £2/10/0. VK3AES. Phone 28-1264.

FOR SALE: Ferguson Transformers, new: three Vibrator Trans. VT106 6/300v. 75 mA., 35/- ea. Two Chokes, CF106 12H/100 mA., 20/- ea. One Driver Trans., 5w. MT106 5,000/125,000 p.p., 35/- ea. One Power Trans., 6/240 pri., sec. 300v. 125 mA., PF119, 45/- ea. One A & R Driver Trans., Type 545, 10w. 4,000/AB2 p.p., new, 50/- ea. One Q+ Transistor P/S 12v., 300v. 100 mA., PS-30/12, as new, £7½. One Pye VTRM/6 6v. dual P/S, 250v. 100 mA., £3½. One 9v. I.F.F. Gene. £1. One 18v. I.F.F. Gene. £1. Three Q+ 85 kc. i.f. Transformers, 30/- set, new. D. V. Scott, VK3DY, 174 Johnson St., Maffra, Vic.

FOR SALE: One AR7, excellent condition; one 22 ft. self-supporting tower with extension to 30 or 35 ft.; two 26 ft. masts; one 50 Mc. converter; one 144 converter; want offers within reason. J. N. Bradshaw, 31 Summerhill Road, E. Reservoir, Vic.

SELL: AR8 (M.F. sect. only, works) 240v. p.s., 6" per. mag. spkr. H.F. sect. needs little attention to get working. £12/10/0. MY0361, Ext. 292 (Melb.).

SELL: Electro-Voice Cardioid Ceramic Microphone, Model 729, designed specifically for s.s.b. but eminently suitable a.m. Flat, smooth response 300 to 3,000 c.p.s. Unused in original carton. Cost £15 to land, sell best offer. Also shielded three-section low-pass t.v. filter. Also Dow-Key fixed tuned pre-selector, ideal for boosting and improving signal to noise of insensitive receivers on higher frequencies, new, original carton. Eccleston Electronics, 145a Cotham Rd., Kew, Vic. Phone 80-3777.

SELL: Excellent A.W.A. C.R.O., £27. R.A.A.F. 22 range VOM, £4. Rola G12 Speaker and trans., £5. New Mullard LSD3 Flash Tube, £7. **Require:** MN26C Radio Compass and/or Accessories, good price paid. M. J. O'Brien, Edgar Ave., San Remo, Vic. Phone 107.

SELL: Hallicrafters Receiver SX28, 0.55 to 43 Mc., 6 bands, bandspread Ham bands, variable selectivity, 100 Kc. marker xtal, matching speaker, instruction book, perfect condition and alignment, £75. Panoramic Radio Corporation, Panoramic Adaptor, Type T-200, 240v. a.c., attached to above, scans 0-100 Kc., perfect condition, spare tubes, instruction book, £45. Q5er BC453, also attached to receiver if required, £8½. Receiver AR7, 140 Kc. to 25 Mc., perfect condition and alignment, with power supply and noise limiter, in-built 100 Kc. marker crystal, £30. Panoramic Adaptor, as above, attachable to AR7, perfect condition, £45. Receiver BC348-L, six switched bands to 18 Mc., in-built power supply and noise limiter, £27½. Hallicrafters Receiver S-27D, 28 Mc.-145 Mc. in three switched bands, f.m./a.m., noise limiter, variable selectivity, in-built 5 Mc. marker crystal, instruction book, 240v. a.c., £35. Marconi Receiver B40, 0.6 to 30.5 Mc., five bands, turret tuned, 240v. a.c., £25. Receiver AR17, modified, 130 to 180

Mc., a.m./f.m., in-built 240v. power supply, 18 valves, £20. Harmonic Generator, A.W.A., 240v., 1 Mc., 100 Kc. and 10 Kc. markers to 30 Mc., £10. R.M.E. Preamplifier, three 6J6s, 40 db. gain, bandswitched all Ham bands, gives great lift, 110v. a.c., instruction manual, £15. R.M.E. Mobile Converter, band-switched and bandspread all bands, in-built noise limiter, 6 or 12v., output 1600 Kc. to car receiver, £20. Transmitter AT14, 2 to 21 Mc., bandswitched, v.f.o. or crystal, totally enclosed, 21 tubes, 8 meters, input 240v. a.c., converted to plate modulation, perfect high power signal, instruction book, £75. Transmitter AT21, 1.5 to 16 Mc., v.f.o. or crystal, 240v. a.c. power supply, input 120 watts to pair 807s, in-built plate modulators, £25. Petrol generator, 2½ kva., output 12v. d.c. and 240v. a.c., £30. A.W.A. 50 Kc. Filter Q50084, 7 tubes, £12. Trimax modulation transformer TA908B, 150w. audio, multi-match, new, £7½. Bendix Frequency Meter, LM10, complete less book, £20. Receiver BC348-R, original, £17½. AT21 power supply, complete, £10. A.W.A. 3BZ Receiver, 12v. d.c. 200 Kc. to 30 Mc., £12. 3BZ Transmitter, £4. 5" CRO £12, 3" CRO £9, 2" CRO £8, TS-34 £10. Many other items and parts: Marconi Signal Generator 10-300 Mc., Philips Capacity Meter, Valve Tester, Crystal Calibrators, Triplet Signal Generator, 100 Kc. to 120 Mc., Mobile Transceiver AT2B 12v. dc./240v. a.c., Meters, Receiving Valves, Transmitting Valves, Transceiver 122 perfect, various Transformers, Chokes, A.W.A. Valve Voltmeter, Automatic Call Sign Sender, Variac 8.5 amp. 200-260v., Command Receiver 190 Kc., 1.5 Mc., 3.0 Mc., 6.0 Mc., 9.1 Mc., etc., Command Transmitters, Weston 20,000 o.p.v. Circuit Tester, 522's, Selenium Rectifiers, Selsen Motors 240v. and 50v. a.c., Receiver R89ARN5, 1½" Dural Tube for three element 20 metre Beam, Vibrator Supply 12v. d.c. input 240v. d.c. out, Field Strength Meter 1-95A 100-155 Mc., etc. Dr. Alec Dan, 10 Kulgoa Road, Bellevue Hill, Sydney, N.S.W. FM 1055.

SELL: Radio Amateur Call Books. Foreign section Spring-Summer 1961, 15/-; U.S.A. section Spring 1961, 10/- VK-3AWS, 11a Maud St., Ormond, Vic. Phone 58-2149.

SELL: Swap: A.S.T. Supertracer, C.R.O. Mod., Pwr. Supplies, Valves, Parts of all Types, V.h.f. Gear, Panadaptor 450-470 Kc. i.f. No dealers. 97 Birkett St., Bedford, W.A.

WANTED: Bug, any condition. Don't think your old one is too wrecked for me to repair. Tony Brinkley, VK1SG, 9 Faunce Cres., O'Connor, Canberra.

WANTED: Steel self-winch tower, also triband beam and vertical 80 to 10 mx, commercially built. VK3AVU, 200 Elgar Rd., Box Hill South, Vic. Phone 28-2785.

WANTED TO BUY: 122 or 22 (Aust.) Transceiver in good condition. Harry Michael, VK3ASI, 6 Lindon Street, East Geelong, Vic. Phone 9-3318.

WANTED: TV in exchange for AR7 receiver, good order with xtal but less power supply, 122 Transceiver almost new condition, and BC453 Q5er as new. Write VK2ACB, Sutton 25, N.S.W.

CRYSTALS ALL THESE FREQUENCIES £2 EACH

3.5 Mc. Ham Band:	50 Mc. Ham Band:	144 Mc. Ham Band (continued):
DC 3515 FT 3555	DC 8333.3 -- 50 Mc.	DC 8016 DC 8022.5 DC 8029.5
FT 3535 DC 3560	DC 8383.3 -- 50.3 Mc.	DC 8016.5 DC 8023 DC 8030
FT 3536 DC 3562	DC 8400 -- 50.4 Mc.	DC 8017 DC 8023.5 DC 8030.5
DC 3537 FT 3564	DC 8416 -- 50.5 Mc.	DC 8017.5 DC 8024 DC 8031
FT 3534 FT 3573	DC 8450 -- 50.7 Mc.	DC 8018 DC 8024.5 DC 8031.5
DC 3547 FT 3575	DC 8483 -- 50.9 Mc.	DC 8018.5 DC 8025 DC 8032
FT 3549 FT 3580	DC 8500 -- 51 Mc.	DC 8019 DC 8025.5 DC 8032.5
FT 3552 FT 3587		DC 8019.5 DC 8026 DC 8033
DC 3552 FT 3595		DC 8020 DC 8026.5 DC 8033.5
	144 Mc. Ham Band:	DC 8020.5 DC 8027 DC 8034
	DC 8000 DC 8014	DC 8021 DC 8027.5 DC 8034.5
	DC 8010 DC 8014.5	DC 8021.5 DC 8028 DC 8035
	DC 8013 DC 8015	DC 8022 DC 8028.5 DC 8035.5
	DC 8013.5 DC 8015.5	DC 8029

7 Mc. Ham Band:
Crystals of any frequency, £2.

CONDENSERS

Superscal Paper Type:

0.0047 µF. 400v.	0.0033 µF. 600v.
	0.001 µF. 1000v.

ALL 6d. EACH

Metalpak Electrolytic Type:

25 µF. 25v.d.c.w.	2 µF. 150v.d.c.w.
2 µF. 200v.d.c.w.	2 µF. 250v.d.c.w.

and others.

ALL 6d. EACH

Electrolytic Chassis Mounting:

24 µF. 350 peak volts	2/- each
32 µF. 200 volts working	2/- each
25 µF. 40 peak volts	2/- each

Mica Condensers:

15 pF.	68 pF.	270 pF.
20 pF.	70 pF.	300 pF.
25 pF.	100 pF.	500 pF.
47 pF.	220 pF.	750 pF.
50 pF.	250 pF.	1000 pF.

ALL 9d. EACH

Metalpak Pig-Tail:

0.022 µF. Sprague	1/- each
0.0022 µF. Sprague	1/- each

VALVE SOCKETS

Ceramic 4-pin Valve Sockets,	2/- each
" 5-pin "	2/- each
" 6-pin "	2/- each
" 7-pin "	2/- each
7-pin Miniature Valve Sockets and Shields. New. 15 for £1.	
9-pin Valve Sockets, McMurdo, 9d. ea.	
Octal Valve Sockets	1/6 each

CO-AXIAL CABLE

100 ohm co-ax. cable, 3/8" diam.,	2/- yd.
98 ohm co-ax. cable, 3/8" diam., in 100 yard rolls	£5, or 1/3 yard.
Twinex co-ax cable, 75 ohm	2/- yard
72 ohm, 3/16" diam.,	2/- yard, or 100 yard roll £8/15/0.
50 ohm co-ax. cable, 3/8" diam.,	2/- yard or in 100 yd. rolls £8/15/0.

We have stocks of the latest—
LOG BOOKS 5/6

COMMAND RX COIL BOXES

190 Kc. to 550 Kc., new, 5/- each

COMMAND P.A. COILS

For 3-4 Mc. Tx. (Serial No. 7247).
Price 7/6 each

COMMAND INDUCTORS

Single layer coil (Serial No. 6035).
For 5.3-7 Mc. and 7-9.1 Mc. Tx.
Price 7/6 each.

SAKURA CIRCUIT TESTER

Model TR-6S

Sensitivity: d.c. 20,000 ohms/volt, a.c. 10,000 ohms/volt. Ranges—d.c. volts: 6, 30, 120, 600, 1,200v; a.c. volts: 6, 30, 120, 600, 1,200v. D.c. current: 60 µA., 6 mA., 60 mA., 600 mA. Resistance: 10K, 100K, 1M, 10M ohms. Capacitance: 0.001-0.2 µF., 0.0001-0.01 µF. Inductance: 30 3,000H. Decibels: -20 to +17 db. (0 db.—0.775v. 600 ohms). Dimensions: 4 1/2" x 6 1/2" x 2 3/8". Weight: 1.3 lbs.
Price £9/10/0 inc. tax.

FERROCART VACUUM TUBE VOLTMETER

V.T.V.M.	£19/17/6 inc. tax
H.V. Probe	£3/5/0 inc. tax
R.F. Probe	£2/10/0 inc. tax

ECKO NO. 88 TRANSCEIVER

Portable, xtal locked 4 channel, 40 to 43 Mc., 14 valves, 1L4, 1T4, 3A4, etc., 12v. 3a. input power supply. Less crystals, mike and headphones, etc.
To Clear. £6/10/0 each

RECORDING TAPE

TMK "Synerotape" 7" Rolls, PL-12 (Standard)	£1/16/6
TMK "Synerotape" 7" Rolls AC-18 (Long Play)	£2/10/6

V.H.F. RECEIVERS

Type R89/ARN-5A. 300 Mc. Valves: seven 6AJ5s, two 12SN7s, one 12SR7, one 28D7, six relays, and three crystals of 6322.9 Kc. As new. £5 each.

MULTIMETER Model 200H

20,000 ohms per v. d.c. 10,000 ohms per v. a.c.



Specifications:
D.c. volts: 0-5, 25, 50, 250, 500, 2,500.
A.c. volts: 0-10, 50, 100, 500, 1,000.
D.c. current: 0-50 mA.; 25, 250 mA.
Resistance: 0-60K ohms; 0-6 meg.
Capacity: 0.01-0.3 µF. (at a.c. 5v.); 0.0001-0.01 µF. (at a.c. 250v.).
Decibel: minus 20 db. plus 22 db.
Output range 0-10, 50, 100, 500, and 1,000.
Battery used: UM3 1.5v. 1 piece.
Dimensions: 3 1/4" x 4 1/2" x 1-1/8" in.

Complete with internal battery, testing leads and prods.

Price £5/17/6 inc. tax.

1155 GENEMOTORS TYPE 34A

Input 9.3v., output 225v. at 110 mA. Complete with relays and filters, in case. Weight 30 lbs. 19/6 each. 5/- handling charge.

SPECIALS!! SPECIALS!!

- Pye double bulkhead mounting Chassis Co-ax Connectors 2/6
- Pye Co-ax Connectors 4/- pair
- English Co-ax Connectors, plug and socket, suit 3/8" cable, 4/- pair. Right angles 4/- each.
- Crystal Sockets, DC11 2/6
- Crystal Sockets, FT243 & miniature 2/9
- Jack Boxes, SCR522 type, contains 10K pot and knob. Size 3 1/4" x 1 1/2" x 2, 3/6
- AR8 Cables, 10 ft. long, 8-pin plugs attached 10/-
- High or Low Imp. Headphones, 12/6 pr.
- Morse Key and Buzzer Sets, new, 12/6
- SCR522 28v. Genemotor power supply, 20/-, 5/- packing fee.
- English Filter Chokes, 40 mA., 100 ohm resistance 3/6 each
- "Scope" Soldering Iron, to clear, 45/-, complete with transformer, £4/10/0.
- Carbon Microphones 12/6 each
- Carbon Mike Transformers, small, new, 5/- each
- Vibrators, Oak/M.S.P. 6v. synchronous 7-pin AV5211R £1 each
- Octal Plug and Socket, American Ampenol, in metal screw case, 8/6 set

8 Mc. MINIATURE CRYSTALS

Band-edge market Miniature Crystal and socket, £2.

TANK WHIP AERIALS

15 feet long. Four sections. 35/- to clear. Personal shoppers only.

SPEAKER PLUGS

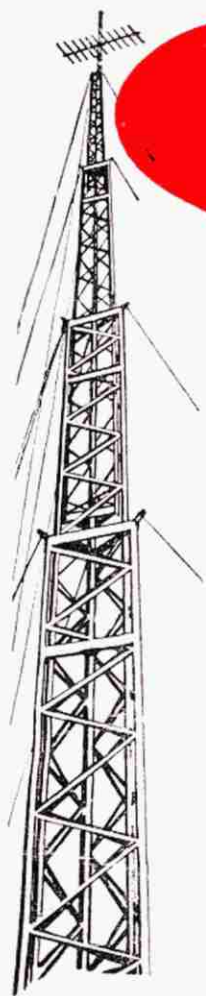
Small bakelite 4-pin and socket, 1/9 pair.

HAM RADIO SUPPLIERS

5A MELVILLE STREET, HAWTHORN, VICTORIA Phone 86-6465

Money Orders and Postal Notes payable Nth. Hawthorn P.O. 5/- Packing Charge

ANTIFERRENCE



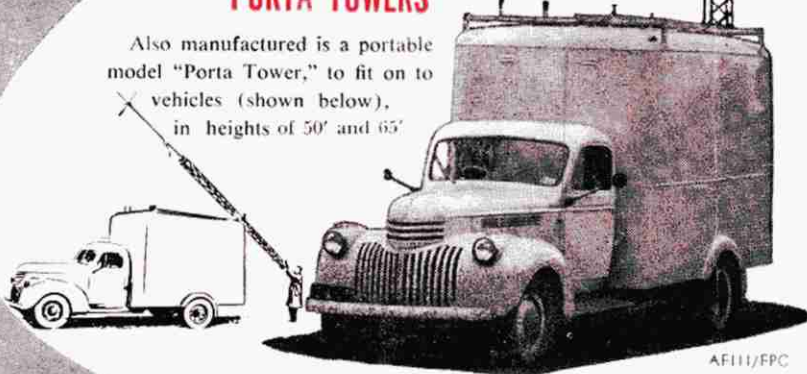
'WINCHMATIC' TELESCOPIC AND PORTA-TELESCOPIC TOWERS

'WINCHMATIC' TELESCOPIC TOWERS

Another Antiferrence product — triangular sectioned telescopic guyed towers for TV and two-way radio installations. These towers are available in heights of 57 ft., 67 ft., 80 ft. and 100 ft. and suitable for erection by two men. The base plate is less than 2 ft. square. The 'Winchmatic' Telescopic Tower is available in either galvanised or painted finish, fitted with built-in winch for ease of erection and so designed as to allow the aerial to be oriented for direction after the tower is fully extended. No Sales Tax.

PORTA TOWERS

Also manufactured is a portable model "Porta Tower," to fit on to vehicles (shown below), in heights of 50' and 65'



AF111/FPC

ANTIFERRENCE

(AUSTRALIA) PTY. LTD.

For further detail: contact your nearest Antiferrence office:

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Orange: 343 Anson Street. 4218

A.C.T.:
Canberra: 27 Yallourn Street, Fyshwick. 94068

VIC.:
360 Smith Street, Collingwood. 41 7028

S. AUST.:
12 Deacon Street, Richmond. 57 8016

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QLD.: K. H. Dore & Sons, 505 Boundary Street, Brisbane. B 0268; and at 26 Church Street, Townsville.

W.A.: Pye Industries Ltd., 155 Brisbane Street, Perth: 28-3221-2, 3.

TAS.: Homecrafts (Tas.) Pty. Ltd., 199 Collins Street, Hobart: 2-2711; and at Launceston and Burnie.

A M A T E U R R A D I O

JUNE 1962



Vol. 50, No. 6

2/-

"HAM" RADIO SUPPLIERS

(KEN MILLBOURN, PROP.)

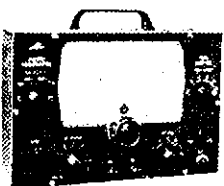
5A MELVILLE STREET, HAWTHORN, VICTORIA

North Balwyn Tram Passes Corner. All parcels sent ordinary post unless otherwise stated. Phone 86-6465

Money Orders and Postal Notes payable North Hawthorn P.O. Packing Charge on all goods over 10 lbs. in weight, 5/- extra.

LSG11 SIGNAL GENERATOR

120 Kc.-390 Mc.
Freq. range six bands: 120 Kc. to 130 Mc. on fundamentals; 120 to 390 Mc. on harmonics. Mod. freq. 400 and 1,000 c.p.s. Tubes: 12BH7, 6AR5. Rectifier: half wave selenium. Provision for crystal oscillator (not supplied). 1 to 15 Mc. 100, 117 or 230v. a.c. input. 50 60 c.p.s. Size: 7 1/2 x 10 3/4 x 4 1/2 in. Weight: 6 lb.



Price £16/17/6 inc. tax.

No. 122 COMPONENTS

Headphone and Microphone Sets. Good condition 25/- set
Aerial Pack, complete with 30 ft. mast (ten 3 ft. lengths of 3/4" diam.), ropes, pegs 50/- to clear

PLUGS AND SOCKETS

Small bakelite speaker 4-pin Plug and Socket 1/9 pair
Jones' small 6-pin Plug and Socket 7/6 pair

FUSE HOLDERS

Bakelite, round type, takes standard auto fuse 3/6
Slide lock, single 3/6
Slide lock, twin 4/6

SCR522 TRANSCEIVERS

Clean condition. Complete with valves. 5/- handling charge £5
Modified Units, complete with 832s. Few only left at £7 1/2
Receivers only, incomplete, but ideal for wrecking. To clear 19/6

NEW TAPE DECKS

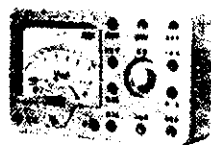
"Collaro" Studio Type, Model BM-2. Three Speed.
Collaro "Studio" Stereo Tape Decks. Prices on Application.

VARIABLE CONDENSERS

(Ceramic)
Trimmers, Ducon. 4-30 pF., 3/6 ea.
Philips air trimmers, 3-30 pF., 3/- ea.
Compression trimmers, c.t. 3-55, 1/- ea.
50 and 55 pF. screwdriver adjustment. chassis mounting 12/6 each

TECH MULTIMETER

300 μ A. movement.
AC and DC voltages: 0-10, 0-50, 0-250, 0-500, 0-1000v.
Current ranges (mA.) 0-1, 0-100, 0-500 mA.
Ohms range: 0-100,000 ohms.
Size: 3 1/4 x 2 1/2 x 1 1/4 inches.
Complete with leads.



Price only £2/17/6, post paid.

NEW VALVES

1A3	2/6	10 a	£1	6SF5	7/6	3 a	£1
1A5	5/-	5 a	£1	6SF7	7/6	3 a	£1
1A7GT	7/6	3 a	£1	6SH7	4/-	5 a	£1
1C7	3/-	7 a	£1	6SJ7	12/6		
1D5GT	5/-	5 a	£1	6SK7GT	12/6		
1D8	7/6	3 a	£1	6SL7GT	12/6		
1F5	7/6	3 a	£1	6SQ7	12/6		
1H4	5/-	5 a	£1	6SS7	7/6	3 a	£1
1H5	5/-	5 a	£1	6T7	7/6	3 a	£1
1H6	5/-	5 a	£1	6V4	11/4		
1K4	5/-	5 a	£1	6V6GT	16/-		
1K5	5/-	5 a	£1	6X5	15/-		
1K7	5/-	5 a	£1	6Y6	5/-	5 a	£1
1L4	5/-	5 a	£1	6Z7	7/6	3 a	£1
1L5	10/-			7A4	5/-	5 a	£1
1M5G	5/-	5 a	£1	7A8	2/-	11 a	£1
1N5	5/-	5 a	£1	7C5	5/-	5 a	£1
1P5	2/-	10 a	£1	7C7	2/-	12 a	£1
1Q5	5/-	5 a	£1	7E6	3/6	7 a	£1
1S4	7/6	3 a	£1	7W7	2/6	10 a	£1
1S5	10/-			12A6	4/-	6 a	£1
1T4	5/-			12AT7	7/6		
2A5	7/6			12SA7GT	10/-		
2A6	7/6			12AH7	5/-	5 a	£1
2D21	15/-			12C8	5/-		
2X2	5/-	5 a	£1	12H6	3/6		
3A4	10/-			12J5	5/-	5 a	£1
3AP1	25/-			12K8	5/-	5 a	£1
3BP1	35/-			12SK7	5/-	5 a	£1
3Q5	5/-	5 a	£1	12SQ7	5/-		
3Q4	10/-			12SR7	5/-	5 a	£1
5V4G	15/-			14A7	3/6	7 a	£1
5Y3GT	13/9			117Z6	5/-	5 a	£1
5Z3	17/6			1625	5/-	5 a	£1
6A3	7/6	3 a	£1	1626	5/-	5 a	£1
6A6	7/6			1629	5/-	5 a	£1
6AG5	5/-			30	1/3		
6AG7	12/6			35T	30/-		
6AJ5	7/6	3 a	£1	15	5/-		
6AK5	20/-			717A	7/6	3 a	£1
6AM5 (EL91)	10/-			726A	10/-		
6AM6 (EF91)	10/-			80	10/-		
6B4	10/-			805	45/-		
6B7	10/-			807	7/6	3 a	£1
6BE6	12/6			808	10/-		
6C4	5/-	5 a	£1	809	20/-		
6C5	5/-	5 a	£1	815	15/-		
6C6	5/-	5 a	£1	830B	15/-		
6C8	10/-			832A	19/6		
6D6	5/-	5 a	£1	866	32/6		
6E5	5/-	5 a	£1	954	5/-	5 a	£1
6F5	7/6			955	5/-	5 a	£1
6F6	12/6			956	5/-	5 a	£1
6F7	10/-			958A	2/6	10 a	£1
6F8	5/-			2051	5/-		
6G6	7/6	3 a	£1	9003	7/6	3 a	£1
6G8G	17/6			AV11	2/11		
6H6 Glass	2/6			DL75	2/6	10 a	£1
6H6 Metal	3/6			EA50	2/-	10 a	£1
6J6	10/-			EC91/6AQQ	10/-		
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OUR COVER

At the Federal Convention in Perth, much work had to be done by the delegates. Our cover shows the meeting in action. Fuller details are given on page 11.

FEDERAL COMMENT

★

AMATEUR FREQUENCY ALLOCATIONS

Another significant chapter in the history of Amateur Radio has closed with the official notification by the P.M.G. Department of the new frequency table which becomes effective from and inclusive of July 1, 1962. It seems almost incredible that three years have elapsed in reaching this finality, years in which the Institute has "grown up" in stature and experience to become a forceful factor at the conference table of the R.F.A.R.C.

The following is the official statement of the authorised frequency bands and types of emission available for use by Amateur Radio station licensees as from 1st July, 1962:—

Medium Frequency Band (Kc/s.):

1800-1860.⁽¹⁾

High Frequency Bands (Mc/s.):

3.50-3.70, 7.00-7.10, 7.10-7.15,⁽¹⁾ 14.00-14.35, 21.00-21.45, 26.96-27.23,⁽⁵⁾ 28.00-29.70.

Very High Frequency Bands (Mc/s.):

52-54, 144-148, 288-296.⁽³⁾

Ultra High Frequency Bands (Mc/s.):

420-450,^(1,3) 576-585,⁽⁴⁾ 1,215-1,300,⁽¹⁾ 2,300-2,450.⁽¹⁾

Super High Frequency Bands (Mc/s.):

3,300-3,500,⁽¹⁾ 5,650-5850,⁽¹⁾ 10,000-10,500,⁽¹⁾ 21,000-22,000.

- Notes (1) The Amateur Service is the Secondary Service in this band.
(2) This band is not available for the Amateur Service after 1st July, 1963.
(3) This band is available for the Amateur Service as from 1st January, 1964.
(4) This band allocated on a temporary basis until required by the Broadcasting Service.
(5) This band is designated for Industrial, Scientific and Medical purposes. Radio communication services operating within the band must accept any harmful interference that may be experienced from the operation of industrial, scientific or medical equipment.

Types of Emission Authorised—

All bands A1, A3, A3a, A3b, and F3 (± 3 Kc/s.).
All bands above 52 Mc/s. A2, F2, F3.
All bands above 144 Mc/s. ... A0, F0, P0.
Ultra High and Super High
Frequency Bands, and 288-
296 Mc/s. until 1/7/63 A5, P1, P2d, P2e, P2f, P3d, P3e, P3f.

The P.M.G. Department intends to replace all existing Amateur Station Licences with new documents which will incorporate the information already stated. These will be issued prior to July 1, 1962.

The changes are not all frequency-wise. Federal Council believes it has achieved two points vital to the future of Amateur Radio in this country—the acceptance of our representative at further conferences and the status accorded in our new designation, namely "The Amateur Service".

FEDERAL EXECUTIVE, W.I.A.

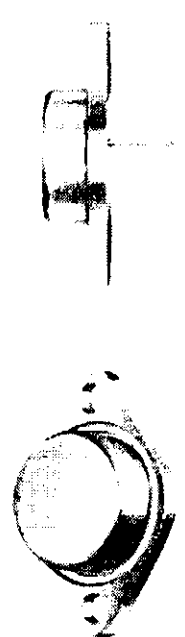
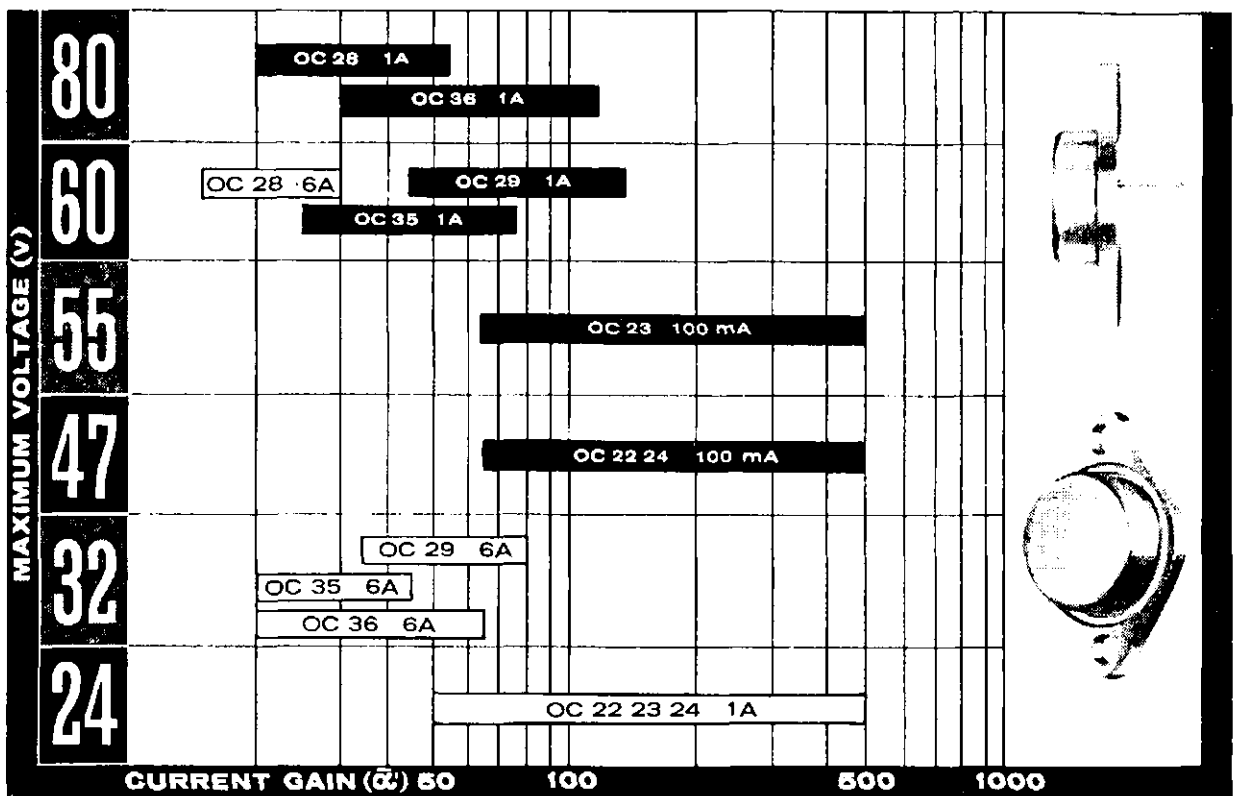
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A LIKE-NEW MIXER CIRCUIT*

WOULD you like to improve the sensitivity and the stability of your receiver? If you would, and don't mind delving underneath the chassis a bit, one of the quickest routes is to modify front-end circuitry.

Here's one which has escaped almost everyone's attention since it was first developed. That's why we're calling it a "like-new" circuit; it's been around for a spell but it might as well be new since almost no one knows of its existence.

Before going into this circuit, it might be well to review the characteristics of a good mixer. The ideal mixer in a superhet receiver should (1) produce no spurious frequencies, (2) provide ample gain for the signal, (3) contribute no noise to the signal, (4) provide complete isolation between the oscillator and signal to prevent undesired radiation, and (5) present as light a load as possible to the oscillator to preserve frequency stability.

These characteristics, at least to a degree, are mutually incompatible with most conventional circuits. For instance, isolation of the oscillator from the signal circuit usually requires screening grids in the mixer tube, which in turn raise the mixer noise level and violate objective 3.

The best compromise to date has been the 6AC7 used as a pentode mixer, following the circuit described in Langford-Smith¹. This circuit provided low noise, adequate gain, little in the way of spurious output, and adequate isolation for most purposes.

However, the particular version of the twin-triode cathode-coupled mixer which we're describing here outdoes the 6AC7 on all counts except gain, and runs it a close race there. On top of this, it can be installed in any set which uses an octal-base, a 9-pin, or a 7-pin mixer tube without changing the socket, since suitable twin triodes are available in all three basings.

The circuit is not original; it was found in K. A. Pullen's book "Conductance Design of Active Circuits," a volume² which incidentally should be in the library of every serious Ham designer, and was field-tested in a vintage BC-779 in comparison with both a 6L7 and a 6AC7.

Results were judged on a purely subjective basis, due to lack of test instruments suitable for adequate and accurate measurements. Numerical values mentioned here are calculated figures, but the field tests confirm them as closely as possible.

The full circuit is shown in the schematic, Fig. 1. Table 1 lists parts values and operating conditions which vary with different tube types or design objectives.

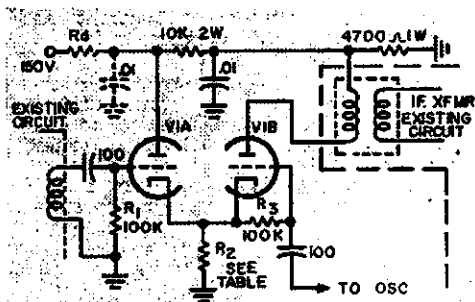
At first glance, you may be led to believe that this is approximately the same circuit as that recommended by Geisler³ or Lee⁴, or may be a version of the Crosby triple-diode product detector⁵. While the general configuration is similar, the circuit operation and its advantages are radically different.

The key point is the low value of plate voltage supplied to V1B. Pullen recommends only that V1B's plate supply be "considerably" lower than that for V1A. The best operation was found with 50- and 150-volt supplies, respectively, and component values shown are for use with these voltages.

By operating the two nominally-identical triode sections with a common cathode resistor but at two different plate-supply voltages, a relatively small change in current in one tube will cause a large change in the gain of the other. This is accomplished without sacrificing average gain in either tube.

In addition, the cathode-follower action of each stage completely isolates the oscillator from the signal circuit. Since the signal sees only a pair of triodes, noise is not increased.

This circuit is a true linear mixer rather than a detector; its output contains only the two original frequencies and the "product" of the original signals (numerically equal to the sum and difference frequencies but without their usual noise content). The chain of spurious frequencies usually found in detection-type mixer circuits is absent.



Those who have tried triode mixers before, even of the cathode-coupled variety, may wonder about gain. Calculations showed that the version gain of about 20, as compared to the calculated pentagrid mixer gain of about 5 under the same conditions.

The test signal was a broadcast station with consistent strength. S meter reading with the pentagrid mixer was recorded and the twin-triode circuit then substituted and mixer alignment readjusted. The S meter showed just under 2 units improvement.

Considering the free-wheeling calibration of most S meters, and this one was no exception, this is a remarkable correlation of theory and experiment. Frankly, we disbelieved it and substituted another tube which had a calculated gain of 13. After re-alignment, the S meter dropped one unit.

Regardless of such gain figures, which are dependent on many variables, not all of which are under control, this version of the twin-triode mixer shows more signal gain than many pentagrid mixers. Its noise figure is so low that mixer noise simply disappears, even with three i.f. stages following. The result is almost complete silence between stations, leading one to believe

at first that the circuit is a dud. Then, though, a fading long-hop signal will come through, moving almost instantly out of the no-signal region into clear audibility, and the design is vindicated.

SELECTION OF TUBE TYPE

Every type of twin-triode tube tested to date works in this circuit, but some give better results than others. As noted in Table 1, oscillator injection voltage requirements vary drastically from tube to tube. In a like manner, sensitivity varies.

Among octal-base tubes, the 6SN7 gives greatest gain but requires higher voltages to get there. The 6SL7 develops its gain (just half an S unit less) with much weaker signals and much less oscillator injection. Therefore, the 6SL7 is recommended.

Dozens of twin triodes are available on 9-pin bases; among the most popular are the 12AX7, the 12AU7, and the 12AT7.

The 12AX7 is directly comparable with the 6SL7, and the 12AU7 with the 6SN7. However, the 12AT7 is the hottest tube available for this circuit, with a gain of more than 100 and comparatively low injection and signal voltage requirements, so it's the only recommended type. If you're willing to change sockets, the 12AT7 is the best for any set regardless of original tube type.

In the 7-pin basing, there's only one choice—the 6J6. Aside from the fact that the 6J6 is the only 7-pin twin triode easily available, it is surpassed only by the 12AT7. Gain is in the neighborhood of 100 (see Table 1).

SIMPLE TO INSTALL

The entire circuit is simplicity itself to install. Remove all old connections from the mixer-tube socket, being careful not to cut short either the grid lead from the tuning coil or the plate lead from the i.f. can. Then rewire according to the schematic.

If you don't have +150v. d.c. available in your receiver (many don't), install resistor R_d and its by-pass capacitor shown on the schematic in dotted lines. Value of R_d must be determined by trial and error. Start with 50K ohms, and work down until you find the resistor which gives 150 volts at point A after everything has warmed up.

With the new mixer installed, you'll have to re-align the mixer tuned circuits. The cathode-follower inputs reduce input capacity so drastically as to completely detune the stage, so don't be surprised if nothing comes through at first.

The input capacity change has least effect at the low end of any band, so it's best to reverse normal alignment procedure and start by adjusting the trimmer capacitors in the tuning assembly at the low end. Simply adjust for maximum signal strength (or higher S meter reading).

Next, tune to the high end of the band and rock the trimmer slightly to see if the adjustment is optimum. If

* Reprinted from "73" Magazine, October 1961.

Tube	6SN7 (also 12AU7)			6SL7 (also 12AX7)			12AT7			6J6	
	Value of R2	100	500	1000	100	500	1000	100	500	1000	100
Input—Voltage (Signal)	2.1	10.5	21	0.32	1.6	3.2	1.4	7.0	14.0	2.1	21
Input—Voltage (Oscillator)	2.5	11.5	22.4	0.42	1.9	3.6	1.6	7.0	13.1	2.3	22
Conversion—Gain if i.f. transformer impedance is 50K ohms (for comparison)	18.5	18.3	18.0	13.9	13.7	13.6	100	150	160	80	130

Table 1.—Voltage Requirements for Various Tubes and Value of R2 with Typical Conversion Gain.

not, adjust the trimmer again for the best high-end signal strength.

If the high end required adjustment, return to the low end but this time adjust the coil slug for maximum signal. Then return to the high end and re-adjust the trimmer. You may have to repeat this slug-at-low-end and trimmer-at-high-end procedure several times to restore tracking, since the change in input capacity usually amounts to about 10 pF., which upsets original tracking adjustments. However, with patience the tracking can be made to surpass the original condition.

THEORY OF OPERATION

For the theory-minded, here's how this mixer operates:

First, imagine that the second half of the tube, V1B, is not in the circuit at all. Signal voltage supplied to the grid of V1A varies the tube's plate current, and this variation of current through cathode resistor R2 varies the instantaneous voltage from the cathode end of R2 to ground.

Now add V1B to the circuit, but keep the oscillator turned off. The circuit is now a cathode-coupled amplifier. Since it is biased to operate in a linear region, the only output frequency is the signal frequency, which is by-passed to ground through the i.f. transformer. Output is nil.

Remove the signal voltage from V1A, apply the oscillator voltage to V1B, and the situation is reversed. Now V1B is the cathode follower and V1A the grounded-grid amplifier (with no load in the plate circuit). Output is still zero.

With both signal and oscillator voltages applied, the situation changes. V1B is a grounded-grid amplifier for the signal, but its bias is being changed also by the oscillator signal and as a result its gain varies from zero (at cut-off) to maximum (zero bias) at the oscillator frequency.

Thus, at the instant when signal voltage is high and oscillator voltage is low, V1B will have maximum gain and output will be high. If oscillator voltage is high at that instant, output will be low because V1B's gain will be zero.

This can be expressed mathematically too: The gain of two cascaded amplifiers is equal to the product of their individual gains. That is, $K_{total} = K_1 \times K_2$. In this circuit, K_1 is equal to the gain of V1A and K_2 is equal to the gain of V1B.

However, gain is equal to the product of the tube's mutual conductance and the effective load resistance, and the mutual conductance of a tube is determined in part by its grid bias. If this bias is changing at a rapid rate, as it is in this circuit, the gain will be equal to average gain times the rate at which bias changes, or $K_2 = K_{2av} \times F_{osc}$.

Plugging this equation back into the original total gain equation, gives us $K_{total} = K_1 \times K_{2av} \times F_{osc}$.

Since the output signal is, by definition, equal to the input signal times the total gain, we have for an input signal F_{osc} an output of $K_1 \times K_{2av} \times F_{osc} \times F_{osc}$, and since a.c. signals are vector rather than scalar quantities the indicated multiplication must be carried out by vector rather than by straight arithmetic methods. The result is that the output consists of the original two frequencies, the numerical sum of the original frequencies, and nothing more.

Getting away from the exotic mathematics, the big difference between this process and detection-type mixing using non-linear devices such as diodes or overdriven tubes is that only four output frequencies are present. Harmonics and spurious outputs are not.

In addition, the cathode follower is far more tolerant of overload than is any other basic amplifier circuit, and as a result no clipping or distortion occurs in the mixer.

A common problem with many conventional mixers is cross-modulation, in which two carriers become "intertwined" and an unwanted signal rides in on the one you want.

Even under extreme conditions, such as local injection of a signal strong enough to almost block the i.f. strip, cross-modulation could not be induced

in this mixer. Apparently this is another by-product of its unusual method of operation.

Although no tests have yet been made, Pullen's analysis of the circuit indicates that it should provide a good high-output product detector for converting s.s.b. and c.w. to audible signals; simple substitution of an RC coupling network (or an audio transformer) for the i.f. transformer is the only circuit change, though you might want to increase the value of resistor R2.

In summary, this overlooked mixer circuit appears to offer extreme advantages over more-conventional circuits in all of the five characteristics of the ideal mixer, with fewer parts than usually required. It works as well in the set as it does "on paper" in the design stage, and can easily be adapted to any receiver. Try it, and let us know how it works for you.

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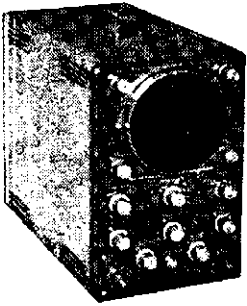
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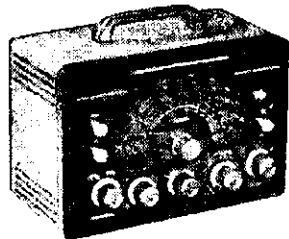
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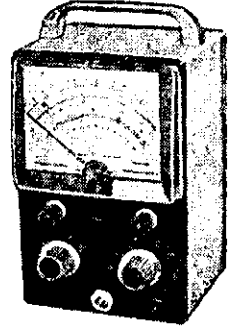
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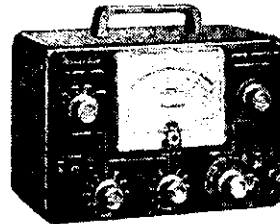
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A G.G. LINEAR AMPLIFIER

J. K. HERD,* VK3JK

NOW that continuing numbers are converting to s.s.b., a simple and reliable amplifier will be interesting to those in search of such equipment.

For those operators whose exciters have a pair of 6146s, or similar, as output amplifiers, "barefoot" operation is in order provided they work into the recommended load impedance—usually 50 ohms.

For the fellows who build their own, a power supply from the old Class C stage may be employed effectively when modified for linear amplifier use; the main thing being the provision of a capacitor bank of high value—between 25 and 100 μ F.

Tubes such as 811, 809, 830B, TZ40, 805 and, in fact, any triodes that work well as Class B modulators, make splendid g.g. amplifiers. Tetrodes are not quite so easy to handle, hence the advocacy of the above triodes. With a plate supply of 1,000 volts, 811s or 809s work beautifully, so this article can be meant to refer to their use in the g.g. mode.

Tube sockets are best sub-chassis mounted and in that way we may isolate input from output more easily, and provided the usual care is taken with layout, no problems should arise.

In this regard, particular attention must be given to the parasitic suppressors in the plate leads of the tubes; the resistors used must be non-inductive types of 2 watt rating and have no wire filament in their cores. A 2 watt 100 ohm type has a $2\frac{1}{2}$ turn coil surrounding, or concentric with the resistor.

The g.g. filament choke (RFC3) may be home-made by using a bi-filar winding on a ferrite rod, such as is used for a loop-stick antenna in a portable receiver. The inductance is not critical, really, but one should have about a four inch winding at least, of wire sufficiently heavy to take the filament current.† RFC4 is a self supporting

coil of 18 gauge enamelled wire—20 turns of $\frac{1}{2}$ " diameter.

The rest of the circuit is self explanatory, but do not excite the amplifier before the h.t. voltage is applied to the plates, for grid current can go up to 250 mA. in the unloaded condition.

When tuning, dip and load the plate circuit of the final until the dip is hardly discernible, when the grid current should be round 50 mA. Separate meters in the plate and grid are not luxuries, but are there to show exactly what is happening and a reflectometer

or monimatch, likewise, is extremely useful to indicate maximum output. Loading beyond this optimum point by increasing coupling (decreasing value of C4 or C5) merely degrades operation and does not increase the r.f. output.

When installing C4 in the final, it sometimes pays to completely insulate it from the crassis, and earth it at one point only—that at which C3 is earthed.

No troubles should be encountered with the unit with the possible exception that variants of the parasitic suppressors may be needed, but provided

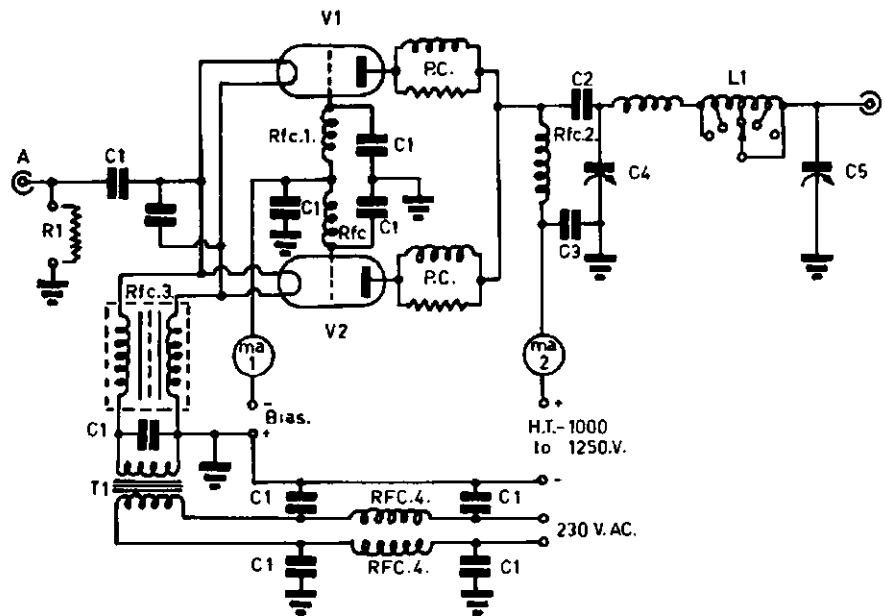


Fig. 2.—Grounded Grid Linear Amplifier.

- C1—0.01 μ F. disc ceramic, 600v.
- C2—300 pF. 15kv. (t.v. type).
- C3—1,000 pF. Simplex disc.
- C4—260 pF. Eddystone (or similar, 1,200-1,500v. rating).
- C5—3 or 4 gang b.c., all sections in parallel.
- L1—Pi net coil—Willis type.
- MA1—0-250 mA. meter.
- MA2—0-500 mA. meter.

- P.C.—See text.
- RFC1—Eddystone v.h.f. (or similar).
- RFC2—H.T. plate type for use with pi net (Willis).
- RFC3—G.g. fil. choke (wound on ferrite rod).
- RFC4—See text.
- T1—Filament transformer to suit tubes.
- V1, V2—809 or 811.

* Shelborne Court, Mornington, Vic.
† Available from Aegis Manufacturing Co.

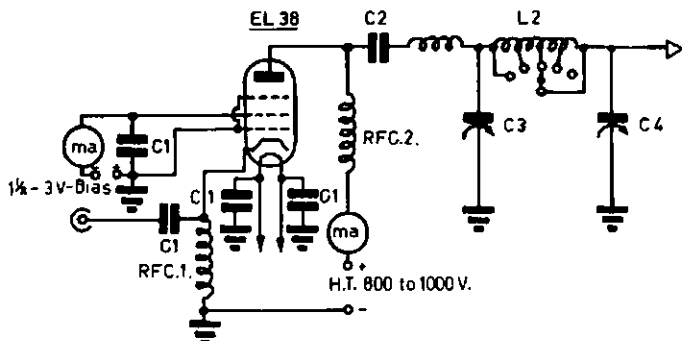


Fig. 1.—Driver Stage for G.G. P.A.

- C1—0.01 μ F. ceramic discs.
- C2—300 pF. 15kv. (t.v. type).
- C3—250 pF. Eddystone or similar.
- C4—3 or 4 gang b.c., all sections in parallel.
- L2—Geloso Pi-Coupler—Type 4/112.

- MA1—0-100 mA. meter.
- MA2—0-250 mA. meter.
- RFC1, RFC2—Geloso Pi-Coupler Chokes for Type 4/112 Coupler.
- V1—EL38 (or counterpart).
- Note.—C1 is placed right at tube socket.

due care is taken, nothing serious in this regard will be noticed either.

The required driving power is approx. 25 watts and the amplifier shows a characteristic impedance to the driver of 150 ohms or thereabouts.

For those who intend using it with an exciter having a pair of 6146s, a non-inductive swamping resistor is suggested, as shown at R1, for these reasons: (a) It provides a constant load, (b) Enables reasonable matching, and (c) Avoids overdrive. This latter is important.

Notwithstanding what has been written regarding driving energy in excess of that required for excitation appearing as useful output power, overall performance improves vastly when optimum drive is arranged by swamping excess driving energy resulting

A TRANSISTORISED CONVERTER FOR 144 Mc.*

J. SPECIALNY, JNR.

● A 144 to 7 Mc. converter is described which provides excellent results in the 2 metre band. Transistors are used throughout, and the only supply voltage necessary is a 12 volt battery.

The circuit (see Fig. 1) is conventional and no difficulty should be experienced in duplicating it. A Philco 2N1742 is employed in the r.f. amplifier stage which is fixed-neutralised by capacitor C5. Capacitance dividers C1 and C2 provide a 50 ohm match to the input circuit. Coil L1 and capacitor C3 form the input tuning.

The base of the amplifier is tapped on L1 to match 75 ohms. Coil L2 and capacitors C7 and C8 tune the output of the amplifier. A portion of L2, together with neutralising capacitor C5, form the neutralising network.

The base of the Philco 2N1743 mixer is tapped down on L2. The output of the mixer is coupled from the collector by capacitor C10 and output coil L3 at 7 Mc. Output winding L4 provides an output at 50 ohms to permit coupling to the input of a communications receiver.

A Philco 2N1744 is employed as a local oscillator and operates 7 Mc. higher than the signal frequency. Coil L5 and capacitors C12 and C13 form the tank circuit.

The local oscillator signal is injected into the mixer emitter through capacitor C11 by tapping the oscillator coil L5.

* Copyright. Philco Corporation, Pennsylvania, U.S.A.

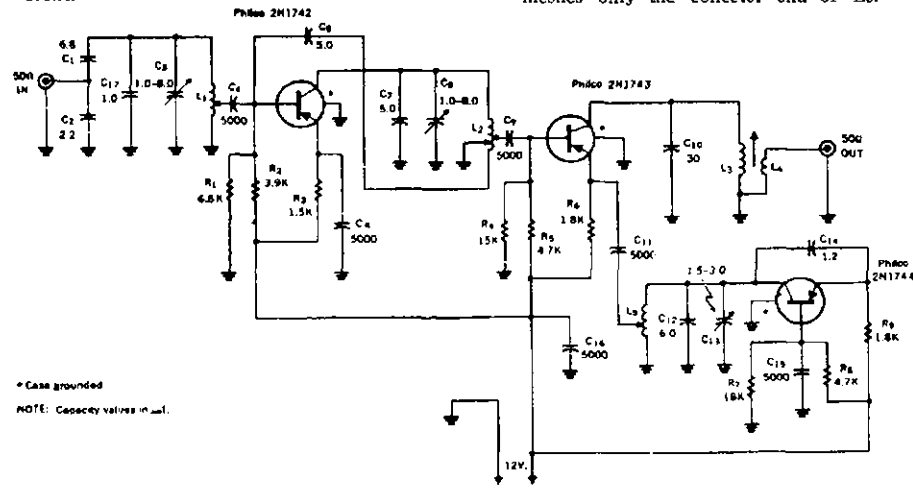


Fig. 1.—144 Mc. Converter.

- C1—6.8 pF. mica plus or minus 5%.
- C2—22 pF. disc ceramic.
- C3, C8—1.0-8.0 pF. tubular trimmer.
- C4, C6, C9, C11, C15, C16—0.005 μF. disc ceramic, 70v.
- C5, C7—5.0 pF., mica, plus or minus 5%.
- C10—30 pF., mica, plus or minus 5% for 7 Mc. i.f. output.
- C12—6.0 pF. silver mica, plus or minus 5%.
- C13—1.5-3.0 pF. air variable.
- C14—1.2 pF. axial ceramic.

OPERATION AND RESULTS

The r.f. bandpass is about 4 Mc. at the 3 db. points. A communications receiver capable of tuning the 7 Mc. band should be used as the i.f. system. If a fixed tuned converter operation is desired, the tuning range will be limited to about 2 Mc. with the mixer output coil used. The frequency range of 144 to 146 Mc. can be tuned without touching the converter once the local oscillator frequency has been set. The i.f. system then tunes from 6 through 8 Mc.

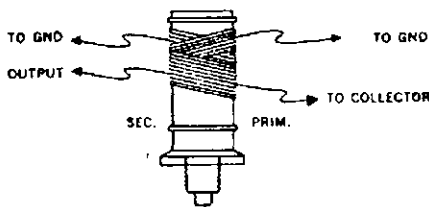


FIGURE 2

COIL DATA

- L1—4 turns 18 bare copper wire ¼" diam., winding length ¼". Base tap 1 turn from ground end of L1.
- L2—6 turns 18 bare copper wire ¼" diam., winding length 4/10". Ground tap 4 turns from collector end. Output tap ¾ turn from ground tap.
- L3—30 gauge Nyclad closewound to occupy ½" of winding space on a ¾" coil form (see Fig. 2 for construction details) Red Dot Core.
- L4—5 turns 30 gauge Nyclad over cold end of L3.
- L5—4½ turns 18 gauge bare copper wire ¼" diam. spaced to occupy ¾". Emitter tap ¼ to ½ turn from ground end.

Note.—In tuning the 7 Mc. output coil, the powdered iron slug is varied so that it meshes only the collector end of L3.

If continuous tuning of the converter is desired, a vernier dial and a panel can be added to the converter. The communications receiver in this case is operating as a fixed tuned i.f. system operating at 7 Mc.

The power gain at 146 Mc. is about 30 db. and falls off to 27 db. at 144 and 148 Mc. The noise figure of the particular 2N1742 used was 5.0 db. at 200 Mc. and the overall noise figure of the converter should be no greater than 5.0 db. at 144 Mc.

Table 1 indicates the value of collector current flowing in each of the stages.

	Collector Current
R.f. amplifier	2.5 mA.
Mixer	1.7 mA.
Local oscillator	1.8 mA.
Total (with bleeder current)	8.3 mA.

Table 1.

A stand-by receiver switch should be located in the positive leg of the 12 volt supply. The co-axial antenna switching relay should be located as near as practical to the input terminals of the converter.



HINTS AND KINKS

DIAL TO READ 0-360°

Have you ever owned a radio tuning knob that has a metal scale attached to it by screws that reads from 0-100° or 0-180° and you wish it was calibrated from 0-360°?

It is easily done. Undo the screws and reverse the metal scale so that the uncalibrated side shows to the front. Place a 0-360° circular protractor (the same size as the metal scale) on top of the metal plate. Then place the knob on top of the protractor. When everything is in line, bore the necessary holes through the protractor and then assemble the apparatus. This all equals a good 0-360° tuning knob.

Warning. If the tuning knob has a white mark engraved on it for 0° make sure it is in line with 0° on the protractor before boring the holes.

This tuning knob can be used successfully with a vernier on grommet drive.

—Brad Booth, VK5/ZL3.

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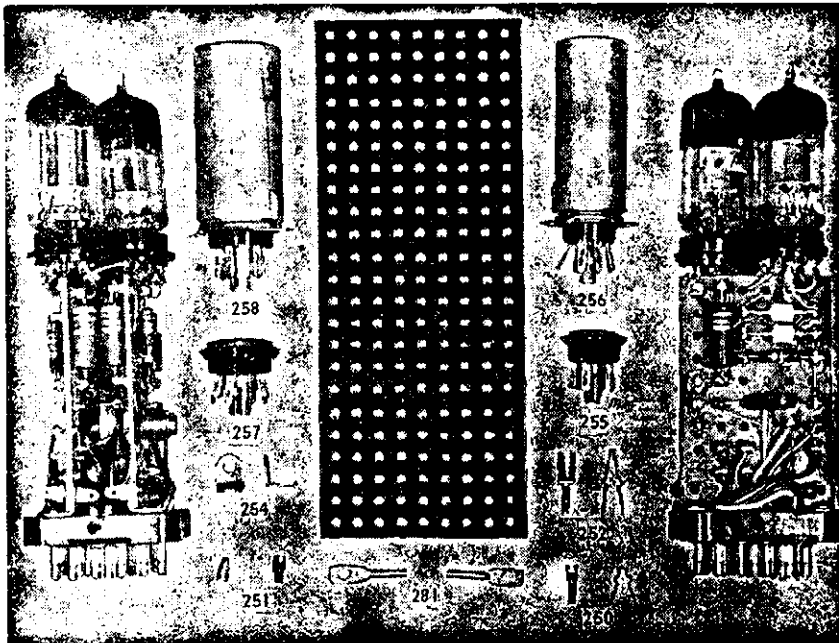
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26th FEDERAL CONVENTION AT PERTH, 1962

The 26th Federal Convention of the W.I.A. was held in Perth at Easter for the first time in 37 years. The 2nd Federal Convention was held in that State in 1925.

The following State delegates and members of F.E. were present:—

Max Hull, VK3ZS, Federal Pres.
 Bill Mitchell, VK3UM, Fed. Vice P.
 Jay Lancaster, VK3JL, Fed. Sec.
 Pierce Healy, VK2APQ, VK2 Del.
 Alan Elliott, VK3AEL, VK3 Del.
 Michael Owen, VK3ZEO, VK3 Ob.
 Bert Hinkler, VK4AO, VK4 Del.
 Phil Williams, VK5NN, VK5 Del.
 Ron Hugo, VK6KW, VK6 Del.
 Jim Rumble, VK6RU, VK6 Ob.
 Ted Cruise, VK7EJ, VK7 Del.

With the exception of Phil Williams, who arrived by an earlier flight, the delegates from the Eastern States reached Perth at approx. 0215 on 20/4/62. They were met by a number of the locals who had generously made their homes available to accommodate the visitors.

The VK6 Division thanks those members for their patient wait at the airport, caused by the delayed arrival of the plane, and also for taking the visitors into their homes. There is no doubt that by doing so they contributed to the success of the Convention. The delegates themselves expressed their own gratitude at the end of the Convention and all were agreed that they had been overwhelmed with hospitality.

The Convention was opened at 1400 hours by the President (Max Hull), who welcomed the delegates and thanked the VK6 Division for making it possible to hold the Convention in Perth.

The Vice-President, and President-Elect (Bill Mitchell) supported the President's remarks.

Ron Hugo, President of the VK6 Division and Federal Councillor, was the first to respond on behalf of the delegates and local Division. He thanked Federal Council for choosing Perth as the venue for the Convention, and the President for his welcome.

Pierce Healy (VK2 delegate) concurred with Ron Hugo's remarks and expressed the pleasure of the delegates that such an important Convention could be held in Perth, as this also provided the opportunity for most delegates to visit VK6 for the first time.

After the minutes of the 25th Convention had been read and confirmed, the President read his annual report and the reports of all committees and co-opted members of the Federal Council. This report, which will be published in "A.R.," presents an impressive testimonial to the work of F.E. and the members of Federal Council.

Max Hull was elected Chairman of the Convention and before commencing to discuss the agenda items, one minute's silence was observed in memory of the late John Moyle (VK2JU) and Doc Barbier (VK5MD) for their untiring work on behalf of Australian Amateurs in general.

The 55 agenda items were grouped into sections to enable subjects of similar nature to be dealt with more efficiently. The sections of the agenda

were: (a) Constitution items, (b) Policy items, (c) Administration items, (d) I.T.U. items, (e) P.M.G.—Regulations, etc., (f) Contest items, (g) Magazine items by VK3 Division.

The agenda encompassed all the fundamental aspects of Amateur Radio, requiring the Convention to sit for long hours in order to deal with the mass of details involved. In four days the Convention actually sat for more than 30 hours.

On the Saturday night a Convention Dinner was held at a local restaurant, enabling the members of the Convention and local Division to get together informally and enjoy themselves. The VK4 delegate was intrigued by the baked bananas and pineapple served and concluded they were served to make him feel at home. The Dinner was enjoyed by all attending and the discussions following it were very informative.

After all the agenda items had been dealt with, the Convention was opened for general business. The items arising in general business were mostly held over because of the lack of time. Despite the time problem, the traditional informal discussion took place after the Convention closed.

The date of the next Convention was fixed at Easter 1963. VK3 offered Melbourne as the venue, but urged Federal Council to consider Sydney as the Convention site if VK2 wished it to be held there and if financial arrangements did not preclude it.

The Chairman (Max Hull) delivered his closing speech, repeating his thanks to Ron Hugo and the VK6 Division for the success of the Convention. He thanked everybody connected with the smooth running of the Convention and finally officially welcomed Bill Mitchell as the President, pledging all his support to him and other members of F.E.

Following the Chairman's closing remarks the delegates made their final comments.

Bert Hinkler (VK4 delegate) praised F.E.'s work and welcomed Bill Mitchell as the new President.

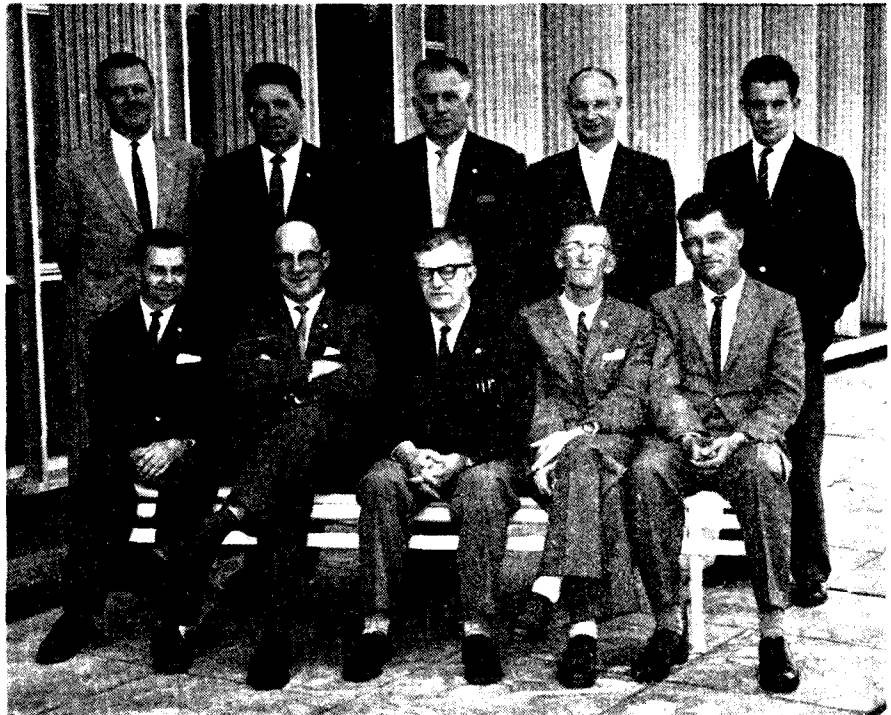
Ron Hugo (VK6 delegate) answered for all VK6 Division to thank the President and Federal Council for the opportunity to repay the hospitality he has received at past Conventions.

Pierce ("Cupid") Healy (VK2 delegate) also thanked Ron and the VK6 Division. He congratulated Max Hull on his leadership during his four-year term as President, during one of the most troubled periods for Amateurs in this country and hoped Bill Mitchell would have smoother times during his Presidency.

Alan Elliott (VK3 delegate) expressed his and VK3 observer Michael Owen's pleasure at being present at the Convention and their thanks to F.E. He also complimented the host Division on its hospitality.

Ted Cruise (VK7 delegate) expressed his agreement with all the previous speakers, also complimented Jay Lan-

(Continued on Page 15)



FEDERAL CONVENTION AT PERTH, EASTER 1962

Back row (left to right): Phil Williams, VK5NN; Ted Cruise, VK7EJ; Pierce Healy, VK2APQ; Alan Elliott, VK3AEL; Michael Owen, VK3ZEO (VK3 Observer). Front row (left to right): Ron Hugo, VK6KW; Max Hull, VK3ZS (Federal President and Chairman); Bill Mitchell, VK3UM (Federal Vice-President and President-Elect); Jay Lancaster, VK3JL (Federal Secretary); and Bert Hinkler, VK4AO. Photographer: Jim Rumble, VK6RU (VK6 Observer).

W.I.A. FEDERAL PRESIDENT'S ANNUAL REPORT, 1961-62

It is again my pleasure to present the President's annual report on the activities of the Amateur Service and the work of the Wireless Institute of Australia over the last year.

At the time I presented my last annual report the recommendations of the Radio Frequency Allocations Review Committee, which was a special Ad Hoc Committee set up by the Postmaster-General (Hon. C. W. Davidson, O.B.E.) to review the allocation of frequencies to Australian Communications Services in the light of decisions reached at the International Telecommunications Union Conference in Geneva in 1959, was imminently to be placed before the Government.

Subsequently the Government reviewed the recommendations of this Committee and accepted them in their entirety, the sections of the frequency table concerning the Amateur Service being notified to Federal Council at the time. I am now pleased to advise that the implementation of the section of the recommended frequency table of direct concern to the Amateur Service will become effective as from 1st July, 1962.

This has been a great achievement and our thanks go to the late John Moyle, Mr. Arthur Tinkler, past and present members of the Federal Executive and Officers and Councils of the Divisions, all of whom gave so much of their time and effort to fight the case for the retention of our frequency allocations.

Details of the Amateur Service Frequency Table and types of emission permitted in respect of each band will be found on page 1 of this issue. In this regard the P.M.G. Department has advised the Institute that, in view of the projected changes, it will replace all existing Amateur Station licences with new documents which will incorporate the information contained in the statement and these will be issued prior to the implementation of the new table. I understand these details will now also be included in the new Handbook for the Guidance of Operators of Radio Stations in the Amateur Service.

The Federal Executive met sixteen times during the past twelve months, which included two special meetings in connection with the forthcoming Convention and Constitutional matters. The attendance of members was excellent which indicated to me the sincerity and interest taken by each member in the general proceedings of the Executive and the individual work assigned to them. At this point I would like to extend my personal thanks to them for the support they gave me during the year, in particular Mr. Bill Mitchell (VK3UM), who acted as Minute Secretary as well as carrying out the extensive duties of Business Manager, and Jay Lancaster (VK3JL), who ably carried out the duties of Federal Secretary with most satisfactory zeal in a little over a year of office. Copies of the Minutes of all Federal Executive meetings were regularly forwarded to the Federal Councillors in each Division and I trust each Council subsequently received reports from their Federal Councillors to keep them apprised of the work of the Executive.

The Federal QSL Officer, Mr. Ray Jones (VK3RJ) again looked after the sorting and distribution of inward QSL cards with the usual efficiency he has applied to this task for many years.

In my report last year I expressed some disappointment at the number of messages handled on the Federal Traffic Channel in relation to the effort spent by the Traffic Officers in maintaining schedules every Monday night. This has not improved greatly and I would again like to stress with Federal Councillors that the use of a channel for this purpose has been permitted by the P.M.G. Department to facilitate urgent activities in relation to Wireless Institute administration, and for this reason I would like to see it used more often. Recently the P.M.G. Department investigated the operation of the channel and have permitted its continued operation. Mr. Reg Jepson (VK3JI) ably handled Federal Traffic when directed to the net, but it is with regret I have to advise that, after so many years of faithful service as Federal Traffic Manager, Reg has had to resign from the post. In the interim, as well as sorting QSL cards, Mr. Ray Jones has offered to take over operation of the Federal Traffic Channel.

The Federal Contest Committee again completed an excellent year's work organising, checking and computing the results of the various Contests under the jurisdiction of the Federal Council. It was gratifying to note the continued increasing interest in the Contests, particularly the National Field Day Contest which was more popular this year than has been evident for a number of years. With

the increasing use of the compact transistorised equipment for mobile and portable operation even greater participation can be envisaged in future Contests. With the probability that the late John Moyle's name will be attached to this Contest, it is hoped that the Contest will reach the same popularity level as the Remembrance Day Contest.

The Remembrance Day Contest itself was again the most popular Contest of the year and congratulations go to the VK6 Division for gaining first place. The certificates have been delayed this year due to a hold-up in printing because the finished art work for the certificate was not satisfactory and a new design has now been completed which I feel safe in saying will be one of the finest certificates issued by the Wireless Institute and should serve as encouragement to Amateurs to compete in the Contest for a "prize winning place".

Dave Rankin, VK3QV, has satisfactorily represented the v.h.f. Amateurs on the Federal Executive. V.h.f. activity has continued to expand in all Divisions and several records have been created during the year. The VK6 State record was made between VK6BE and JA8BF over a distance of 5,490 miles. The Australian 144 Mc. record has been beaten by 20 miles by VK2ASZ (portable) operating from Mt. McAllister over a confirmed path of 1,342 miles to ZL5AQ in Ashburton, New Zealand, the previous record being held by VK5GL and VK6BO over a path of 1,322 miles in 1951. I understand that even better contacts have been achieved but they have not been officially reported and checked. Because such activity is of importance in the field of Amateur communications, both nationally and internationally, I would like to suggest that Federal Councillors maintain liaison with the V.h.f. Groups with a view to maintaining regular and official reports on long distance communications to the Federal V.h.f. Officer so that complete records can be kept.

It is interesting to note also that a growing interest is evident on 288 Mc. In January 1961, VK3ZCG and VK5AW made contact over a path of 262 miles. Here is a fertile field for Amateur experimentation and we hope to hear more about activity in this part (and upwards) of the frequency spectrum.

There has again been an upward trend in the issuance of L.A.O.C.P. Certificates and at the present time L.A.O.C.P. licensees are increasing over A.O.C.P. licensees by 2.3%. At this rate in 40 years time there will be as many L.A.O.C.P. licence holders as there are A.O.C.P. licence holders.

It will never be the desire of Amateurs generally that the lower frequency bands diminish in popularity and therefore a close watch each year and statistical records will be maintained in order that periodic "drives" can be made to encourage a percentage of L.A.O.C.P. licence holders to take their Morse code examinations.

The official W.I.A. broadcasts continued satisfactorily throughout the year and those which could regularly be monitored in Melbourne indicated a distinct upward trend in standard. The presentation of material by the announcers was of a higher order and many commendatory remarks have been heard in relation to the interesting programme material which has been evidencing itself in the broadcasts. The increasing use of tape recorders has also facilitated the presentation of the broadcasts which at all times should set the standard.

After countless hours of preparation of material in support of a request to the P.M.G. Department for the introduction of a Novice Licence, this has again been refused by the Department and a copy of the correspondence in this regard will be forwarded to the Divisions in due course. Although this is disappointing, further representations will be made at a later date in view of the reasons supporting the refusal being unsatisfactory to the Institute.

Slow Morse Transmissions continued in most Divisions and are proving of great benefit to those studying for the A.O.C.P. and requiring additional practice. Although remarks are occasionally heard that an operator receives no call back after his transmission as an indication that it was taken down by the listeners, I believe that generally speaking these transmissions are of value and should be maintained as a service to members and prospective Amateurs. In this regard I would take this opportunity to remind Divisions that under provisions laid down by the Department in relation to permission to transmit slow Morse, any cessation or recommencement of the transmissions from time to time should be notified

to the Wireless Branch in the State concerned and the Federal Executive.

Last year I said that VK3WIA would be on the air with regular transmissions. Due to circumstances prevailing it has not been possible to complete this project and the transmitter has now been moved to the residence of the Federal Treasurer, Mr. Bob Boase (VK3NI), where work is progressing to complete the installation. Two unwanted masts were kindly donated by members of the Federal Executive and these are in the process of being stripped and repainted prior to erection.

Representatives of the Federal Executive conferred with the P.M.G. Department during last September regarding amendments to the Handbook for Guidance of Operators of Amateur Wireless Stations, and a number of anomalies were removed. In accordance with the International Telecommunications Union reference to Amateur transmitters, the new issue of the Handbook will be known as The Handbook for the Guidance of Operators of Radio Stations in the Amateur Service, sections therein being amended accordingly.

Our official journal, "Amateur Radio," has continued to progress and no doubt the improvements in format have been noted. The Publications Committee have put a most worthwhile effort into these improvements, including a most attractive cover, but it is only by advertising support and sales of the magazine that they can be maintained. I would like to think that each Division would make an all out effort to increase sales of "Amateur Radio" in their State and in this regard really rejuvenate the Sub-Editor system which was agreed to as a Federal Policy many years ago.

Although Australian Amateurs have not, at this stage, been able to participate very much in the Oscar satellite tracking projects conducted by the A.R.R.L., the entire project has been followed with keen interest. There has been a request for Australian participation and I currently am advised that VK2HO has been appointed by the Oscar Organisation as co-ordinator for all reports from VK Amateurs who are able to track the satellites. In Australia we have neither the number of Amateurs nor the finance to implement such projects ourselves, but it is pleasing to contribute assistance by those who are able and willing and our congratulations are extended to VK2HO.

Amateurs once again were of value with Emergency Communications during the January Victorian bush fires which devastated a wide area of the Dandenong Ranges, maintaining important v.h.f. links between control points and mobile vehicles and the Country Fire Authority Headquarters in Melbourne. The press and radio carried many reports of chaos with communications and confusion of authority and the experience pointed up many weaknesses generally in the existing communications networks, both Amateur and Commercial which, whilst in no way detracting from the able service rendered by those Amateurs involved, did prove that W.I.A. organisation needs overhauling if we are to maintain a useful service in such emergencies. Nevertheless, the Amateur Service showed its worth to the community despite some confusion and the following final message to the Institute from the Chief Radio Officer of the Country Fire Authority speaks for itself:

"Express appreciation to the Wireless Institute of Australia for magnificent co-operation with the Authority over past few days. You worked unsparingly during the crisis, and we admire your efficiency and equipment. We will always call on you in the future for help. Thank you for setting up this important link today."

Despite modern precautions, emergencies such as the Victorian bush fires are always imminent and therefore the usefulness of an organised Emergency Network should never be permitted to lag. In official Defence circles there has been a lot of "messaging around" hence our W.I.C.E.N. organisation. Federally, has not perhaps progressed as far as it should have done. I have asked Mr. George Glover (VK3AG) to submit a report on the current position which you will hear later in the proceedings of this Convention. In the meantime I can report that Mr. Glover will be sending out the official W.I.C.E.N. Identification Cards for use by W.I.A. Emergency Networks which should serve to get rid of one of the problems when emergencies arise—that of authority to enter the emergency areas.

However, such identity cards cannot be handed out indiscriminately and it is therefore mandatory that each Division properly form

its W.I.C.E.N. Network into an operating machine which will be trained in procedure and network operation to co-ordinate with whatever organisation is authorised or in control of the emergency, so that chaos and confusion just cannot exist. In this way the Amateur Service can be of real value and be an officially recognised Emergency Service. Essentially this problem remains with individual Divisions to implement its own organisation following a standard pattern set down by the Federal Executive many years ago, the general procedure for which has never changed in its general aspects.

The entire gamut of Amateur interests, as briefly touched on in this report, and many others which time and space precludes me from including, is obviously centred around membership. Our Institute is still growing but there are many more aspects to be fostered and encouraged before we can really say we are out of our teenage. Many dozens of zealous Amateurs in the past have paved the way for the current growth of the W.I.A. but it is only by membership that we can hope or expect to progress further. At the present time, from an approximate total of licensees in Australia, only 53% are members of the Institute. This is a position which must be improved upon and it is up to the Federal Council of today to take stern stock of the situation with a view to implementing changes which will bring about a "Change-of-heart" by those Amateurs who, for reasons of their own, don't want to support the Society which has done so much to preserve their domain for them. I believe this can only be done by a change in the constitutional set-up of our organisation—and this will be under discussion during the Convention—and added attractions in general activities which will encourage Amateurs to join.

As at the end of February 1962 the State membership figures were as follows:—

	Full	Associate	Total
VK2	801	442	1243
VK3	619	116	735
VK4	210	79	289
VK5	287	185	472
VK6	162	35	197
VK7	103	71	174

These figures—which neglect VK1, VK8, VK9 and VK0—show a total of 2,182 full members and 928 associate members, making a total membership of 3,110 which shows only an increase of 200 since the last Federal Convention held in Melbourne in 1959, although in actual fact they all members increased by 269 and the associate members dropped by 69.

But let us have a look at the total number of licensees in the Commonwealth—

VK2	1377
VK3	1342
VK4	449
VK5	520
VK6	297
VK7	156

This shows a total of 4,141, again neglecting VK1, VK8, VK9 and VK0.

Now I commend this matter of membership to the serious study and the direct concern of the Federal Council. All the administrative work, both by Councils and the Executive, goes for nought if the membership is not there, and I believe our activities are worth more than a 53% membership of the total licensees, even if it means scrapping our present-day system or at least thoroughly overhauling it. I don't propose at this stage making suggestions about how it should be done, but I believe it can be done and must be done and this very Convention held here in Perth during the year of the British Empire Games could easily be the chopping block and the commencement of a new era. I sincerely hope it is because, and let us face facts, the problems ahead in the world of communications have only commenced to be a problem on a world-wide basis, and if we don't plan our organisation now to combat the problems of tomorrow, we shall have only ourselves to blame. Don't take this attitude as "defeatist" for that is farthest from my mind, but the obvious and irrefutable facts of the world's communications problems are there for anyone to see.

The day of parochialism has passed us by. We must all think on a national basis. We must think in terms of making our Institute, not just our Division, the powerful voice of the Amateur Service. The activities of every Division of the Institute, I believe, must be so integrated with each other and with its Executive body that we speak as one voice in the future defence for the existence of Amateur Radio. Such unification can only be reached by membership because membership not only provides the finance, but the personnel to carry out the work, and I therefore commend to the earnest attention of every Division

of this Institute the importance of increasing the 53% membership it has of the 4,000 odd licensees in this country.

This is the conclusion of my fourth year as your Federal President—four years I have thoroughly enjoyed, particularly the years of our fight for the retention of the frequencies assigned to the Amateur Service.

I would like to take this opportunity of thanking all those members, past and present, who have served on the Federal Executive and the Divisional Councils during my years as President for their loyal contribution of time and energy in the interests of our great and unique hobby. After eleven years on the Federal Executive I am fully aware of the effort which must be made by all who take

up office in the administration of an Institute like ours which must reach the length and breadth of our great Commonwealth and I admire and appreciate the work that has been done.

At the conclusion of this Convention, Mr. Bill Mitchell (VK3UM) will occupy the chair of the President of the Wireless Institute of Australia, and I would like to extend to him my sincere wishes for a successful term of office and to offer to him and the other members appointed to the Executive for the ensuing year my loyal support as Vice-President. May the Institute and the Amateur Service ever prosper.

—G. Maxwell Hull,
Federal President, W.I.A.

WIRELESS INSTITUTE OF AUSTRALIA—FEDERAL EXECUTIVE

Balance Sheet as at 28th February, 1962

Current Liabilities:		Current Assets:	
Accounts payable	£18 14 0	Commonwealth Savings	
Convention Fund	804 19 4	Bank	£1268 9 7
Trust Fund	150 8 8	Accounts receivable ..	516 8 0
I.T.U. Fund	434 10 8	Stock on hand	244 17 4
	£1408 12 8		£2029 14 11
Accumulated Funds:		Fixed Assets (at cost, less depreciation):	
Balance 1st March, 1961	£689 3 6	Furniture and Fittings	£16 19 10
Add Surplus of Income over Expenditure for year	181 14 7	Typewriter (No. 1) .. .	13 15 0
	870 18 1	Typewriter (No. 2) .. .	21 15 0
		Duplicator	130 10 0
		Trophies	18 18 0
		Equipment—VK3WIA .. .	48 0 0
			249 15 10
	£2279 10 9		£2279 10 9

We have examined the books and vouchers of the Wireless Institute of Australia (Federal Executive) for the year ended 28th February, 1962. In our opinion the above Balance Sheet is properly drawn up so as to give a true and fair view of the affairs of the Federal Executive as at 28th February, 1962, and the attached Income and Expenditure Account is properly drawn up so as to give a true and fair view of the results for the year ended on that date.

Stock on hand at 28th February, 1962, has been accepted on the Certificate of the Treasurer. Melbourne, 19th April, 1962. David Fell & Co., Chartered Accountants.

WIRELESS INSTITUTE OF AUSTRALIA—FEDERAL EXECUTIVE

Income and Expenditure Account for year ended 28th February, 1962

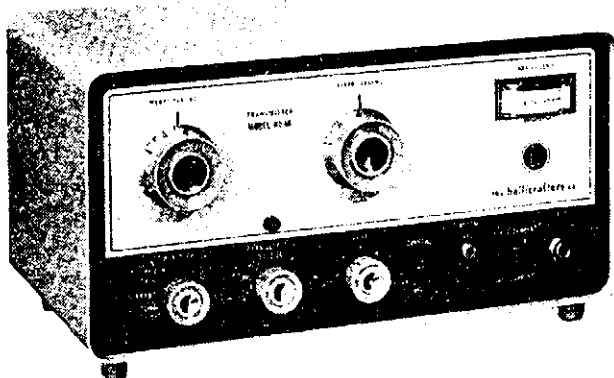
EXPENDITURE		INCOME	
Depreciation	£27 10 6	Per Capita Payments .. .	£316 14 0
Maintenance	8 12 6	Profit on Sale of Log Sheets and Badges	35 0 10
QSL Bureau Expenses .. .	8 0 0	Bank Interest	32 9 5
DXCC Expenses	3 13 1		
Postage and Telephone .. .	20 9 10		
Printing and Stationery .. .	89 2 7		
Insurance	11 2 10		
Licence—VK3WIA	1 0 0		
Cartage and Storage	19 1 10		
Recording Tapes	13 10 0		
Surplus of Income over Expenditure	181 14 7		
	£384 4 3		£384 4 3

WIRELESS INSTITUTE OF AUSTRALIA—FEDERAL EXECUTIVE

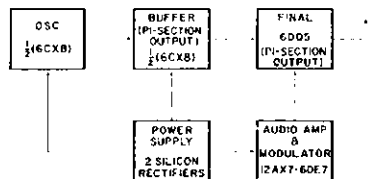
Statement showing Movements of Funds for year ended 28th February, 1962

CONVENTION FUND:		
Balance in hand as at 1st March, 1961		£11 11 10
Add Contributions—Special from Western Australia .. .	£300 0 0	
Regular from—New South Wales	£178 0 0	
Victoria	142 0 0	
Queensland	80 0 0	
South Australia	65 0 0	
Tasmania	35 0 0	
	500 0 0	800 0 0
Less Expenses—Printing for Convention		£811 11 10
		6 12 6
Balance in hand as at 28th February, 1962		£804 19 4
TRUST FUND:		
Balance in hand as at 1st March, 1961		£102 1 7
Add—Sales of "Call Book Magazine"	£37 12 0	
Profit on Sales of "A Guide to Amateur Radio" .. .	10 15 1	
		48 7 1
Balance in hand as at 28th February, 1962		£150 8 8
INTERNATIONAL TELECOMMUNICATIONS UNION FUND:		
Balance in hand as at 28th February, 1962 (unchanged) .. .		£434 10 8

HALLICRAFTERS



HT-40 BLOCK DIAGRAM.



MODEL HT-40 TRANSMITTER

Hallcrafters HT-40 is a carefully designed c.w. and a.m. transmitter with features as important to old timers as they are to novices. Its compact size and light weight are ideal for use when space is at a premium. A perfect match for the SX-140 Receiver. And, last, but not least, band coverage of 80, 40, 20, 15, 10 and 6 metres. HT-40 (factory wired). HT-40K (kit).

FEATURES

- ★ Full 75 watts peak input; a.m. slightly less on 6 metres.
- ★ Six-band output (80, 40, 20, 15, 10 and 6 metres).
- ★ Two modes of transmission—c.w. and a.m.
- ★ Distortion on amplitude modulation less than 8%.
- ★ Hum and noise on the carrier down 35 db. or more.
- ★ Modern styling.
- ★ TVI-filtered.
- ★ Crystal controlled with provision for use of external v.f.o.
- ★ 52 ohm tunable pi network output for harmonic suppression.
- ★ Dual range meter for accurate tuning and carrier level adjustment.
- ★ Ideal c.w. keying.
- ★ A.m. modulation built in.
- ★ Matches SX-140 receiver for styling and band coverage.
- ★ Tubes and functions:—
 - 6DQ5 power output amplifier.
 - 6CX8 oscillator - multiplier-buffer.
 - 6DE7 audio amplifier-modulator.
 - 12AX7 microphone pre-amplifier - first audio amplifier.
 - Also two high efficiency silicon diode rectifiers.

Front Panel Controls:

- Function: Power Off, Tune, Stand-by, A.m., C.w.
- Band selector: 80, 40, 20, 15, 10, and 6 metres.
- Drive: Cannot tune to harmonics of desired output signal.
- Crystal-V.f.o. Switch.
- Crystal-V.f.o. Pin Jacks; accommodates Crystal or V.f.o. input.

- R.f. Output-Grid Current Switch, permits meter to read grid current or r.f. output.
- Key Jack, permits easy connection of the T.o. Keyer or Hand Key to the Transmitter.
- Plate Loading 0-100. Permits adjustment of plate loading to match antenna impedance.
- Plate Tuning. Adjusts final tank circuit to desired operating freq.

Rear Chassis Control and Connectors:

- Co-axial Antenna Connector.
- Microphone Connector.
- Microphone Gain Control.

General:

- Grey Steel Cabinet.
- 13½" wide x 8½" deep x 6½" high.
- Weight: 19 lbs.

Price (tax included) £93-6-1

Sole Australian Representatives:

W.F.S. ELECTRONIC SUPPLIES CO.
225-7 VICTORIA RD., RYDALMERE, N.S.W. Phone 08-1715

Sole Victorian Agent: **ELECTRONIC SERVICES**, Douglas Street, Noble Park, Vic. Phone 746-8446

Sole South Aus. Agent: **TELEVISION & RADIOTRONIC CO.**, 11a Gays Arcade, Adelaide

Sole Queensland Agent: **GENERAL IMPORT DIST.**, 135 Lutzow Street, Wellers Hill, Brisbane

Sole West. Aust. Agent: **NEIL JAMES & CO.**, David Jones Arcade, Barrack Street, Perth

THE MODMETER

(Continued from Page 3)

circuit for maximum gain. Now switch S1 to T and decrease the capacity of the 3-30 pF. receiver trimmer until the background noise only creates a small trapezoidal pattern on the c.r.t. screen. Only a small capacity will be needed for good response.

SETTING-UP FOR TRANSMIT

Adjust L2 for resonance in the required band and connect the external aerial to J2. Then alter the 100 pF. condenser in the 7193 grid for maximum pattern height on the c.r.o. Back off L2 until the vertical trace on the c.r.o. occupies about one half to one third the screen height.

PATTERN INTERPRETATION

It is suggested that the A.R.R.L. Handbook be consulted in order that the user can become familiar with the type of pattern presented on the screen of the "Modmeter".

GENERAL

If you take my tip and build this unit you will see, as I have done, why so many signals don't sound right. It will be very obvious how incorrect many Amateurs are when they say "You could do with more audio OM". In many cases the station concerned is already peaking over 100% modulation! Furthermore, you will also see that many stations only peak 50-60%, then wonder why they do not receive flattering reports.

The main point is that with the "Modmeter" you know just how you are modulating, hence can avoid the offence of over modulation. (In addition, you can listen to your own horrible audio before criticising the poor quality from the other station.)

By using an external aerial for "transmit" the "Modmeter" becomes a versatile and accurate field strength meter. It will enable you to load your rig for maximum radiated power, and not rely upon plate current meters, pea lamps, etc. When used for loading and tuning adjustments, I have found the "Modmeter" enabled me to eliminate harmonic radiation which was previously quite strong some half mile away from the station.

Using the "Modmeter" to give truly candid reports to the other station may not be in the best interests of winning friends—but you can be assured your signals are clean.

For those who use c.w., a transistorised r.f. powered b.f.o. could readily be constructed to fit into the "Modmeter" case, so enabling you to possess a complete monitor.

Should you require additional details you may contact me on 20 or 40 metres, or use the 600-ohm lines.

From the foregoing you will have gathered that I am really wrapped up in the virtues of the "Modmeter", and believe me, after you have built your unit, you will wonder why you ever thought they were just a gimmick.

I look forward to seeing you on the band, but watch your modulation, as I will be!

[This article has been based upon an idea originally presented by "CQ" Magazine, under the title of the "Monoscope".—Editor.]

Technical Correspondence

ERRATA—"FOR 288 Mc. ENTHUSIASTS"

Editor "A.R." Dear Sir,

Some errors and omissions have unfortunately occurred, both in the original "Bulletin" article and its subsequent "A.R." counterpart.

C1 is referred to in the text, but is not specified on the circuit diagram. It is the 100 pF. from crystal to ground.

The plate decoupling resistor of the pentode section of the 6BL8 should be 2.2K, not 22K.

Similarly, the 832A tripler grid resistor should be 47K, not 4.7K.

Some coil data is missing. In any efficient multiplier chain, proper L/C ratios are of the utmost importance.

L1 is 30 turns, No. 33 B. & S., on an Aegis 1/2" diam. slug tuned former in miniature can.

L2 is 6 turns, No. 18, on 1/2" diam., with turns spread so that 48 Mc. drive to the triode section can be peaked with the 25 pF. trimmer just meshing.

L3 is 4 turns, No. 18, on 3/8" diam., as is each half of the 832A tripler grid coil.

For the various currents specified, h.t. is 250v.

Addenda.—In the interests of efficiency, all fixed C should be mica, and the trimmers air dielectric with ceramic insulation. A PTFE tube socket is preferred.

Sorry all this information was not in the original article (which was a report of part of a lecture).

—Bob Roper, VK5PU.

R.D. CONTEST, 1962

The Remembrance Day Contest will be held on Saturday, 18th, and Sunday, 19th August, this year. Owing to lack of space, the rules have been held over until next issue.

IT HAS BEEN SAID . . .

"We, all of us, have our own way of doing what we feel to be our best. No amount of exhortation on my part will change this in regard to Institute activity. During the past eighteen months, as Divisional President, I have urged, cajoled, and exhorted members in what I have felt to be the best interests of Amateur Radio movement, the W.I.A., and the N.S.W. Division. The amount of useable reaction produced can only be classified as minute.

"Two years' service on Council is more than average for the N.S.W. Division. This is in striking contrast, for instance, to the Victorian Division where Councilors go on for year after year, almost like the proverbial brook. Perhaps service on the N.S.W. Council is more rigorous: or would 'hazardous' be a better word?"

—President, N.S.W. Div., Bill Lewis, VK2YB.

LICENSED HUSBAND AND WIFE COMBINATION

The Bundaberg Radio Club, wishing to publicise and propagate the interest of Amateur Radio, publicised in the local press that we believed Mrs. Jocelyn McGrath (who has just obtained her full Amateur licence) and Rusty 4JM to be the only husband and wife full licence combination in Queensland and probably Australia (There are others in Australia—Ed.), and also that Jocelyn was the only fully licensed XYI in Queensland. The club would greatly appreciate news of any other husband and wife combinations or fully licensed XYLs. We believe it is time more XYLs took to Amateur Radio and, in fact, Bundaberg has two XYLs in its present class of 24 students.

So any combinations mentioned above, let's hear from you please. We need you to bolster our publicity campaign to fill those bands, which we are forever fighting to hold, with new recruits.—VK4MZ.

FEDERAL CONVENTION, 1962

(Continued from Page 11)

caster on his efforts as Federal Secretary.

Phil Williams (VK5 delegate) claimed the other speakers had left him nothing to say. He complimented VK6 on the arrangements for the members of the Convention.

Bill Mitchell, the new Federal President, stated he has attended eight Conventions so far, and the 1962 one was the best he can remember. The conference room made available by the co-operation of the Australian Broadcasting Commission enabled the conference to be held in comfortable and suitable surroundings. To the host Division he gave his thanks for the arrangements for the Convention and setting a standard for following host Divisions to aim at. He also expressed Federal Executive's thanks to all Council members and stated his wish to be able to serve the W.I.A. as ably as Max Hull has done in the past.

The Convention finally broke up at 5 to 7 on Monday evening, after one of the most extensive studies of Amateur Radio in recent years. While the decisions of the Federal Council will no doubt be detailed elsewhere, the spirit of friendly compromise impressed the writer as perhaps the outstanding feature of this Convention. While this spirit exists between the Divisions, one has little doubt as to the future of our Federal body.

—Alyn VK6ZDM.

W.I.A. D.X.C.C.

Listed below are the highest twelve members in each section. New members and those whose totals have been amended will also be shown.

PHONE

Call	Cer. C'nt- No. ries	Call	Cer. C'nt- No. ries
VK5AB	45 266	VK6KWW	4 206
VK6RU	2 260	VK3ATN	26 204
VK6MK	43 252	VK4HR	12 192
VK3AHO	51 236	VK4RW	23 184
VK4FJ	21 230	VK3BZ	3 178
VK3WL	14 211	VK4WF	16 173

New Member:

VK2AAK 58 100

C.W.

Call	Cer. C'nt- No. ries	Call	Cer. C'nt- No. ries
VK3KB	10 300	VK6RU	18 222
VK3CX	26 288	VK4HR	8 218
VK4FJ	29 269	VK3XU	48 213
VK3NC	19 255	VK7LZ	17 212
VK3FH	15 228	VK3YL	39 211
VK3BZ	6 222	VK2AGH	71 204

New Member:

VK5NQ .. 73 164

Amendments:

VK3ARX 66 179 VK7SM .. 72 122

OPEN

Call	Cer. C'nt- No. ries	Call	Cer. C'nt- No. ries
VK2ACX	6 300	VK3HG	3 241
VK6RU	8 276	VK3AHO	78 238
VK4FJ	32 275	VK4HR	7 233
VK3NC	77 260	VK3BZ	4 231
VK6MK	74 256	VK3JA	43 229
VK2AGH	83 252	VK3WL	45 225

New Member:

VK3TL .. 85 100

Amendments:

VK5NQ .. 81 176 VK7SM .. 84 141

W.I.A. QUEENSLAND DIVISION CONVENTION

Threatening weather cleared to allow the sun to shine on the W.I.A. Queensland Division Convention for 1962, held on April 14 and 15 at Alexandra Park, Alexandra Headland, on the near North Coast, about 70 miles from Brisbane. The site was a hostel, a huge old building, with a large recreation hall behind a large parking area at the rear where it was decided the stations should be set up.

The first to arrive were Peter 4PJ and XYL, Vic 4ZBT and XYL, Garry Franks, Vince 4VJ and just in time for a meal, Leigh 4RH (with XYL, harmonics and friend, Mrs. Andrews), all the way from Clifton. Not much progress was made in getting on the air until the arrival of Gil Bertram with an aerial system, three modern Hallcrafters rx's and a sideband transmitter.

Saturday morning was spent preparing for the visitors headed by Bill 4WX and friend. Most seemed content to settle in and examine the equipment until after lunch when competitions were programmed. Of course, 4W1 was on the air most of the time making many contacts, mostly with those wanting to pass their good wishes to the Convention.

Eric 4XR arrived in time to conduct the Wide Bay and Burnett Branch's Saturday afternoon hook-up from the Convention and caught in his net quite a few stations. Leigh 4RH, who always comes well prepared, won the all-band scramble from Neal 4WW, who will be trying for the lead next year. A hidden tx hunt run by the V.h.f. Group was won by Ron 4ZBZ in 15 minutes.

Three minutes was all Vic 4ZBT needed to win the blindfold tx competition, but Joan (4RZ's XYL) took only 1½ minutes to take the women's section. An equipment inspection competition attracted much interest, and winner Ken Chiverton's entry of an all-band rx and two converters was admired and envied by all rivalling the finish and appearance of commercial equipment. Someone remarked it looked too good to work but work it does.

The 2 mx mobile of Vic 4ZBT was second in the competition judged by Pat 4KB and Harry 4HB.

Among the long distance travellers who registered on Saturday were John 4PU from Kingaroy and Bill 4SW (also XYL and harmonics) who came all the way from Maryborough for a few hours. Hope you can stay longer next time, Bill.

After the evening meal and much dragging of persons from the Hallcrafters, a barbecue was held to the moans of 30 people who said they couldn't eat more. Somehow, 60 bread-rolls, 60 sausages and 10 lbs. of steak disappeared. Another try at the equipment and those who hadn't gone to bed were ready to call it a day.

Early risers on the Sunday roamed the ether for Alf 4OL on his way from Brisbane with

the news. He was talked in to the Lifesaving Clubhouse but soon found the more modest quarters opposite. A crash midway through the W.I.A. broadcast signalled the arrival of Jim 4HZ from Gympie. Leigh 4RH got the greatest number of contacts in another all-band scramble and Dane 4ZAX took out another hidden v.h.f. tx hunt at the same time.

About 11 o'clock came the first time to get everyone together to ask when and where the next Convention should be held. The opportunity was taken to wish a good and profitable trip to Bert 4AO, off to the Perth Federal Convention. Organiser Vince 4VJ was given a vote of thanks for his efforts in organising the Convention. A simple W.I.C.E.N. exercise (h.f. and v.h.f.) kept everyone busy until lunch.

More blindfold tx competitions were planned for after lunch, but there was no time. Eric 4XR later presented prizes. Those not mentioned earlier: Best DX, Leigh 4RH; most dis-

tant visitor, Leigh 4RH. Matters decided since are: Greatest number of contacts by club or branch, Wide Bay and Burnett Branch; most distant club heard, Townsville; greatest number of contacts to Convention, George 4GG.

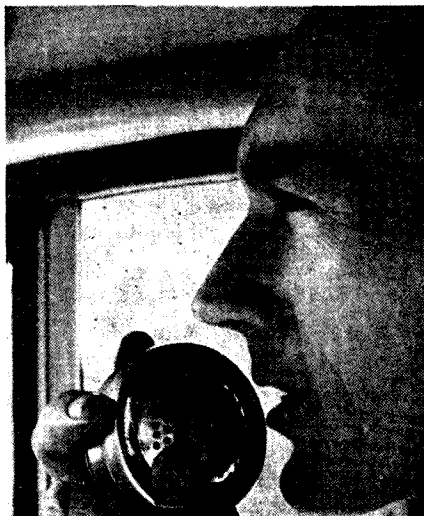
The final event, auctions of lots of equipment, donated by Evan 4EF and John 4RZ, attracted a lot of interest. Their donations and the efforts of auctioneer Eric 4XR, helped by Graham 4ZGN and Bob Campbell, brought the Division £207/-. More than 80 people passed through the Convention during the week-end and thanks go to all who had a hand in making the Convention much more than simply a financial success, which it was.

Associate Gil deserves special mention for his display of Hallcrafters equipment and his allowing members to test it. This, for young and old alike, was a dream come true, short lived perhaps, but not shared by too many in these parts. We hope the interest displayed rewarded you for your effort, Gil, and thanks again.

Brisbane trade houses deserve thanks too for the large quantity of technical literature supplied. Their effort was well received, and even city members remarked that they would have spent many hours to assemble the literature they received in minutes.

Those who registered were: 4PJ and XYL, Vic 4ZBT and XYL, Juno, Garry Frank, organiser Vince 4VJ, Leigh 4RH, XYL and harmonic Chris, Mrs. Andrews, Gil Bertram, Bill 4WX and friend, Cress 4ZAO, Neal 4WW, Max 4HD, Bill 4WS and XYL Hazel and two friends, Pat 4KB, Harry 4HB, Ron 4ZBZ and XYL Val, Dane 4ZAX, Ken Chiverton, Bob 4RB, XYL and harmonics including Jim representing Ashgrove Boy Scouts Radio Club 4AH, Tom 4ZBH, John 4PU, Bill 4XO, Peter 4EB, Ron Rudder, John 4RZ and XYL Joan, Bob Campbell, Malcolm 4ZEL, Allan 4ZAW, Fred Baker, Graham 4ZGN, John Lind, XYL and harmonics, Bill 4SW, XYL and harmonics, Harry 4ZHG, Eric 4XR, Ken 4ZGH, Bob 4SR, Bill Tomlinson and XYL, Ron Grove, George Berry, Len 4ZBS, Jim 4HZ and XYL Neil, Laurie 4ZBL, Kev 4ZDK and XYL Dawn, John 4ZDJ and YL and friend, Alf 4OL, ex-Ham Len Worrell, XYL and harmonics, Bill Groves, Bert 4AO, XYL and harmonics, Ron 4EZ, XYL and harmonics, Albert 4LT, George 4ZDG and YL, Mr. Franks, Mr. and Mrs. Groves, and we hope we missed no one.

The Queensland Division is indebted to the following business houses for their generous donations for prizes and the supply of technical literature which went to help make the Alexandra Headland Convention so successful: A. E. Harrold, Philips Radio Industries, R. H. Cunningham, C. Pearce, Chandlers Pty. Ltd., Trackson Bros. Pty. Ltd., Warburton Frankl, General Imports Distributors, W.F.S. Electronics Supply, and Mullard-Australia Ltd.



Ron Feenaghty, VK4ZBZ, at the microphone while operating mobile at the W.I.A. Queensland Division's 1962 Convention which was held at Alexandra Headland.

13th NORTH COAST & TABLELANDS (VK2) CONVENTION

The 13th North Coast and Tablelands Convention, held over the Easter week-end, is now a very pleasant memory to all those who attended. Many who have been to past Conventions were on the air from their home stations during the nationally known "Scramble". Doubtless a contact with a portable station at Urunga brought them pleasant memories also, as they remembered the fellowship and fun for which the Convention is famous.

A total of 63 was recorded, composed of 37 licensed Amateurs, 6 associates, and 20 XYLs. Many "harmonics" were present, too, some of whom I can recall growing up over the years to be the modern teenagers that they are today.

The registration list reads as follows: With XYLs—VKs 2WH, 2ASZ, 2ER, 2FM, 2AHH, 2RU, 2PF, 2ACK, 2ACU, 2FP, 2IN, 2JR, 2AHA, 4WS, 2ACQ, 2OE, 2ABE, 2XO and 2NY. Without XYLs—4GG, 2GA, 2GI, 2AEY, 2ZCQ, 2MP, 2AAH, 2ZWC, 2ADV, 2GV, 2XT, 2WQ, 2ASW, 2PY, 2AWG, 2SB, 2ADN, and VS6BE. Associates—Tom Keane, Fred Reid, Norm Moody, Snow McAuley, Dave Harding and Perce Day and his XYL Edna.

The various competition results were as follows: 144 Mc. "warm up" hunt—1st 2XT, 2nd 2ASZ, 7 Mc. hidden tx hunt—1st 2AAH, 144 Mc. hunt—1st 2AHH, 2nd 2RU. "Urunga Scramble"—1st 2ACQ, 2nd 2XT. Ladies' rowing contest—Joyce White (XYL of 2AHA). The contests were all entered into in the true Amateur spirit, and the number of contestants was very gratifying.

Thanks are due to many people for the smooth operation of the Convention. Foremost amongst these are, of course, the organiser, Rod 2ACU

and his XYL Betty, together with Crieff 2XO and his XYL Jean. On these people fell the responsibility of ensuring accommodation needs were met with, and entertainments of all types were properly arranged. On behalf of the "boys" and "girls" I thank them sincerely. Rod will be leaving Urunga soon, and his assistance will be sadly missed in 1963, however Crieff has promised to do what he can to assist me with the 1963 Convention.

Unfortunately at every Convention, some have to work and miss the thrill of the contests, however there is great pleasure for the fox, watching the hounds from a vantage point and endeavouring to guess who will "get in".

Brian 2ZCQ and Fred Reid (Assoc.) have once again played their part by hiding one of the 144 Mc. tx's and the 7 Mc. tx. Their skill in making an interesting contest is evident by the fact that out of 10 competitors, only two made it in the 144 Mc. contest, and one in the 7 Mc. contest. Jim 2PM was good enough to hide a 144 Mc. tx to give all North Coast boys—including Brian and Fred—an opportunity to join the hunt. Jim had a cunning plan, as only two out of 10 made the grade. Thanks fellows, for your efforts, you certainly led the boys a chase.

Gordon 2ZWC acted as registration officer as Norm Dash was unable to come. Jack Gerard and Ted Hamey arranged entertainment and films, for which we sincerely thank them. A lot of other fellows did various jobs which I'm sure all went to make a successful Convention.

Thanks must also go to the citizens of Urunga, the R.S.L. Club and last, but not least, the

Urunga Progress Association, who have given sterling assistance over the years. 1963 will see some changes in the Convention. The Progress Association offered to take over some of the organising for they know the difficulties involved if there is not an on-the-spot organiser. Thank you, Urunga, for entertaining us.

The Council of the W.I.A. was represented by the Senior and Junior Vice-Presidents, 2AAH and 2MP respectively. I am sure these chaps were "ear bashed" consistently during the week-end and now have the problem of practicing out not only the desirability but the practicability of various suggestions that were made. In addition, they no doubt received many criticisms to consider.

The success of the "Urunga Scramble" is, of course, due to the support received from home stations. We sincerely thank the various stations who co-operated, particularly the numerous VK4s who participated.

The 1963 Convention will be held during the Easter week-end. New arrangements will be made regarding accommodation, and I hope to have an article published by the Education Officer on h.f. d.f. for the benefit of those interested in 40 mx hunts.

As the organiser for 1963, I would appreciate any suggestions (constructive), etc., from those who attend as to what they would like, as the Convention is for their entertainment.

Thanks to all those who attended the 1962 Convention, including VS6BE who called in whilst en route north.

See you in '63 chaps.
—N. A. Hanson, VK2AHH, Zone Officer, North Coast & Tablelands Zone.

DX

VP4, OA4, BV, ZM7, 7G1, FP, AC5, MP4, ZC6, TY2

Sub Editor: ALAN SHAWSMITH, VK4SS, (Phone 4-6526—7 a.m.—4 p.m.)

35 Whynot St., West End, Brisbane, Qld.

ADDRESS CORRESPONDENCE FOR THIS PAGE DIRECT TO THE SUB EDITOR

This month the 14 Mc. band has been open fairly consistently to Europe via the I.p. through South America, from about 0400 to 0800 hrs. G.M.T. This is pretty well true to form, but by the end of May this path on 14 Mc. should be on the way out.

Both the 40 and 80 metre bands are down somewhat on the previous month or two, and not much of any significance can be heard or worked.

In the mornings around 2000 G.M.T., it would seem that on 7 Mc. the southern VKs can work W on this path. However 14 Mc. is much better at this time with a variety of workable signals from Europe, America and sometimes Central and South America.

21 Mc. around 2200 hrs. G.M.T. has been irregularly letting a few signals through from the West in the form of Central and East Coast Americans.

NEWS AND NOTES

From the Florida DX Report there comes the news of activity from CR10 W stations have claimed to have worked CR10AB, CR10JS on the 14 and 21 Mc. band. QSLs are to go via W7VY. W7VY says, "It's news to me." (And it sounds phoney to me—Al.)

Did you work Gus W4BPD when he was operating as SATBW. By the time this is read he should have completed his expedition to VQ7. (More news on his next moves in the following issue.)

New Prefixes: 7G1 will be changed to 3X. Togo prefix will be changed to 5V should any activity occur from there.

Tibet: AC4NC has been heard and QSOed by several stations. Two frequencies are mentioned, 14048 Kc. at 1600 and 14004 Kc. at 2200. Beam headings seem to be correct, however so far we have no knowledge whether this station is OK and QSLs. AC4NC's being legitimate is doubtful. VU2MD says AC3NC is still in Sikkim and has been inactive for a couple of years. Also AC4AX last reported he saw no prospect of Tibet activity in the foreseeable future. K2GFQ reports AC4NC on 14052 at 1753z on Feb. 23. Frank Lucas, W3CRA, says he heard AC4NC coming through over Northern Europe from 2000-2100.

Danny's next stop will be one of the isles Starbuck, Flint, Vostok or Maiden. They stand a better chance for separate D.X.C.C. status than the Marquesas. On c.w., Danny mostly operates on 14065 Kc. usually between 2300-0100z; on s.s.b./a.m. the freq. is 14195 Kc. usually between 0100-0300z. Next stop will be the Manihiki group and then on to KS6. From there it's an easy jump to Apia in the New Samoan Republic should there be a chance that this nation could count as "separate". At this time decisions will be made for next stops which could include the Tokelau's, Wallis Isl., Tonga, etc.

Cocos Keeling, VK9LA, active around 1430-1530z, crystal controlled on 14017 Kc. with 20w.

Neutral Zone Palestine. W2CTN has just received a letter from 5N2KHK/ZD2KHK/NC. He is now about to come on the air as ZC-6UNJ. W2CTN will be handling the QSL chores. This is the U.N. Zone between Israel and Jordan.

9A1FQ gives his QTH as San Marino. He is probably phoney as legit stations are still using the MI prefix.

How's your c.w. operating ability. KV4AA, Dick Spenceley, is searching for a really good man to handle a DX-pedition into TR8, TL8, TY2, and 5V, etc.

(All the above news supplied by Florida DX Report, Editor W4CKE.)

Bill VK3AH0 writes concerning his forthcoming expedition to Wallis Island. Bill will leave Noumea in company with FK8AS during the first week of June 1962. Operation will be a.m. and c.w. by FK8AS and s.s.b. and c.w. by VK3AH0. Call used will be VK3AH0/PW8. QSLs are to go via W4ANE, but the handler for the VK QSLs is yet to be appointed. Frequencies are to be announced soon. Bill is a keen 80 and 40 metre man and will work those bands as long as conditions are favourable. (Please keep me posted Bill.)

Steve VK0VK is now home from the stormy seas and the wintry Antarctic wastes. But not for long. Before you read this he may be on his way to the States, where after a short stay he will be returning to the Antarctica where he promises Ham activity during 1963 with s.s.b. included. (More details later.)

CR4AR seems to be active on the 14 Mc. band on c.w. round 2030z, but difficult to reach because of the long European line-up.

Walter Plant, VQ4FO, is migrating to Australia to settle in Brisbane, in July. (Let's give him the Aussie welcome.)

Bro. Kinsella, VK3AXK, reports that there is a fair bit of good DX to be had on s.s.b. 40 mx at night our time. There's lots of Ws who have two and three element beams and S9 sigs to match. JAs are active and a few South Americans are being wkd. Best time for the latter should be around 1100 hrs. G.M.T.

Troubles and Danny Weil. The "Yasme" needs a new crankshaft. If he escapes the nuclear explosions, the next port-o-call is to be Flint Is. (VK3TL.)

ACTIVITIES

Frank VK2QL landed a nice one or two these past few weeks. 7 Mc. wkd.: CX2BT, KV4CI, XE1OK, CT2AI (0800z); 14 Mc. wkd.: DL9VZ/SV0, Rhode Is. VP2MV, CO7HQ, CO7AH, VP-5MJ, VQ9A, VQ9HB, K3GAD/KJ6, 3A2BW, AP5CP, VU2US/AC5. QSLs rec'd. were HV-1CN, UA1KED, VQ5IE, UL7FA, HR2FP, LX-3EQ, KR8AP, YJ1MA, YS1O, CP5EZ, VP5BL/5, EL4A, VR1M, 5A3BC, KV4CI, VP5BH, VU-2NRM.

Bud VK2AQJ also has found conditions to his liking and has included some good ones in the following, all on 14 Mc. s.s.b. KR8BA, K2A2O, UA0VQ, KG1BO, K3GAD/KJ6, KJ8CA, VS1AU, KA2JL, KA2MM, KK6DB, G8PO, W4ANE, KH6AHQ, W8OUH, W4FGU, K6CFV, W3JW. Also Ws on 7 Mc.

Let me welcome to this column Bro. Kinsella, VK2AKX, who reports a good s.s.b. list. 14 Mc.: DJ1IM, LA4TE, VE7ANR, K4WHD, W4SZZ, W7PRY, PZ1AX, OA4EA, KX6BU, KX6BQ, G13JIM, G3JAF, DJ4WN, YN1BH, CN8FU, K6B8R, YV1EB, VV1EL, YV1DH, YV-5AEC, SV0WT, ZE1JE, TG9AD, 4X4OC, VR1G, VE2DA, 14 Mc. c.w.: F3DM, EI9Y, HB9KB, SM7WT, PY5ASN.

Don L2022 has not been listening much but sends in these. 7 Mc. c.w.: DJ2EZ, UB5AU, DJ6RX, UR2CS, UA1KAG and others. 14 Mc.: JT1KAA, UL7KCF, KG6AKZ, FO8AN, VR2AB, UO5GN, HB9ABM, Y08RL, OX3DL, OK1GT, OZ9AA, 4X4NK, EA6CF, F3EG, EI9YC, HPIIE, UI8KBA, SV0RU, KP4BEA, VP2VS, SM5HT, 14 Mc. s.s.b.: SM6SA, DL1SD, LZ1HA, 5U7AX, G3AWZ, DJ4WN, KR6BH, CT1IP, UL7FB, UA-1KR, YV5AKU, 21 Mc. c.w.: KR6DL, K0BHM, JA1CGX, 4X4DK, 21 Mc. a.m.: VR2ED, VK-9DG, W5SMK.

Chas L2211 sends in the following logged all on 14 Mc. between 1300-2300 hrs. E.A.S.T. A.m.: PY1CBS, TI2PJ, TI2JCL, HMIAE, UA9KOG, KC4USH, GD3OCD, PY3KG, YV1EQ, OA4GI, IITGU, VE1IE, F9QU, XE1CE, CE2BD, CN2BK, etc. S.s.b.: KZ5CG, VE1AGI, G16TK, XW8AS, KV4AA, FK8AC, FO8AN, OX3KC, OX3BZ, VS6AQ, VQ4RF, KX6AE, KP4ZV, VU2NR, MP4BBW, KP4CK, I1ANY, UB5VW, DL3WUU, PZ1CV, DU1AN, PY2AIE, TI3CB and others.

David VK3QV reports wkg. the following on 28 Mc. a.m.: CO2CT, JA4OI, UA0LBQ, UA-0KUE, VS6EC, VU2RC, ZE2JF, ZS6AGH, 9M2AD and several others. Heard KR6GX, HR15O, JA7CD, 4S7YL and lots of Ws, Ves, etc. David predicts that the 10 mx band will get worse before it starts to improve around 1965 or 1966.

Ken VK3TL found the 80 mx band very good this past month, especially in the late afternoons when Europe was easily workable. He wkd. on 14 Mc. c.w.: CN2AQ, CT2AI, DL-1XZ, DM2BTO, F8TE, G2VV (and a dozen other Gs), GD6UW, GM3LYI, GW3KSG, GW-5TW, LA5VH, OH7HI, OK1DT, OK1UQ, ON4FL, P1KMA, SM3BBA, UO5AA, UC2KAB, VP5MJ, XE1OK, Y02KAC, YU2HA, YV5ACP, ZB1CR; 14 Mc. a.m.: FO8AN, HL9KT, HM4AQ, KV4AA, MP4BBW, XW8AS, X22SY, YV1EL, BV1US, TI2CHV, K3GAD/KJ6, ZS5BY, ZS1JA and lots of Europeans; 21 Mc. a.m.: ZS1CD, ZS1CG. QSLs rec'd. were ON4EC, OZ7UO, K6CQV/KS6, HC1FV, OH3TQ, KC4USE, VS4RM, VS6EM, 9M2UF, CT2AI, etc. (Hope the tri-band beam out does the quad, Ken, OM.)

Bill VK3AO also hands in a nice s.s.b. list. 3.5 Mc.: FK8AU, VE3BWW; 7 Mc.: VE1BC, VE3BWY and many Ws; 14 Mc.: FK8AC, FK-8EZ, UA3CR/UA1 (Franz Josef), SM7XA, ZB-2AD, SV0WT (Crete), 5U7AH, EA9AZ, OH2NB, ON4DM, GD3GMM, VR1G, VP2MC, UL7HB and

others: 21 Mc.: ZS4LT, ZS4FP, ZS4LB, ZS-1CG, ZS1SA, ZS1RD, XW8AS, 9M2CR, VS6CL.

Eric BERS-195 reports these loggings heard, 40 mx: EI2AG, LZ1KPZ, SP7LA, UA2AF, UA-3KQB, UB5KST, ZK1BV, YU2ARS, G5GH, SM5BTY, LZ2KBA, LA2HC, UW0CB, UA0FF, UA0EV, SM5CXF, UB5KED; 20 mx: VU2US/AC5, BV1USA, C22BT, FO8AN, GD6UW, HM-4AQ, HMIAP, KR6AM, LU3ZF, TI2LA, UD6BE, UP2AY, VK8NK, VS6DS, YS1O, 4S7NE, BY-1PK (1330z). QSLs rec'd. were JT1KAA, OH-3WM (3.5), VE3BQL, UA2AW, UC2KAA, UI8LB, YK1AK, etc.

Ian VK3ZHR reports having heard the following. 14 Mc. a.m.: HC2HT, VE7AKD, F3PL, I1KP, G2BAT, VS1ZF, G3AMM, G3OQO, DU-9VVL, DU9FC, KM6CE, KC6BI, YV2CJ, VR-2AB, ZK1AR, OA4GI, VS1GE, VR3B, DU1AN, VE3CAP, YV3BW, TG9ER, KZ5MA, CT1SG, TG9BM, W1YRM/VE8, VR1G, YN1ST, F9BE, CN2BK, GW3EL, VP1WS, etc.; 14 Mc. s.s.b.: VE7BCM, SM3BIZ, UA0KAR, GM3JDW, VU-2NR, LA5LG, KR6LY, YV1EL, KX6AE, UV-9CC, CR9AH, KA8AA, FO8AN, TI2HP, VR1G, FK8AC, and others.

Hal VK4DO reports the I.p. on 14 Mc. good most days. The best wkd. were DJ7IK, CT1VB, F8VN, F3NB, FO8AN, G3HDA, OESLK, OH2J, SP5ADZ, ON4FL, SM6UG, UQ2KAN, YV5DH, UO5GW, 4S7NE, etc. Best ones heard on 14 Mc. c.w. were CP5EZ, LZ1KSF, OE3WH, YV-2CD, W6GMQ/VR3, YV5AE, UL7KBB, HA5EI, HB9SL, JT1KAA, etc. 20 mx a.m. wkd. VK-9RH, I1AHL, 21 Mc. c.w. wkd. 4S7NE, OK-1GT and Ws.

Ted VK5JE, who has now achieved his 100 countries wkd. on 7 Mc., comes up with this very fine list, all c.w. G5WP, HPIIE, FA0OU, CR9AH, KC6CD, KC6BB, 5N2LKZ, 5H3HD, HS1X, KR6JL, 9M2FR, VS4RS, VR4CV, HM4AQ, SM3CUN, UA9KFG, YJ1MA, YV2BJ, VR2DK, VK9RO, ZK1AR, ZEZJJ, ZS6BBK, and many others. (Nice going OM.)

George VK5RX wkd. these: KH0AB (0245z), JT1KAA (0859z), VU2US/AC5 (1400z), VP7NQ (0610z), CO7AH (0620z), KZ5TD (0700z), KL7DND (0816z) Sitkinak Is., EA1BC (0855z), ITIAGA (1540z), PY1HG (1000z), DL9KP (1518z). (Congrats on W3BZ—1st VK.)

Peter Drew, L6021, has had his ear on the job. He heard 40 mx s.s.b.: W4MZK, JA1AEA, KC6FAE, LZ3LE, W4TUT, K7DHE; 20 mx a.m.: 9M2RI, VK9RO, ZS5JY, ZETJR, F2UP, VU2PE, F8XT, VE2AUH, ZS2OP, KA2JA, XZ2VK, KR6IW, VK0JM, HL9KK, CN8CS, GW3EQ, ZE2JA, VK9YT, ZS6AGU, ZS4JO, ZS2DY, ZS-6AMH; 20 mx s.s.b.: KA2YA, XW8AS, UI8AJ, VU2NR, UA4KED, KM6NAB, CR7CI, ZS6AE, DU1GF, UA1DZ, SG5BLA, 4X4DK, XT2Z, M1SVZ, HH2P, KR6HM, HM4AQ, CE5EF, KC-4AQ, YV1EE, CN8FU, VE3GO, MP4BBW, XF1CV, KZ5LC, ZS6ANE, G6TC, YN1BE, OA-4YE, XE2LV, YV1EJ, HK9KP and many, many others.

My thanks to the above chaps who take the time each month to help this column along with relevant bits of info. You can help me further fellows by including all news you may come across regarding Oceania activities.—Al.

ADDRESSES

JT1KAA—Box 639, Ulan Bator, Mongolia (or Box 88, Moscow).
VE3BQL/SU—W/O E. C. Veale, 56 C.D.N. Sqdn., U.N.E.F. Base P.O. Beirut, Lebanon.
YK1AK—Damascus, Syria, 29 Omar Mokhtar St., Damascus, Syria.
HK3AH—O. Luhrs, A.P.T. Nacoidal 1505, Bogota, Colombia.
KR8AP—Toshio Kuba, Kinjo, Shuri, Naha, Okinawa.
4S7YL—QSL via KH6BPF for YL Asian confirmation.
VP2LD—Steve De Lima, via Jack Cummings, W2CTN, Amityville, New York.
VP2MV—C/O. Cable and Wireless, Montserrat, B.W.I.
VP2SH—R. Nelson, Dept. of Agriculture, St. Vincent, B.W.I.
VP2DX—W8VDJ.
9K2AM—Via W3KVVQ.
ZB2AD—W2AYD.
VP8BG—Via W5QK.
VP5CW—903 E 7th Street, Panama City, Florida (W4PAA).
VQ1CJ—Box 1283, Zanzibar.
9G1DT—Via W4HUE.
ZC6UNJ—Via W2CTN, Amityville, New York.
CR9AH—Via W7ZAS.

(Continued on Page 21)

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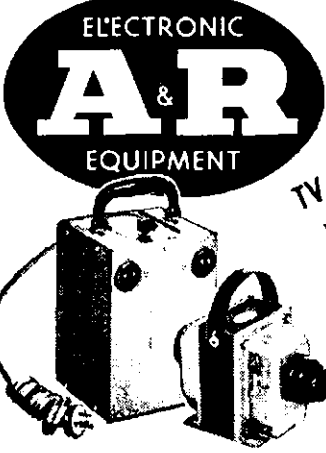
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VICTORIA

Last general meeting of the Group, 19 members attended—the biggest roll-up we have seen for some time. Owing to Mac Hilliard being absent, Noel Harrison took the President's chair. A small amount of general business was discussed, then the band reports from Mauric. 10 mx was open to W land, KH6 and JA from 1000 hrs. till 1400 hrs. (E.S.T.), 15 mx open to Ws around midday and to South Africa around 1600 hrs. The remainder of the evening was devoted to Keith 3YQ who showed us some very interesting colour slides that were taken on tour of Japan. Judging by the applause given after the show, all members, including myself, enjoyed the slides very much.

Noel L3101 hopes this coming winter to increase his score. He has recently renewed all the feed lines on the three antennae to 300 ohm open line. This has made quite a noticeable difference, especially on the W8JK, it being extremely directional and has cut the noise down quite a lot. Last month Noel heard two new stations in Alaska, they were KL7EEX and KL7EEM, running 5 x 8-9. These two Amateurs have only been in Alaska a fortnight and are looking for reports.

Ian L3065/3ZHR has been busy over the past few weeks and has not been able to do very much listening on the s.w. bands, but on a few occasions he has turned the gear on the conditions have been next to lousy. The DX total is slowly improving and a few cards have been sent out of late and is now waiting for a few returns. Ian has got his stereo equipment more or less in working order and is very pleased with the results. The only trouble is a 50 cycle hum from the motor is heard when the volume is increased to a high level. The stereo unit has built-in radio tuners covering the b.c. and s.w. bands, and also the f.m. band.

Maurie L3055 has his HRO finally aligned to operation on 20, 15 and 10 mx and at this point I will suggest a word of warning to the effect of "unauthorised persons prohibited to touch!" hi. A 20 mx doublet was installed by Maurie and it works quite well, but a high noise level is received with the signal, so he says he will never dispose of his 20 mx vee beam. Cards received, on 20 mx s.s.b. YU2DB, also another one from YU2DB on 20 mx a.m., O2BSS, YO3GK.

Ian L3006/3ZBI hoped to have his 2 mx gear operating mobile during the Easter holidays but due to his g.d.o. not being calibrated up to 2 mx, the project was not completed. However the 6 mx gear was installed in the car and was used over the Easter period.

Talking about v.h.f. equipment, yours truly is still having trouble with a xtal locked 2 mx converter, the problem was the xtal was not oscillating on its third overtone. However, after tuning the coil and testing the xtal it refused to function, so after finding no h.t. on the osc. tube and the feed back winding connected the wrong way, proceeded to correct it. It now oscillates on its third overtone but now will not multiply to the correct frequency. However I hope to get it operating some day. At the moment a 12 element 2 mx beam is sitting 20 ft. in the air doing nothing.

PARTICIPATION IN CONTESTS

Have received a letter from Eric Trebilcock which has brought to my notice the very small number of entries in various contests. The letter is as follows:—

Dear OM, I feel I must write you a few lines regarding participation in the 1962 VK/ZL DX Contest by the VK3 S.w.l. I am obliged to do this, after seeing the 1961 VK/ZL DX Contest (Rx Section) results, and bearing in mind the VK3 S.w.l. effort in the 1961 R.D. Contest. In the R.D. Contest 13 VK3 S.w.l.s. submitted entries and in the VK/ZL DX Contest only myself saw fit to submit an entry. Why the lack of entries in the latter event? I am puzzled.

I purposely did not take part in the Phone section of the VK/ZL DX Contest (1961)—my "score" is for c.w. only. Apparently my intentions in not entering the Phone section, in order to give my less experienced fellow S.w.l.s. in this Division "a bit of an open go", were all in vain! (If the published results mean anything.) I would like to see a change in attitude towards the VK/ZL DX Contest 1962, by the S.w.l. of this Division (who proved in the 1961 R.D. Contest that they are not

completely ignorant of what's required of a contest competition).

I therefore state:—

- (1) I will not submit an entry containing phone loggings for the 1962 VK/ZL Contest (as in 1961).
- (2) I will offer 20/- and 10/- cash prizes to the two leading S.w.l. (VK3) other than myself (if I happen to be in the leading section of this Division) in the 1962 VK/ZL DX Contest, provided at least five of my fellow VK3 S.w.l.s. submit entries in this event. (I emphasise the bold type because the whole objective of mine in writing this letter is to get the S.w.l. interested before it is too late—the day may come when the S.w.l. section of the Contest will be deleted!)

Would you be good enough to give publicity to the above in any manner you may see fit—between now and the time of the event (around late Sept., early Oct.). At the same time it is not too early to draw the membership's attention to the 1962 R.D. Contest in August. We want to beat VK2 S.w.l.'s. this year as they just pipped us in 1961 (14 entries—average 331 points as against our 13 entries average 330 points).

Thanking you in anticipation,

(Signed) Eric Trebilcock, L3042.

Need any more be said?

VISITS

The second visit for the year at the Rockbank Receiving Station was attended by 13 members. The personnel demonstrated triple diversity reception on overseas circuits using frequency shift keying and teleprinters. It appears that the triple diversity reception is accomplished by having three rx's tuned to the one frequency and each being fed with an independent rhombic antenna being spaced a wavelength away from each other. When the signal fades on one rx it stays constant on one or two of the other rx's, which in result would minimise fading to a great extent and a constant signal level would be maintained. Also demonstrated was a Collins R-391/URR rx which was opened up for us to look inside. The rx was permeability tuned with six i.f. stages. The cost of the Collins was thought to be around the 1,000 db. mark.

The next visit will take place on June 1 and will be to Diggers Rest tx station at 8.30 p.m. On July 6 a visit has been arranged to the Moorabbin Radio Club at 8 p.m. Persons requiring transport for the above visits meet at 478 Victoria Parade one hour before the stated time of the visits.

TASMANIA

Neville L7013/TZEE states that activities are very quiet but has written to let the other States know that VK7 S.w.l.s. still exist. Nev. has been hearing some good DX on 14 Mc. s.s.b. but is not keeping his log up to date. At the moment v.h.f. is taking up most of his time.

RADIO MAIL

I wish to thank the following listeners for their letters: Don Grantley, Eric Trebilcock, Doug Richardson and Fentley Drew.

Eric Trebilcock: QSL cards recently to hand include JT1KAA, VE3BOL/SU, UA2AW, ZK-1AK, JA1AXV/MM, OZ4IF/MM. Eric has mailed 382 reports for 1962 and has received 183 QSLs from 61 countries, 13 zones. Also heard 110 countries 33 zones (1962). Ionospheric conditions very much unpredictable. In any case, good conditions are very short-lived, and in the main if one wants to be in on what's going on there is only one thing to do—and that is be around at the right time.

Doug L2047 has been listening on the DX bands to date. He has heard 21 zones, 46 countries—all on phone, with 10 countries and 4 zones confirmed. Doug uses a 4-valve d.w. bandspread superhet rx. He says the 14 Mc. band is open to Northern States between 1500-1900 E.S.T. Doug has had a fair bit of time to listen due to having a broken leg, probably caused by putting up that quad, hi, which will be up in the air very shortly.

Peter L8021 reports that conditions have been quite good on 20 mx in the afternoon.

He has been hearing North, South and Central America and in the early evenings ZS, KR8, VU, ZE, W and a couple of other occasional blow-ins. Also heard were Europeans in the afternoons, but were at a weak strength. 40 mx has been very good to W land between 0800-1000, especially on a.m. 80 mx has been good for locals, Eastern States and ZLs, but nothing else.

Now a few words from Don L2022. He finds conditions for DX at his QTH have been on the improve of late. 20 mx has been wide open for the past three days to all parts of the globe, whilst 15 has had several good openings. However, the most pleasing feature was to have a good opening to the States on ten last week. Reception was possible for only approx. half an hour, but it was really fine while it lasted.

He has just returned from a trip to Sydney via Jervis Bay, during which time a short visit was made to the VK2 rooms at Crows Nest. Prevailing circumstances made it impossible to stay more than a few moments, in which time he met Barney Smythe, Tony Patterson and renewed acquaintances with Tim VK2ZTM. The rooms are a credit to the Division, and no small measure of the work has been, and is being, done by the S.w.l. Group. Barney Smythe, who, like Don, is a P.M.G. type, has held office in the S.w.l. Group for several years in various capacities. This year he is assistant secretary of the VK2 Divisional Group Disposal Committee, also Council liaison officer, vice-president and QSL officer to the S.w.l. Group. The Group is also represented in Divisional activities by Tony Patterson, who as treasurer of the S.w.l. Group, holds office as Bulletin editor for the Division and is manager of the clubrooms.

DX: JT1KAA is still going strong. Don't pass over UA1KED as being just one of the huge numbers of Russians. He is on Franz Josef and is a separate country. Heard in Albury normally in the mid evenings on 14 c.w. Note 5U7AX is on 14 s.s.b.

Well, chaps, that's all we have for this month. 73, and best of DX, Robert L3076.

DX LADDER FOR JUNE 1962

Countries	Zns.	S.s.b.		W	
		Conf.	Hrd. Stat.		
E. Trebilcock	277	282	40	—	5
D. Grantley	101	249	37	14	90
A. Wescott	84	159	31	33	92
M. Hilliard	67	208	33	5	100
M. Cox	46	211	25	11	122
C. Abernathy	32	71	22	—	13
N. Harrison	32	55	23	—	24
P. Drew	31	176	18	7	87
F. Fields	26	133	—	—	—
I. Thomas	17	133	16	6	79
D. Jenkins	10	141	7	—	—
H. Burger	6	185	5	1	19

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W.I.A. 50 Mc. W.A.S.

Call	Cer. Add. No. Cntr.	Call	Cer. Add. No. Cntr.
VK4HD	27 8	VK4PU	35 4
VK4ZAZ	26 7	VK4HR	4 3
VK4ZBE	29 6	VK3PG	5 3
VK2WJ	13 4	VK2ABC	8 3
VK3ZFM	22 4	VK2VW	9 3
VK3IM	30 4	VK5VG	19 3

New Members:

VK5BQ	23 3	VK3ZGZ	28 2
VK7Z	24 3	VK5ZZ/T	31 2
VK3ZHF	25 3	VK7ZAO	33 2
VK9AU	32 3	VK7ZAQ	34 1

VHF

50 - 144 - 288 - 576 - 1296 Mc.

Sub Editor: BILL ROPER, VK3ARZ,
Lot 59, Orchard Street, Mount Waverley, Victoria
ADDRESS CORRESPONDENCE FOR THIS PAGE DIRECT TO THE SUB EDITOR

By the time you read these notes it is quite possible that Oscar II. will be in orbit. If so, times to listen for it will be available from your State Co-ordinator.

Oscar I. was an excellent opportunity for Amateurs, particularly v.h.f. types, to justify their existence and put their skill and equipment to good use.

A lot of excited talking took place when the satellite was in orbit and some even bothered to track it and make recordings, but only four Amateurs in the whole of Australia bothered to submit their reports to the proper authority. Why?

All that is past history now, best forgotten in a hurry. What matters now is that there is another opportunity, and this time there can be no excuses.

Everybody who has two metres receiving equipment is urged to listen around 145 Mc. and log Oscar II. as often as possible. But do not stop there—send in some sort of report, either your own QSL card or one of the standard report forms available from your State Co-ordinator.

Keep this following fact in mind. Whether an Oscar III. Communications satellite is ever launched, depends on the support YOU give to Oscar II.

Send all reports to P.O. Box 183, Sunnyvale, California, U.S.A.

NEW SOUTH WALES

At the April meeting of the V.h.f. Group the Management Committee for the ensuing year was elected as follows: Chairman, Tim 2ZTM; Vice-Chairman, Phil 2ZBX; Secretary, Bob 2ASZ; Committee, Barry 2ZAH, Reg 2ZCK, and Basil 2ZLB. The lecture was given by Keith 2BK on s.s.b. and great interest was shown in the partially completed 2 mx s.s.b. tx on display.

50 Mc.: The only breakthrough in April occurred on Anzac Day to VK5. Apart from this, 50 Mc. has been quiet with only night local activity.

144 Mc.: Band usage has been high with many field stations active over Anzac weekend. 2ZRG/M, at Bathurst; 2ZVL/M Newnes Junction; 2ZPJ/P, Orange; 2ZRU/M at Laggan, between Bathurst and Goulburn; also 2DR at Mt. Porcupine. Signals were varying between S5 and S9 plus.

2ZGM, with s.s.b. at Ungarie, has been working 2RX over a 250-mile path, but has moved to Wyong at Easter and is not active at this time. Good signals are heard from Newcastle and Wollongong stations quite regularly. 1VP in Canberra has been worked by 2ZRH and 2ZQX with signals varying from nothing to 5 and 7.

576 Mc.: Interest high, with the following stations active: 2HL, 2ZAC, 2ZAH, 2ZBJ, 2ZCF, 2AWZ, and 2QZ.—Basil 2ZLB.

VICTORIA

50 Mc.: At last! Jim 3AZY at Frankston worked JA4NA on Thursday, 3rd May, at 1800 E.A.S.T. Nice work Jim. Ian 3ZMH at Queenscliff is now on 6 mx, running 60w. to an 815, while Ray 3ZDE at Reservoir has come up with 35w. input to an 832A to a four element yagi, 38 ft. up.

144 Mc.: This month a swag of newcomers have appeared on the band. Alan 3ZNG at Preston runs 15w. to a 522, R. & H. converter. Bob 3ZIU at Carlton runs 18w. input to a 3/12 to a six el. yagi. Alan 3AZD at Lilydale is another, complete with built-in attenuator. Because of a large amount of earth between Alan and the city, he has to bounce the signals off Mt. Dandenong. One for the DX hounds is Bill 3XE at Hexham, on 144.38 Mc.

Field Days: The results of the '61-62 field day series show a win for 3ZLT with 223 points. Des 3YA was runner-up with a fine effort of 184 points, while the group station, 3ZGP, 3ZMR, 3ZAI and 3ZAN totted up 174 points for third place. The series generally were not as well patronised as expected. Due to this, it is proposed to run three field days only next season. These are expected to take place in October, December and February, the latter to coincide with the National Field Day. It is hoped to secure the co-operation of other States in arriving at the date of at least the December day to take the fullest advantage of the conditions generally experienced at this time. For many years field days have been scattered about all over the calendar when,

with a little bit of thought, at least some States could co-ordinate their efforts. The results should be well worthwhile.

V.h.f. Group Meetings: The April meeting was attended by 28 members. Various aspects of field days, scrambles and other activities occupied the early part of the evening. Jim 3ZGG was the main attraction of the evening with a talk on his recent trip to America. Color slides and exhibits illustrated the fun Jim must have had poking around their Ham stores.

Project Oscar: Bill 3ABP at Altona has been appointed VK3 co-ordinator for Project Oscar. If you want information on the project, give Bill a call.

General: Gus 3ZIC has tendered his resignation, due to his forthcoming trip to VK4; best of luck, Gus. Activity on the bands has been relatively low of late, the colder weather driving everybody in to their "one-eyed monsters". How about spending just one night a week keeping the cobwebs out of the gear?—3ZLT.

QUEENSLAND

Interesting DX openings on 6 mx this month. JAs were coming in regularly, but weakly, during the first three weeks of April; almost daily, in fact, about mid afternoon. Other things heard regularly on the band were the Russian t.v. station earlier in the month and for the latter half, those strange double carriers coming from the direction of North East.

The W.I.A. Convention was held at Alexandra Headlands the week-end before Easter. V.h.f. types were well represented and set up a 75w. base station from untried assemblies supplied by different Amateurs. The tx was switched on, a few minor adjustments made, and the v.h.f. base station functioned perfectly.

On the Easter week-end v.h.f. Amateurs performed a magnificent service to the public by providing communications for a Scout venture, which took the form of a trek from Toowoomba to Lockyer. The communications were required to check the arrival or otherwise of the different patrols through various control points. Communications were later described by Scouting officials as the best effort. Organiser of the v.h.f. side was Mick 4ZAA, and those who took part were 4BZ (base station), 4ZAW, 4ZBA, 4ZBH, 4ZEL, 4ZEK, 4ZBL, 4RX, 4ZKH and 4CP.

The April 2 mx hidden tx hunt was organised by 4ZNS, who hid it so thoroughly that no one was able to find it without opening envelopes.

Newcomer to the Channel 0 band is David 4ZEK who is using a dipole which is working reasonably well; welcome to the band David. 4ZBZ, possibly spurred on by news of oil strikes, is extending his tower to great heights. He maintains that its purpose is to improve reception, but it looks like a drilling rig to most of us. 4ZBT.

SOUTH AUSTRALIA

50 Mc.: With the exception of a Sporadic E opening on Anzac Day, this band has been very quiet. During the opening several VK2s were worked at great strength, some of them running very low power (10-15w.).

The opening lasted for two or three hours and provided first DX for a number of Adelaide newcomers. Over the Easter period Vic 5JH went for an extended portable trip and worked back into Adelaide from numerous locations up to 150 miles away at good strength. Quite an excellent effort for 6w. Vic is thinking of building a 2 mx portable. A few newcomers on 50 Mc. include Luke 5LL (my goodness) and George 5ZGY, also Ken 5AL.

144 Mc.: This band has been quite active with one or two licensees appearing straight on 144 without a 50 Mc. debut. This is unusual. Such gentlemen include Bob 5ZHR and Chris 5ZMS. These two chaps are running 20-30w. but as yet have no gear on 50 Mc. Much more activity on 50, chaps!

The nightly skeds between 3NN and 5ZDR have recently ceased, owing to Mick doing work in the country. Mick hopes to be finished soon, then the skeds will probably resume.

288 Mc.: This band has not been very active recently. There have been a couple of newcomers, however, and these include SZE0 and SZEQ. John 5ZDZ is still waiting for more stabilised activity on 288 Mc.

General: General alarm has been shown in VK5 at the prospect of Channel 0 being allocated in other States. If we in VK5 can do anything to assist other Groups in taking action regarding this absurd allocation, they should contact us immediately.

Interest in Oscar II. is high and although the launch time is uncertain, several VK5 stations will be listening with interest.

Congratulations go to Mick 5ZDR being placed outright winner in the 1961-62 Ross Hull Contest. This is the first time a VK5 has been outright winner. 5ZCR.

WESTERN AUSTRALIA

April Meeting: 30 members and visitors attended this meeting; six new members were welcomed. Those with call signs were Tom 6KS/T, Brian 6ZDE, Roger 6ZDI and Bob 6ZDP. Brian and George, the other two members, both sat for the L.A.O.C.P. at the last exam.

New Stations on v.h.f.: Tom 6KS/T, Brian 6ZDE, Roger 6ZDI, Bob 6ZDP and Tony 6ZDT were heard this month; welcome to the v.h.f. bands boys and we hope to hear more of you. Arthur 6ZBE, from Greenmount, has been quite active after an extended absence from these bands.

Fox Hunt: John 6ZAG hid the tx. Michael 3ZEO and Pierce 2APQ went with Alyn 6ZDM and were narrowly beaten into 3rd place by Wally 6ZAA (the winner) and Roy 6RY. Mac 6MM will be the next fox.

50 Mc.: Activity on this band has increased. Reports of DX have been received from Brian 6VV and Mick 6ZBP in Geraldton and Derby. They have been regularly working JAs and are envied by the boys further south. Bob 6BE and Wally 6ZAA both worked Brian 6VV on the 320-mile nth.-sth. path during the month and have been watching the weather charts diligently. Noel 6ZBG has logged signals from the Russian t.v. station again this month.

8AU in Darwin is beaming towards Perth on 50.4 Mc. every night at 1930 to 1945 W.A.S.T. He runs 130w. to an 8 el. yagi. He listens from 1945 to 2000. He has a link with Roy 6RY each Sunday at 1720 hrs. on 14 Mc.; any reports of hearing his signals should be passed to Roy.

6ZAL in Bunbury transmits to Perth every second Sunday at 1000, commencing 6/5/62. Both he and 6JG have heard Perth signals but no contacts to date.

Clare 6CW and Clarry 6CL in Wyalkatchem and Miling are conducting crossband checks on 50 and 3.5 Mc. Clare 6CW has heard Len 6ZCS in Perth, no audio was there but the r.f. got through. Tom 6KS/T has been putting a potent signal around Perth. He hetrodynes his 14 meg. exciter onto 50 megs. s.s.b. He has a 640 linear working and is expected to also use this mode of operation on 144 Mc.

144 Mc.: Most activity on this band has been with crossband contacts 144-50 Mc. We hope this will lead to more usage of 144. 6AF, the R.A.A.F. Pearce Radio Club, has been revived and is using this band. Arthur 6ZBE has reported the construction of a new tx using a 640 in the final. Get to it boys, see you on 2!

288 Mc. is dormant at the moment, the main exponents are experimenting on 576 and 1215.

576 Mc.: Wally 6ZAA and Charlie 6ZCE went to the 44-mile peg at North Dandelup with xtal locked gear. They established contact with Rod 6ZDS on 50 Mc. but no joy on 576. They are continuing with their efforts.

1215 Mc.: Rod 6ZDS and Wally 6ZAA have established one-way contacts. There is some confusion to the unit of length in the distance. It is rumored it is either 6-8 miles on 6-8 feet, we hope for the former, but suspect the latter. Both Rod's and Wally's gear is xtal locked.

Slow Morse: Mac 6MM and Roy 6RY are continuing with slow morse. The time is unchanged, being 2000 to 2030 hrs. The days are Sunday and Tuesday (Mac), and Thursday and Friday (Roy).—6ZDM.

TASMANIA

I regret the non appearance of notes from the Apple Isle recently—if you think the reason is that there is nothing to write about, you're certainly partly right!

Although there is not as much on the air activity as there should be, V.h.f. Group meetings have been well attended. A recent film show arranged by Bryan 7ZBE was well re-

(Continued on Page 22)

SIDEBAND

Phasing, Xtal Filters, Balanced Mod., Linear Amps., Vox

Sub Editor: BUD POUNSETT, VK2AQJ,

6 Alice Street, Queanbeyan, N.S.W.

ADDRESS CORRESPONDENCE FOR THIS PAGE DIRECT TO THE SUB EDITOR

BREAK-IN OR BREAK-UP

The round table form of contact is certainly very popular on all bands, ones involving half a dozen or so countries are not uncommon on the DX bands and provide a great deal of enjoyment. They also have the great advantage of keeping a number of stations on one channel instead of three or four, making it possible for a large number of operators to enjoy their hobby on a given band at one time. Consider five round tables with six stations in each, we have 30 stations occupying five channels instead of 15. This fact must be recognised when an analysis of band occupancy is conducted at any time.

These round tables develop from a contact between just two stations. Sometimes they mushroom to large proportions in a very short time from the initial contact and sometimes the original two have quite a discussion before another joins in, or may be, they have made a sked to discuss some subject and would prefer to remain a two-some. Three can also be a crowd on an Amateur frequency!

How can we convey to others that we do not wish a round table to spring up? We could politely tell the third chap he is not welcome but this is rarely done. We could tell him impolitely to leave us be but this is even more rare, I am pleased to say. A simple way suggests itself. We transmit lower sideband on 40 and 80 mx and upper on 20, 15 and 10, so if you want to be left to discuss some common interest, why not both change sidebands? If someone else calls in and also mentions that you are using the sideband not normally used for that band, a simple explanation will give him the message and if he has any tact at all, he will surely sign out. How about giving this a go or do you have a better answer?

MORE ON THE VICEROY

Recently several VK3s, including VK3AC, have been having regular 40 mx contacts with Ted G8PO in Portsmouth. G8PO is a well known retired Royal Navy man and has served at Navy Headquarters in Melbourne. These contacts have been made on or about 7095 Kc. from 4.30 to 5.30 p.m. Australian Eastern Time with signals up to S8 at times. G8PO observed that the clean crisp signals without much bass response were far more readable than others, so turned to his own tx, a K.W. Viceroy, to find out if even better results could be obtained. This tx was built by an Amateur for Amateurs and is easily "got at".

Ted came up with a worthwhile improvement which is made by alignment only, the soldering iron remains cold. The signal emanating from G8PO is without doubt as R5 as you could wish to receive. It shines under difficult crowded band conditions as I have had the

chance to check myself during a long 100 per cent. contact with Ted on a Saturday afternoon.

A frequency standard is required to provide signals of 433.2, 434.45, 434.6 and 435 Kc. By interpolation, a BC221 frequency meter will meet these requirements. Here are the five steps involved:—

- (1) Peak all the i.f. transformer cores to 435 Kc. (the carrier oscillator freq.).
- (2) Peak the primary of i.f.t.2 to 434.6 Kc.
- (3) Peak the primary and secondary of i.f.t.1 to 434.45 Kc.
- (4) Peak the secondary of i.f.t.2 to 433.2 Kc.
- (5) Peak the primary and secondary of i.f.t.3 to 433.2 Kc.

The Viceroy tx used by G8PO showed some instability in the i.f. amplifier, V4, an EF89. The cure was to provide additional filtering of the h.t. line to this stage and to install a 3 x 2 inch shield between the EF89 grid and filter—balanced modulator section. Ted found that he could not peak the i.f. transformers as already described without this shielding. He doubts if all Viceroy tx's have this trouble and asked me to include this in case one or two have this instability. My thanks go to Geoff VK3AC and to Ted G8PO for supplying this material.

THE LWMS PART II.

A brief description of the LWMS s.s.b. transceiver appeared in the April Sideband section. The electrical details and circuit diagrams are featured in the Nov.-Dec. issue of G.E. Ham News. The Jan.-Feb. edition has very detailed descriptions and photographs of this equipment. It is interesting to note that a tuning capacitor from a Command tx is used for the v.f.o. which uses the Clapp configuration and tunes from 2.5 to 2.7 Mc. Detailed panel, chassis and dial drawings are included so that exact duplication may be achieved. The authors W8HFH and W8DLD state that the experienced constructor should be able to build an LWMS in from one to three months, depending on the availability of spare time. The cost would depend on the size of your junk box and is estimated to be in the £50 to £125 range, including the cost of a mechanical filter. They also state that this design has a wealth of ideas in it and nearly every Amateur will find some feature that may suit his needs.

The neat v.f.o. unit with its dial should be very attractive and popular. The dial is made from a Command dial and plastic. The Editor will have the G.E. Ham news containing Part II.—Mechanical Details by now, and your Sub-Editor has an additional copy of each part, so you can help you if you are interested. You could borrow them by sending along a large stamped self-addressed envelope to "A.R.'s" Melbourne address or to my own.

TR VILLIANY

Quite a few stations use mixer type v.f.o.'s. with one v.f.o. oscillator on at all times. This v.f.o. signal can mix with an incoming signal to produce a spurious response in the rx.

Some time ago while I was operating on 3795 Kc. in a traffic net, a fellow Ham said my signals were readable on 7030 Kc. Well, 3795 Kc. is not harmonically related to 7030, but I told him I would get off the air at once and check my exciter. I could not find this so-called "harmonic" on my own rx. I made some checks with Hams in my own city to be sure. They could find nothing.

I made contact with the station that had originally given me the report and asked him whether he was using a TR switch and whether his v.f.o. ran continuously? He confirmed this. I asked him to check again on 7030 Kc. and he came right back and said loud and clear on 7030 Kc. I asked him to disconnect his TR switch from his tx and connect his rx directly to the antenna. He did so and the "harmonic" he thought he had heard on 7030 Kc. was not there.

Perhaps this will save someone a great deal of time in trouble-shooting his exciter or tx. This mixing effect can and will happen with certain types of TR switches.

These last paragraphs were extracted from June 1961 "QST". It is a letter from Paul G. Marsha, K4AVU, and appeared in the Technical Correspondence.

GEOGRAPHY AND S.S.B.

With the recent resolution of the Federal Convention in Perth on the subject of High

School Radio Clubs in mind, it would be profitable to people who will be arranging this activity to give serious thought to the installation of s.s.b. equipment. You have certainly heard of the good work done by Lee VK2AXK, at the Christian Brothers' College, Gosford. Lee and the boys of the School's Radio Club have been using single sideband on 80, 40, and 20 mx with considerable success. The construction of the equipment was a joint venture between Lee himself and that stalwart of sideband, Leo VK2AC. The tx is a W2EWL unit with several modifications. The v.f.o. at 5 Mc. has a cathode follower isolator between it and the balanced modulator. To obtain output in the 40 mx band, 3.5 Mc. s.s.b. is mixed with the second harmonic of a 5.5 Mc. crystal oscillator producing 7 Mc. s.s.b. The final of this rig consists of four 807s in parallel. The exciter uses crystal diodes in place of the original W2EWL design using tubes. The rx is made up of a crystal controlled front-end into a Command rx as a tunable i.f. followed by a third i.f. using a double half lattice crystal filter. This equipment gives very good results on the bands used, and s.s.b. ensures that high intelligibility is maintained on DX contacts. This results in the boys of the Radio Club getting an accurate first hand account of various overseas countries which must help them considerably in their studies.

DX NOTES

(Continued from Page 17)

HK0AB—Via W4DQS, 928 Trinidad, Cocoa Beach, Florida.

KS4BF—Also via W4DQS.
(Many of the above QTHs were kindly supplied by Bev. Calendar, W4CKB.)

STOP PRESS ITEMS

Steve Grimsley writes to tell me of his next trip to Antarctica. He will use the same call, i.e. VK0VK and expects to return to the snowy regions between October and December next. He is about to leave now for a spell in the States. Steve says, "I expect to be in Wilkes Land by next January and I will be on the air using all bands with modes c.w. and s.s.b. I will try to get regular 6 mx transmissions going with an automatic keyer and a beam into the auroral zone to give the VK boys something to look for." Steve's QSL manager is L. McMaster, WIAGS.

Another letter is to hand from Bill VK3AHO changing the schedule of the FW8 trip slightly. Bill says, "I now expect to depart Sydney, May 30, and then from Noumea on June 9. All being well I will commence transmission from Wallis on 10th June, using call FW8BH for a period of one month." Bill will handle the s.s.b. and hopes FK8AS, operating as FW8AS, will manage the c.w. and a.m. Bill has W.A.C. on 80 mx s.s.b. and W.A.Z. No. 9 s.s.b. The first VK for both of these (Congrats Bill). Congratulations are also in order to VK3KB who now has reached the 300 countries wkd. mark. Only those who are struggling for those last few will know how hard it is to attain. It's akin to a four-minute mile. (Do you regret the hours spent, Alf?)

Finally a word or two about conditions. The winter cycle is now well established and the sunspot count will continue to remain low. This should put the higher frequency bands into a deathless slumber till the first warmth of spring. 20 mx at night, particularly the latter half, will be more dead than alive. 7 Mc. may be kind but how much so, remains to be seen. The present i.p. circuit on 14 Mc. to Europe around 0700 hrs. G.M.T. will fall away as the winter progresses. 73, Al VK4SS.

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Correspondence

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FACTS

Editor "A.R." Dear Sir,

To comply with the Editor's request in his P.S. to the Correspondence in May "A.R.," and the requirement by VK3BG "only facts convince me," may I be permitted to reproduce verbatim, a section of my letter dated 28th Feb., '61, which fell into the "correspondence closed" category. It reads, "The writer 'gestimates' that conditions were fair to good for the period. Do I believe him or my friend, the Disturbance Forecaster at I.P.S., Sydney? His records show that November was disturbed and in the middle of the month, lasting for six days, one of the most severe magnetic storms for a number of years occurred. There were also two cases of the 'recurrent' type of disturbance, the only week-end being unaffected, was 19-20 November".

The severe disturbance of November '50 is still referred to in Ionospheric data. You will remember that VK3BG's observations were for week-ends.

In April '62 "A.R.," he makes the claim "His friends in the Arab world operate where they wish". How true. The recent disturbed ionospheric conditions have forced many commercials, at times, to abandon r.t.t.v. and revert to straight c.w. transmission and of course this helps in station identification. Guess what—two of the stations operating in the Amateur Service band of 14 Mc. used Arab country call signs. They were below 14,100 kc. —F. T. Hine, VK2QL.

VICIOUS CORRESPONDENCE

Editor "A.R." Dear Sir,

Everybody is entitled to express his thoughts and the more contentious they are, the better it is for us all. The rather vicious and sarcastic passages in recent letters are not becoming to their authors. There is an alarming tendency of some individuals to fall to keep strictly to the point and argue the case only on its merits, using facts known to them plus their own ideas.

If we think an author's views are "biased hogwash," "ridiculous as his previous ones" and that his head remains "under its customary sand-dune," we should treat him with ignore and leave the space available to others to deal with new points. Ideas have to gain support to be introduced as the vogue; if nobody writes indicating their approval, the silence shows contempt or neutrality. I feel a letter of disagreement is only necessary when others have written of approval.

So please let us not be so offensive in future and try to observe the ethics of gentlemen, even if we cannot have a gentleman's agreement.

—Ormond Guy.

GOOD MUSIC

Editor "A.R." Dear Sir,

Through your columns I should like to get in touch with members interested in the reception of good music, particularly through v.h.f. f.m. broadcasting. I think there must be quite a number of Hams or Listeners throughout Australia, who, after reading the overseas magazines, feel that in this country we are lagging badly. To show what can be done on 95 megacycles, I quote the case of W5KEY who receives musical programmes perfectly at a distance of 200 miles from an f.m. station in Kansas City.

As most people know, f.m. programmes are received without static or fading and this is not so on the medium wave band with 2FC and 2BL. 30 miles from Gosford. On 30th June last a step backward was taken and Australia lost four of its f.m. sound transmitters to make the present total zero. Letters with comments on the above will be greatly appreciated if sent to this address.

—R. L. Gosford,
5 Mason's Pde., Gosford, N.S.W.

VHF NOTES

(Continued from Page 20)

ceived. A welcome visitor was Den ZDK, from the north. Bryan also delivered an excellent lecture to the general meeting on a transistorised v.h.f. g.d.o.

50 Mc.: No band openings reported, however many opportunities may have been missed through low activity. A few odd VK2 sigs heard and some commercial harmonics—that's all. Most local activity is, however, on this band, but 7ZAV, who could be relied upon to supply a contact a day, has forsaken the game for flying.

144 Mc.: 7ZBE operated from Flinders Island during May; be interesting to see his coverage. When 7LZ and 7PF operated from Mt. Barrow (5,000 ft.) recently, nothing was heard of them in Hobart—listening at the wrong time, no doubt; however, Channel 9 now operating from Mt. Barrow puts very little direct signal into Hobart (100 miles away)—only a signal reflected from Mt. Wellington.

The Athol Johnson Memorial Contest, held annually to foster portable-mobile activity in VK7, was won this year by 7ZBE (he seems to be the only one mentioned this month). Most of Bryan's contacts were whilst mobile, so it seems the rules are at last reasonably thought out. We're still trying to get more stations interested in this contest.

Preparations are well in hand for Oscar II., probably by now in operation. Peter 7PF has been appointed an Oscar Co-ordinator and is keeping interest high. We are hoping for quite a few log returns this time.—7ZAO.

NORTHERN TERRITORY

Not much news to report from VK8 this month. April 12, worked JA6ASW and JA2CDL; 14th, HLKA and t.v. very strong, no JAS; 18th, heard JA working VK9AU; 24th, heard JA6; 23rd, good JA opening around 5 p.m., VK9 and VK5 heard; 1st May, worked JA6 and JAS.

Had tx off the air between 16th and 25th, putting a QB3/300 in final; can now run about 120w. input. Am running skeds with VK6, transmitting on 50.4 from 9.30 to 9.45 E.A.S.T. and listening from 9.45 to 10.0 E.A.S.T. Would also like skeds with North Queensland. That's about all for now, hope to have another VK8 Z call soon, in Darwin. 8AU.

PAPUA

April opened quietly on 50 Mc. in Papua, with 9NW, 9CK, 9AU and 9ZBV (just back from leave) active. On 1st, JA1 was worked at 1950 hrs. Weak JAs heard 2000-2215 on 9th, and again on 11th from 2100-2200, but no contacts were made. A good opening to JA on 12th between 1745 and 1830 hrs. when JA1, 2 and 3 were worked. More weak JAs heard between 2000-2100 hrs. On 17th, JA6s and 3s worked at 2030. 18th, nine JAs worked by 9AU 2030-2130, JAs 1, 2, 3 and 5. Excellent openings on 23rd to JA when at least a dozen stations were worked by each of 9CK, 9NW and 9AU, the band being open to JA from 1645-1800, then from 2000-2015, and finally from 2200-2400, with most signals peaking S9. 19th, JA6WS worked at 2215; 20th, JA6BQE worked at 2055; 21st, JA1s worked 2000-2030. At 1850 hrs. on 24th, two KH6s heard in QSO on 50.2, peaking S6, much frantic calling on phone and c.w. did not obtain a QSO. 27th, JA1 worked at 1635. On 28th a station with an American voice was heard on 50.03 Mc. beaming N.E., but unidentified. On 30th, VK4NG worked by 9AU on back scatter with beam pointing to KH6 at 1625, R4 S5 both ways. In all, a most interesting month here on 50 Mc.

9ZBV back from leave, now has a 4 el. yagi in operation and is looking for DX. No activity this month on the other v.h.f. bands. Incidentally, I hear by the grapevine that 9AU's signal was heard during the month at Batchelor VK8, but no date is known. However the beam was pointed in that direction on several occasions.—9AU.

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FEDERAL AND DIVISIONAL MONTHLY NEWS REPORTS

(SEND CORRESPONDENCE DIRECT TO DIVISIONAL REPORTER NAMED AT PARA. END)

FEDERAL

NEW CALL SIGNS (JANUARY)

VK— New South Wales
 2AW—B. Dale, 19 Robinson St., Wollongong.
 2UN—A. H. F. Nickols, 5 Awatea Rd., St. Ives.
 2AZJ—R. C. Kohlhardt, 21 Cowan Rd., Mount Colah.
 2ZPB—P. W. Campbell, 3 Earle Ave., Ashfield.

Victoria
 3AK—B. J. Wootten, 8 McKenna St., Avondale Heights.
 3AR—R. C. M. Grimble, Station: Laharum, via Horsham; Postal: Private Bag, Horsham.
 3AW—L. G. McCluskey, 13 Holloway St., Newport.
 3GL—J. T. Dearn, Lot 21 Stanley St., The Basin.
 3RS—R. C. Shortell, 46 Moyston St., Hawthorn.
 3YB—R. R. Babb, Elmo Rd., Montmorency.
 3ZNB—A. J. Hyslop, Station: "Morella," Anderson; Postal: C/o. Railway Station, Anderson.
 3ZNH—P. J. Lawler, 50 Mollison St., Dandenong.
 3ZNT—F. G. Storey, 407 Stephenson Rd., Mt. Waverley.
 3ZOB—T. L. E. Floyd, 43 Tibrockney St., Highbury.
 3ZOI—P. J. Gleeson, 512 Racecourse Rd., Flemington.
 3ZMX—E. D. Buck, 263 Gooch St., Thornbury.
 3ZMY—A. Camp, 16 Leslie St., St. Kilda East.

Queensland

4AE—J. C. Treby, Station: 8 Coyne St., Kirra; Postal: 24 Inala St., Tugun.
 4SB—J. S. Strudwick, 13 Fowles St., Roma.
 4ZGN—G. N. Scott, 31 Basnett St., Chermiside.
 4ZJM—J. A. Mackay, Station: 84 Mill St., Gordonville; Postal: P.O. Box 173, Gordonville.
 4ZTC—A. J. Crane, 35 Morley St., Toowong.

South Australia

5IK—I. N. Cousins, 3 Woottona Tce., St. George.
 5WB—E. W. Blake, 134 Yorktown Rd., Elizabeth Park.
 5ZBP—A. W. Pierson, 619 Seaview Rd., Grange.
 5ZDP—D. J. Seedsman, 13 Jervils St., Torrens-ville.
 5ZER—D. G. Aslin, Station: Princes Highway East, Mt. Gambier; Postal: C/o. P.O. Mt. Gambier.
 5ZGH—B. G. Hines, 49 Hughes St., Unley.
 5ZIB—I. S. Brown, 5 Indarra St., Taperoo, Largs Nth.
 5ZIC—I. R. Clayton, 7 Payneham Rd., St. Peters.

Western Australia

6ZDE—B. A. Cook, 28 Pier St., East Fremantle.
 6ZDP—R. W. Parks, Lot 57, Canada St., Dainella.
 6ZDF—H. F. Farney, The Crescent, Maddington.
 6ZDX—J. L. Orr, 31 Scalby St., Doubleview.

Northern Territory

8TA—G. Cole, 6 Conigrave St., Fannie Bay, Darwin.
 8ZV—O. C. Winterton, 3 Hingston St., Parap, Darwin.

NEW CALL SIGNS (FEBRUARY)

VK— Australian Capital Territory
 1AW—J. A. Weddall, 1 Buchanan St., Narrabundah.

New South Wales
 2AD—A. Dawson, 22 Thurlow St., Redfern.
 2BE—L. W. Loutitt, 3 Greenhills St., Croydon.
 2GB—J. W. Birdsall, 23 Ebley St., Bondi Junction.
 2EM—E. J. Mulholland, 79 Queen Victoria St., Bexley.
 2AOP—W. Purdy, 7 Dalziel Ave., Panania.
 2AQQ—M. S. Hodgson, 3 Darling St., Chatswood.
 2AWT—N. J. Watling, 116 Windsor Rd., Richmond.
 2AXW—G. Whitehead, 1 The Strand, Gladesville.
 2ZCJ—C. J. Ella, 12 Chapman St., Gymea.
 2ZCK—R. C. Sliip, 14 Parry St., Ryde.
 2ZDN—D. N. Mills, 21a Johnstone St., Cardiff.
 2ZGE—G. E. MacPherson, 4 Russell St., Wool-lahra.
 2ZHW—C. E. Watts, 2 Esdaile Place, Arncliffe.
 2ZNL—R. N. Lee, 85 Point St., Bulli.
 2ZPF—P. F. Watkins, 79 Allawah St., Blacktown.
 2ZWC—C. W. Camp, 24 Clanwilliam St., Chatswood.

Victoria
 3ZOJ—R. J. Pether, 32 Older St., South Caulfield, S.E.8.

Queensland

4GI—G. J. Griffiths, 2 Wills St., Townsville.
 4ZKP—K. M. Pitcher, 34 Blackheath Rd., Oxley.

South Australia

5CR—L. K. Catford, 22 Ranger St., Elizabeth Park.
 5PY—C. W. Hope, 12 Alexander St., Elizabeth Park.
 5ZGL—L. G. R. Godfrey, 43 Charles St., Norwood.

Western Australia

6ZDJ—K. L. Miller, 7 Freeman St., Melville.
 6ZDI—R. Forte, 66 Outram St., West Perth.
 6ZDO—G. R. Grieve, 95 Canning Highway, East Fremantle.

FEDERAL QSL BUREAU

A further change in the A.R.R.L. QSL Bureau set-up is W6/K6, San Diego DX Club, P.O. Box 6029, San Diego 6, Calif.

Projected visits to Australia by U.S.A. Hams include, W6YV, John, May 1962; W7QYA (YL), Flo Majerus, and OM, March/April 1963; and my old friend, Al Scarlett, W2CC, and YL April 1963. Al proposes including VK2, 4 and 5 in his itinerary as well as a longer stopover in Melbourne.

Call signs, etc., of the 1963 Antarctic personnel notified to date are:—

Wilkes:—

VK0DS (VK3ZIE), D. Seedsman (Vic.).
 VK0JO, J. Oshea (Vic.).
 VK0KT, Ken Tate (Vic.).
 VK0CG—C. Gorman (N.S.W.).

Davis:—

VK0JM (VK5JM), J. Molle (N.S.W.).
 VK0DW, D. Ward (S.A.).

Macquarie Island:—

VK0BB, B. Bell (N.S.W.).
 VK0JR, J. Miller (N.S.W.).

Mawson:—

VK0JW, J. Watts (N.S.W.).
 VK0RH, Ross Harvey (N.S.W.).
 VK0BW, B. Woodbury (Vic.).

As no QSL manager arrangements are known all cards for the above should be routed care VK3RJ.

It seems that nobody reads these notes any more. Plaintive and repeated bleats for info. on the following stations have fallen on barren ears: VK6MP, VK9PU and VK9PZ and the suspected pirate, CR10AB. Any info. at all would be appreciated, likewise any known dope on R.A.A.F. Receiver Type ARI0.

Denis, G3MXJ, currently radio operator on the Orion, has been a frequent visitor to Melbourne when that vessel has been in port. He has managed to glean home news from Jack Box, G6BQ (top man top band), of Gravesend, while in Melbourne. Denis has no Ham-band rig on the Orion. He contemplates giving the sea a rest shortly and taking a land based job with C. & W.—maybe ZD8—who knows?

A current burst of DXpedition activity during April/May has caused pile ups on the c.w. portion of 14 Mc. These include W4DQS and associates at Baja Nuevo and Swan Isld.; W1MV/KP6 at ???; VU2US/AC5 in Bhutan; Danny Weil cooling his heels at Papete under F08AN, and Gus W4BPD with his huge Indian Ocean and African itineraries under various call signs.

Ray Jones, VK3RJ, Manager.

NEW SOUTH WALES

HUNTER BRANCH

The visiting lecturer at the April meeting of the Branch was Harold VK2AAH. He spoke about d.f. loop aerals and in particular described a unit of his own design, with which he has had considerable success in 7 Mc. hunts. A well chosen selection of slides accompanied the lecture, at the conclusion of which, Harold described the now well known, to him, "shelf bracket" antenna, so called because it resembles a shelf bracket. This does wonderful things to 144 signals and is ideal for fitting on any car. See Harold for all the details.

The meeting also heard the views of one councillor on the Amateur's position in present

day affairs and the resulting discussion was healthy and to the point, a very good thing indeed.

The thanks of all Branch members go to Harold VK2AAH for a really good meeting. Among the 16 members, six associates and two visitors present was Leo 2QB, whom we have not seen for some time.

Local v.h.f. activity is running at an all-time high and as proof of this most members listed their names for an 8025 Kc. crystal order. Apparently it is possible to get these crystals for some small charge and, as this frequency, when multiplied, happens to be the local calling frequency on 2, considerable interest has been shown by those interested in v.h.f.

Usually the 80 mx re-broadcast on Monday night is on 3573, not 3503! Any interested reader who wishes to know what all this is about, ask anybody else, all the others know.

A well known member, while hurrying to the shelter of his car after leaving the last meeting, was seen to bend very close to the ground as if to study it more closely. This same member is reported to have come into violent contact with a chain dividing two sections of the College grounds recently. As a Sydney visitor also re-enacted this performance it has been suggested that a suitably inscribed plaque "Molesworth-Oty Walk" be erected in the vicinity. Your correspondent welcomes members' views.

Tony who listens to 2NX with one ear all the time, has at last received his call sign. Rumour has it that he may be heard first on 288, so take a listen for ZCCT if you have the gear. Tony's QTH at Whitebridge should be a good take off spot for Sydney as well. During the month there have been three new arrivals at the Thompson QTH out by the lake. Firstly, twin harmonics (congratulations Jim) and then a new Collins rx (congrats. again). More congratulations, this time to Bill 2XT who came in first in the Urunga 144 hunt. A good time was apparently had by all and it was most heartening to hear quite a few of the local boys from their home QTH in the scramble. Special thanks from the Urunga scramblers to Ron 2ASJ putting in a fine signal from Stockton. Harold 2AHA and Bob 2IN with Perc also created some extra QRM up Urunga way. Ian 2AJF is still making excuses for not having a good signal but will be on, he assures me, soon. He did work a DX station in Alaska though. Of course it was on Chris' gear. This probably means that Chris 2PZ has his gear ready again after the explosion of last year.

Stuart 2AYF almost has his new shack ready and any time now the Monday night broadcast will come from there. At the present it is being presented on a roster basis by members, one very consistent signal being from Les 2RJ who always comes in at my QTH S9.

Those who are contemplating the building of the "Minitran" or project 2 mx converter would be well advised to get in touch with Stan 2AYL who is able to supply, for a very reasonable charge, ready cut chassis tops for both projects. There should now be no reason for local members not being able to transmit and receive on 2. Why not make it a winter project?

The next meeting of the Branch will take the form of a visit to NBN studios in Newcastle at 8 p.m. on Friday, 8th June. Watch the Bulletin and listen to 2WI and 2AWX for details of assembly place. The next social meeting will be at Bill Hall's tavern, Cooks Hill, on the fourth Wednesday, which is 27th June. Regular 2 mx fox hunts are being organised and for details listen to 2WI or the Hunter Branch broadcast which is at 1900 E.S.T. each Monday on approx. 3573 Kc. Call backs are taken firstly on 80 and then on 40, while 144 call backs are taken by either Gordon 2ZSG or Stan 2AYL. 73, de 2AKX.

CENTRAL COAST ZONE

The Gosford Radio Club extends a welcome to 2ZGM and 2ACU who have just arrived in our midst. Geoff was formerly at Ungarie in the Central West and now radiates a powerful drop of s.s.b. on 144 Mc. from Kirimbah. Rod 2ACU is now at West Gosford (niruh into 2AI) and has an HT37 and NC300. He says he has forsaken the bush (Urunga) for the city lights but that's not the way we look at this pleasant watering place. 2EH now gets out well on 80 mx, having lengthened the antenna. I understand he had a break from house building to



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renovate the modulator. Ernie insists that he is retired, of course. I think it will be a while before he joins the daytime net on the Senior Citizens Band (7 Mc.).

Reg 2AI is still rather elusive and recently spent four days at Walgett. The KWM2 is put to good use when time allows. John 2RF now has a good signal on 80 mx using a GSRV antenna and Class B modulation. He also operates 7 Mc. and 144 Mc. Incidentally, there are about seven or eight active two-metre stations in this district. 2ASA is on this and other bands from Tonkley. Phil 2TX has plans for a beam on 14 Mc. but at present uses a GSRV antenna to his HT37 and Drake 2A.

Ken 2AFH, who can listen on 144 Mc., will soon be transmitting. Frank 2AFJ, nearby at Peats Ridge, is now quite active on two. Major 2RU works this band and participates as a mobile in the 2 mx field days when it's not raining! A 3/12 tube puts out a very good signal. Wally 2AFH from Terrigal has a side-band rig under construction with help from Peter, his second op., and technical advice from Joe 2JE.

Alec 2AAK has just started on two from Kulmura. It's on top of a hill and Sydney stations pour in like locals. Gosford contacts are more difficult, it seems. The club has had two very fine lecturers recently in Les 2ZBJ of Camden and Bob 2OA. The former chose 2 mx converters and Bob, g.d.o.s. I wonder how many are now equipped with calibrated g.d.o. for 3-200 megacycles? The writer promises to re-calibrate his long-suffering 955 model. Incidentally, wiping contacts to a split-stator condenser can bring much unhappiness on the 100-200 meg. range and simple pigtails at each end of the shaft bring a miraculous cure. Cheerio, 2ON.

BOORAGUL HIGH SCHOOL RADIO CLUB

During the opening of the Radio Club at Narrandera High School, 2ATZ called in and gave the boys and girls another contact on 40. This apparently reached the ears of the A.B.C. and we gained some free publicity on the news broadcast. Thanks to Pierce 2APQ, the School Radio Clubs were given a good deal of publicity at the Convention and this also reached the television news.

During the month several club members from the junior section sat for the written exam. for the elementary certificate and the practical tests are being conducted each Friday. Three members have already satisfied requirements in the written section and nearly all the group has done well in the practical tests.

The Superintendent of Police has promised us a visit to the VKG tx at Waratah early in June and we are all looking forward to this. The junior certificate written examination is to be held on June 12. Please listen for our club station, 2ATZ, at 0300 G.M.T. week days except Thursday on 40 and at 0615 G.M.T. Tuesday and Friday on 80, 73, 2ATZ.

VICTORIA

MAY GENERAL MEETING

Only about 25 were present at the May meeting of this Division. After routine matters had been dealt with, the Secretary moved that Max 3ZS be made an Honorary Life Member, in recognition of the many years of service he has given to the Institute. There was a rush of seconders to the motion which was carried unanimously. It appeared Max was the only one present surprised by the motion, and was obviously deeply moved when he thanked the meeting.

Only three new members for this month, namely Jas Brown, 3ZLJ, as a full member, and T. Armstrong and D. James as associates.

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"	3010	"	8 "	7/4
"	3011	"	8 "	7/4
"	3014	1"	8 "	8/5
"	3015	1"	16 "	8/5
"	3018	1 1/2"	8 "	10/6
"	3019	1 1/2"	16 "	10/6

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The Federal Councillor, with assistance from the Secretary and 3ZS, gave a resume of the Federal Convention, with emphasis on the humorous aspects.

The evening was topped off with a lecturette by Michael Osborne, who spoke on the theory of tunnel diodes. This is the second theoretical lecturette by Michael in recent months. It is to be hoped he can be persuaded to devote an evening to showing us the practical applications of the gadgets he has described.

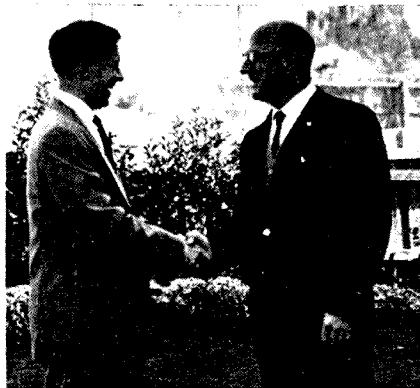
At the next meeting Mr. Little, from the Physics Department of the University, will demonstrate the equipment they are using for Direction Finding their research balloons. Members will recall that the Institute assisted in the initial d.f. tests with these balloons.

MAY COUNCIL MEETING

The most interesting items discussed included the W.I.C.E.N. circular. So far 60 members have indicated their willingness to participate. In due course, all those interested will receive further details. There is still a large amount of detail to be worked out, but at long last we have official recognition and something to work for.

Project Oscar needs all the support Amateurs can give. Bill 3ABP has been appointed VK3 co-ordinator. He will welcome any enquiries or offers of assistance.

The Moon-bounce project is in trouble. A new site has to be found where we can erect a 20 ft. diameter antenna. Offers to Michael Osborne please!



In recognition of the work done by G. Maxwell Hull, VK3ZS (the retiring Federal President), the Victorian Division of the W.I.A. has elected him as an Honorary Life Member.

During his period of office, the Federal Executive has been faced with some of the most difficult problems yet to be met with by any W.I.A. Federal body, and to express their gratitude for a job which has not been easy, the Victorian Division elected Max Hull to life membership.

Our photo shows David Wardlaw, VK-3ADW (Victorian President), congratulating Max Hull on being made a Life Member.

The agenda items from the Federal Convention were all reviewed and discussed. Council voted in favour of ratification.

As at the first of May, the Victorian Division had 12 life members, 604 full members, and 114 associate members. The Publicity Officer will be making a drive to increase membership.

Council supports the idea of using G.M.T. in Amateur Radio matters, with the exception of Council meetings. Some members objected to meetings lasting into the afternoon!

GENERAL NOTES

Over the years ingenious ideas for hiding tx's have been thought out. Remember the couple with the pram in the Treasury Gardens? Well now the simplest idea even thought of has been tried. Wonder nobody tried it before. So delightfully simple—just don't turn the final on. If I didn't know better, I'd say this was a 3LN effort.

Now that Len is in this, he would be the one person I thought impossible to ruffle. In all the years I've known him, he has had a

perpetual grin. But did you see the news telecast on a recent Sunday? Our usually debonair Len salvaging shirts from his shop window. No grin this time, but then who could grin if pulled out of bed at 3 a.m. because a car decides to enter a shop through a plate glass window. And I bet that dressing gown would look good on Kodachrome!

Now we have the "payola" in, have you ever spent an hour listening over the bands to find out how others spend their time when they're not "hamming" or watching t.v.? Topics heard discussed recently included fishing, photography, the formation of an eastern suburbs radio club, a game of chess played via 2 mx, boat building, and sometimes radio.

On the subject of chess, did you see Hancock's half hour when he played an Amateur Operator? As an operator, he was an Advisory Committee's nightmare. The finer points, no doubt, were lost to the general public, but the script was undoubtedly written by somebody closely associated with the hobby.

Think back, how often have you mislaid your pencil when you most wanted it, hunted it out only to find it needs sharpening. If you say you have never grabbed a hot lead and said what Hancock's expression inferred, nobody will believe you.

Hope you have read your W.I.C.E.N. circular and returned the slip attached thereto. Now that Civil Defence is getting some real recognition in official circles, let us show that Amateurs are of real use to the community.

Oh yes, the hidden tx without a final. Believe me or believe me not, as you wish, but the hunters still found it!

NORTH EASTERN ZONE

During the month of April most of this zone's active members were heard working the bands, some on DX. 3IG (ex 3ZKW) came on early in the month and his contacts with YV, K, W, P and DL land has caused considerable envy amongst locals. 3AWT was talking about building a 6 mx rig earlier on but has since been a.w.l. 3AOB recently begot himself a spouse and the poor woman soon learnt what being married to an Amateur meant; he took his portable with him for the Eildon honeymoon. From that location he was heard many times. I am sure other zone members will join me in expressing hopes for all that is best to Ted and his lady.

Understand that 3AHO is off to Wallace Isl. soon for a DX-pedition; these cow-cockies! 3ALF has constructed a quad and has been pointing the bone at several of us re assistance with its raising. 3ACK still fiddling with his star-gazing machine and during his rare calls, discusses slow motion drives, prisms, mirrors and washing machine parts in lieu of tubes, condensers and tuned circuits. 3ACD has formed the nucleus of the Shepparton High School Radio Club. The Yarrowonga Radio Club, under the guiding hand of 3ZU, offered several candidates for the recent exams.

The two-stroke motor which 3AUL uses to charge his batteries was playing up earlier this month. He has since drained off the surplus water with good results, because with higher voltage, he worked several JAs on 15.

As decided at the Convention, hook-up overs have been generally maintained at two minutes. However a few exceptions have occurred and 3AUL, the zone co-ordinator, has been urged to bare the fangs at them. Topics such as a zone certificate, c.w. practice within the zone, two-day convention for '63, have recently been discussed, meeting with varying amounts of enthusiasm or disdain. The idea of a two-day convention was well received as

STH. WESTERN ZONE, W.I.A., and GEELONG AM. RADIO CLUB

CONVENTION

9th and 10th JUNE, 1962

Business meeting on Saturday afternoon, Dinner at 6 p.m., followed by a Film Night. Sunday will have a car trial transmitter hunt, picnic lunch and the usual get together.

Fuller Details from VK3ABK, 22 Leonard St., Belmont, Geelong, Victoria.

it would permit of a dinner-dance for the ladies, games for the kids and fox hunts for the members.

Due to Scouting pursuits prior to and after Easter, I have had little time to snoop around the bands to gather info. during April. The urgency of other pursuits now being passed, zone members who have the irresistible urge to look over their shoulders (metaphorically) expecting to find me, will, 73, 3ASY.

EASTERN ZONE

Ken 3ZNK arrived back from VK2 where he spent his holidays near Sydney. Ken hopes to have his self-supporting tower up very shortly. David 3DY is spending some time on 28 Mc. with some fruitful QSOs during the daylight hours when the band is open. All being well, Graham 3QZ will be going to England in June for several months. He has now all the bugs out of his s.s.b. rig with good results on all bands. Jim 3ZBU is doing out his new shack, so temporarily off the air. Bill 3AMH, now at Traralgon, is active on all bands, including a.m. on 145.09 Mc. Bill is constructing s.s.b. for the v.h.f. bands.

In case you were unable to attend our recent Zone Convention, Cliff 3AIT was appointed as our official call-back station to 3WI, assisted by Graham 3QZ (3AQZ), and to be backed up by any other listening member, when either Cliff or Graham cannot make it. Please do not forget, thank you.

Unfortunately I have spent the last three weeks out of the zone on holidays in the s.w. zone, meeting Geelong, Colac and Ballarat Hams, so my news may not be complete. Trust everybody enjoyed themselves on the zone field day at Warragul Creek; our next family field day is to be held at Lakes Entrance on 4th November, 1962.

I want all zone members who have a 2 mx rx to participate in Oscar II. I have already handed out some reception report forms, so any without same, please contact me so I can forward you some. Only these special forms can be used, and these cover if you can only make several quick observations or constant detailed reporting. As only four reports were received in U.S.A. from VK land for Oscar I., very disappointing, we want this one to be a great success, so please do not let me down—remember the Kinnear Trophy.

Allan 3ZNB, down at Anderson, is quite active now on 2 mx. 73, 3ZCG.

MOORABBIN & DISTRICT RADIO CLUB

A very full and interesting month for members of that active bunch from the City of Moorabbin. The 80 mx tx hunt at the beginning of May was well attended and we were pleased indeed to have Arthur 3AUL—the King of Smoko—with us for the evening. Don't know how 3AUL felt about it all, but we were very glad to see him and be active participants in his rakes progress through the Big Smoke. Peter 3APD finally found the nasty little hidden tx in a bush under the junction of a maze of power lines. These last mentioned lines put everyone else right off the track to such an extent that Peter was the only one who found it and was thus the winner.

The next meeting night we were treated to a couple of very interesting films picked out for us by Laurie 3CN. Where does this chap get such good flicker fare? Same high stand-

ard every time. One film was on the 1961 Farnborough Air Show, the other being on the way the B.B.C. gets its "telly" to the populace. Having patted Laurie on the back for the way he chooses his films, I think he must now be gently chided for his lack of air time. It appears that he has (temporarily?) forsaken the tx for hi fi. Shame on you, Laurie.

Final fixture for the month was a social night at Hal Shirley's where a rumbustious time was had by all and once again our Treasurer, Peter 3KK, rubbed his hands with glee at the sizeable increment to the club funds. We laymen reckon we are in the millionaire class, but a professional accountant is harder to milk than a stone.

Perhaps for all of us the highlight of the month was a visit from John W6VY. John was the first American Honorary Member and being in Melbourne on business, wrote Stan 3TE, asking if he could meet the lads from Moor-

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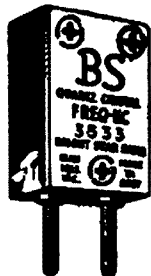
THURSDAY, 2nd AUG., 1962

Theory is held on Monday evenings, and Morse and Regulations on Thursday evenings from 8 to 10 p.m.

Persons desirous of being enrolled should communicate with—
Secretary W.I.A., Victorian Division, P.O. Box 36, East Melbourne (Phone: 41-3535, 10 a.m. to 3 p.m.), or the Class Manager on either of the above evenings.

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abbin. As his visit didn't coincide with any particular club function we organised a shindig at the QTH of Ken 3ACS in John's honour. A most pleasant evening for a most pleasant bloke. Hope you get back to VK3 again, John.

The Monday night club net at 8 p.m. on or near 3.6 Mc. continues to be very popular. Your scribe—who acts as control under the club sign of 3APC/P—has the uneasy feeling that occasionally, very occasionally mark you, he gets put in the position of Aunt Sally, so many brickbats are slung at him. The net is getting so large these nights that we shall have to form a splinter group if any of us are to get to bed before midnight. 73, 3AFQ.

QUEENSLAND

Amateurs in Queensland during April were kept busier than the proverbial bees in this land of sunshine. The activities seemed to come at the one time and, when mixed with a lot of holidays, the possessors of a lot of call signs were heard and seen. It seemed to many trying to have a rag-chew, on 7 Mc. in particular, that there was only a thread or two left after so many others had crowded the band. The Division Convention and the Annual General Meeting headed the list of "do's".

The Annual General Meeting of the Queensland Division of the Wireless Institute of Australia was held at the State Service Union rooms in Brisbane on April 27 at 8 p.m. with Peter 4PJ in the chair. During the proceedings, Vice-President Peter read his report which incorporated other councillors' reports that had been submitted.

His report included a suggestion that the new Council elected each year should be active by April instead of in May as at present. 4PJ said that he could see no virtue in the gap existing between the end of the W.I.A. year in February and the start of Council activity.

The report said that in the year, the QSL section had worked so smoothly that one hardly knew it existed. Despite advice, many Amateurs did not claim QSL cards and they had to be returned to the sender. During the year, a total of 3,540 cards were sent at an average cost of two-thirds of a penny, but there are about 4,500 cards on hand ready to send.

Membership at the end of the year should show four life members, 202 full members, and 88 associates, making a total of 302, a net increase of 17. The proportion of licensed operators in Queensland to licensed W.I.A. members was unsatisfactory.

The meeting also had reports from 4KB (Trustees), 4AO (Federal Convention), and 4EF (Disposals).

The ballot for this year's Council resulted in the following members being elected: 4PJ, 4JF, 4ZBZ, 4KB, 4DG, 4AW, 4CI, 4WX, 4VM, 4SA, 4LT and 4ZZ.

The order of business was interrupted to allow the ordinary monthly meeting to be held, and the annual meeting was closed at 10.55 p.m. The Division Convention at Alexandra Headland on April 14 and 15 was quite a show, and we hope you can read about it in a separate story submitted for this edition of "A.R."

The April Council meeting held at the QTH of Peter 4PJ decided to ask the VK2 Division that a frequency other than 7105 Kc. be used during an emergency. This was one frequency used when a net operated in the Northern Rivers area early in April. The frequency is the Intrastate hook-up frequency for VK4.

The v.h.f. boys who took part in the Senior Scout Easter venture communications set-up deserve a special pat on the back for the good job they did. A letter of thanks from the venture leader says that this year's communications were the best ever. The venture received press and radio publicity, and mention was made of the W.I.A. We hope more will accept the invitation by the Boy Scouts to do a similar job of service at next year's venture. Also, Senior Scouts aged between 15 and 18 are an excellent source for future members.

The boys up at Ipswich also deserve praise this month for the effort that they would have put into an Amateur display at their annual four-day Show on May 9, 10, 11 and 12. At the time of writing, Jerry 4MV, Maurice 4AU, Henry 4HC and Ralph 4ZCH were going to set up their gear at the showground in a project helped by Rotary. Special QSL cards were to be sent to all Amateurs contacting the showgrounds.

Alf 4OL, who is at present running 4WI on Sundays, has had the Geloso tx running and no doubt many members have heard this equipment on the air on 7 and 14 Mc. Good reports have been received from as far away as Townsville. Alf can now also transmit on 6 mx but not with the three together as he's still trying to get around the problem of how to hold three mikes in two hands. He's making an attempt to solve it using only one mike and some gadget.

Alf is one of a number of h.f. fans in the Brisbane area who are learning their two and three times multiplication tables again. They are rock hunting for crystals to put them up (or is it down!) with the v.h.f. boys. Among the others who have been chanting that three times 8.4 is 25.2, and that twice that is 50.4, are George 4GG, Bill 4WS and Les 4EH. The Oscar II project has had several soldering irons hot and if it's in orbit by now there should be reports of its passage above VK4.

In closing, we will predict that this month's "A.R." will be the most widely read for years. Why? Didn't you notice last month that 5 PanSy (frustrated with the Post Office and fees?) has decided to put down his acid pen, unfortunately not for ever, but for a month while he toddles hither and yon around the country side on his hols. Wonderful news like that spreads around the place from VK0 to VK9 like wildfire, the best possible circulation booster. 73, Don.

ALLOCATION OF CHANNEL 0

The announcement by the P.M.G. (Mr. Davidson) on May 8 that the allocation of television Channel 0 for Melbourne and Brisbane is confirmed, deserves the strongest protest ever made by W.I.A. members. The decision means that Amateurs in these cities have to give up operating on the 50 Mc. band, another band snatched from under the noses of the Amateur fraternity. Channel 0 covers from 45 to 52 Mc., leaving only 2 Mc. free, and Amateurs are asking how they can possibly operate from as low as eight to 10 watts against 100 kw. from a t.v. station on an adjacent frequency. The VK4 boys are already up in arms and intent on making their views known. Here is the chance for the W.I.A. to show what a strong voice it has.

BUNDEBERG CLUB

At the monthly meeting on April 9, club members were feted to a film evening which was greatly appreciated and enjoyed by all. These film evenings are becoming a feature of the club and students and licensed members alike are finding them very enlightening and of great interest.

The club vice-president (Les 4XJ), who chaired the meeting in the absence of president Frank 4UK, conveyed the club's congratulations to Mrs. Jocelyn McGrath on obtaining her full Amateur licence. Jocelyn is the XYL of our secretary-treasurer (Rusty 4JM), often heard these days on the 40 mx band.

One of our members, Roy KV, has just installed a maritime mobile in his new boat, and members are looking for calls. Les 4XJ contacted the club's first Morse instructor, Alan 8AD, ex-4AD. Alan now resides in Darwin and his ex-pupils were delighted to know he is back on the air, and will be looking around for him. 73, 4MZ.

CAIRNS

Six mx activity still the mainstay for the last month with a few openings to JA land. Bill 4ZGW worked a few but I can only claim half a contact. A JA3 answered my CQ but that damn rx of mine distorts on weak signals after it has been running for an hour and I couldn't copy the JA3. Rick will have to look to his laurels as he can no longer claim the distinction of being the only Ham in Cairns to work any DX on 6. Very pleased to hear that the VK9 boys are tuning up as high as 50.7 Mc. to see if they can hear us, but we so far have not heard a sign. Keep trying please VK9.

Hear that Harry 4HK is paying a visit to the big smoke. Did hear Claude 4UX making a date to meet Harry at the railway station at 11 o'clock at night and that Harry would recognise as the fine, upstanding athletic gentleman with the mop of unruly hair with a large flask under his arm. Knowing Claude as I do, Harry you'd better watch out for what he has got in that flask. Don't spill it on your clothes for goodness sake, for he brews it himself.

Over the Easter holidays I visited Innisfail, spending most of the day eating Bob 4TK out of house and home and yarning about Ham Radio. I don't like going to Bob's place though for his shack is so tidy and my XYL insists that mine has got to be cleaned up after she gets an eyeful of that studio!

Apparently a few of the northern boys went bush over the Easter. Ross 4RO calling me from a place called, of all things, Paradise Bay. Wonder what sort of a place that is? There is a place called Paradise in Adelaide, but we don't say much more about that place, no fear.

Answering a knock on the front door, found Tim 2ZTM on the doorstep. He signed the visitor's book as mobile, but with the amount of gear he had in that vehicle, he should have signed 2WI portable. I never knew it was possible to get so much gear in the front seat and still find a place to sit and drive. What he had in the back was nobody's business. Ask

about beams to go fox hunting and he would dive into the pile of gear and exhibit a beautiful three element beam which he claims is just the berries. After a night, last saw him asking directions for Townsville on his way home.

Frank 4FC blew in from Ingham during the Easter break and it was good to see him after being so near, yet only knowing each other's voice. Tried very hard to convert him to 6, but he seems to be stuck on this 144 Mc. band. 73, 4ZW.

SOUTH COAST

For me, most of April has been spent travelling leisurely to VK4 Convention at Alexandra Headland, returning home, and then to the VK2 Northern Zone Convention at Urunga. At Alexandra Headland, the South Coast had five representatives, Neal 4WW, Cres 4ZAO, R. Kyle, Southport Amateur Radio Club President (Ken 4ZGX) and self—four Wandering Southport.

Neal and Cres ran second in one of the hidden tx hunts. On the whole, a splendid time was had by all, and according to the grapevine, the location was f.b.

Two reps. from VK4, George 4GG and myself, were present at Urunga. A very comprehensive programme was arranged and everybody was kept on the go from the Friday night till the Monday, and for those staying on, a programme to suit their wishes was available. All told, another successful and enjoyable "do".

Recognition of the work done by Amateurs and their potential in civil defence has been voiced by the local press, and attention drawn to the availability of instruction in the art at the Southport Radio Club which is now holding classes on Saturday afternoons.

Of note in passing, Frank 2ACQ, the supervisor of VK2 slow Morse sessions and liaison officer for country members, on his way north to the Sunshine State to sample our golden beaches and the hospitality for which Queensland is noted. 73, 4WS.

TOWNSVILLE DISTRICT

Just received a QSL card from VK6 land depicting an invitation to the Empire Games; very nice indeed, when compared with the drab card issued to the VK4 boys by the Tourist Bureau. The boys from the Burdekin Club journeyed to Paradise Bay for the Easter weekend and pleasant time was had by all. Claude 4UX took the Scouts out camping and tells almost unbelievable tales of the cooking he was given and swears the tea was boiled furiously all day. Congrats. to 4OJ and XYL on arrival of 4th daughter; keep trying Joe, the law of averages must come good.

4GS still undecided and cannot make up his mind which is the best hobby—Amateur Radio, hot rodding, or chasing the opposite sex! Ellis 4ZEA in the big smoke and looking over all the latest equipment. John 4DK toying with the idea of getting commercial gear and making a comeback, has very little time for building which is his pride and joy.

The Burdekin Club enrolled two new members, making a total of 26. T'ville Club will have to look to its laurels if they still increase. While 16 are attending the current A.O.C.P. classes, whacko the future QRM!

A visit was paid to the district by VR4CB and sorry to have missed him. Graham 4BX sold his gear, including beam and tower, and now whies away the idle moments with a new car—XK140. Frank 4PF speculated in real estate with view to shifting to new QTH. Don't forget Frank, the shack to be built first. Charlie 4BQ still an old stalwart in the Kookaburra session each morning. John 4DD and Eric 4EL still working the G boys on s.s.b. and c.w. While Bert 4LB, who is on holidays, worked five new countries in a row on s.s.b. the other night, UA0 on Wrangel Is., PZ1, HH2, KP6, and YV5. (I am jealous of the one on Wrangel Is.) Bill 4ZBE still has an opening to JA land.

Very sorry to hear that Alice, XYL of Claude 4ZY, is on the seriously ill list, hope she is soon well again. Harry 4HK is going south to the big smoke on a business-cum-holiday trip, and wondering what new gear he can manage to bring back. Basil 4ZW hopes to have another candidate for the next exam. and promises the usual cuppa when I arrive at end of the month.

The last two Sundays the 4WI broadcast on 14 Mc. has been 5/9, but no hook up except Bob 4RW, Frank 4ZM and Rick 4VR, who natter amongst themselves, hoping others will join in like old times. What about it boys, call in and let me hear you and what is happening in your shack and district. The writer hereby pledges to let you hear the new rig on s.s.b. before the next new moon. Congrats. to all the councillors who won the selection to serve the 4WI. Hope you all pull together and make things go with a swing. Too long we have had no cohesion and remember we have the best Sunshine State, so let us also have the best WI to safeguard our interests. 73, 4RW.

SOUTH AUSTRALIA

ELIZABETH AMATEUR RADIO CLUB

At the April meeting of the club almost the entire evening was taken up with a discussion on members' complaints about the W.I.A. This brought forward several suggestions and resulted in a letter being drafted and forwarded to the S.A. Division, with a copy to the Federal Executive. 5FY, our worthy president, was absent Interstate and 5PE took the chair. 5NQ was elected as the club's representative on the W.I.A. Divisional Council.

Congrats. to 5PE and Sheila on the birth of a daughter; only Australian in the family so far. Congrats. also to Clive on being elected to the Divisional Council of the W.I.A. In addition to his work with the local Fire Brigade, this lad has also found time to give technical instruction to some of the chaps preparing for the A.O.C.P. exam; one of whom, Trevor Mell, has already passed his limited exam. More congratulations!

A new call heard in Elizabeth is 5CR, Layton Catford, son of 5XL. Layton is rather limited for antenna space, but has been heard with a good signal from his 807. He uses a CR100 rx.

John 5QL is away from home quite often in the course of his work, but is busily working to get himself going in a big way with an s.s.b. rig under construction. In the meantime his signal with a QRP rig is surprisingly strong.

5FY still plugging away on c.w., mainly on 20 mc. Takes a keen interest in the progress of 5NO's new house, because he's taking over the beam when Tubby moves out of Elizabeth.

All the boys are waiting anxiously for the Field Day results—but too much to expect to win it three times in a row, but we seem to have come pretty close.

5TM heard on again after recently shifting to Elizabeth Downs. 5QX puts in an appearance now and then from the Woomera Club. 5EJ, 5CV and 5AG are often heard on 20 c.w., working the DX. 5NQ won the Australian section of the 1961 All Asia Contest; has now attained membership of that august body, the Certificate Hunters' Club, and has also been elected president of the University of Adelaide Radio Club, which club (5UA) has now become affiliated with us, presumably to take advantage of our QSL Bureau. 5ZMK and 5ZBR are still very active on the v.h.f. bands.

True Story. One of our more intrepid Elizabethans probed so deeply into the Interior recently that he came upon the hidden City of Adelaide. Whilst gazing wide-eyed at the many marvels, he suddenly grasped his wife's arm and said, "Look, there's Pansy Parsons, let me introduce you to him." Said she, in her quaint Elizabethan accent, "Not likely choom, we saw Dave King on Tuesday; one comedian a week's enoof!"

5IK running 150w. to a three element beam on fifteen and already piling up a DX score on both phone and c.w. 5DS was able to distribute a large quantity of used valves at a recent club meeting. These were very gratefully received and most members took away their share. 5ZDV has not been heard yet with his new call of 5WV, but has now got his crystal converter to the preliminary try-out stage and is very pleased with results. We learn from unreliable sources that 5ZC spends most of his time on 40 mc phone. 5DY has built himself a filter type s.s.b. rig and is getting out remarkably, using a 4X150A linear and a ground plane.

Our s.w.l. members, Peter and Roger, are getting more than their share of inward DX cards. Jim Mackessen is busy studying for his ticket. 5ZMA has repaired a small Hallcrafters rx, recently presented to the club. As soon as a 240/110v. transformer becomes available, this rx will be available for club use, or for short term loan to members. Nothing has been heard recently of 5HA or 5KD.

Hugo 5ZDA has now passed his full ticket and will shortly be on the DX bands. 5RC has been heard on sideband with his HT37, but he is another one having trouble to find space for a good antenna. 5NO will probably be closing down soon for a long time, because of shifting to a new QTH in Gawler. 73, 5NO.

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TASMANIA

Election for Council offices were held during April, and the following appointments were made: President, Tom 7AL; Vice-Presidents, Len 7LE and Snowy 7CH; Secretary, Ken 7KA; Treasurer, Snowy 7CH; Bulletin Editors, Ken 7KA and Snowy 7CH; Bulletin Distribution Committee, Tom 7AL and Terry 7CT; Bulletin Technical Editor, Alan 7MY. Council feels, as a result of the Bulletin arrangements, that the work will be much more equitably spread and that the overworked Secretary might have a little time to come on the air. We hope to hear you there too Ken.

Ted 7EJ, our Federal Councillor, has just returned from the Federal Convention in Perth where he represented us through 40 hours of discussion and policy making. We were delighted that so much of our contribution met with success and our thanks are due to Ted for representing us so ably.

My apologies to Ken 7AI for not knowing he was on s.s.b. since 1958; blame skip please Ken. While on the subject of s.s.b., George 7XL has been heard putting out a beautiful s.s.b. signal and Ted 7EJ will soon be heard on 80 mc s.s.b. 7CK will not be heard on the air for some months from now, because Poley has left for an overseas tour, taking in apparently all points east and west from VK7. Look out for Poley from overseas stations. I was delighted to work a G on 7 Mc. early in April on c.w. of course.

We were privileged to be addressed by Professor Ellis of the University at our May Divisional meeting on the subject of Radio Astronomy. This address was another science in action lecture, as he described present experiments in this field under way in Tasmania. His delight at the prospect of holes in the ionosphere during the next couple of years augurs bad for DX operation on our bands. Many good questions were asked of the Professor from the keenly interested audience. The April Divisional meeting was very interested in a transistorised grid dip oscillator presented by Brian 7ZBE. 73, 7ZZ.

NORTHERN ZONE

Northern Zone members "went bush" on the night of Friday, 13th, however let us hasten to add that the only reason was to attend the April meeting of the zone which, on this occasion, was being held at the home of our President, John Forster, 7JF, at Poatina. In spite of a 66-mile round trip the meeting was one of the best attended meetings held by the zone for a long time. Sixteen members arrived and I have since heard that the Forster family had the alternative of going to bed or sitting on the floor for the evening. (As the meeting concluded round about midnight, they probably ended up doing both anyway.)

This was the first meeting of the year under the control of our new office-bearers and both our new President and Secretary impressed all those attending by their efficiency and by the amount of work that they have already put into projects and plans for the welfare of the zone whilst under their control. Lecture for the evening was the playing of a tape recording by Ed Tilton, W1HDQ, on v.h.f. and this was one of the best and most informative lectures ever heard by the zone.

The following day 20 members of the W.I.A. and I.R.E. were shown over the Poatina Hydro-Electric project by 7JF, the highlight of the tour being a visit into the giant underground power station now in course of construction. This entailed a half mile trip by diesel bus which ended up in the huge excavation 300 feet long, 50 feet wide, 90 feet high and 500 feet underground, which will eventually house generators delivering 360 mw's—that m.w. doesn't stand for mill-voits either!

Interstate visitor to the zone this month was Morton 3ANG. 7PF has now been advised by W6SAI that he is VK7 co-ordinator for Project Oscar and if members are requiring information on this project, they should look for Peter on 7 Mc. 73, 7LZ.

NORTH WEST ZONE

During the month had the pleasure of a visit by Morton 3ANG for a day and we were fortunate to be able to tag along with the Northern Zone boys on an inspection tour of the new hydro-power project at Poatina. We are grateful to John 7JF in his role of guide. I believe Morton is convinced that we don't do things by halves in VK7.

Have an uncomfortable feeling that TMS has succumbed to the t.v. bacteria. Have not heard him around and it looks as though another of my QRM problems is solved. How long can I resist this dreadful thing? With the opening of Northern Channel 9, pandemonium will break forth and we will be playing a losing

battle. Even if you are in the rake-off chaps, don't forget the Institute altogether.

Heard someone calling 7ZW on 20 mx. Did not know that you were on DX Athol; good show. I was fortunate to be in Harold's (7MZ) final QSO from this zone. Has now migrated to Southern Zone. Reg 7RL was working portable from Cradle Mountain the other day. I could not hear you Reg, but hope that you made some contacts.

Have just returned from the social meeting of the zone. About 12 members were present and it does not grieve me much to say that those who did not appear missed a very fine film evening; t.v. again I suppose. Felt very proud of Harry, who, when questioned, said, "I am having a night off t.v." A lot of strange terms and jargon were heard from a corner of the room emanating from 7AI and 7XL, discussing respective s.s.b. rigs. Who will be next? Sid did a fine job with some films, 100 per cent. all talking. There's nowt that fellow cannot do. The display of colour slides was greatly enhanced by Ron, a visitor from ZL. Must go to ZL.

Well having given t.v., the greatest enemy of this organisation, my usual hate session, I will now wish you all good viewing, plenty of breakdowns, and hope to have more next month. 73, 7MX.

HAMADS

Minimum 5/-, for thirty words.

Extra words, 2d. each.

Advertisements under this heading will only be accepted from Institute Members who desire to dispose of equipment which is their own personal property. Copy must be received at P.O. Box 36, East Melbourne, C.2, Vic., by 8th of the month, and remittance should accompany the advertisement. Call signs are now permitted in Hamads. Dealers' advertisements not accepted in this column.

CLEANING Out: Small power supply units, 240v. a.c. input, 250v./50 mA. out, 6.3v., £1 each. Some Meters, 0-10 to 0-200 mA., round, 10/- to 30/- each. Power Transformers, 10/- each, some ex 122 Sets. Command V.f.o., dismantled, 3-4.5 Mc., complete and with spares, £1/10/-. Two Walkie-Talkie Units, need small repairs, £1 each. One 12-18v. input Genemotor, and filtered supply unit, 300v/100 mA. output, £2. Vibrator Unit, 6v. to 100v./30 mA., 10/-. Class C Wavemeter, complete with power supply. Philips Communications Receiver, perfect order, £17/10/-. All the above in good order. Please add postage. VK4SS, 35 Whynt St., West End, Brisbane. Phone 4-6526.

FOR SALE: Gear ex late VK5MD. Type 3 Mk. II., complete with modulator, £35. Class C Wavemeter, £7/10/-. Apache Heathkit Xmtr (TX1), 110v., £140, in excellent order. Hammarlund HQ145 Rcvr., 110v., £140, in excellent order. Power Transformer, 240/110v., £8. Or reasonable offers will be considered. C. H. Baseby, VK5BZ, 12 Seafield Ave., Kingswood, S.A. Ph. 7-4161.

FOR SALE: Power Transformers—400v. aside, 250 mA., £3; 1,400v. aside, 400 mA., £6. Chokes—10H., 400 mA., £2; 10H., 250 mA., £1. Condensers—4 µF., 2,000v., 10/-; Meter, 1 mA. f.s.d., 6½" diam., £2. VK3AIW, L. Weller, 46 Pepperel Ave., Syndal, Vic.

S.S.B.: Sell KWM1 Transceiver, showroom condition. 23 Surrey Road, Keswick, S.A.

WANTED: 3 to 6 Mc. Command Receiver, good condition (adapted or original condition), suitable for s.w.l. for crystal controlled converters. Craig Cook, 10 Foch St., Ormond, Vic. Phone 58-1773.

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3.5 Mc. Ham Band:	50 Mc. Ham Band:	144 Mc. Ham Band (continued):
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DC 3537 FT 3564	DC 8416 50.5 Mc.	DC 8017.5 DC 8024 DC 8031
FT 3534 FT 3573	DC 8450 50.7 Mc.	DC 8018 DC 8024.5 DC 8031.5
DC 3547 FT 3575	DC 8483 50.9 Mc.	DC 8018.5 DC 8025 DC 8032
FT 3549 FT 3580	DC 8500 = 51 Mc.	DC 8019 DC 8025.5 DC 8032.5
FT 3552 FT 3587		DC 8019.5 DC 8026 DC 8033
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Complete with internal battery, testing leads and prods.

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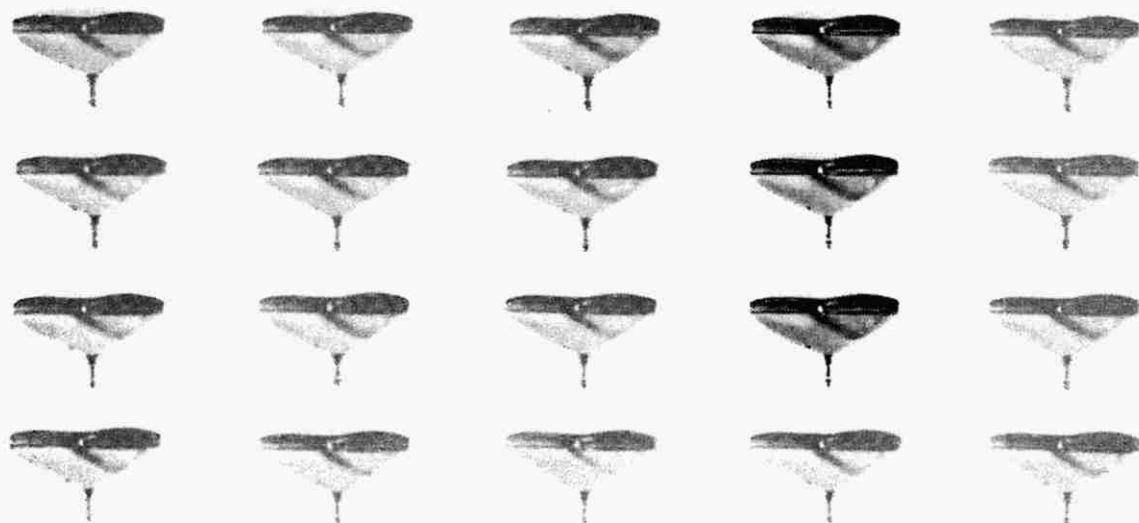
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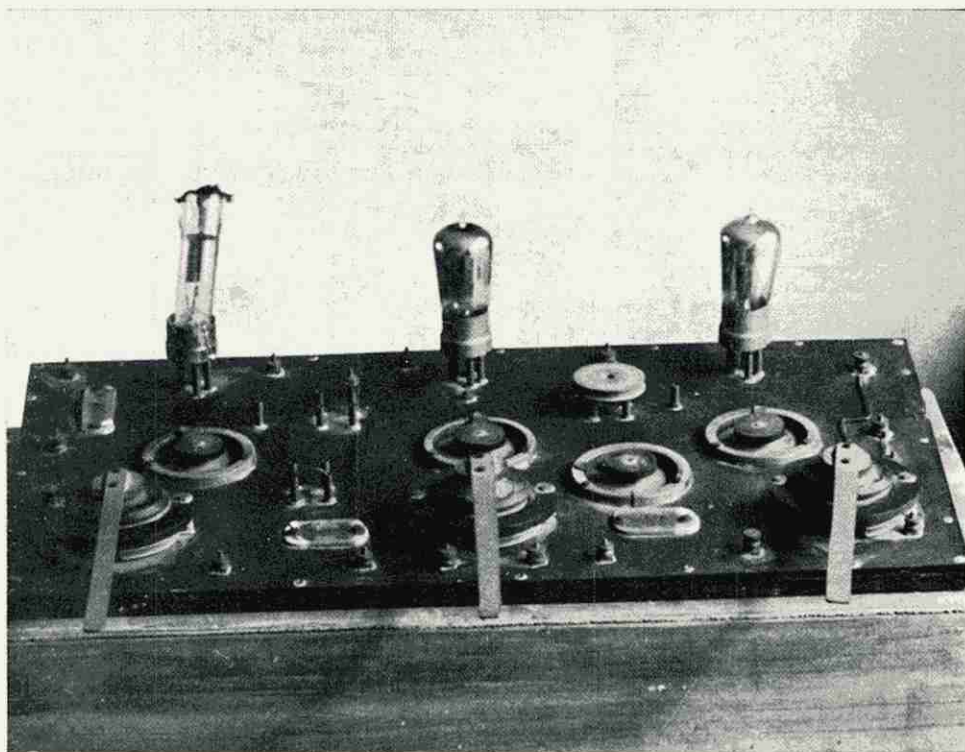


For additional information concerning these and other Super Radiotron types consult the new picture tube interchangeability wall chart, publication No. TV-3. This AWV chart contains characteristics and replacements for 57 tube types common to the Australian market.

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JULY 1962



Vol. 30, No. 7

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Complete with leads.



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When transmitting licences became
available for that band, two-way
contact was made in the following
year by VK3BQ.

The handles in the front of the set
are coupled to the home-made tun-
ing condensers, ebonite being used to
eliminate hand capacity. In the cen-
tre of the photo are the filament
rheostats, also hand wound, and the
coil can be seen in the centre top
right hand corner. Three B.T.H.
valves were used, and the one at the
left has been mounted in what
appears to be a glass test tube, sealed
to the base with paraffin wax. How
many Amateurs could today build
their own tuning condensers?

FEDERAL COMMENT

★

At the recent Federal Convention in Perth, an item was placed on the agenda for consideration to be given to the purchase of land in Canberra by the Institute as a site for a future Federal Headquarters. This item was thoroughly discussed, and it was finally resolved that the Federal Executive should investigate the whole matter and report to the Federal Council on the possibility of such a venture.

This matter is naturally not one on which a hasty decision can be made as there are many problems involved, not the least among these being the question of finance, whether Canberra is the best place for a future Headquarters and many others. Perhaps the salient feature of this idea is whether it is desirable or not from a member's point of view. The Federal Council have thought so and have been forward-looking in this regard, and we feel that every member will support this view in that in the not-too-distant future a permanent home for the Institute Headquarters is necessary.

The saying—"Great oaks from little acorns grow"—is very apt in this sense. From small beginnings and a realistic future plan, one can visualise a similar growth to the presently strong A.R.R.L. organisation. And yet our American contemporaries, despite their growth and strength, are even now embarking on a further expansion in the accommodation for their League Headquarters. Our future expansion may not be so clearly predictable as it is with the A.R.R.L. because of our present organisation, but it is evident from other items discussed at the recent Convention that there is a gradual trend towards unification of the W.I.A. on a national basis. The two important items on the agenda dealing with a new Constitution confirm this trend, and when implemented may give a clearer indication of how we may attain our objective.

With the Institute's increasing growth in status of recent times, it is obvious that more cognisance must be given to our Federal structure if we are to survive and expand our activities. This scheme for finding a permanent home for our Federal Headquarters is a step in the right direction, and although the investigations are not likely to provide an early solution, we trust that when the time for action does come every member of the Institute will wholeheartedly support the Council in its final decision. As our planning of today may become the reality of tomorrow, we hope to provide the Amateur administrations of the future literally with a solid foundation on which to build and expand.

FEDERAL EXECUTIVE, W.I.A.

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SPLATTER—ITS CAUSE AND PREVENTION

J. G. REED,* VK2JR

RECENT articles in "Amateur Radio" dealing with sideband splatter caused by over-modulation are to be commended. All too frequently we hear stations with radio whiskers the proverbial yard wide fouling many kilocycles of our ever-decreasing bands.

Unfortunately, these articles and the correspondence they have evoked have been noteworthy in major part for their misunderstanding of the basic reason for the generation of such splatter. What Amateurs look for in "Amateur Radio" are factual explanations and bread-and-butter information as to a cure, as most have a limited time to operate and meagre facilities to carry out real experimental work.

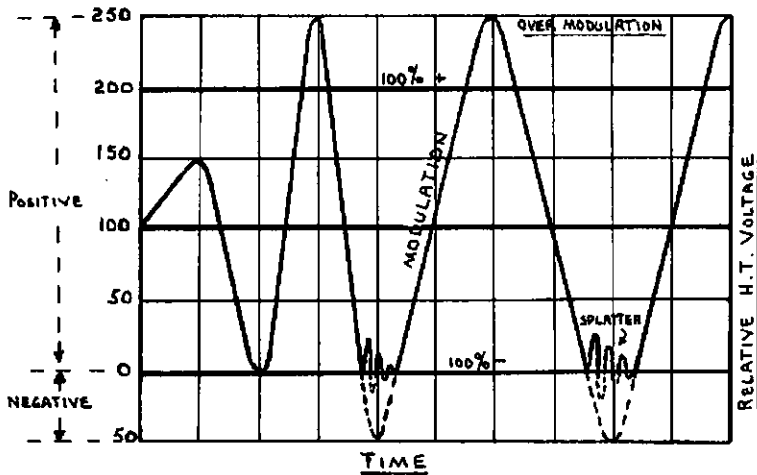
Generation of harmonics of the fundamental audio modulating frequencies plays a very minor part in the annoying signal spread caused by over-modulation. Unless subject to selective filtering in the speech amplifier, major energy level in radio telephone signals will be found well below 1,000 cycles per second, and harmonics of quite high order will be contained within a band scarcely distinguishable from the true information channel, and well within the normal selectivity curve of most receivers employed by Amateurs. The higher frequencies, which are responsible for most of the intelligibility of speech, have relatively low amplitude as compared to the former and the power level of their likely harmonics will be found correspondingly weak.

In this article, use will be made of such terms as modulator, modulated amplifier, and carrier wave, in the generally accepted meaning long associated with what is called amplitude modulation. Every single sidebander, and those who have bothered to analyse seriously the art they have adopted as a plaything, know that the so-called amplitude modulated transmitter is really a generator of double sidebands, obligingly radiating an accurately centred heterodyne c.w. signal to help in resolving intelligible signals at the distant receiver. However, to simplify matters, let us assume that such a thing as amplitude modulation of a carrier really exists.

What we refer to as a modulator is really the final stage of an audio frequency amplifier, and the modulated amplifier a combination generator of high level r.f. power and, most importantly, a high level mixer in which both r.f. and audio powers combine to generate the desired double sidebands. As the primary objective of this article is to explain what causes sideband splatter and show in a very practical manner how to go about curing this troublesome and illegal nuisance, let us have a look at the accompanying diagrams.

When the peak potential of the superimposed modulation equals that of the voltage of the h.t. d.c. supply to the modulated amplifier, we have what is referred to as 100% modulation, and

the average power of the so-called carrier and its sidebands as supplied to the radiator is 50% greater than that obtainable under c.w. conditions, or no modulation. If the modulator is capable of generating a greater peak potential than the h.t. supply, the peak appearing at the modulated amplifier on the positive half of the modulation cycle will be greater than double the unmodulated voltage, and conversely on the opposite swing, the anode of the modulated amplifier, momentarily, will be driven negative. As the cathode to anode path of the modulated amplifier depends on a varying flow of "one-way" electrons, there will be a sudden circuit interruption when the anode swings negative, and the load on the modulator correspondingly will be open circuited just as effectively as if a mechanical switch had interrupted the circuit. No longer will the modulation transformer have a relatively steady ohmic load into which to pump its alternating current output. This is shown graphically in Fig. 1.



①

INDICATING SPLATTER GENERATION CAUSED BY OVER MODULATION

JGR

Many who have attempted the measurement of resistance of a secondary winding of a high tension transformer using a simple low powered continuity tester will have experienced the mighty wallop given by the inductive kick of that winding when even a few milliamperes are suddenly interrupted. Something akin to this takes place when the output circuit of the modulator suddenly faces an open circuit no-load condition.

If the modulation transformer and associated parallel feed inductor formed a combination free of leakage inductance and distributed capacitance, interruption of external load would have any surge power dissipated through the anode paths of the modulator valves and distortion of audio wave shape would appear as a series of harmonics related to the frequency of the power

swing which caused the irregularity. This actually takes place, but is a minor contributor to splatter generation.

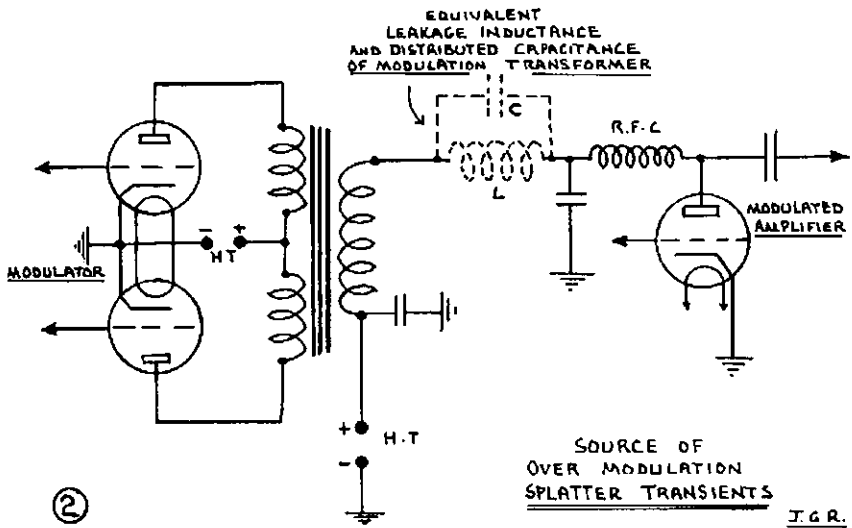
All of us who practise the unfortunately dying art of telegraphy, and if our transmitters are not protectively interlocked, have experienced the fireworks in the modulation transformer as we warm up to a "CQ" and have forgotten to short circuit the speech choke or modulation transformer secondary winding. The potentials generated by the shock excited windings may reach many thousands of volts with an almost certain chance of flashover and damage to this expensive piece of equipment.

Fig. 2 illustrates in simplified form the circuit connection of a modulator to the modulated amplifier. Leakage inductance and distributed capacitance of the modulation transformer windings are shown by the lumped values "L" and "C". Old timers who have used the buzzer method of exciting an absorption wavemeter to generate modulated radio signals will immediately realise that this "L/C" circuit will

oscillate at its natural frequency if shock excited. The better the quality of the modulation transformer, the lower will be the leakage inductance and distributed capacitance, and the higher will be the unloaded shock-excited oscillation frequency.

Immediately the modulator drives the anode of the modulated amplifier into its negative and non conductive region, this hidden oscillatory circuit gets to work. From actual measurement and calculation, it has been found that frequencies as high as 25,000 to 50,000 cycles per second are generated, and as these are superimposed on the instantaneous value of the fundamental signal frequency of the transformer, the previously "flat-bottomed" anode current curve will be filled with a multitude of small positive signal peaks reminiscent of the damped wave oscillations orig-

* 57 Kameruka Rd., Northbridge, N.S.W.



circuit during peaks of over-modulation, its duty cycle will be low and something about 20% in rating as compared with the modulated amplifier power input will be found more than ample to handle the most chronic form of over-modulation.

Herewith are relevant characteristics for both 6R3 and 6AL3 valves:—

	6R3	6AL3
Heater volts	6.3	6.3
Heater amperes	0.810	1.5
Dissipation (watts)	3.5	5
Peak anode current (mA.)	450	550
Aver. anode current (mA.)	150	2,200
Duty cycle (%)	22	22
Peak inverse volts	5,000	6,000
Cathode to heater positive volts	5,000	5,500

Pin connections: 1, 2 and 3—internal; 4 and 5—heater; 6, 7 and 8—internal; 9—anode; top cap—cathode.

Fig. 3 illustrates the schematic connections for this most useful valve which may be purchased for about the cost of a standard receiving valve at any t.v. or valve supply shop.

The famous Lord Kelvin once said: "When you can measure what you are speaking about and express it in numbers, you know something about it, and when you cannot measure it, when you cannot express it in numbers, your knowledge is of a meagre and unsatisfactory kind. It may be the beginning of knowledge, but you have scarcely in your thought advanced to the stage of a science."

I would sincerely recommend Amateur station operators—it would be a misuse of terms to call them experimenters—to do a very thorough digestion of Lord Kelvin's famous remarks before bursting almost hysterically into correspondence column print in condemnation of this very effective method of sideband splatter prevention.



OSCAR II. LAUNCHED

All Australian Amateurs are requested to forward their report forms to the Australian Co-ordinator. Contact your V.h.f. Group for full details and copies of the report form.

Wireless Institute of Australia Victorian Division

A.O.C.P. CLASS

commences

THURSDAY, 2nd AUG., 1962

Theory is held on Monday evenings, and Morse and Regulations on Thursday evenings from 8 to 10 p.m.

Persons desirous of being enrolled should communicate with—
Secretary W.I.A., Victorian Division, P.O. Box 36, East Melbourne (Phone: 41-3535, 10 a.m. to 3 p.m.), or the Class Manager on either of the above evenings.

inating from an old time spark transmitter (as shown in Fig. 1). Depending on the relative energy content of this spurious "L/C" circuit and the amplitude of the fundamental over-modulation pulse, these splatter signals will persist, bearing no recognisable intelligible relationship other than a rhythmic association with the speech syllables of the speaker. Audio frequency harmonics of the fundamental speech frequencies have no causative association with what we hear as splatter.

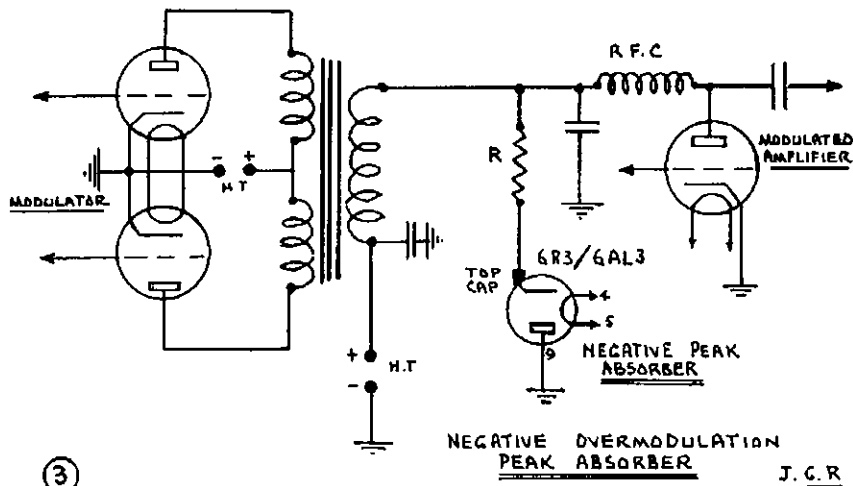
What is needed is an automatic device which presents a load to the modulator during the negative over-modulation cycle. This will very effectively prevent the sudden interruption of alternating power through the windings of the modulation transformer, and shock excitation of the high audio frequency combination of leakage inductance and distributed capacitance will no longer take place.

The cause and cure of over-modulation splatter does not call for realms of pseudo-scientific obfuscation or specially designed heater transformers for surge protector diodes. There is available among the types of valves used in many television receivers a delightfully simple solution to the problem. This valve is the type 6R3 or its slightly

larger equivalent 6AL3, used to prevent "ringing" or self oscillation of circuits associated with picture tubes. The problem of heating the cathode, which must be at high potential to earth is solved by a built-in insulation of heater from cathode which will withstand a peak voltage of up to 6,000 volts, which is more than enough to handle the positive peaks of over-modulation applicable to transmitters with up to 2,000 volts of h.t. supply. These valves have their cathodes taken out through a top cap, with the anode and heater connections to a nine-pin base.

A resistance load approximately equal to that of the modulated amplifier should be connected in series with the cathode.

If the modulated amplifier is normally operating with a loading of 100 milliamperes at 1,000 volts, the resistor should have a value of 10,000 ohms, or approximately the equivalent of this value. There is nothing critical about this value and the nearest wire wound unit will do. Do not attempt to connect it between the anode and ground as base pin and socket insulation may not be able to withstand the high potentials experienced during modulation. As this resistor is not subject to a continuous load, and only comes automatically into



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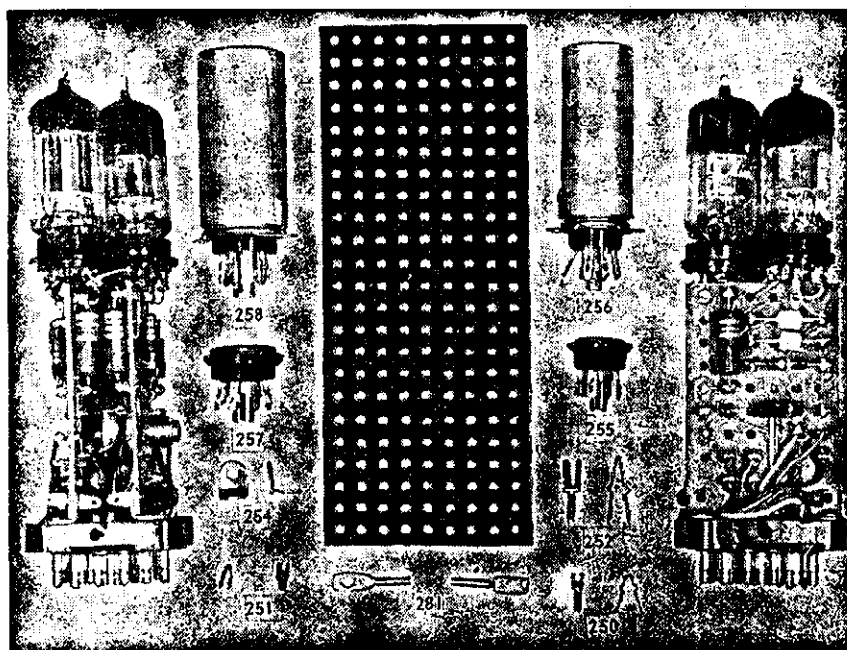
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MOBILE TRANSMITTER*

C. J. SALVAGE, G3HRO

DESIGN FOR AMATEUR USE IN A CAR

THE transmitter described here was designed to fit into the glove compartment of a Vauxhall "Cresta," but it is not necessary to buy a new car if you don't have this model as the transmitter shape may be modified to suit individual requirements, provided that the general layout is not substantially altered.

R.F. AND CONTROL UNIT

The v.f.o. (V1) uses a 6AK5, with coils switched to work on the 1.8, 3.5 and 7 Mc. bands. To help obtain good stability all capacitors in the oscillator circuit should be silver-mica types. The output of the oscillator (V1) is taken via C8 to the grid of a 6F17 valve (V2) which, on 1.8, 3.5 and 7 Mc., provides little gain because of its un-tuned resistive anode load (R7). On 14 and 21 Mc., however, L4 is tuned to 7 Mc. to provide sufficient output for doubling or tripling.

The next stage, another 6F17 (V3), has its anode circuit similarly switched, but this time L6, L7 and L8 are tuned to the respective v.f.o. frequencies of 1.8, 3.5 and 7 Mc. L9 is tuned to 14 Mc., causing V2 to double from 7 Mc., while L10 causes tripling to give 21 Mc. L11 (tuned to 28 Mc.) doubles from the previously-doubled 14 Mc. The resistor R11 across L6 is included to reduce

drive and increase bandwidth on the 1.8 Mc. range.

If drive is found to be excessive on either 3.5 or 7 Mc. it may be found advisable to include damping resistors across L7 or L8 also. The drive control (VR1) is a 50K ohm potentiometer and is mounted immediately below the 500 μ A. meter. Grid drive at 60w. input should correspond to a current of about 2.6 mA., but at reduced power on the 1.8 Mc. band it should be 1 mA. Grid current through R14 (22K ohms) should, at full power, develop 57v. drop. As R14 is returned to the -12v. line the total grid bias is about 69v., which is sufficient to operate V4 in Class C.

Transmit-receive switching is accomplished by C3 (a double-pole double-throw switch) mounted at the bottom centre of the front panel. Its action is to change over the aerial from receiver to transmitter and divert the -12v. supply either to the receiver or the relay in the power-supply unit for switching of the d.c. supplies to the transmitter.

The "net" switch (S4) is a small micro-switch behind the front panel, actuated by a push-button mounted between the drive control and the T-R switch. This micro-switch applies -12v. to the 250v. d.c. converter only, which results in the energisation of the v.f.o. and driver stages so that the v.f.o. can be tuned to zero beat with the received signal. When switch S3 is moved to "transmit" both 250v. and 600v. supplies are energised from the 12v. supply.

The chassis is constructed from 18 s.w.g. aluminium and the panel is made from 18 s.w.g. brass, chromium plated.

METER

The 500 μ A. meter can be switched to read:—

1. Battery potential "on load." This is very useful for indicating when re-charging is required if the equipment is used for long periods with the car stationary.
2. H.t. potential (600v. line).
3. Grid drive to V4, the power amplifier. R15 is a shunt, giving an f.s.d. of 3 mA.
4. Power-amplifier current. R16 (0.6 ohm) in the cathode circuit of V4, provides a shunt giving 150 mA. f.s.d. In this position the meter reads, of course, screen current as well as anode current, but this connection does prevent the application of high voltages to the meter and switch, as would occur if anode current alone were to be measured.
5. Aerial match. Switched to this position, the meter is used to give a measure of the radiated power of the station. In the plastics housing of one of the rear-lights is fitted a short "probe" aerial wire. The signal picked up by this is rectified by a diode, the d.c. path being completed by a r.f. choke, and passed down a lead to the meter. The system is set up by adjusting the length of the probe (about 6 to 8 inches), once the aerial is correctly loaded, as shown by an r.f. ammeter

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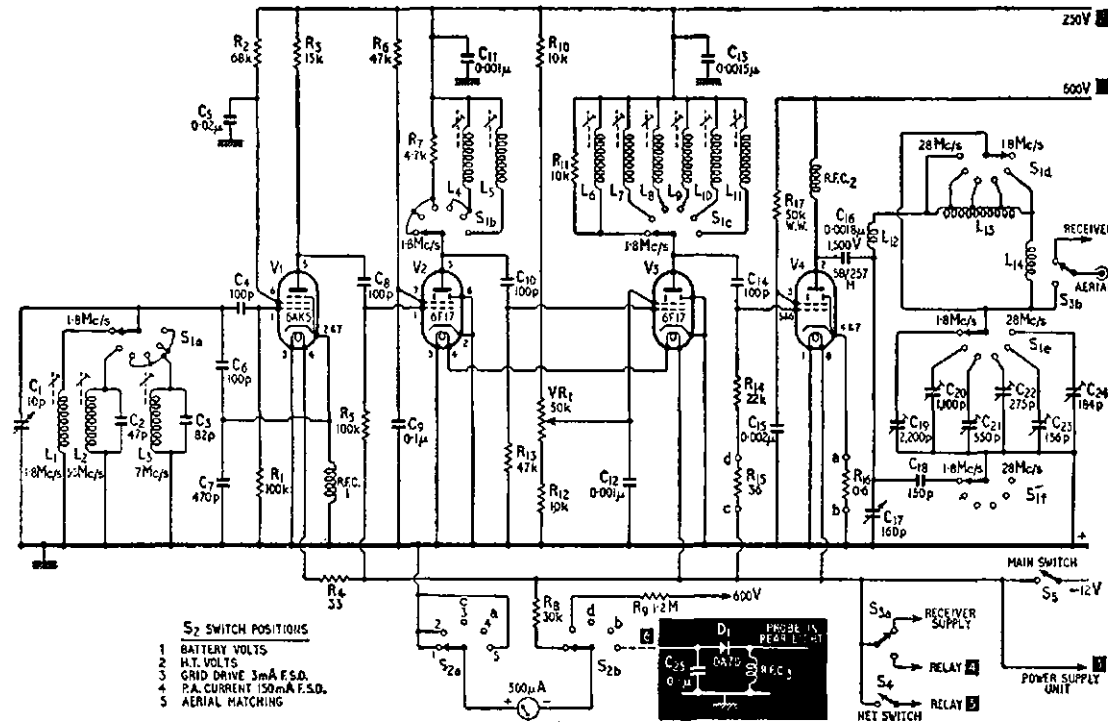


Fig. 1. Transmitter Circuit.

The Power supply enters through this unit for whole equipment. Small section in white-on-black is aerial-match monitor unit which is mounted in car rear-light housing.

(N.B.—Values of C24 and C23 are transposed on the diagram.)

temporarily connected in the coaxial lead. The adjustment is best made on the l.f. bands first.

MODULATOR

Fig. 2 shows the circuit of the modulator. As anode-and-screen modulation is extremely effective it was decided to use this method, making the modulator amplifier with transistors.

V6 and V7 are direct-coupled and have overall d.c. and a.c. negative feedback and the input stage (V5) is designed to match directly an electromagnetic microphone.

The output impedance of T2 has to match the anode circuit impedance of the p.a. (V4) which is 6K ohms. The output is taken from the collectors of the two OC28s (V9 and V10) and is thus stepped-up by the transformer. VR3 sets the no-signal current in the collector circuit of V8: 250 mA. is the level chosen for the OC16 used, but substitution of the newer OC26 may render a slight change desirable, both in no-signal collector current and emitter resistor.

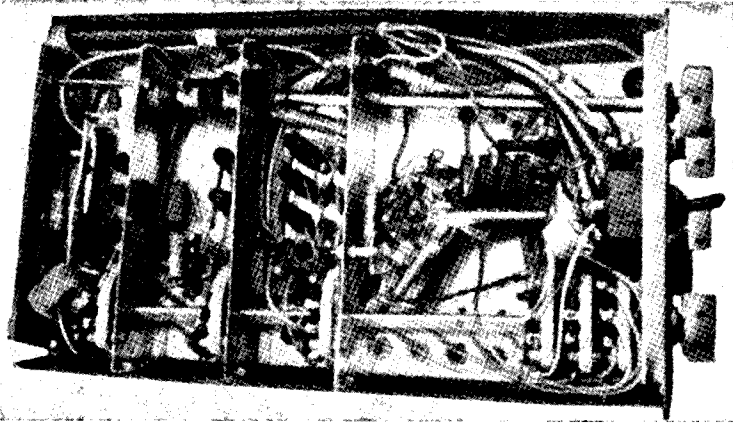
VR4 and VR5 are adjusted individually to set the quiescent collector currents of V9 and V10 to 30 mA. each. The photograph of the modulator shows V9 and V10 mounted on their heat sinks of blackened 16 s.w.g. aluminium.

The microphone is mounted on the steering column of the car and is of the balanced-armature variety (ex-Govt.). This was chosen as it matches the base impedance of V5 (about 300 ohms) and has high sensitivity. The modulator gives 25 to 30w. output in the audio frequency range required and is capable of modulating adequately the transmitter.

POWER SUPPLY UNIT

In the original article details were given of a commercial English transistor d.c./d.c. converter. Two of these units were used, one supplying 250 volts at 60 watts, and the other 600 volts at 60 watts. Readers are referred to "A.R." for October 1961 (page 3) wherein constructional details of transistor power supplies were given.

The three-core cable to the modulator can be seen in the photograph; just two



V1 V2 V3 V4, Power Amplifier
Underside of Transmitter. At left (back of chassis) is v.f.o.; then are two amplifier-doublers and on right is power amplifier. Long extension spindle at the top of photograph is v.f.o. tuning capacitor, whilst band-switch extends along bottom of picture.

cores are connected to the secondary of the modulation transformer and the remaining one is used for the 12v. supply, which returns via the chassis. As it is desired to energise the modulator only when the p.a. is operating, this supply is taken from the relay contact that feeds the 600v. converter. Two contacts are, of course, necessary so that the 250v. supply alone can be switched on by the net button.

A small socket on the power supply accepts the lead carrying d.c. from the aerial-match indicator mounted in the rear light, and the connections to a six-way socket are as follows:—

- 1—Modulated 600v. supply.
- 2—250v. supply.
- 3—Minus 12v. (after S5 in Fig. 1).
- 4—Relay supply from the transmit-receive switch (S3 in Fig. 1).
- 5—Supply to 250v. converter from net switch (S4 in Fig. 1).
- 6—D.c. from the aerial-match indicator.

Both the power-supply unit and the modulator are mounted together under the back seat of the car.

AERIAL

The aerial is an ex-Government, 12 feet long, tapered tank aerial, in three four-foot sections, mounted on the car's back bumper. On 28 Mc. only the two lower sections are used, and on 21 Mc. the whip is used at its full length, as it is on the other bands. Loading coils are inserted on the bands below 21 Mc. to improve matching and are placed in the joint between the bottom and upper two sections.

Loading Coils.—Fig. 4 gives details of the loading coils and their construction and the photograph shows the four coils.

The top and bottom connections of the loading coils fit onto the whip sections, so either the relevant ends of unwanted sections may be used, or a little fitting is necessary.

The ferrite rods are 4" long by 1/2" diameter and are Mullard's type No. FX 1356/B2. Their ends are taped to avoid chatter and a rod is "nicked" with a file, broken, and ground to length for the two h.f. coils.

The synthetic-resin-bonded paper (Paxolin) tube that fits round the fer-

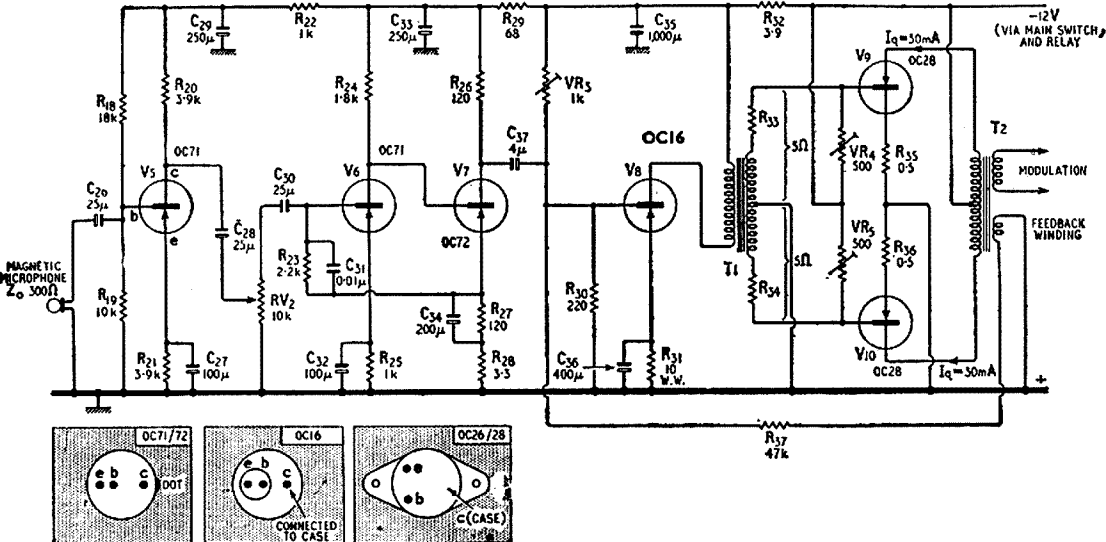


Fig. 2. Modulator Amplifier.

Old type of driver transistor (OC16) may be replaced by modern OC26. Supplies to modulator enter on three-core cable from power supply unit with which modulator is mounted. Microphone is wired separately back to steering column.

rite rod and provides the main mechanical strength is of 1" external diam. and is 6" long. The wall thickness is $\frac{1}{8}$ " and polystyrene inserts are arranged to fit between the tube and connections. A 4 B.A. screw passes through Paxolin and polystyrene into a brass insert fitted in the ends of the whip connections. The winding is mounted on six polystyrene ribs $4\frac{1}{2}$ " long by $\frac{1}{4}$ " thick by $\frac{3}{8}$ " wide glued to the Paxolin tube.

1.8 Mc.: 69 turns of 18 s.w.g. enamelled wire, close spaced.

3.5 Mc.: Grooves are cut in the polystyrene ribs at a pitch of 10/in. and 34 turns of 18 s.w.g. enamelled wire are wound on at 10 turns/in. spacing.

7 Mc.: For this coil the Paxolin tube is only $4\frac{1}{2}$ " long, the ferrite rod 2" and the ribs $2\frac{1}{2}$ ". The winding is 16 turns of 18 s.w.g. tinned-copper wire wound at 10 turns/in.

14 Mc.: Here the Paxolin tube is $3\frac{3}{4}$ " long, the ferrite rod $1\frac{3}{4}$ " and the ribs are $1\frac{1}{2}$ " long and have their width reduced to $9/16$ ". Six turns of 16 s.w.g. tinned-copper wire are wound at 10 turns/in.

To check resonance of the whip aerial the appropriate loading coil is inserted between the bottom and upper two sections of the whip. A small one or two-turn coil of about $1\frac{1}{2}$ " diameter is temporarily connected between the bottom of the aerial and the chassis of the car. An accurate grid-dip oscillator is used against this coil and the loading coil is "pruned" to resonance at the l.f. end of the band. The temporary coil is now discarded and the 50-ohm cable from the aerial to the transmitter is fitted.

On the two l.f. bands it is necessary to make tapping points on the coils: these are found by loading the whip from the transmitter, starting at the l.f. end of the band and, as the frequency is increased, so the appropriate resonance positions are found on the coil by observing either a series ammeter or the aerial-match indicator. The established points on the coil can then be marked to correspond with the dial readings of the v.f.o. No tapping points are necessary on either the 7 or 14 Mc. coils.

Mounting.—As the Vauxhall's bumper is made in three parts it is possible to clamp the mounting plate between two of the bumper's sections; naturally other

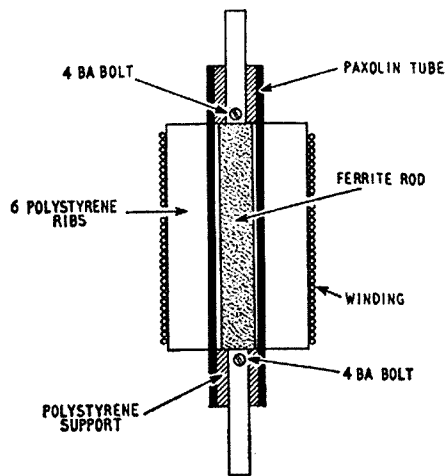
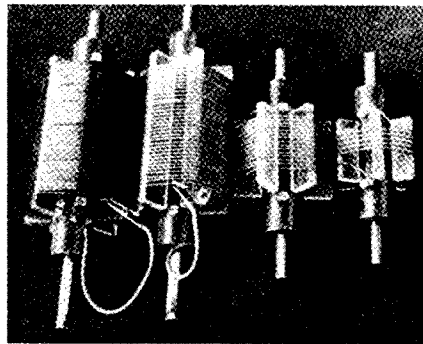


Fig. 4. Loading coil which fits between lower sections of whip. Details of dimensions, turns, etc., are given in associated text. Unit is supported by aerial rods, and connectors at top and bottom of unit must fit well into ends of aerial rods.



Four loading coils for whip aerial. 1.8 and 3.5 Mc. coils have tapping points made by flying lead and crocodile clip.

cars may necessitate slightly different arrangements.

The mounting is designed to have an impedance of 14 ohms, which is the value at the base of a correctly-loaded whip. It consists of an inner steel tube (the same material as the whip) about $7\frac{1}{4}$ " long, fixed by adhesive to a polystyrene tube of $\frac{3}{8}$ " inside diameter and 0.6" outside diameter, the tube being $6\frac{3}{4}$ " long. A piece of 20 s.w.g. alumin-

ium, $6\frac{1}{2}$ " wide, is formed round this and is clamped between two of the bumper's sections. Adhesive is also applied to the outside of the polystyrene tube.

A small brass ferrule is soldered to the top of the steel tube and a brass insert fitted at the bottom is drilled and tapped for connection of the coaxial cable inner. Earthing bolts for the cable's braid are fitted through the bottom edge of the aluminium plate.

Effect of Whip Variations.—It will be found in practice that the 12 ft. whip can be varied in length if required. The bottom section may be reduced to 2 ft. without serious detuning on the l.f. bands, although the position of taps on the loading coil may vary slightly. This shorter length is often advisable in town or under trees but does reduce the radiated signal by a small amount. If, on the other hand, space permits, it is possible to increase the bottom section to 6 ft. and thereby increase its effectiveness. This obviously applies to the l.f. bands only; if the whip length is changed on the h.f. bands the alteration will significantly affect resonance.

The transmitter output and aerial are mismatched; but on the grounds of simplicity a matching transformer is not incorporated. It will be found that the preset capacitors C19 to C24 should be re-adjusted after the aerial has been tuned to resonance, to give maximum aerial current as indicated by the match indicator or a r.f. ammeter in the feeder.

POWER CONSUMPTION

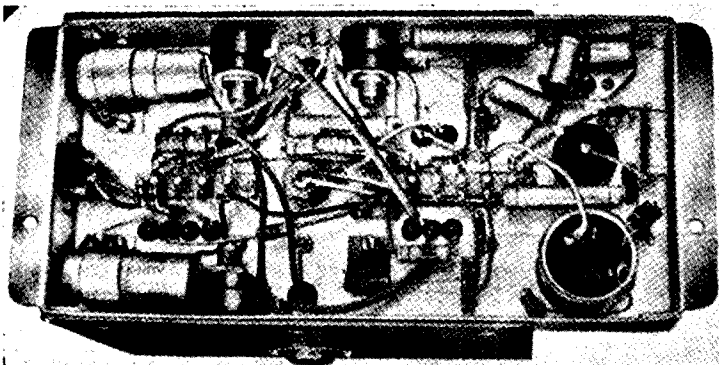
The transmitter and modulator together take a total of eight amperes at 12v. The current taken by the associated receiver is negligible but the transmitter heaters are, of course, left running when the installation is switched to "receive".

COMPONENTS SPECIFICATIONS

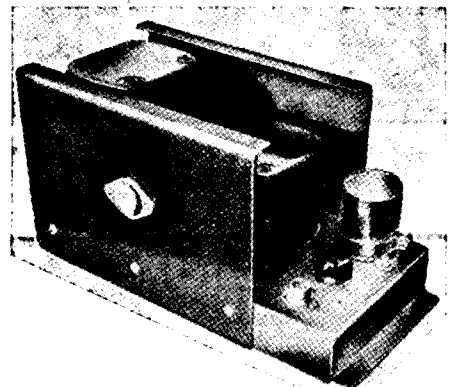
Resistors: $\frac{1}{2}$ w. 20% tolerance carbon types may be used in all positions except the following—

Transmitter—R16 (0.6 ohm). This is made up by winding wire on to a high value $\frac{1}{2}$ w. resistor. R17 (50K ohms) is a wire-wound type rated at 6w.

Modulator—R28 may be made up from two 6.8 ohm resistors in parallel. R32 (3.9 ohms) consists of a 6.8 ohm



Modulator—under-chassis view. VR2 (gain control) is available as a top-chassis control, but VR3, VR4 and VR5 (bias adjustments) are mounted on brackets under the chassis.



Top view of Modulator. Driver transistor, OC16 or OC28, is mounted between the transformers.

and an 8.2 ohm resistor in parallel. R33 and R34, see transformer section. R35 and R36 (0.5 ohm each) are made up by winding wire on to 1/4w. resistors of high value.

Transformers: Although these were made up there is no reason why suitable commercial alternatives (i.e. with characteristics not differing materially from those given here) should not be used.

Driver transformer, T1. This uses a "C" core, size 10/12/13, built up to a double loop. The turns ratio is 2:1 + 1, and the secondary is wound in the bifilar manner.

Primary inductance greater than 150 mH. at 250 mA. d.c., resistance less than 2 ohms. This winding consists of 200 turns of enamelled wire, 21 s.w.g.

Secondary resistance is 5 ohms each half, or is made up to this figure with R33 and R34, which may be made from a short length of resistance wire wound round a 1/4w. resistor. The winding is made up by taking two 32 s.w.g. enamelled wires and winding 100 turns of the pair of conductors.

Output transformer, T2. A larger "C" core, a double loop of size 10/24/13, is used for this. The turns ratio is 1 + 1 : 28. The primary inductance is greater than 25 mH. and the winding consists of 50 + 50 turns of 19 s.w.g. enamelled wire. The secondary has an inductance greater than 0.5 H. at 100 mA. d.c. and the winding is 1,400 turns of 36 s.w.g. enamelled wire. 50 turns of 36 s.w.g. wire form the feedback winding.

Suitable type cores are available from the local agents of English Electric and Telcon Magnetic cores.

Coils: L1 to L11 inclusive are wound on 0.3" diameter formers with grade 900 cores. (Aegis Manufacturing could supply a substitute coil former.) Coils on these formers are coated with polystyrene varnish to secure the turns.

L12, L13 and L14 form the pi output filter and are all in circuit for the 1.8 Mc. band, sections being progressively short-circuited for the higher-frequency bands. Tuning is accomplished by the trimmers C19 to C24; the fixed capacitor C18 and the p.a. tuning control C17.

Coil	Mc.	Details
L1, L6	1.8	About 80 μ H., wave-wound (pie 3/16" wide) with 40 s.w.g. d.s.c. to 3/4" diameter.
L2	3.5	76 turns, close wound, 38 s.w.g. enamelled.
L3	7.0	26 turns, close wound, 36 s.w.g. enamelled.
L4, L8	7.0	32 turns, close wound, 36 s.w.g. enamelled.
L5, L9	14.0	19 turns, close wound, 30 s.w.g. enamelled.
L7	3.5	80 turns, close wound, 38 s.w.g. enamelled.
L10	21.0	12 turns, close wound, 30 s.w.g. enamelled.
L11	28.0	8 turns, close wound, 30 s.w.g. enamelled.
L12	28.0	4 1/2 turns, 14 turns/in., 1" diam. air-spaced on polystyrene supports, 20 s.w.g. tinned copper. This coil is mounted near the top end of L13.
L13	21-3.5	23 turns, 14 turns/in., 1 1/2" diam. on ribbed former 2 3/4" long, 20 s.w.g. tinned copper. Mounted vertically, top-chassis. Tapping points at 2 1/4 turns from L12-L13 junction for 21 Mc., 5 1/4 turns for 14 Mc., 11 1/2 turns for 7 Mc.
L14	1.8	31 turns, close wound, 1" diam. Paxolin former, 20 s.w.g. enamelled. Mounted horizontally near L13 and L12.

Pi Output Filter: As will have been noted from the circuit diagram (Fig. 1) and the coil data, the output filter inductance is composed of sections of L12, L13 and L14 together, with preset tuning capacitors for each band and one variable capacitor. Approximate values of inductance and capacitance are given below for the various bands. The filter has an approximate impedance of 50 ohms.

Band Mc.	Capacitor (pF.)	Inductor (μ H.)
1.8	C17 = 310	L12 = 28
	C18 = 310	L13 = 28
	C19 = 2200	L14 = 28
3.5	C17 = 160	L12 = 14
	C20 = 1100	L13 = 14
7.0	C17 = 80	L12 = 7
	C21 = 550	L13 = 7
14.0	C17 = 40	L12 = 3.5
	C22 = 275	L13 = 3.5
21.0	C17 = 26	L12 = 2.3
	C23 = 184	L13 = 2.3
28.0	C17 = 20	L12 = 1.7
	C24 = 136	

Switches: The room available for the band switch (S1) is considerably greater than on the receiver, also the switch has to handle high powers, especially in the output stage. It is thus a standard-size ceramic type with six single-pole six-position wafers. The meter switch (S2) must be of the break-before-make variety to avoid short-circuiting of the 12v. supply when changing function.

R.f. Chokes: Each choke is of 2.5 mH. inductance, wave-wound and split into pies. RFC2, the p.a. anode choke, is rated at 100 mA. d.c.

TECHNICAL ARTICLES

Readers are requested to submit articles for publication in "A.R.," in particular constructional articles, photographs of stations and gear, together with articles suitable for beginners, are required.



Manuscripts should preferably be typewritten but if handwritten please double space the writing. Drawings will be done by "A.R." staff provided that the article is illustrated.



Photographs will be returned if the sender's name and address is shown on the back of each photograph submitted.



Please address all articles to the EDITOR "A.R.," P.O. BOX 36, EAST MELBOURNE, C.2, VICTORIA.

W.I.A. D.X.C.C.

Listed below are the highest twelve members in each section. New members and those whose totals have been amended will also be shown.

PHONE

Call	Cer. C't- No. ries	Call	Cer. C't- No. ries
VK5AB	45 266	VK6KW	4 206
VK6RU	2 283	VK3ATN	26 204
VK3AHO	51 253	VK4HR	12 192
VK6MK	43 252	VK4RW	23 184
VK4FJ	21 230	VK3BZ	3 176
VK3WL	14 211	VK4WF	16 173

C.W.

Call	Cer. C't- No. ries	Call	Cer. C't- No. ries
VK3KB	10 300	VK3BZ	6 222
VK3CX	26 288	VK4HR	8 218
VK4FJ	29 269	VK3XU	48 213
VK3NC	19 255	VK7LZ	17 212
VK3FH	15 226	VK3YL	39 211
VK6RU	18 224	VK2AGH	71 204

New Members:

VK3XB	75 191	VK3KS	74 134
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Amendments:

VK3RJ	42 184	VK3JF	70 142
VK3AXK	30 148		

OPEN

Call	Cer. C't- No. ries	Call	Cer. C't- No. ries
VK2ACX	6 300	VK2AGH	83 252
VK6RU	8 278	VK3HG	3 241
VK4FJ	32 275	VK4HR	7 233
VK3NC	77 250	VK3BZ	4 231
VK6MK	74 256	VK3JA	43 229
VK3AHO	76 256	VK3WL	45 225

Amendment:

VK3TL	85 110
-------	--------

W.I.A. V.H.F.C.C.

Cer. No.	Call	Confirmations 144 Mc. 50 Mc.
1	VK2VO/T	100
2	VK5GG	114
3	VK3QV	185
4	VK2HE	102
5	VK2HE	118
6	VK7LZ	112
7	VK6BE	300
8	VK2HO	132
9	VK2ABR	143
10	VK5ZAX	100
11	VK4ZBE	100
12	VK3FW	157
13	VK4ZAZ	847
New Members:		
14	VK5BQ	165
15	VK3QV	118
16	VK4HD	104
17	VK2ADT	210
18	VK4ZBI	163
19	VK3NB	110
20	VK2ASZ	100
21	VK9XK	402

A NOVEL METHOD OF BANDSPREADING

T. A. BRINKLEY,* VK1SG

IN designing the tuning circuit of a receiver the most suitable variable condenser available is the starting point. Coils can be made to any exact practical value, and a fixed condenser in parallel with the tuner gives some control of coverage, and therefore bandspread.

Once the tuning range is decided on there is, for a variable condenser of given maximum and minimum capacity, only one value of inductance, and one value of fixed capacity, which can be employed if the chosen range is to fit exactly within the limits of the condenser.

These values can be easily computed, thereby saving lengthy fiddling with the inductance and fixed capacity—a process which is not only time consuming but is often concluded in exasperation, with unwanted coverage still remaining at one or both ends, and consequent loss of bandspread.

Both maximum and minimum values of the variable condenser must be known, and the writer commends that they should be measured before starting, since he bought from one well known shop a new condenser forty per cent. in excess of its advertised value.

The method is easiest explained by an example, using the case of an 80 metre receiver having coverage to allow the use of separate converters.

The tuning condenser available had a minimum capacity of 10 pF. and 60 pF. maximum. Coverage was chosen to be from 3.5 Mc. to 3.90 Mc.

From the formula $LC = 25330 \div f^2$
 where L is inductance in μH .
 C is capacity in pF.
 f is frequency in Mc.

$$LC = 2128 \text{ for } 3.45 \text{ Mc.}$$

$$LC = 1665 \text{ for } 3.90 \text{ Mc.}$$

and C is the total circuit capacity comprising the tuning condenser (C1), the fixed condenser (C2 plus C3) and strays (C4).

At the 3.45 Mc. end of the range, 60 pF. is supplied by the tuning condenser and the remainder, as yet unknown, is supplied by the fixed condenser and strays.

If the total unknown capacity is denoted by x, we then have the capacity $x + 60$ pF. for 3.45 Mc., and $x + 10$ pF. for 3.90 Mc. There are now two equations:

$$L(x + 60) = 2128 \dots (1)$$

$$L(x + 10) = 1665 \dots (2)$$

Subtract equation (2) from equation (1) to get rid of one of the unknown x, then

$$L(x + 60) - L(x + 10) = 2128 - 1665$$

$$\text{or } Lx + 60L - Lx - 10L = 463$$

$$\text{or } 50L = 463$$

$$\text{hence } L = 9.26 \mu\text{H.}$$

The total fixed capacitance, x, is now found by substituting 9.26 for L in

one of the original equations. Take equation (1):

$$\text{then } L(x + 60) = 2128$$

$$\text{or } Lx + 60L = 2128$$

$$\text{or } 9.26x + (60 \times 9.26) = 2128$$

$$\text{or } 9.26x = 2128 - 555.6$$

$$\text{hence } x = 1572.4 \div 9.26 \\ = 170 \text{ pF.}$$

The only way to share this 170 pF. between fixed capacity and strays is to assume about 40 pF. for strays and use a mica condenser of about 140 pF. and an air trimmer in parallel with it.

When the circuit is wired it is only necessary to turn the tuning condenser to one of its limits, set a reliable oscillator to 3.45 or 3.90 Mc., as appropriate, and vary the trimmer until resonance is seen on the v.t.v.m. If the mica condenser is too high or too low to allow the value of fixed plus stray capacity = 170 pF. to be passed through, there will, of course, be no resonance.

The above paragraph assumes the coil is of the correct inductance. When an iron cored coil is used, but not set to the calculated inductance, successive adjustments of both coil and trimmer at each tuning limit must be made until the right coverage is achieved.

Air-cored coils, calculated from the same formula published in the "A.R." Data Sheet (May 1962) turned out close enough to require no adjustment, and iron-cored coils used later took about half an hour to line up.

It might be worth mentioning to those who have let their algebra develop parasites that you can't just decide against having fixed capacity and invent equations to suit your requirements; thus, substituting the condenser limits for C, we get

$$60L = 2128 \text{ for } 3.45 \text{ Mc.}$$

$$\text{and } 10L = 1665 \text{ for } 3.90 \text{ Mc.,}$$

then by subtracting the two equations, we find

L still comes out at 9.26 μH ., but it should be noted

$$\text{that } 60 \times 9.26 = 555, \text{ and not } 2128!$$

$$\text{and } 10 \times 9.26 = 92.6, \text{ and not } 1665!$$

The variable condenser should be of low value since this enables the highest possible ratio of L/C, a condition which leads to better performance, due to the higher dynamic circuit resistance. ●

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Wireless Institute of Australia

The Institute was founded in 1910 to promote interest in Amateur Radio. Today each State has its own Division, responsible for intrastate matters.

Any person with an interest in Amateur Radio, including Short Wave Listening, may join the Institute; it is not necessary to possess a transmitting license.

Enquiries for membership should be made to the Secretary in the respective State; addresses are as follows:—

New South Wales: 14 Atchison Street, Crows Nest.

Victoria: P.O. Box 36, East Melbourne, C.2.

Queensland: Box 638J, G.P.O., Brisbane.

South Australia: Box 1234K, G.P.O., Adelaide.

Western Australia: Box N1002, G.P.O., Perth.

Tasmania: Box 851J, G.P.O., Hobart.

The W.I.A. also provides various aides for Amateurs and these are available from the Victorian Division, or other State offices.

STATION LOG BOOK OR S.W.L. LOG

Size 10" x 8", with 96 pages ruled to provide all essential requirements for Amateur Stations or Short Wave Listeners. Available for 5/3 post free.

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Specially ruled sheets for Field Day or Portable Station operation. Basically as the Log Book above, but includes requirements for the Federal Contest Committee. Available for 2/11 for fifty sheets, post free.

AUSTRALIAN RADIO AMATEUR CALL BOOK

The only directory of all registered Australian Amateur Radio Stations and Short Wave Listeners. Contains current details of Australian B.C. and T.V. Stations, plus a DX Countries List, Prefixes and Zones. Also lists all QSL Bureaux addresses. Issued yearly and available for 6/- each.

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The only hobby magazine devoted entirely to Amateur Radio, Short Wave Listening, news, views, and construction articles. Available on direct subscription from the Victorian Division for 24/- a year post free.

★

INVITE YOUR FRIENDS TO JOIN THE W.I.A. TODAY . . . and become one of the members. Remember that you receive a free copy of "A.R." with your subscription.

* 9 Faunce Crescent, O'Connor, Canberra, A.C.T.



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A LOW COST S.B. TRANSMITTER

R. B. BENSLEY,* VK2XP

ONE of the difficulties in building a piece of equipment is how to convert the circuit diagram into an operating instrument. Obviously the first thing to do is to obtain a suitable circuit. However, if you analyse any circuit you will find that basically they all comprise a standard set of "building blocks," rarely does a new circuit present itself.

So I have come to the conclusion that providing correct wiring practices are followed, the essential point in building a circuit is the layout, or positioning of the individual parts. Of course if one is able to procure special components, then the layout can be simplified, but generally Amateurs use standard components. The use of disposals gear has made available to Amateurs parts that normally would not be available, at least not at such attractive prices.

The transmitter described uses parts which should be available, possibly from your "junk" box. (Wonder why the junk box never seems to have the part used in the article you are following?) The description will detail construction practice, rather than describe circuit functions.

The basis is the chassis. Mine was made of 16 gauge steel by a sheet metal shop, who also drilled all holes in this 18" x 10" x 3 1/2" piece of metal.

All circuits are kept physically separate, so minimising the possibility of interaction between units. The crystal oscillator and the v.f.o. were built on separate chassis, that for the v.f.o. being obtained from the transmitter section of an I.F.F. set. The v.f.o. is mounted on the top-right front hand side of the main chassis assembly. It was constructed from various disposal items; the oscillator coil (ceramic) coming from an AT5 oscillator unit, and the dial from a TU5 tuning box. The EF50 valve is mounted on its side projecting from the v.f.o. chassis, inside of which is mounted all tuning gear.

A small sub-chassis, 4 1/2" x 2 1/2" houses the crystal oscillator, the crystal for which came from an old Command

transmitter. (Ham Radio, Hawthorn, may have supplies.) The output coil was made from an i.f. slug tuned transformer, which was cut down to size.

The carrier balance pots were mounted on the back of the main chassis. The balanced modulator stage was wired as the circuit diagram, with particular care being taken to ensure that all components were mounted

This system appeared to give better efficiency than any other yet tried.

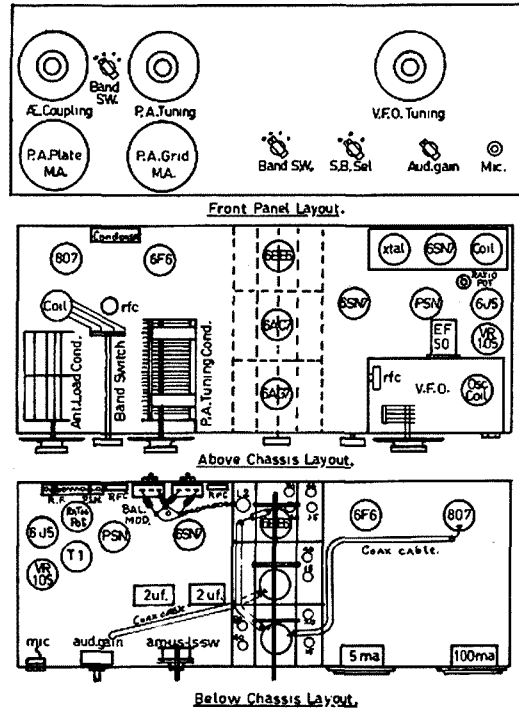
Audio is quite straight forward, but I used my a.m. pre-amplifier to feed into the 6J5. The driver transformer was one taken from a Command receiver. Across the centre of the main chassis is located the three-section Oak switch (mine was taken from a radar receiver). After all valve sockets have been wired, the various coils are fitted and set to the correct frequency using a g.d.o.

Check over all wiring to ensure that no errors have been made. Power can then be applied to the circuit and the station receiver used to set the rig on correct operating conditions. Listen to the transmitter signal and adjust the carrier balance pots until the carrier is reduced to its lowest attainable level. Set all coils exactly to frequency. A useful device is a low range microammeter and a diode, the unit connected as an absorption wavemeter. With the switch in the a.m. position you should be able to light a soup loop (a 150 mA. pea lamp with a small coil soldered across it) from the 6AG7 output coil.

A c.r.o. is not required to align the audio, even though it is very useful. (I suggest that you read the article in Jan. 1960 "A.R." by VK2EL.) Plug in some audio and adjust the ratio control until it is correctly set. Having done this, you can connect an aerial to the 6AG7 and you will be on s.b. with a reasonable signal. Trial and error, and on-the-air reports, will tell you which switch position provides you with upper or lower sideband.

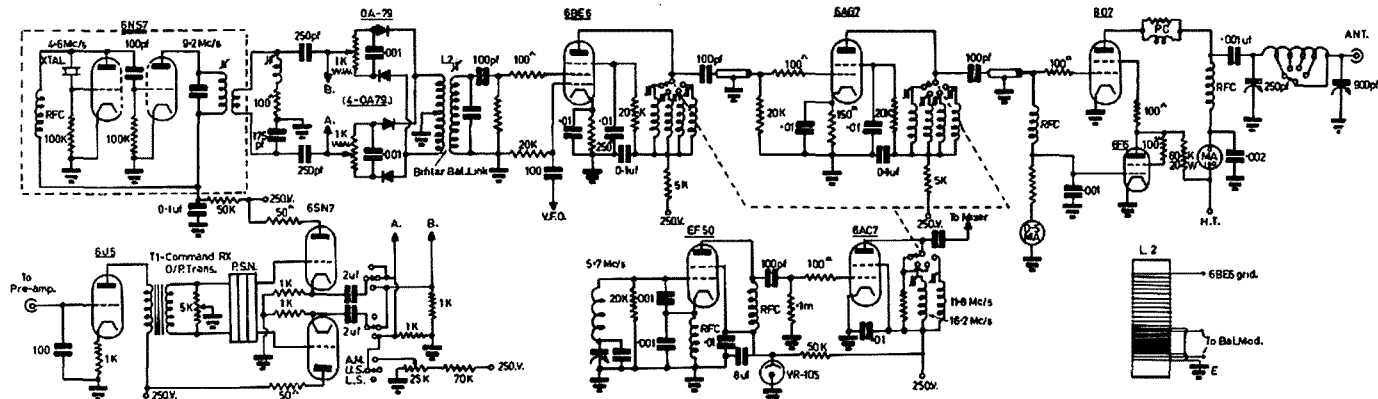
The final p.a. is an 807 with a 6F6 clamp tube. This is, to my mind, a simple way of doing things, as it does not require any regulated screen or bias power supplies.

(Continued on Page 15)



symmetrically. There is one thing which I did which I have not seen in any other circuit, namely the link coupling of the output coil from the balanced modulator. A bifilar wound coil with four turns each side being used. The grid coil side was resonant at 9.2 Mc. with a few pF. across it.

* "Girrahween," Dalton, N.S.W.



REMEMBRANCE DAY CONTEST, 1962

A handsome perpetual trophy is awarded annually for competition between States, inscribed with the names of those who made the supreme sacrifice, and so perpetuating their memory throughout Amateur Radio in Australia.

The name of the winning Division each year is also inscribed on the trophy. In addition, the winning Division will receive a suitably inscribed framed photograph of the trophy.

Objects

Amateurs in each Call Area (this includes those in Australian Mandated Territories and Australian Antarctica) will endeavour to contact Amateurs in all other Call Areas (VK1 and VK2 are to be considered to be in the one Call Area; likewise VK5 and VK8).

Date of Contest

Saturday, 18th August, and Sunday, 19th August, 1962.

Duration

From 1800 hours E.A.S.T., 18th August, to 1759 hours E.A.S.T., 19th August, 1962. A period of 15 minutes' silence will be observed by all stations on 18th August, immediately prior to the beginning of the Contest, when an appropriate broadcast will be made by the VK6 Division and relayed from the Divisional Stations.

RULES

1. There shall be four sections to the Contest:—

- Transmitting Phone.
- Transmitting C.w.
- Transmitting Open.
- Receiving Open.

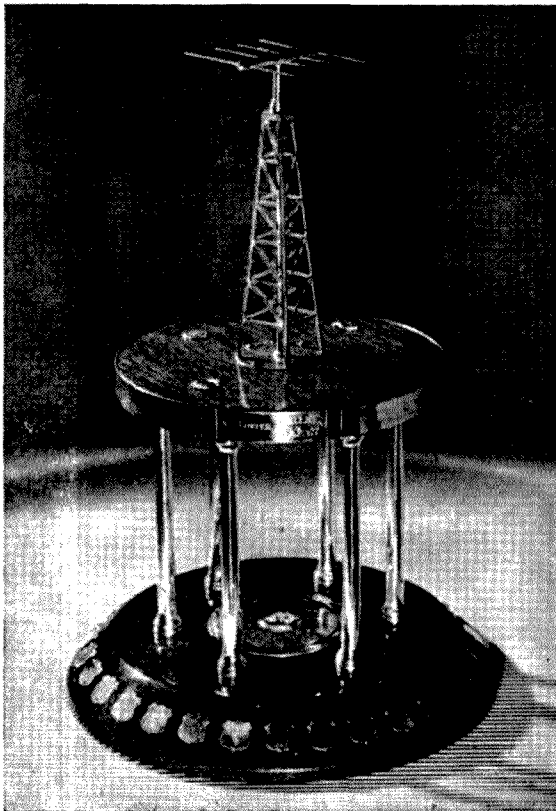
2. All Australian Amateurs may enter the Contest whether their Stations are fixed, portable or mobile, but only members of the W.I.A. are eligible for the awards.

3. All Amateur frequency bands may be used, but no cross-band operations are permitted.

4. Amateurs may operate on both phone and c.w. during the Contest (e.g. phone to phone, c.w. to c.w., or phone to c.w. and vice versa), but may submit an entry for one only of the above Sections listed in Rule 1.

An Open log will be one in which points are claimed for both phone and c.w. transmissions.

● The Federal Contest Committee of the Wireless Institute of Australia wishes all Australian Amateurs and Short Wave Listeners to participate in the Annual Contest which is held to perpetuate the memory of those Australian Amateurs who gave their lives for their country during World War II. It is held on the week-end nearest to 15th August, the date on which hostilities ceased in the South West Pacific Area.



Remembrance Day Contest Trophy.

A contestant transmitting on phone, but receiving on c.w. must enter for the phone section (and vice versa). Refer to Rule 11 concerning entry in logs.

5. Only one contact per station per band is allowed and arranged schedules for contacts on other bands is not permitted.

6. Only one licensed Amateur is permitted to operate any one station under the owner's call sign. Should two or more operate any particular station, each will be considered a contestant and must submit a separate log under his own call sign.

Contestants operating Club Stations other than their own shall be referred to, for the purpose of these Rules, as "substitute operators". Their operating procedure shall be as follows:

Phone contacts: Substitute operators will call "CQ Remembrance Day" followed by the call sign of the station they are operating and the word "log" followed by their own call sign.

C.w. contacts: Substitute operators will call "CQ RD de" followed by the group call sign comprising the call sign of the station they are operating, an oblique stroke, and their own call sign.

Contestants receiving signals from a substitute operator will qualify for points by recording the call sign of the substitute operator only.

7. Entrants must operate within the terms of their licences.

8. Cyphers.—Before points may be claimed for a contact, serial numbers must be exchanged and acknowledged. The serial number of five or six figures will be made up of the RS (telephony) or RST (c.w.) reports plus three figures starting from 001 for the first contact and which will increase in value by one for each successive contact. If any contestant reaches 999, he will start again with 001.

9. Entries must be set out as shown in the example, using only one side of the paper, and wherever possible standard W.I.A. log sheets should be used. Entries must be postmarked not later than 17th September, 1962, and addressed to the Federal Contest Committee, W.I.A., Box 638J, Brisbane, Qld.

10. Scoring will be based on the table shown:

SCORING TABLE

		To								
		VK0	VK1-2	VK3	VK4	VK5-8	VK6	VK7	VK9	
From	VK0 ..	-	6	6	6	6	6	6	6	6
	VK1-2	6	-	1	2	3	5	4	6	
	VK3 ..	6	1	-	3	2	5	4	6	
	VK4 ..	6	1	2	-	3	6	5	4	
	VK5-8	6	2	1	3	-	5	4	6	
	VK6 ..	6	1	2	4	3	-	5	6	
	VK7 ..	6	2	1	4	3	5	-	6	
	VK9 ..	6	1	2	3	4	5	6	-	

Note.—Read table from left to right for points for the various call areas.

EXAMPLE OF TRANSMITTING LOG

Date/Time E.A.S.T.	Band	Emission	Call Sign	RST Nr. Sent	RST Nr. Rcvd.	V.h.f. Bonus	Points Claim.	—
18 1803	7 Mc.	A3	VK5XU	59001	—	—	2	—
18 2349	"	"	VK6RU	56005	—	—	5	—
19 1200	50 "	"	VK2OP	43026	—	25	1	—

Note.—Standard W.I.A. Log Sheets may be used to follow above form.

EXAMPLE OF RECEIVING LOG (VICTORIAN S.W.L.)

Date/Time E.A.S.T.	Band	Emission	Call Sign Heard	RST Nr. Sent	RST Nr. Rcvd.	Station Called	V.h.f. Bonus	Points Claim.	—
18 1803	7 Mc.	A3	VK5XU	59001	—	VK3XU	—	2	—
18 2349	"	"	VK6RU	56005	—	VK4YZ	—	5	—
19 1200	50 "	"	VK2OP	43026	—	VK9PA	25	1	—

Note.—Standard W.I.A. Log Sheets may be used to follow the above form.

In addition a bonus of 25 points may be claimed for the first contact in each call area on 50 Mc. or above.

11. All logs shall be set out as in the example shown and in addition will carry a front sheet showing the following information:

Name Section
 Address Call Sign
 Claimed Score

Declaration: I hereby certify that I have operated in accordance with the rules and spirit of the Contest.

Signed
 Date

All contacts made during the Contest must be shown in the log submitted (see Rule 4).

Entrants in the Open Section must show phone and c.w. contacts in numerical sequence.

12. The right to disqualify any entrant who, during the Contest, has not observed the regulations or who has consistently departed from the accepted code of operating ethics.

13. The ruling of the Federal Contest Committee of the W.I.A. will be final. No disputes will be entered into.

14. Certificates will be awarded to the winners of the phone, c.w., open and receiving sections in each call area

(Northern Territory will count as a separate call area). There will be no outright winner for Australia. Further Certificates may be awarded at the discretion of the Federal Contest Committee.

The State to which the Perpetual Trophy will be awarded shall be determined in the following way.

To the average of the top six logs shall be added a bonus arrived at by adding to this average the ratio of logs entered to the State Licensees multiplied by the total points from all entries.

Example:

$$\text{Average of the top six logs} + \left(\frac{\text{Logs Entered}}{\text{State Licensees}} \times \text{Total of Points from all Entrants} \right)$$

Acceptable logs shall show at least five valid contacts.

The Trophy shall be forwarded to the winning State in its container and will be held by that State for a period of twelve months.

Note.—The F.C.C. emphasises the need for strict observance of Rule 9 in the Transmitting Section and Rule 3 in the Receiving Section.

RECEIVING SECTION

1. The Receiving Section is open to all Short Wave Listeners in Australia, but no transmitting station may enter.

2. Contest times and loggings of stations on each band are as for transmitting.

3. All logs shall be set out as shown in the example. Logs must show first the call sign of the station calling (not the station being called), the serial number sent by it and then the call sign of the station being worked. The scoring table to be used is the same as that used for transmitting and points must be claimed on the basis of the State in which the receiving station is located. A sample is given to clarify the position.

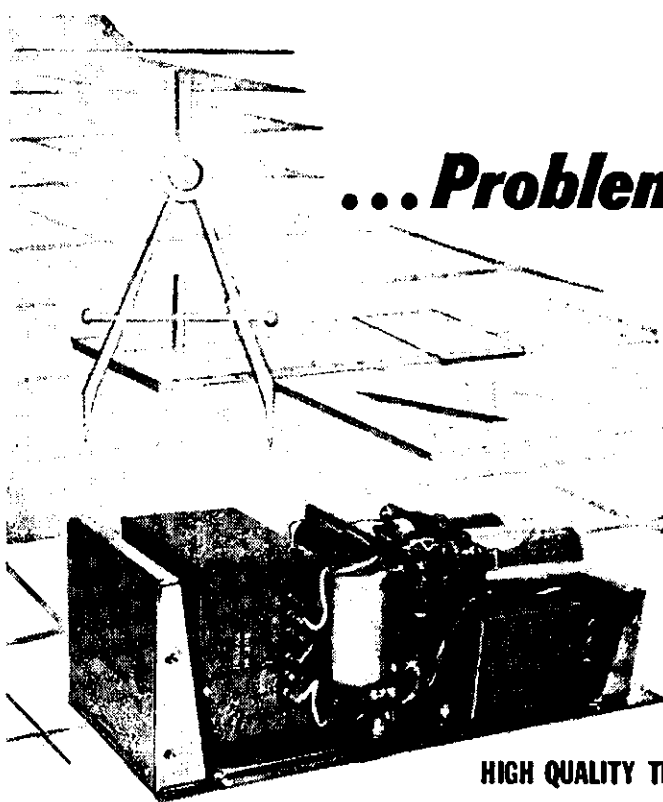
It is not sufficient to log a station calling CQ, nor is it permissible to log a station in the same call area as the receiving station.

For purposes of the Contest, VK1 and VK2 are considered to be the same call area, likewise VK5 and VK8.

4. A station heard may be logged once on phone and once on c.w. for each band.

5. Club receiving stations may enter for the Receiving Section of the Contest, but will not be eligible for the single operator award. However, if sufficient entries are received a special award may be given to the top receiving club station. All operators must sign the Declaration.

6. Awards. — Certificates will be awarded to the highest scorer in each call area. Further certificates may be awarded at the discretion of the Federal Contest Committee.



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XTAL CALIBRATOR CIRCUITS USING TRANSISTORS

R. G. ROPER,* VK5PU

THE circuit of Fig. 1 is included mainly for interest only; an extremely high degree of stability can be achieved if the crystal is ground to frequency and the padder C removed from the circuit. Stability with C included for trimming to frequency is still quite high, but not all 100 kc. crystals can be thus trimmed without dropping out of oscillation.

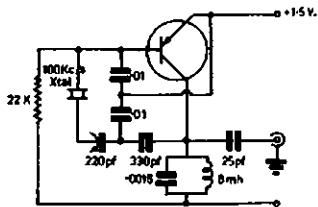


Fig. 1.

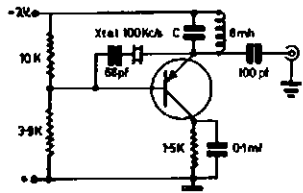


Fig. 2.

Fig. 2 is a good general purpose oscillator circuit, with some interesting features. By varying C, fundamental, 3rd overtone or half fundamental operation is possible. With a 100 kc. crystal, and an OC71, fundamental operation only is possible. However, with an OC45, a 100 kc. crystal oscillates at—

- (1) 300 kc.—a few kc. (third overtone). C = 208 pF.
- (2) 100 kc. (fundamental). C = 880 pF.
- (3) 50 Kc. C = 1,570 pF.

The division by two is exact, and 50 kc. checkpoints, crystal locked, with high harmonic content, are available.

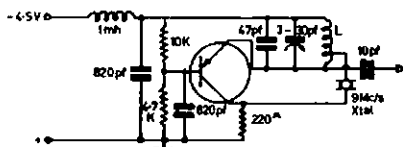


Fig. 3.

For those interested in transistorised converters for home or mobile, the overtone oscillator of Fig. 3 is included. Circuit constants shown are for 27 Mc. operation (to give output in the b.c. range from a 10 metre mixer), but alteration of LC constants and emitter resistor (which controls feedback along with the coil tap position) makes this circuit good for any frequency up to 60 Mc.

tion, besides providing station addresses necessary for QSL cards.

Our copies direct from the publishers: O. Lund Johansen, and Technical Book Co. P/L., 295 Swanston St., Melbourne. Local price 31/- plus postage.

SUPER RADIOTRON VALVE MANUAL, RVM-4

This publication, quarto size, of 113 pages, is published by Amalgamated Wireless Valve Co. P/L. It is an essential data sheet on the majority of receiving valves which have been divided into eight groups. Each page has the set of essential electrical characteristics relating to the valve, arranged in numerical order, commencing from type 00A. The opposite page then gives the valve base connections. Having used this manual for some time, it can be said that it is very concise, easy to use, and provides that data most needed for the general run of applications. However, your reviewer thinks that for more technical applications where other valve parameters are required, differing from those given, a conversion chart would be of assistance. These graphical charts enable the reader to establish operating conditions at differing electrode voltages.

One chapter provides a useful list of valve equivalents, but cannot list all possible combinations. Picture tube data will prove of value to the t.v. serviceman, as an interchangeability list is given. The field of semi conductors is covered by adequate data, and a very useful transistor interchangeability guide is provided.

For anyone requiring essential basic valve data and socket connections, this is a very useful book.

Our copy from A.W.V. Co. P/L., 47 York St., Sydney. Price 17/6 each.

RADIO AMATEUR'S HANDBOOK (A.R.R.L.)

The 39th edition of this long established guide to Amateur Radio follows the layout of the past editions. This year, however, the publishers have changed their type face and paper quality, resulting in a cleaner appearance and a different feel to the book.

The twenty-five chapters cover, in broad principles, the facets of Amateur Radio based upon American practice. The main constructional articles have been reprinted from "QST" and are the best of their type. The five hundred and ninety pages cover every aspect of the Amateur, and a very comprehensive chapter provides valve characteristic data.

The chapter heads are: Electrical laws and circuits, vacuum tubes, semi conductors, h.f. receivers, h.f. transmitters, power supplies, keying, speech amplifiers, a.m., s.s.b., transmission lines, antennae, v.h.f. receivers, v.h.f. transmitters, v.h.f. aerials, mobile operations, construction practices, measurements, b.c.i. and t.v.i., station operating practices, and vacuum tube data. A large advertising section provides useful information.

This book has long been accepted as the Amateur's reference, and the new edition comes up to the standard set by previous editions.

Our copies from McGill's, 183 Elizabeth St., Melbourne, and Technical Book Co. P/L., 295 Swanston St., Melbourne. Price 51/6 plus 2/9 postage.

specialised parts—all should be available locally.

The technical explanations are lucid, exact and very educating. In addition, clear circuit diagrams illustrate the book.

An excellent chapter covers single sideband theory and practices, plus details of suitable filters.

Much more could be written in praise of an excellent Amateur book, but the best thing is for you to purchase a copy for your bookshelf. Every Amateur really interested in his hobby must have this book.

Our copy direct from the R.S.G.B. and the Technical Book and Magazine Co. P/L., 295 Swanston St., Melbourne. Local price 54/9 plus 3/6 postage.

WORLD RADIO T.V. HANDBOOK

This book lists the world radio and t.v. stations, providing programme data, station identifications, frequencies used, location, and hours of service. A schedule commencing at 2330 kc. proceeds to list every main s.w. station, including standard frequency stations, up to 25,900 kc.

A mine of useful data is in this book which would be of use to the s.w.l. and anyone interested in s.w. stations. Some very interesting articles are included, one of which is radio communication via satellites.

The book commences, following the articles of general interest, with a listing of s.w. stations by countries, with Albania first. Reading this data provides some very interesting informa-

Book Review

THE AMATEUR RADIO HANDBOOK (R.S.G.B.)

Every now and then a book appears which demands the very finest of recommendation, and such a book is the third edition of the R.S.G.B. Radio Handbook. The first edition was printed in 1938 and has sold some 190,000 copies.

This book is ideally suited to Australian practices, as the parts referred to are locally available and the G limit of 150 watts is the same as VK land. Thus this book could be written for Australia.

The chapters are: Fundamentals, valves, semiconductors, h.f. receivers, v.h.f./u.h.f. receivers, h.f. transmitters, v.h.f./u.h.f. transmitters, keying, modulation, sideband, f.m., propagation, h.f. aerials, v.h.f. aerials, noise, mobile, power supplies, interference, measurements, operating techniques, R.S.G.B., general data, and an index.

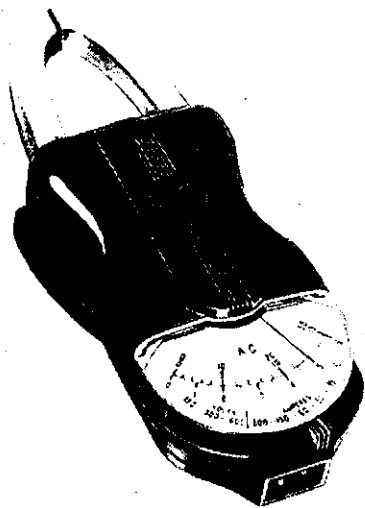
It can be said that this book is the best book of its type yet read by your reviewer. It is thoroughly recommended to every Amateur, who will find a wealth of information, both technical and practical within its covers.

The circuit description of the h.f. communications receiver is worth the cost of the book, as it fully describes a unit which should equal any unit available today, and this receiver does need

Trade Review

WESTON "CLIPPER"

Sangamo Weston announce through Warburton Franki Industries the release of the Western "Clipper", an easy to use compact and light weight clip-on a.c. volt ammeter designed for the electrician, maintenance engineer and serviceman.



Three voltage ranges (150, 300 and 600) and six current ranges (6, 15, 30, 60, 150, and 300) are provided on one clear easy-to-read scale approximately 2½" long. The "Clipper" is supplied complete with soft plastic carrying case and voltage test leads with insulated clips and accessory probes.

Full technical information is available from Warburton Franki offices in Queensland, New South Wales, Victoria, South Australia and in Western Australia from Tough Instrument Service Co.

LAG-65 AUDIO SIGNAL GENERATOR

Regrettably these days the term signal generator is applied to any piece of gear, which may or may not meet the specifications for a signal generator. This comment does not apply to the LAG-65 which is a precision piece of test equipment.

This apparatus generates, by a resistance bridge network, frequencies from 11 c.p.s. to 110 Kc., each frequency band being measured by a counting circuit, no calibrated dials are used. The output voltage is metered by a diode network connected into the input side of the precision output attenuator, which provides millivolt steps up to 1 volt across 600 ohms, in addition 0-10 volts are available across 10K ohms. The output is always monitored by the output meter, which, like the frequency meter, is a large four-inch clear view type. It was noted that at 100 c.p.s. the meter was resonant.

The unit uses seven tubes, weighs about 17 lbs. and is a compact, well designed, functional piece of gear, which can be fully recommended to anyone needing an audio frequency source with an accuracy of $\pm 1.5\%$ to 11 Kc., and

$\pm 3.5\%$ to 110 Kc., with a harmonic distortion of less than 0.1%. It forms part of an integrated line, which features a very wide variety of equipment.

Our sample from Electronic Industries Imports Pty. Ltd., 139 Bouverie St., Carlton, who distribute these units for £81/14/0 plus tax if applicable. The price is subject to change.

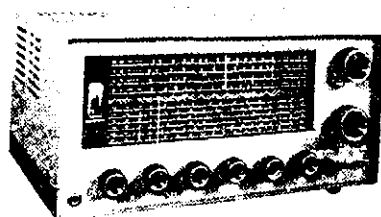
THE 9R-59 RECEIVER

This is an all-wave (540 Kc. to 30 Mc.) receiver using eight valves and rectifier. Electrical bandspread is available for each Amateur band and a smoothly functioning tuning mechanism is used.

Excellent mechanical and electrical construction techniques result in a set which is simple to handle, but the Q multiplier setting is a little tricky until it is mastered.

A 6BA6 r.f. stage feeds the first detector, a 6BE6, which is fed by another 6BE6 used as the oscillator. A 6AV6 is used as the Q multiplier connected into the 1st i.f. stage which uses a 6BA6; in turn this feeds into the second i.f. (6BA6) thence to the 6AV6 detector. The audio output stage is a 6AQ5. The b.f.o. is taken from the Q multiplier, hence both cannot be used together. A most effective S meter is set into the tuning dial unit.

A full range of controls are provided in this communications receiver, all of which functioned smoothly and effectively. The function switch provides for standby operation, and acts as the Q mult. setting; selectivity being set by the Q mult. control. A b.f.o. pitch control is provided plus band selector, i.f. gain control, aerial trimmer, a.v.c./m.v.c., a.n.l., main tuning and bandspread tuning.



On-the-air tests showed that the unit was free from cross modulation, and had adequate bandspread for Amateur use. Regrettably band conditions were very poor during the testing period, but this unit proved that it could match equivalent sets selling for higher prices. Stability and freedom from drift were very good, and s.b. could be resolved. The Q mult. proved effective.

Purchasing such a set may seem expensive, but if its re-sale value is taken into consideration, then the initial price is a lot less. This set is good value for the purchaser.

Our set from both Ham Radio Supplies, 5a Melville St., Hawthorn, and Electronic Industries Imports Pty. Ltd., Bouverie St., Carlton. Prices available upon application.

TR6S MULTIMETER

This pocket size unit proves that compactness does not require poor finish nor the sacrifice of needed features. The unit has volts, d.c. and a.c. ranges covering from 6v. to 1200v. in five steps, at 20K and 10K ohms/volt sensitivity; in addition it has three ohm

ranges, and measures from 50 to 3000 H., and capacity from 0.001 to 0.2 μF ., thus covering the most needed inductance and capacity ranges.

A solidly made reliable unit which features excellent damping on the movement which was very well balanced. The price is attractive at £8½ plus tax if applicable.

Our sample from Electronic Industries Imports Pty. Ltd., address above.



LOW COST S.B. TRANSMITTER

(Continued from Page 11)

For the p.a., disposals equipment again provided many parts. A T.U.B. tuning unit provided the plate tuning condenser, r.f. choke, and the h.v. mica condensers, together with the pi tuning coil and the dials. The meters were taken from an AT5 unit and an old two-gang broadcast tuning condenser was used for the aerial loading position.

The power supplies are two 100 mA. power transformers rated at 385/0/385. The control circuits are wired so that the v.f.o. runs continuously and you only break the h.t. to crystal oscillator, the rest of the transmitter then going on stand-by.

Having built this unit you will find that you possess a simple yet effective s.b. rig capable of giving you many contacts. Already I have worked W, KH, ZL, VK0 (all on 20 metres), plus VK and ZL on 40 and 80 metres—not bad for 10 watts.

The main reason for writing this article was to show that it is possible to get going on s.b. without spending an extensive sum of money. My rig cost me a cash outlay of £5, mainly for the chassis, diodes and the P.S.N., the remainder of the parts coming from my own junk box. No doubt you will also be like myself and start thinking about a final to attach to this rig, then put the lot in a cabinet, and so possess a nice table-top s.b. rig alongside the station receiver. Good DX to you, too.



R.S.G.B. HON. CERTIFICATE MANAGER

The Council of the Radio Society of Great Britain has appointed Mr. K. A. V. Hurrell, G3NBC, to the office of Honorary Certificates Manager of the Society in succession to Mr. G. E. Verrill, G3JEC.

Claims for R.S.G.B. Certificates must in future be sent by registered post to R.S.G.B. Headquarters, 28/30 Little Russell St., London, W.C.1, for recording and acknowledgment. Cards must NOT be sent direct to the Honorary Certificates Manager.

After examination Mr. Hurrell will return the cards to the claimant together with the appropriate certificate, provided the claim is in order.

If a claimant requires his cards to be returned to him by registered post sufficient extra money must be sent with the claim. R.S.G.B. certificates are issued free of charge to members of the Society and on payment of 7/- (8/9 Australian; \$1.00 American) per certificate to non-members. The Empire DX Certificate can only be claimed by those who have been Corporate members of the R.S.G.B. for at least three consecutive years up to the time of submitting the claim.

A leaflet setting out the rules of all R.S.G.B. Certificates and Awards and a List of British Commonwealth Call Areas can be obtained on application to R.S.G.B. Headquarters (address above).

RECEIVER FRONT-END FOR AMATEUR BANDS

This is the front-end of the Gelson G209-R Communications Receiver. Supplied complete with dial and matching tuning condenser, trimmer condensers and first i.f. transformer at 4.6 Mc., permitting immediate use as a converter feeding any receiver capable of tuning to 4.6 Mc.

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Dial drive with 46:1 step-down ratio. Complete circuit diagram of G209-R Receiver supplied with each unit.

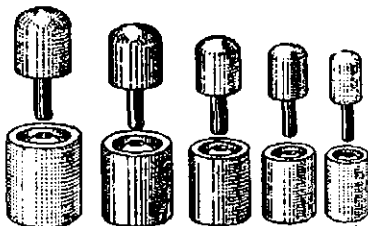
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LOG BOOK

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with more writing space.

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Obtainable from your Divisional
Secretary, or W.I.A., P.O. Box 36,
East Melbourne, C.2, Victoria.

WAS IT YOU WHO HEARD K6UMM?

Somebody may have heard a K6 signal on 6 mx during May. Denny Williams, K6UMM, was told by a secondhand message that a VK heard him on 8th May, 1962. He was operating that day between 0700-1400 hrs. P.D.S.T. between 50.1 and 50.6 Mc., and was experiencing an excellent single and double hop Es opening. It is believed that the VK station was operating on 50.312 Mc. and did give the K6 a call using c.w.? If you know of any details of this at all, please advise VK3ZCG, 49 Savage St., Morwell, immediately. Thank you.

NEW SOUTH WALES

The meeting held on 1st June was attended by approx. 50 V.h.f. Group members and interested persons. The lecture was a mobile forum chaired by Jim 2PM with Bob 20A, Dave 2AWZ, Phil 2ZBX and Dick 2ZCF on the far end of a 2 mx link assisting.

The August meeting will be held on 3rd August when it is hoped to arrange a lecture by someone from one of the valve companies.

The May fox hunt was won by Dave 2AWZ, followed by two s.w.l.s. with no rx. second was Paul 2ZPJ and Lance 2ZKP third. The fox was Sid 2ZSE and the Sydney Harbour Bridge was loaded for the second time, the location being adjacent to Lady Macquarie's chair in the Domain.

The Autumn Field Day was held on 13th May when some five inches of rain were recorded in Sydney. Some five stations ventured into the field, but no great distances were worked. Due to the rain, the day was repeated on 21st when the number of field day stations jumped greatly and a very good day was had. 1VP in Canberra worked several stations located in the Mountains west of Sydney.

50 Mc.: No break throughs and very little local activity.

144 Mc.: Apparently winter keeps many operators by the heater as activity has been only moderate. "Regulars" include 2HL, 2WP, 2ZVW, 2ZRH (who now sports a 4X150), 2ZCF, 2AWZ, 2ZRG, 2EO (the Oscar man), 2ZAF, 2ASZ, 2ZPB, 2ZPJ, 2DS, 2ZVC, 2AAK, 2ZJC, 2ZKP, 2LJ, 2ABZ. 73, 2ZLB.

VICTORIA

50 Mc.: During the month the band has been relatively active, but the only news of any DX comes from George 3ZCG at Morwell, who reports having worked 4ZAA and 4ZBT at 1350K on Sunday, 13th May. George also heard weak signals from the north on Sunday, 20th May, at 1030K. Signals were unreadable but he believes they were VKs working VKS.

There are now three 6 mx stations active on the Bellarine Peninsula. They are Lindsay 3AWY at Queenscliff on 50.15 Mc., Ron 3ZLP at Wallington on 50.1, and Ian 3ZMH at Queenscliff on 50.8 Mc. In the Melbourne area a new station is 3LO, the official station of the Dennis Radio Group, formed by a number of P.M.G. technicians. They are active Monday-Friday from 1230K-1315K.

144 Mc.: On Sunday, 20th May, Geoff 3ZFX, Bob 3ZIU and Lindsay 3ZML operated portable from Mt. Donna Buang. Bob worked three VKs, 7ZAI, 7ZAL and 7LZ, while Geoff worked the first two with a crook converter. I myself worked Syd 3CI at Nagambie the same afternoon and at 2100K heard Syd in contact with 3VL at Numurkah. A new station on 2 mx this month was Lindsay 3ZNS at Bentleigh, running 15w. to an 832B to a cloverleaf antenna. On Sunday, 10th June, Peter 3APP at Shepparton and John 3ACK at Mooropna were worked by myself. John is another newcomer to 2 mx and runs an 832A at 15w. input.

Group Meeting.—At the May meeting 30 members and visitors were entertained with talks by Michael 3ZEO on W.I.C.E.N., Bill 3APP on a recommended oscillator circuit for mobile work, and Jack 3ZJF on transistorised modulators and power supplies.

During the evening the first release of the frequency list was sold out, but copies are again available and can be had by sending a 1/- postal note to Len Poynter, 3ZGP, at 14 Esther Court, Fawkner, or for 6d. each at the meetings. 73, 3ZLT.

QUEENSLAND

Not much DX on 6 mx this month. We did, however, get a break-through to VK3 on 15th May. Newcomer to 6 mx is Doug 4ZDC who

is reported to be running about 6w. input, thence to a dipole. His rx is a super-regen. Welcome to Channel 0, Doug.

On 2 mx 4RX in Brisbane has been working John 4ZWB in Dalby regularly. John is using 10w. into a 13 element yagi.

The hidden tx hunt was held on 1st June. The apparatus was hidden by 4ZAX and due to a small oversight, the hidden tx signal mysteriously went off during the night. Investigation showed that the antenna and a very long length of co-ax had been taken by the mast of a passing ship! Luckily the antenna plug came out of the tx so that it was not dragged into the brine also.

The V.h.f. Group have hired a hall in which to hold meetings. (Previously held at homes of individuals.) A small charge will be made for each person attending in order to cover the cost of hiring the hall. Supper, and any money left over are to go towards V.h.f. Group community projects.

Oscar II. was first logged by locals at 1704 hrs. E.A.S.T. on 3/6/62. Unfortunately not many people are doing the right thing. This project is, after all, for the benefit of Amateurs all over the world.

The impending loss of part of six metres to Channel 0 is having a stunting effect on the construction of new equipment in this city. Whereas it would be a shame to discard all DX that could come in above 52 megs, adjacent channel interference would be terrible, and coupled with this would be the fact that we are sure to be blamed for a lot of the t.v.i. that is going to be caused by t.v. whenever the band opens. Oh well! I guess we will all have to go high powered mobile operation on what remains of this band. 4ZBT.

SOUTH AUSTRALIA

Newcomers here on 50 Mc. include John 5ZGT (son of 5GL). John is running 20w. to an 807. Another John, 5ZJH, is also new on 6 mx. DX activity on 50 Mc. has been non-existent, although we understand that JA signals were worked in Melbourne on 3rd May.

144 Mc.: This band has been quite active in VK5 recently. 5ZGY has joined the band of v.i.o. controlled stations on this band and Phil 7ZBA was mobile over here during the month.

Project Oscar II. is the hottest 144 Mc. news as we write. Garry 5ZK and Al 5ZCR had heard the satellite once and twice respectively by 1900 hrs. on 5th. Signals were not extremely strong and they chirp slightly. It is good to see the information on Oscar II. being disseminated promptly. Most VK5 Hams knew about the launching within a few hours. Roy Hart has done a good job in this respect. Stations interested in Project Oscar here in VK5 include 5ZMK, 5ZBR, 5TN, 5ZCR, 5ZFG and 5ZK.

General.—A V.h.f. Group meeting was held on 7th June, mainly to discuss the proposed v.h.f. issue of Amateur Radio. Garry 5ZK was in the chair and there was a good attendance.

Congratulations to Graham 5ZAP on his marriage on 12th May. Hugo 5ZDA is now 51B. Bart 5ZGB has also passed the c.w.

The Institute of Technology radio station, 5SM/T has its t.v. tx working and transmissions have been made on 288 Mc. The equipment works quite well, particularly as regards definition. The 288 Mc. video p.a. is a QQE06/40.

Luke 5LL has recently increased power and is now believed to be running 10w. After a long absence on 50 Mc., Bob 5ZFG has been heard recently. The 50 Mc. beacon station, proposed for VK5, has been temporarily shelved as the future of 50 Mc. is uncertain, and the P.M.G. will not OK continuous operation without a licensed attendant. 73, 5ZCR.

WESTERN AUSTRALIA

May Meeting.—35 members and visitors attended this meeting. One of the major discussions was on the possibility of a 50 Mc. beacon on Cocos Is. 9LA has agreed to run the beacon with equipment supplied by the Group. A 522 tx will be modified to double as a m.c.w. beacon and 50 meg a.m. tx. Mac 6MM is building the photo transistor keyer. Parts are being collected for a xtal locked 50 Mc. converter so that 9LA could be a new call area worked by many members in the next DX season.

Lance 6LR, the Group's contest organiser, submitted plans for a v.h.f. field day to foster

and encourage country activity on these bands. The only limitation is that the location should be at least 40 road miles from the station's QTH. This was to enable suitable high locations, 28 miles from Perth, to be used. The major idea is to contact as many country stations both personally and on the air and stimulate their interest. The stations participating in this contest are not precluded from using mains so they may transport their rigs to a country Amateur's QTH and operate from there. As this is a different type of contest, Dennis Cook will judge the winner from written reports on achievements of the day's activities, taking into account the number of country Amateurs contacted personally and worked on the air, difficulties encountered and power and type of supply used.

50 Mc.: A comprehensive report on DX activities at Derby, approx. 1,000 miles north of Perth, by Mick 6ZBP has been received. He has forwarded a copy of his log for March, April and May. Many of the locals would like to have his path into JA.

144 Mc.: John 6ZDU has appeared on this band. He is the only new station heard this month. He uses a much modified 522 and at the moment can only work cross band to 50 Mc. as his 144 converter is not working as yet. Tom 6KS is persuing his aim for s.s.b. on this band. When he achieves his aim, others will no doubt follow suit.

288 and Above: No news at all has been heard of activities above this freq. Please let us know of your achievements and ideas for inclusion in these notes.

Don't forget the Group meeting is at 8 o'clock on the fourth Monday in the month at the D.C.A. workshops. 73, 6ZDR and 6ZDM.

TASMANIA

General: This is my first effort since taking over the position of Publicity Officer for the VK7 Division and I am hoping for the full co-operation of all the v.h.f. Amateurs throughout the State to keep me informed of their activities and achievements.

Activity, especially on 2 mx is increasing slowly but surely and portable outings are becoming more frequent.

The Annual Meeting of the V.h.f. Group was held on 16th May and the new office-bearers elected were Ted 7EB, President; David 7ZAY, Secretary; and Barney 7ZAK, Vice-President.

144 Mc.: Activity on this band has been at a low ebb lately, but things are starting to perk up a bit now. On Sunday, 13th May, David 7ZAI and Bob 7ZAL (the snowmen) took gear to Mt. Wellington. They used a much modified 522 tx, 25w. into a QQE03/20, a 5 el. beam and a 5 stage xtal locked converter and AR7. A complete set of equipment was taken as a spare. They worked 7ZBA and 7ZEE Outlands, 7DK Poatina, 7LZ Launceston, 7ZBEP Flinders Island and 3ZIU, 3ZKZ, 3ZFX and 3ZFL. This was a very commendable effort on the part of these chaps for it is this type of activity which gives others the incentive to get on the air.

Brian 7ZBE has been on Flinders Island for the past few weeks and he has been using a "Communicator" and a 5 el. beam. With only 2w. output and a super-regen rx he worked several Launceston stations and 7ZAI/P on Mt. Wellington. A new station on 2 mx is Phillip 7ZBA/M who is at present driving to Alice Springs for a holiday. He is working mobile on the way through.

50 Mc.: Nothing much is doing on this band. David 7ZAI has been hearing some peculiar signals—presumed to be JAs. 73, 7ZEE.

PAPUA

May proved to be a very poor month on 50 Mc. On 3rd May JA1NA was heard working VK3AZY and was in turn worked by 9AU at 1817. Weak JAs 1, 2, 3, 4 and 9 were heard but not worked between 1720 and 1845. Then on 9th at 1845 a JA6 was heard calling a JA1. No other DX signals were heard during the month, although 49 Mc. TE scatter signals were observed on 1st to 10th, 13th, 14th, 18th and 29th, and also as I write (1st June). However, they were much weaker than usual. 9ZBV was the only other local station heard during the month.

VK4 (Cairns) boys, don't despair, 9AU still watches for you on 50.7, but no sign so far. Let us know your frequency when you shift to 52 Mc. 73, 9AU.

VICTORIA

Last general meeting of the Group, 11 members were present. This meeting was, I think, the shortest on record, it lasted for the great length of exactly 22 minutes. It seemed that all members in attendance were very quiet in making their presence known. However, Craig Cook broke the silence in saying he heard 7ZBA/mobile on 2 mx, who was travelling from Melbourne through to Alice Springs.

Directions were given for the visit to Diggers Rest, which was arranged for the 1st June. Unfortunately the Diggers Rest visit was rather poorly attended, a total of seven members turned up, not nearly enough I think you will all agree. However, a very interesting evening was had by all.

Our next visit for the month of July on the 6th will be to the Moorabbin and District Radio Club at 8 p.m. Hope to see a lot more in attendance than the last visit. So hope to see you there, it promises to be an interesting night.

Mac L3074 has at long last assembled his 40 ft. tower which at time of writing these notes, is about to be lifted upright and bolted down to the foundations. When erected a three element 20 mx full-size beam will be sitting on top of it, so with his fairly new rx (HBR-16) and prop pitch motor and turning indicator, should be able to hear a lot more DX.

Maurie L3055 has recently purchased a new piece of electronic equipment, it being a Hallicrafters S29. The rx is a battery-electric model which covers from b.c. up to 30 Mc. He is very pleased with the results and is planning to take it over to VK7 land when the family are on holidays there in the near future.

Must ask you all not to laugh at this chaps, but yours truly has got the one and only 2 mx xtal locked converter working. It actually is receiving signals in the 2 mx band, the best DX heard to date is from Geelong, with dozens of locals, so with having to dash outside and swing the beam, the time I get back to the rx the station has stopped transmitting. It seems the only solution is to connect a motor to the beam!

Noel L3101 says never give up hope when a report is sent out. On 29/1/61 he sent a report to ZL3JO on 20 mx and received information about 18 months later. Then again on 29/3/61 sent a report to 6BM and received his card approx. 14 months later.

SOUTH AUSTRALIA

Garry L5026 received word in May from the P.M.G. that he had success in passing the last A.O.C.P. examination, and will be applying for a Z call in the near future. John Lehmann and Colin were unsuccessful in passing the radio theory, but both passed the regulations. Listening at Colin's QTH has been rather limited of late. He is hoping soon to receive a xtal for this three-tube xtal locked converter, then will proceed to get it operating on 6 mx after the coils are changed from 2 mx.

Dale 5ZER has now a tx on 6 mx and has been received at Garry's QTH with a 5 and 9 plus signal. The tx is being fed into a 5 element beam which has only half a reflector, with the second director at a 90 degree angle to the other elements. However, it's still radiating the signal. Garry received Dale on a converter feeding into his main rx at 7 Mc., the antenna is a 4 element beam on top of a 30 ft. tower that has recently been erected.

The group held a meeting at the QTH of John Lehmann on May 11, in which Dale resigned as Secretary of the VK5 S.w.I. Group. However Trevor L5030 was nominated to the position of Secretary pending approval from the W.I.A. and other members.

RADIO MAIL

The mail received this month is from the following: Peter Drew, Craig Cook, Eric Trebilcock, Greg Johnston, Chas Abernathy, John Donald and last but not least, Ian Thomas.

Peter L6021 has found 20 mx fair in the afternoons to W land, Europe and Central America. 40 mx has been good for W in the early evenings and later to JA. The Ws also come in during the morning up to about 9 a.m. local time. Peter has recently installed headphones to the rx and is finding them a little clearer than the speaker, and now nobody can start yelling when the volume is increased. A converter is on the drawing board and which built will cover the 16, 13 and 11 mx broadcast-

ing bands, also 15 mx and possibly 10 mx Amateur bands, if finance permits. The weather in VK6 has been really rough with strong winds and driving rain which needless to say was a bit trying on the antennae. Cards received this month are from HB9EU, OZ4LP/MM and HS2M.

Craig L3093, who is a new one to the page, has a No. 11 transceiver, covering 4.2 to 7.5 Mc. into which a three-tube xtal locked 2 mx converter feeds in at 4 Mc. The No. 11 power supply has not been converted to a.c. and is now running off a 12v. battery, which does become awkward in the bedroom. The antenna for 2 mx is a seven element yagi up 30 ft. and is rotated by a "Gill" motor. Craig is working on a direction indicator so as to see in what direction the beam is pointing. He is also trying to purchase a Command rx to tune 3 to 6 Mc. into which would be fed the converter. If a Command cannot be found, a five-tube rx will be built up and used as an i.f. rx only. When these projects are completed a 6 mx converter and antenna will be constructed. A card was recently received from UE3BQL/SU. So far all call areas of VK have been heard and confirmed; a total of 28 countries have been heard with two confirmed.

Now a few words from Eric L3042. Firstly my apologies for inserting 5 W States instead of 50. Now over to Eric for some QSLs received: APSCP, HK7UL, JA6AK (3.5 Mc.), KC4USS, KV4CI, UH8KAA, UJ8KAA, UO6AA, UP2KBA, VK5KK/VK9, VS4RS, W2KQT (3.5 Mc.), ZK2AD, ZS1OU. Also had QSLs from mobile marine stations as follows: LASHE/MM (T.T. Beaumont), VK7CH/MM (yacht Moorina), K0GVB/MM (Icebreaker, Burton Island). This makes the marine mobile score up to 133. Eric has six VK8 stations confirmed and wonders if any other VK s.w.l. can beat it. The call signs are VK8 8AU, 5BP/8, 8HA, 8NK, 8TF and 8UX.

Greg Johnston, from VK7, has decided to pass on his activities. Since last month he shifted QTH, got married and set up a new shack and antenna system. Needless to say not much time has been devoted for listening. The new antenna system now is a G5RV (multi-band) about 15 ft. high at present with a 20 mx dipole running almost east and west for the long path signals. 20 mx has been quite good during the past few days, though the power noise free (almost anyway) location in contrast with the previous QTH makes life easier. The new rx, a 12 tube home-brew superhet tuning 450-850 kc., will be fed by the present xtal locked converters, and is almost finished to the testing stage. During 1962 Greg has heard 92 countries, of which 79 have been on s.s.b. with the remainder on a.m., which were all heard on 20 mx. The zone tally for 1962 is 31 s.s.b. and 9 on a.m.

Chas. L2211 has increased his DX score slightly and managed to receive a few confirmations. QSLs received on 14 Mc.: T12/CL, CR7GF, FB8CM, ON4HF, HB9MX, G3JFF/MM. 50 Mc.: ZL1AUM, ZL4LH, ZL3WZ and VK5LA. Chas. has now confirmation on 50 Mc. of the four ZL districts twice, which has made him very pleased with himself.

Received a letter from my old pal, John Donald, L3087, the other day. He has recently joined the Navy and is now training at the Apprentices Training Establishment at Quakers Hill, N.S.W. He has not been able to do any listening as a rx is not available. He is wondering if any of the members have a good circuit of a rx. If so, the circuit could be forwarded to him. The magazine "A.R." is being posted up to him from Melbourne and is still following the movements of the Amateurs and S.w.I. although the s.w.l. page is more interesting (hi).

Ian L3065/SZHR has managed to find some time to listen around the bands. Conditions have generally been pretty bad, but at odd times 20 mx comes good and a few rare stations can be heard. Ian logged KJ6BV on 7 Mc. s.s.b. the other night. So far this year the total logged is 60 countries, sent out 86 cards since March, but so far have only received four returns. The 6 mx tx is on the move once again and a start will be made on it during the University vacation. Recently a new rx was logged home to the QTH, it being a BC348 which is performing very well. Stations from W land have been regularly logged on 40 mx s.s.b. They are not very strong but are perfectly readable. Most of them can be found around 7200 kc. It is a wonder not more contacts are made on this band on s.s.b. It seems possible if the Ws realise they are being

heard regularly on this band, they would look more often in this direction for contacts.

Well gentlemen, that seems to be the end of news from here. Hope to be hearing from a lot more members in the not to distant future. 73, and the best of DX, Robert L3076.

DX LADDER FOR JULY 1962

	Countries		Zns.		S.s.b.		W
	Conf.	Hrd.	Conf.	Conf.	Hrd.	Stat.	
E. Trebilcock	297	282	40	14	90	34	—
D. Grantley	101	249	37	14	90	34	—
A. Wescott	84	159	31	33	82	—	—
M. Hilliard	69	210	33	9	105	10	—
M. Cox	48	215	26	12	128	15	—
C. Abernathy	37	81	24	—	—	13	—
N. Harrison	34	61	24	—	—	26	—
P. Drew	33	180	19	7	93	4	—
P. Fields	26	133	—	—	—	—	—
I. Thomas	17	133	16	6	86	8	—
D. Jenkins	10	141	7	—	—	—	—
H. Burger	6	185	5	1	19	—	—



Correspondence

Any opinion expressed under this heading is the individual opinion of the writer and does not necessarily coincide with that of the publishers.

805 AS G.G. LINEAR

Editor "A.R." Dear Sir,

I would like to put forward the suggestion that a Question and Answer column be included in "A.R."

For example, I have tried in vain to determine the correct operating conditions using an 805 as a grounded-grid linear amplifier.

If any reader could enlighten me, and particularly how much driving power is required, I would be most grateful.

—Wal Middleton, VK3IT.

[The Editor points out that a previous "Question and Answer" column lapsed due to lack of support. Readers are free to use the Correspondence column for this purpose.]

CHANNEL ZERO

Editor "A.R." Dear Sir,

With typical Australian lethargy, I have heard and read many provocative pieces, without doing a darned thing to register approval or not. However, the latest gem, that Channel 0 has been allocated in VK4 and VK3, is just pushing things too far.

Quite apart from the Amateurs' viewpoint, as expressed in "A.R." (June '62, page 27, centre column), does the average John Citizen realise, or has he been told, what type of interference he will be experiencing for many months of each year, and if not, why not? Frankly, I feel that many newspapers would be only too pleased to disclose the glad (?) tidings, without technical frills, were they acquainted with the position, and if further allocations are made, the position will worsen a hundredfold. Perhaps we should adopt a "Pollyanna" attitude, and declare what fun it will be to fill our logs with DX t.v. stations.

Well, thanks for reading this far, and I certainly hope the VK2 Group aligns itself with VK4 and VK3, in fact, all of VK, and make a firm stand on this most absurd situation.

—Terry J. Brown, VK2ZBL.

APOLOGY

Editor "A.R." Dear Sir,

I wish to apologise to VK5WI and its listeners for the QRM on 7146 Kc. on 27th May. I had "lowered" the frequency of a 7151 kc. crystal to 7146 kc. with applications of mercurochrome and omitted to switch the rig to the v.f.o. which was tuned to 7040 kc. where I was listening. This I did not notice until I tuned to 7146 kc. for the VK7WI broadcast. There is no pardon for this sin and I can only offer my sincerest apologies. The crystal has been shelved.

—F. E. Nicholls, VK7RY.

ERRATUM

The letter on "Good Music" ("A.R." June 1962, page 22) was incorrectly signed R. L. Gosford instead of R. L. Douglas, VK2ON, of 5 Mason's Parade, Gosford, N.S.W.

DX

VP4, OA4, BV, ZM7, 7G1, FP, AC5, MP4, ZC6, TY2

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ADDRESS CORRESPONDENCE FOR THIS PAGE DIRECT TO THE SUB EDITOR

Judging by the mail to hand, conditions this past month have been down rather than up. Most bands are quiet with Js and Ws predominating. The i.p. circuit to Europe in the afternoons is still open, but signals are weaker. In the mornings around sunrise the bands are sometimes open to Europe and America but not reliable.

NOTES AND NEWS

A 14 Mc. s.s.b. station KG6IJ has been heard lately. He is on Iwo Jima—and of course a new country. (Bonin and Volcano Is.)

The Caribbean expedition has left Bajo Nuevo and has been operating from Serrana Bank. Call is KS4BE—operation with s.s.b. and c.w.

One KH6 station attracting a dog pile was K5TSC/KH6 on Ford Is. Perhaps it will be a new country. The op. is Bucky. Band is 14 Mc. s.s.b.

Some VKs worked HB1ZT/FL. This is a Swiss station portable in Liechtenstein—quite an unusual prefix. Band, 14 Mc. c.w.

The 14 Mc. band has been very open almost every afternoon, from about 3.0 to 5.0 p.m. Leo, on Palmyra Is., is using two call signs, namely, W1MV/KP6 (c.w.) and KA1AZA/KP6 (s.s.b.).

Gus VQ9AA was worked by a few VK3s on 21 Mc. from Seychelles. (Thanks to VK3TL for the above.)

VS4RM is still active. Has been heard regularly on 7 Mc. at low end.

Has anyone worked CR10AB? He is supposed to be active and using a DX40. Rig loaned by CR9AI.

ZD8JP is still active but now reported as a phoney.

For those who want a new one. CT2AI is fairly active on 14060 Mc., most mornings.

The following are now active on s.s.b.: TU-2AK (14303), EA9AZ (14308), VS9APH (14347), UG8AW (14278), FK8AC (14343), FO8AC (14272) plus 9M2CR, VS1JW, MPATAO, VQ1DR, VS-6AE, XZ2CY, VP2KL, CR7CI.

There are still several good DX prefixes to be heard around 7010 kc., at approx. 8 p.m. each evening. W1MV/KP6 has just vacated this freq. after three weeks' nightly operation, but there is still to be found CX7CO, HI3PC, HI-8PP, PJ2ME, and if you're very lucky, YA1AM (best time for this last named would probably be after midnight).

OX3DL is audible here on 14 Mc., via the North Pole from 8 p.m. onwards. He is reported to be active also on 3.5 Mc.

AC4AO reported occasionally operating on 14003 kc. (Can't verify, but sounds a little phoney to me—Al.)

For those who still need FB8XX on Kerguelin Is. It should be possible to work him most nights. He is identifiable by a rather poor note and a fairly fast fist.

I still hear ZS3MI being called by queues of Yanks. Never a sign of his signals here. Has anyone been lucky?

One to look for during 19, 20 and 21st July, will be LX3QX. All bands, c.w. only. QSL to ON4QX. The call LX3DX will also be used.

W0LMY/TR8 is active on 14 Mc. around 2100 hrs. GMT. Thousands are calling him.

ACTIVITIES

Hal VK4DO also says conditions are poor. He worked the following: 14 Mc. K, KH6, W, DL1XZ, FO8AN, HK0AB, SM3XT, SP8CK. 14 Mc. hrd: CN2BK, CR6CA, DL1ES, DM3VV, G2AGR, HB9EC, HB9KC, LZ1KSP, OH2BZ, OK2GR, OZ7KV, SV0WU, SV1AA, UA0KKK, UA1NO, UB5WF, UO5AA, VP5MJ, VR3H, VR3L, XE1B, XE1FE. 14 Mc. phone hrd.: DU1MA, DU1VVS.

Don L2022 says the bands are quiet, but he recorded these: 7 Mc.: W6VBO, KH6CYT, UH-8KBC, UG8KAA. 14 Mc. c.w.: G3POI, UP2NV, CT1NJ, VR3P, VE0MC, CN8EU, CT1VB, KP-4APR, CT2AI, W5HTM/VR3, K3GAD/KG6, PA0TAU, CP5EZ. 14 Mc. a.m.: VK9RO, VK4DS, VP2SY, VP3EJ, VP5AY, UO5PK, YN1ST. 14 Mc. s.s.b.: KC4BK, FK8AC, VETALE. 21 Mc. c.w.: YV3BT, Ws. 21 Mc. a.m.: VR2EG, 9M-2FJ, JA4PE. 21 Mc. s.s.b.: K3CJM/KG6, JA-1DLN.

Ian VK3ZHR reports the bands as poor, but he logged these: 20 mx phone: 9M2RI, G6TC, I1THR, Ws, G6DW, G2PL, G2IT, JA1BWA, TG9SC, G3BBU, VE7PS, XE1BBO, G3LLE, VK-0JM, VE1QB, FB8T, YN7GJ, VK0DW, G3JFT/

MM, VE4EF, G3QD, DJ6AF, PZ1AW, VR4CB, KA2JA. 20 mx s.s.b.: K1AZA/KB6, K4O5L/ MM, DL4HU, DLJAF, TI2HP, KX6CG, KM6BJ, VE6FI, KB6CL, KL7AVD, KL7IR. 7 Mc. s.s.b.: K2GX1, W4EKA, WA6MCK, KJ6BV, W6QYP, W5BSQ.

Ken VK3TL worked on 14 Mc. c.w.: CO2CT, CP5EZ, CT1CB, DJ4AX, DJ5MX, DJ6SL, DL-8BL, DM2AJE, DM3SMD, EA1BC, EI9Y, F8EJ, FZ8XX, HB1ZT/FL (Liechtenstein), G2GM, G2KX, G3MBA, G3NAN, G5MY, G6CJ, G8PB, CM3ITN, HB9KC, HP1IE, K54BF (Serrana Bank), OE3RE, ON4UT, K3GAD/KJ6, W1MV/ KP6, SP5ADZ, SP9RF, UA1KED (Franz Josef Land), VE4JT, VESOR, VE6RR, W2SAN/VO2, VR3L. Worked on 21 Mc. c.w.: VQ9AA. QSLs received: DL3ZI, DM3UPN, FO8AN, G3OFE, HB9ZY, HP1IE, W0OIQ/KB6, KR8AF, OE5LX, UA9CC, UH8KAA, VR2BJ, VR4CV, VU2JA, YV5ACP, 457NE.

Peter Drew, L6021, DX heard 25/4/22 to 26/5/22. 20 mx a.m.: ZSSFG, F3PL, VK0JM, DU1VVS, TI2HK, F9QU, CN2BK, G3MWG, G3AMM, VR4CB, EA3JE, 251DC, VK9RO, TI2S. 20 mx s.s.b.: VQ9AA, VETALE, ZS8NE, ZS-6AOW, VETAKD, VK0DS, ZLJAF, VQ4RF, VE-7ZM, G2PL, G3FKM, DL1VR. 40 mx a.m.: ZL3BL, ZL1HO, ZL3RB, ZL3VI, ZL2FI, W8PHJ, K7HYW, K00OU, W3PHL, W5HQJ, FK8AU, DU1RS, DU6GR, DU9FC, TI2JC. 40 mx s.s.b.: W4TUT, W4CRU/KH6, W61NX, W6RDB, K8PRU, K5VXM, ZL2AAG, VQ2AT. 40 mx c.w.: JA-6AHY/MM, JA5AJQ, JA0HI, JA3DGE, JA1KJS, JA8DA, JA0BD, WE6VS, W4DKK, W6NHA, WV6URP, WN4ESW, WN0ARR, UA1KFL. (Thanks, Peter, any news on VK activities will help also.)



The shack of Clare J. Spencer, K6TQO, of Redwood City, Cal. (Photo via VK2AIE)

Ray VK2RA worked some good ones, namely, 3.5 Mc.: KLS, K4RID, VR2DK. 7 Mc.: Ws, VEs, Js, Us, HK7YK, W4CLY/KM6. 14 Mc.: AP5CP, BV1USA, CN2BK, CO7HQ, CP5EZ, CR-7IZ, DU1OR, DS, Fs, FA2VW, FK8AZ, FO8AN, Gs, HA6NI, HA8CF, HB9BK, 9KC; HC5RG, H18DC, HK1AAF, HK0AB, JAs, JT1KAA, KL7S, PK4ADO, KS4BF, W1MV/KP6, KR6s, KR8AP, KV4CI, KX6DK, LZ1KPC, 1K5P, 1K5V; OA4JH, OE5LX, OH5BQ, OKs, ONS, PAs, SPS, SM5WI, SV0VI, TI2PZ, UAs, UB5MZ, UH8KAA, UH8KAA, UM8KAA, UO5AA, VP5MJ, VP7NQ, VR1B, VR1M, VR3L, W6GMQ/VR3, VR4CV, Ws, VE1VI, YOYDZ, YU2HA, YU5VL, YV4CI, YV5AXA, YV5DH, ZC4IP, ZK2AD, 5A3BC, 5U7AC. 21 Mc.: Js, Us, Ws, VEs, KH6s, KM-6CE, KW8DG, KX6AJ, VP3MC, VR2s, YV6BS. On s.s.b. (mostly on 14 Mc.): Ws, KC4USG, KG6AAY, KP4CL, OA1AP, OA4JC, XE1EK, EX1FB, TI2EH.

Bud VK2AQJ worked s.s.b.: W6KTE, W4FHI, KA2OV, KA2RB, KA2AO, W3ZJR, VQ4HX, VE8TF, VE7HJ, G2AMG, VE8MZ, VE3GS, DL-1VR. All between 14100-14140 kc.

Ted VK5JE writes to say that he is now DXCC 7 Mc. and includes the following list wkcd: KS4BF, HI3PC, ZE1AS, KW6DF, VE-8DU, GSDQ, VE2YA, and many Ws and VEs on the long path around 2200 hours GMT. (Congrats. OM and I'll pass your suggestion to the Editor.)

Can anyone help with the QTHs of PK2AB, KB6AD, ZK2AA, VS3BV? If so, please contact VK5JE.

Eric BERS195 heard the following. 3.5 Mc. c.w.: VK7CH/MM, VR2EG (1630z). 7 Mc. c.w.: HA5KFR, LZ1KPC, OH7NF, SL5BH, SP6FZ, UA1KFL, 2AC, UQ2KAC, UA9XV, OKFG; UB-5JN, 5KGL, 5KSP; UP2KAF, VR2EG, LA9ZH/ M, JA6AHY/MM, JA3DTM/MM. 14 Mc. phone: JA1BRK. 14 Mc. c.w.: AF5AH, BY1PQ (1200z). DU1OR, FB8XX (0900z), FK8AH, HL9KJ, KB-6CA, KR6MM, KH6ENT/KS, KW6AM, UA-1KED, UO5KAA, UQ2KDD, UL1HE, FKDT; VK-0KT (0900z), W6GMQ/VR3, JA9VW/MM. QSL: received: AP5CP, HK7UL, JA6AK (3.5), KC-4U5S, KL7MF, KV4CI, UH8KAA, UJ8KAA, UO5AA, UP2KBA, 2NM; VS1FZ, 1GZ, 4RS; W2KQT (3.5), ZC4TX, ZK2AD, ZS1OU, LA-5HE/M, VK7CH/MM, KOGVB/MM.

ADDRESSES

KC4USS and KOGVB/MM—C/o. Gary Ernst, RM2 U.S.N., U.S.S. "Burton Is.," AGB-1, F.P.O., San Francisco.
7G1A—QSL via OK Bureau.
DL9VS/SV0—QSL via D.A.R.C.
VS4RM—Robbin Maule, Tanjong Lobang School, Mari, Sarawak.
VS4RS—C/o P. & T., Sibul, Sarawak.
HM1AP—Central Box 162, Seoul, Korea.
FR7ZD—Guy Hoarax, 600 Tampon, Reunion Is.
FY7YI—Paul Canavy, Cayenne, Fr. Guiana, South America.
HH2GR—G. Remponeau, P.O. Box 943, Port-Au-Prince, Haiti.
HK3RQ—Dr. W. Elasmir, Apartado Aereo 4468, Bogota, Colombia, South America.
MP4QA—A. P. J. Mould, via G4ZU or R.S.G.B.
OA4FM—R. Schmalz, P.O. Box 3919, Lima, Peru, South America.
FB8XX—QSL via 5R8BC, B.P. 587, Tananarive, Madagascar.
3V8CA—S. S. Wagoner, C/o. U.S. Embassy, Tunis, North Africa.
PJ3AD—Earl R. Carroll, Box 52, Serce Colorado, Aruba, Netherlands Antilles.
5A3TN—L. Birbeck, Tripoli, Libya, Nth. Africa.
5A5TZ—219 Signal Sqdn., Tripolitania, B.F.P.O. 57, or R.S.G.B.
ZK1AU—Eric Dinnan, Rarotonga, Cook Is.
ZE8JJ—W. Buxton, P.O. Box 8144, Causeway, Salisbury, Sth. Rhodesia.
HK7ZT—A. Noveles, Apartado Aereo 283, Bucaramanga, Colombia, Sth. America.
5N2GP—Ted Howell, Ilorin, Nigeria, Africa.
W1MV/KP6—Via A.R.R.L., or direct to W1MV.

SUMMARY

Although conditions this month have been down, the bands, nevertheless, have been open at various times with quite a fair amount of activity, but not many rare DX calls were heard. This is just the way it goes. Those whose business it is to really know the behaviour of the ionosphere, say that the coming high-altitude bomb tests in the Pacific could have a marked effect on reception conditions for some time after the completion of the present series. This of course we shall soon know, for better or for worse. If there is anything worth reporting, please drop me a line. I shall be pleased to receive any DX news of any sort.

My thanks again to those staunch supporters who make the effort to put pen to paper and supply various amounts of relevant information. 73, and best DX, AL VK4SS.



AMERICAN CALL SIGNS

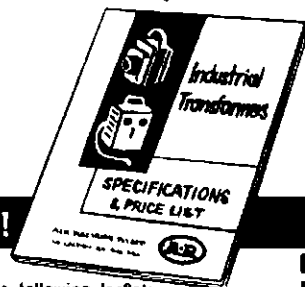
The Federal Treasurer W.I.A. again has as usual some recent back numbers of "Call Book Magazine". These have been used by Federal officers of the W.I.A., are in mint condition, and at £1 post free are about one-third new price. Issues available at the moment list American Amateurs only. Apply Bob Boase, VK3NI, 50 Cardigan St., Carlton, Vic.

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" 66 MA	£11/3/6
" 66 MD	£9/3/0
" 67 MA	£11/3/6
" 67 MD	£9/3/0

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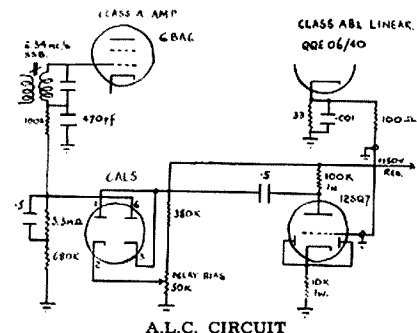
Sub Editor: BUD POUNSETT, VK2AQJ,
6 Alice Street, Queanbeyan, N.S.W.

ADDRESS CORRESPONDENCE FOR THIS PAGE DIRECT TO THE SUB EDITOR

AUTOMATIC LOAD CONTROL

A.l.c. works very much in the same manner as automatic volume control in a rx. The purpose of a.l.c. is to reduce the exciter gain whenever the drive to the final amplifier exceeds a certain predetermined level. This means that properly adjusted, the final amplifier can never be overdriven, can never cause all that splash and splatter that causes such a nuisance on adjacent channels. No sideband tx should be without some form of a.l.c.

Lance 2AHL has developed an interesting automatic load control circuit for use in his 50 Mc. tx using a QOE06/40 tube as a final amplifier. This tube is operated in Class AB1. The voltage across the 33 ohm resistor in the cathode of the QOE06/40 tube varies according to the instantaneous values of plate current, developing a positive going waveform at the cathode. This is amplified and inverted by the 12SQ7 tube, resulting in a negative going waveform to be applied to the 6AL5 tube used in a voltage doubler circuit. This circuit



has a delay voltage applied to it so that rectifying action starts at a pre-set level. The attack time is very fast and is determined by the 680K resistor, the 100K resistor and the 470 pF. and 0.5 uF. capacitors. The decay time is long, set by the 0.5 uF. capacitor and the 3.3 megohm resistor to provide hang between syllables.

Between the 6BA6 amplifier and the final, there is the gain of a mixer and two linear amplifiers at 50 Mc. One important consideration is that when the final is first switched on, the voltage at the cathode rises from zero to a small positive value (assuming no drive) which is determined by the standing cathode current. This can transmit a pulse into the time constant network and result in paralysis

of the tx for a short period after going to transmit. This effect was overcome by adjustment of the delay voltage. It is more serious on c.w. but switching the 12SQ7 tube grid to ground would eliminate the trouble for this mode. The 100 ohm resistor in the 12SQ7 grid lead is to ensure that the only low impedance path for the final cathode is the by-pass capacitor. This is important at v.h.f.

STILL MORE ON THE VICEROY

Again from Geoff 3AC, more information on modifying the Viceroy tx has come to hand. Geoff has been over his Viceroy with a fine tooth comb or should it be a careful soldering iron. Geoff pointed out in his letter to me that these remarks should not be taken as a reflection on this equipment, which puts out a fine signal straight from the factory, which one must remember is 12,000 miles away.

Here is how Geoff tells the story of his improvements: "I was troubled with a ripple in the carrier, incomplete carrier suppression, although this was always very good and well down, a growling type of audio was being reported, and on c.w. clicks were troublesome and there was a pulling of frequency when keying the rig which indicated that peaks of audio might also be producing slight frequency modulation."

So here's a report on what was done, step by step.

1. Ripple. A dry joint on an 8 uF. condenser on the 250 volt line inside the rig was the cause of this one.

2. 100 cycle modulation in early stages of exciter. Probing around the power pack with a 0.1 uF. condenser with one side connected to ground, resulted in the elimination of the 100 cycle rectifier noise. 0.1 uF. paper condensers were connected parallel with electrolytic condensers of the 250 volt line. A 0.1 uF. mica condenser between one plate of each rectifier and the cathode of each rectifier eliminated a 50-cycle flutter and also the 100 cycle rectifier modulation. Test to determine on which plate the condenser is effective. Another 0.1 uF. mica condenser between the live side of the a.c.a supply and ground eliminated the last traces of the 100 cycle noise and the 50 c.p.s. flutter due to rectifier action.

3. Bassiness of audio and lack of highs. The six i.f.t. slugs involved in tuning up the lattice filter to the frequencies already recommended in last month's notes resulted in a big improvement in the position of the pass band. But, in my case, I found that it was a further improvement to shift all the frequencies concerned 375 cycles lower than those recommended. This was done quite easily using the low frequency range of a BC221 which was most satisfactory for the job. It was necessary only to connect the output of the wavemeter through a length of co-ax to the grid of the carrier oscillator tube. This resulted in the wavemeter supplying the required frequency for tuning up and caused the crystal to stop oscillating at the same time.

The S meter of the rx was used as a v.t.v.m. for all measurements and peaking up, and was found to be most suitable for the purpose.

Shifting the frequencies a further 375 cycles away from the carrier frequency resulted in attenuation of the low frequencies and an extension of the top end to 3.5 kc.

Further attenuation of low frequencies was achieved by inserting a 1,500 pF. fixed condenser in series with the 0.01 uF. grid coupling condenser between the two audio stages in the rig. In addition, a 5,000 pF. condenser was connected between the grid of the modulator and ground to take care of higher frequencies produced by the microphone and eliminate possibilities of these causing a broadening of the signal.

After all this, the response curve of the rig was flat from 600 c.p.s. to 3.5 c.p.s. At 200 c.p.s. and 4,000 c.p.s. response was down 20 db.

Suppression of the lows improved unwanted sideband suppression and this would now be around 35 db. for the middle range of frequencies and higher for the highest and lowest frequencies within the range of the pass band.

The voltage regulation was checked and it was found that the voltage was varying on the carrier and v.f.o. oscillators during modulation. Further checks revealed an error in the connections to the OA2 VR tube which was only partly controlling. The connections to the socket had been reversed. Correctly connected,

the OA2 controlled the supply to the two oscillator stages and there was no tendency for these stages to pull off frequency with modulation.

On c.w. it was noted that a slight frequency change still took place on the four higher frequency bands, but not on 80 mx. On 80 mx the v.f.o. frequency itself is used, but on the four higher frequency bands a xtal oscillator is used to beat against the v.f.o. This indicated that regulation on the c.o. stage was inadequate. A VR tube on the screen grid of the 1870 c.o. tube cleaned up this last little regulation problem and it was felt that we were now really in business for good clean s.s.b., and this was borne out when a prerecorded musical type was played through the rig into a dummy load. It was possible to listen to music of very good quality considering the limited frequency range of the pass band. I would recommend using a microgroove disc with music and speech for the purpose of testing a s.s.b. rig. Music will very quickly reveal poor regulation which results in changes of pitch which can be very quickly discernible with a musical note and less so with the voice. It is almost impossible in any case to form any sort of judgment when listening to one's own voice whilst making adjustments. The disc or tape source of music and speech will help to check on performance. Distortion is more readily noticed using music and I would say that many of the troubles normally only discernible by using a c.r.o. can be discovered and eliminated by listening to music.

If, when playing music through your s.s.b. rig, you find that quality is poor, something is wrong. You can expect very good musical quality when the rig is correctly adjusted and adequately controlled in regard to voltages and frequency. In measuring the response of the s.s.b. pass band, a source of calibrated audio is of course necessary. To measure the r.f. output use the S meter of the rx, but follow the signal as the audio frequency is increased, otherwise the shape of the rx pass band will wreck the picture you will get of this tx's response.

A 1,000 ohm resistor and 4 uF. of capacity cured key clicks, on c.w. There is absolutely no change in carrier pitch when the key is pressed. The carrier was completely suppressed by critical adjustment of the trimmer condenser, the Philips trimmer across the carrier crystal and the panel balance potentiometer control. Final adjustment was made with the rig partly out of the cabinet and the middle finger used to make final slight adjustments to the Philips trimmer. Carrier then disappeared beneath the tube noise and to all intents and purposes could be regarded as having been completely suppressed. This was a most satisfying exercise. The adjustment to the Philips trimmer gets the carrier frequency right into the notch of the carrier crystal in the half lattice filter and the carrier completely balanced out.

TWENTY METRES

In the February "Sidebander" magazine and the April "CQ" there appeared a discussion on 20 mx frequency segments under the title "Something Must Be Done". One proposal is to make the American phone band 14160 to 14330 kc. This means that the s.s.b. DX has only 20 kc. at the top end and leaves a mere 40 kc. to the DX a.m. operators. At first glance this gives the a.m. chaps twice the frequency space as the s.s.b. gang, but in actual fact the effective space is the same. However, this proposal would meet with much opposition.

The S.S.B.A.R.A. suggest that the U.S. s.s.b. portion be widened to 14250 kc. to 14350 kc. and that the DX s.s.b. stations (you and me) use 14100 to 14140 kc. and to contact U.S. stations, indicate where they are listening between 14250 and 14300 kc., leaving the top 50 kc. for internal W/K contacts and phone-patching.

I go along with this proposal and it is very similar to that put forth by VE3EWY some months ago. Already there are many DX stations using 14100-14130 kc. to great advantage, so that it seems that the last mentioned plan may be slowly evolving. At present there is little or no U.S. to DX contacts occurring from the high to the low end, but I feel that this is a matter for other than U.S. stations to start. Once established, the custom would be easily adopted.

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FEDERAL AND DIVISIONAL MONTHLY NEWS REPORTS

(SEND CORRESPONDENCE DIRECT TO DIVISIONAL REPORTER NAMED AT PARA. END)

FEDERAL

FEDERAL EXECUTIVE MEETING

The first meeting of the 1962-63 Federal Executive was held on 16th May. Present were W. Mitchell, VK3UM (President); G. M. Hull, VK3ZS (Vice-Pres.); J. Lancaster, VK3JL (Sec.); D. Rankin, VK3QV (V.h.f. Manager); and new members A. Seedsman, VK3IE (Business Manager) and I. MacMillan, VK3CS (Publicity). Co-opted members present were W. Boase, VK3NI (Treas.), and G. Glover, VK3AG (Historian and Emergency Co-ordinator). Another member co-opted during this meeting was K. Cocking, VK3ZFQ. Others not present were A. Tinkler and T. Straughtair.

The transcript of the proceedings of the Federal Convention held in Perth at Easter was tabled, and it was decided that it would have to be corrected before copies were distributed to the States for ratification of the proceedings by the Divisions.

A copy of a letter from the Elizabeth Amateur Radio Club to the South Australian Division, which had been forwarded to F.E. for information, was tabled, and discussed. This letter criticised various aspects of the Institute, and while most of the matters were domestic in nature, some matters of a Federal nature were raised. These were:

(1) Veracity of articles published in "A.R." Every effort is made to ensure the correctness of articles published, but it is almost impossible for an over-worked voluntary committee to examine every detail of every circuit, and every equation, or to pass judgment on concepts that are the subject of contention by experts.

(2) Short supply of Call Books. It is apparent that Divisions are reluctant to order large quantities of Call Books for fear that they may be left with a quantity. As the VK3 Division prints on the basis of orders from the other Divisions, and known retail demands, and has to bear the cost of over-printing, they are reluctant to print more than is actually ordered.

(3) Novice Licences. This matter was recently brought to the attention of the Department again, and was rejected. However, the matter is not considered to be closed.

A letter from the N.S.W. Division, enclosing literature pertaining to that Division's excellent High School Radio Clubs scheme was tabled, and it was decided to obtain a quantity of literature from N.S.W. for distribution to the other Divisions for their information, with the suggestion that they investigate the possibilities of duplicating the scheme, using basic material originated by the N.S.W. Division.

The scheme involves courses of instruction for High School students, with certificates issued on examination, in stages, from an elementary level to a certificate at A.O.C.P. level, including "Morse Instructors' Certificates."

Specific discussion of some fifty-five motions discussed at the Federal Convention is expected at the next meeting of F.E. which will have been held on 13th June.

OVERSEAS NEWS

By the time of issue, Oscar II, the second Amateur Satellite will be in orbit, and observations taking place. This satellite will be a duplicate of the first. A third Oscar package is planned for the future.

V.H.F. STATE RECORDS

New South Wales—

50 Mc.: VK2RU-JA1ANO, 4809m., 1/4/56.
 †144 Mc.: VK2ASZ/2-ZL3AQ, 1342m., 31/12/61.
 Mt. McAllister
 288 Mc. and above: No claims.

Victoria—

50 Mc.: VK3ALZ-XE1FU, 8418m., 1/5/59.
 *144 Mc.: VK3ZCG-VK4HD, 887m., 27/12/61.
 288 Mc.: VK3ALZ/VK7LZ, 282m., 10/1/60.
 576 Mc.: VK3ANW-VK3AKE, 80.1m., 11/12/49.
 2300 Mc.: VK3XA-VK3ANW, 9.0m., 18/2/50.

Queensland—

50 Mc.: VK4NG-JA1AHS, 4140m., 22/1/56.
 *144 Mc.: VK4HD-VK3ZCG, 887m., 27/12/61.
 288 Mc. and above: No claims.

South Australia—

50 Mc.: VK5KL-W7ACS/KH6, 5361m., 26/8/47
 144 Mc.: VK5GL-VK6BO, 1322m., 30/12/61.
 *288 Mc.: VK5AW-VK3ZCG, 262m., 23/1/61.
 576 Mc. and above: No claims.

Western Australia—

*50 Mc.: VK6BE-JA8BP, 5490m., 30/10/58.
 144 Mc.: VK6BO-VK5GL, 1322m., 30/12/51.
 288 Mc. and above: No claims.

Tasmania—

50 Mc.: VK7BQ/7LZ-VK9DB, 2205m., ———.
 *144 Mc.: VK7LZ-VK5BC, 609m., 28/4/59.
 288 Mc.: VK7LZ-VK3ALZ, 282m., 10/1/60.
 576 Mc. and above: No claims.

*New records.

†New Australasian 144 Mc. record.

Other contacts, not records, that have been submitted for recognition are as follows:—

144 Mc.: VK2AH-ZL3AR, 1307m., 15/12/51.
 144 Mc.: VK2ZAL (now VK2RX), VK5BC, 600m., 18/1/58.
 144 Mc.: VK5BC-VK7PF, 571m., 28/4/59.

NEW CALL SIGNS (MARCH)

VK— Australian Capital Territory
 1JM—J. W. Miles, 2 Torres St., Red Hill.
 1JW—J. B. S. Waugh, 20 Hamelin Cres., Nar-rabundah.
 1KG—K. G. Avery, 89 Hawdon St., Dickson.

New South Wales

2CT—R. B. Pinney, 23 Rickard St., Narrimoo.
 2NO—D. G. Hallam, 3145 Moira Cres., Rand-wick.
 2AFO/T—G. R. Nolan, 14 Dennis St., Rydal-mer.
 2AUD—J. M. T. Davies, 100 Barrenjoey Rd., Mona Vale.
 2AVU—J. R. Copley, 46 Undercliffe Rd., Har-bord.
 2AYG—G. Craggs, 56 Oatley Park Rd., Oatley.
 2AYR—W. A. Rowse, 28 Central St., Broken Hill.
 2ZDI—D. W. Rickard, 16 Glen St., Milsons Point.
 2ZMT—M. K. Takach de Duka, 314 Miller St., North Sydney.

Victoria

3CV—K. J. Duff, 10 Stanley Gr., Canterbury.
 3KZ—A. L. Heath, Main Rd., East Eltham.
 3RG/T—R. B. Russell, 1 Cedar Cr., Forest Hill.
 3SR—A. J. Perkins, 1 Parkmore Rd., Forest Hill.
 3WA—J. H. Worner, 27 Dundas Pl., Albert Park.
 3WV—J. E. Walker, C/o. O.T.C., Fiskville, via Ballan.
 3AVU—C. Lobb, 200 Elgar Rd., Box Hill South.
 3ZMN—R. K. Von Sanden, 42 Moyston St., East Hawthorn.
 3ZNE—R. W. Birrell, 38 Bakewell St., Bendigo.
 3ZOA—T. R. Powney, Anzac Ave., Leopold.

Queensland

4RX—B. R. Rickaby, 43 Curzon St., Tennyson.
 4WY—W. S. C. West, 33 Rawlinson St., Mur-arrie.

South Australia

5ZCZ—C. A. Schahinger, 39 Miller St., Darling-
 ton.
 5ZHR—R. W. Haese, 18 Orlando Ave., Hamp-
 stead Gardens.
 5ZIS—T. K. Slater, 27 Mackay Ave., North
 Plympton.
 5ZJK—M. W. McLennan, 11 Herbert St., Chel-
 tenham.

Western Australia

6AQ—Rev. Bro. V. R. McKenna, C/o. Aquinas
 College, Manning.
 6ZDK—N. R. Fenfold, 55 Moulden Ave., Mt.
 Yokine.
 6ZDN—J. S. Brown, 32 Reynolds Rd., Apple-
 cross.

Northern Territory

8CP—A. R. Jarman, 10 Wallis St., Alice Springs.

Territory of Papua and New Guinea
 9JB—J. Bohun, C/o. A.W.A. Ltd., Goroka Air-
 port, Goroka.

AMATEUR ADVISORY COMMITTEES, 1962

New South Wales: Messrs. W. L. Woolnough, VK2GW; L. H. Taylor, VK2CL; N. MacNaugh-ton, VK2ZH; G. G. Hall, VK2AGH; B. H. Anderson, VK2AND; Dr. L. H. McMahon, VK-2AC.
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The abovementioned persons have indicated that they have no objection to publication of their names in the Institute's magazine "Am-ateur Radio" as members of the Amateur Advisory Committee.

FEDERAL QSL BUREAU

A further change in the A.R.R.L. district QSL Managers is: VE4 QSL Bureau, Mr. D. E. McVittie, VE4DX, 847 Academy Road, Winni-peg, Manitoba, Canada.

Am very grateful to member John Belcher, of Bentleigh, Vic., for making available details of R.A.A.F. Receiver AR10, which was asked for in this column. Much appreciated, John.

Details of a new certificate, issued by the Zulia Section of the Radio Club of Venezuela, are available from this Bureau.

An information sheet issued for the inaug-uration of the Club Radio Station of the Inter-national Amateur Radio Club has been received. The I.A.R.C. has been founded at the head-quarters of the I.T.U., Geneva, Switzerland, and membership is open to all staff members of international organisations. Other licensed Amateurs may become members. The purposes of the I.A.R.C. are:—

1. Through Amateur Radio, to further inter-national friendship and understanding;
2. To co-operate with all Radio Amateur associations;
3. To promote the proper use of the bands allocated to the Radio Amateur Service;
4. To provide the organisation through which the I.A.R.C. radio transmitting and re-ceiving station will be managed and oper-ated.

The Amateur Radio Station of the Club has been installed in Room 527 on 5th floor of the new building of the International Telecom-munication Union at the Place des Nations, Geneva. The station has been assigned the call 4U1ITU in agreement with the United Nations and the Swiss P.T.T.

QSL traffic through the Federal Bureau rose to 5,922 cards for the month of May. This is the highest monthly total since November 1949!

Ray Jones, VK3RJ, Manager.

NEW SOUTH WALES

HUNTER BRANCH

The last meeting of the Branch was a "Do It Yourself" night when members described some item of equipment they had constructed. Some most interesting gear was displayed and those who performed were: Stewart 2AYF, Mac 2ZMO, Stan 2AYL, Ian 2ZIF, Kev 2ZKW, John 2ZJG, Gordon 2ZSG, and Keith 2AKX. As you can see, the list is quite long and to enumerate each in detail would involve a great deal of space. Suffice to say that practically all aspects (except s.s.b.) were covered with a goodly sprinkling of v.h.f. equipment. A very good roll-up of members and visitors, thirty-three in all, gained much useful knowledge from the evening. Thanks to all who partici-pated.

News from the local front is at an all-time low this month and the rumour that several of our best known Amateurs have gone into hibernation may well be true. This certainly seems to be in evidence on Monday night broad-cast time when very few call-backs are re-ceived. No matter where you are, VK2 or Interstate, or ZL, please accept this invitation to call back to the Monday night re-broadcast of 1901 news. This may be heard each Monday at 2WU Eastern time on approximately 3573 kc. on a.m. telephony. The broadcast lasts about 20 minutes and call-backs are taken on the same frequency. You may use a.m., s.s.b. or c.w. and you are assured of a cheery reply from the rostered Hunter Branch operator.

At least one Hunter Branch member is known to be constructing a rig for use on top band and will be looking for contacts immediately

after midnight on Sunday, 1st July. Top band offers great possibilities for local nets, especially during the winter months, and it is well worth considering getting on this band as soon as you can. Elaborate equipment is not needed and it is quite an easy job to modify an old b.c. rx to cover 1800 kc. The AR8 and quite a number of Disposals rx's already cover the band and for a tx, ordinary b.c. rx components may be pressed into service to do a quite satisfactory job. So what about it chaps? See you on 160 soon.

At the other end of the frequency spectrum we have the two-metre boys. The latest convert to this band is reported to be Bob 2AQR from the shadow of NBN. His QTH was once called "shadow of Sugarloaf", but not now that the new mast has appeared. And, by the appearance of certain earthworks I noticed the other day, it will not be long before a new lattice tower will rise on the hills behind Bob. When this happens, many local Amateurs will breathe a sigh of relief. It should be possible to get the P.M.G. to agree to certain levels of signal below which t.v. is technically "inaudible". This will be a great help in those areas where a "picture" is received on perhaps one or two nights a week and the local Amateur gets the blame for everything else which appears on the screen.

Jim 2AHT is not worried by t.v.i., at least on any more. He has now joined the ever-growing ranks of duck talkers and has built himself a s.s.b. converter for the Heathkit tx. Between times at 2NX, Tony is working on the new 2 mx tx now that 288 is to have its life curtailed, and he may even be on the air by the time you read this. Des, our 144 man from Cardiff has successfully completed a "Micromitter" and by all reports it is performing very well. Ian 2AJF still has trouble with modulation and is active only on c.w., and not very active at that. However he has successfully completed one most satisfactory tx in the past month. This is the new club rig for 2ATZ, running about 35w. of a.m. phone. By all reports, this rig, which is still on test, is putting out a good signal. Stewart is reported to be active on 144 from the new shack. As he has a remarkably good take off spot for Sydney, some of you chaps in the big smoke should be able to receive a strong signal from 2AYF. There is even a rumour that Bill 2CW will soon be on 144. This I am prepared to believe when I hear the signal. Varley 2SF is still having difficulty in putting the switch to the "on" position, but has been pretty busy on a very neat g.d.o. during the past few weeks.

Among the associates, Belmont Bob now has his AR8 going well and is paying particular attention to 80 where I am told many good signals are audible. This understandable when one considers what Bob's AR8 was like before. Max, from Toronto, is getting some excellent practice on c.w. with the Army Signals and was responsible for maintaining a c.w. link with Ingleburn control during the recent flood scare. There are to be two new associates on the lakeside shores. Les Payne and Denis Matthews, from Marmong Point, have been regular visitors at recent meetings and will be joining our ranks during the month. Les hopes to have a shot at the licence soon. Bill 2XT is after some Command i.f.s. of any frequency for a project he has in mind. Should you be able to help, get in touch with Bill.

If you have the time and you are able to drag yourself away from your income tax calculations, why not attend the next meeting? A single sideband special, it is to be delivered by Keith 2BK. Having in mind the previous lectures we have heard from Keith it promises to be a good night, so put down the ready

YOUTH RADIO CLUBS

The N.S.W. Division has commenced a very promising project to encourage young people to take an interest in electronics and radio communications.

A very detailed scheme has been formed which will issue a proficiency certificate to those who pass the examination.

Every Radio Amateur in Australia should help to further this scheme by encouraging the young people to join.

Full details are available upon application to R. C. Black (VK2YA), 21 Bardwell Road, Bardwell Park, N.S.W.

reckoner and come along. You'll find all the boys there at the Newcastle University College, Tighes Hill—the time, 8 p.m. Friday, 13th July. Let's not be superstitious; all the ladders, black cats and mirrors have been removed for the occasion. If you enjoy meeting the boys without hearing about s.s.b., then come along to Bill Hall's Tavern, Cooks Hill, on 25th and join the billiards queue. And don't forget 160 mx. See you there, 73, 2AKK.

BOORAGUL HIGH SCHOOL RADIO CLUB

Thanks to Ian, our new rig is now on the air with about 35w. on 80 and 40 mx. We do hope soon to be on 20 and 160 mx as well, but this may take a little time. One of the good things about the main school building is that we are able to put up a half wave dipole for 160 mx. The only thing we lack is the wire. Plenty of soft drawn copper is available but we are short of hard drawn wire round 18 g. for the big antenna. Preparations are well in hands for the Education Week open day and we hope that once again Booragul will be one of a really big net of school clubs on the air. We are doing the best we can to maintain our lunch and afternoon schedule as listed last month, and we are still looking for contacts on both 80 and 40 mx. Set building is going on apace now and members are turning increasingly towards transistors. We look forward to meeting you or renewing our acquaintance on the air. 73, 2ATZ.

VICTORIA

JUNE GENERAL MEETING

About 35 were present for the June meeting. Business was quickly completed and the meeting handed over to ye Hon. Ed. Kel took us on a pictorial tour of the Snowy Mountains scheme. As usual, when Kel describes his experiences of his trips, there is always a lighter side. The pity is they cannot always be committed to print.

I'm still in two minds about apologising for advertising the wrong agenda item in last month's "A.R." I still say the visit from Mr. Little was announced at the April meeting, and I'm not on my own in this regard.

Anyway, Mr. Little will be with us for the July meeting, so here's hoping we see 45 members or more at our next meeting.

Again we have three new members for this month, one full and two associates. Sad to say, I've mislaid the scrap of paper with the names, but just the same, a hearty welcome to our ranks, fellows.

Just because there were a few VK3 notes last month, there was no space for 5PS, so in the interest of Interstate peace this had better be kept short, but just wait till next month.

As a final thought, all those who indicated their interest in W.I.C.E.N. will by now have received cards to be filled in and returned. Please complete and return them promptly as the co-ordinators have a lot of work to do to get the organisation functioning and late entries will only make things harder for them. Don't forget there is a place for you and we want you in it.

JUNE COUNCIL MEETING

A letter was received from a suburban member who had been refused permission by his local council to erect a wind-up tower. As it was felt that an important principle was

involved, it was agreed that Council support this Amateur in his appeal against the decision.

Michael Owen reported that cards requesting details of equipment and personal particulars had been sent to those who had replied to the W.I.C.E.N. circular.

Some time was devoted to a discussion of ways to raise the level of interest and participation in the W.I.A. in the metropolitan area. So many ideas were forthcoming that time ran out, necessitating adjournment of the discussion until next meeting.

The progress of the work on 3WI was examined, in particular the tricky problem of a suitable antenna for 80 metres. The station should be back on the air from the club rooms on 80, 40, 6 and 2 mx by the end of the month.

MIDLAND ZONE

On May 18 a meeting of the Midland Zone members was held at the residence of 3ND, Castlemaine, with the view of reviving activities within the Zone. After much discussion, various problems were resolved and new office-bearers elected. A copy of the minutes was forwarded to all members. It was decided to commence Zone hook-up as from Thursday, 7th June, on 144 Mc. and Sunday to participate in State hook-up on 80 and 40 mx.; this arrangement to be continued weekly.

It has been suggested that the Midland Zone use a specific frequency, to be decided, by all members for Sunday hook-ups, so any suggestions on this and other matters will be welcomed; so let me have them. Just how many members will be able to participate immediately is not yet known, but let's make it a real get-together at the earliest opportunity.

At present I have no tx operating on 80 mx, but expect to rectify this matter within the next couple of weeks. Tom 3JW is keeping the Zone afloat so give him a call and let's have your notes on your activities. We don't expect wonders immediately as we all have some commitments, especially 3ACN who has YL trouble in a big way, hi! However, there is no reason why we should not be able to have good representation on the bands in the immediate future.

Several activities within the Zone are in the planning stage and details will appear in these notes as they are finalised. Please let me have notes of your doings members, and help keep the Zone active. My QTH is Farnsworth St., Castlemaine. 73, 3ND.

EASTERN ZONE

We all wish a speedy recovery for Robin Forman, 3ZLS (ex Balwyn, now of Morwell), after the tragic motor accident some weeks ago.

We all wish Graham 3QZ a bon voyage too and a enjoyable holiday in the U.K. Graham left on 20th June. Ken now has his two mx mobile rig working, into a halo on 144.665 Mc. Bert is also building up h.f. portable equipment. Alan 3ZNB now has built a shack on top of a nearby hill at Anderson. He is very active on 144.28 Mc. Alan 3ZNO is now active on 2 mx from the top of Mt. Tassie.

Our High School station, 3ANL at Morwell, is now active again, anticipating regular inter-school QSLs. Last two contacts were on 10/5/62 and 14/6/62. Stations worked were Morton High School, 3AEQ; Shepparton High School, 3ACD; Warracknabeal High School, 3AMP; also 3AUL called in and contact was made with a VK2 school.

As most of you received Oscar II, and had a very enjoyable time listening, tracking and recording it, please remember now the most important duty, that is POST your report forms direct to the Oscar Association or to myself. Do it as soon as you read this, if you haven't already done so.

Everybody had a very enjoyable time with Alf and Molly at Warragul Creek field day last month. Approx. 28, including XYLS and

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"	3006	1" "	8 "	6/3
"	3007	1 1/4" "	16 "	6/3
"	3010	1 1/2" "	8 "	7/4
"	3011	1 3/4" "	16 "	7/4
"	3014	1 1/2" "	8 "	8/5
"	3015	1 1/4" "	16 "	8/5
"	3018	1 1/2" "	8 "	10/6
"	3019	1 1/4" "	16 "	10/6

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harmonics, turned up. Don't forget the next Eastern Zone family field day to be held at Lakes Entrance at the beginning of November. 73, 3ZCG.

NORTH EASTERN ZONE

To my knowledge 3GI is the only member making consistent DX contacts of late. 3AGG, the eternal dark-horse, only smiles at the subject. 3AWT has erected a 25 ft. windmill tower close to his station to mount an as yet undecided type of beam. 3ALF suffers from inertia over the mounting of his 20 and 15 mx quad. 3AUL built up a new 15 mx converter recently but has not heard any signals on it. The Zone-shattering bombshell, he said would occur soon, has not gone off—maybe no fuse.

3AAQ had a spell of winding in order to achieve a heftier h.t. transformer. Using silicon rectifiers in a bridge circuit, he has jacked up input power to 65 watts. 3AYD has also increased input power to 60 watts; there for a few days he was unable to obtain 100% modulation and all the highly technical tests did not reveal the "bug". Whilst idly poking at connections, he found a fatigued screen pin receptacle of one of the 807s in the Mod. Two days later he marked up his first DX phone contact—a VE. This calls for 807s all round next pay day?

3ZU reported that one member of the Yarrawonga and District Radio Club passed the theory and regs. in April. The lad concerned is feverishly building 2 and 6 mx outfits and hopes to come on the air about mid June. 3ACK having finished his 200x astro telescope, decided to have a lash at 2 mx last month. The converter worked first try and the tx gave very little trouble. The other day when he first joined in the daily skeeds with 3CI and 3AFF, Syd gave him an S point over Peter. The latter is quietly crunching through his pipe stem over that!

3ACD was not able to find sufficient interest among the Shepparton High School senior students so the idea of forming a radio club has, for the time being, been shelved. 3KU has the answer to the cold weather and being away from Mum; he has transferred his outfit to the kitchen. During the last couple of weeks I have contacted several VK6s and VK4s on 40 mx at about 1800 hrs., but I have never been able to sign off with them as their signals have faded right out in a matter of a few seconds. The next Zone Convention looks like being held in Shepparton early in April 1963. 3ASY.

WESTERN ZONE

Guess we must welcome back to our Zone Chas., ex VRIB. Chas. has only recently ar-

rived back with Audrey and 1st harmonic after a sojourn of three years in Gilbert Islands. They are at present living in Dimboola and we expect to hear Chas on the air again soon from this location.

Most of the Amateurs throughout the Zone seem to be active television enthusiasts. Believe that Keith 3ATS, of Murtoa, has almost finished building his own t.v. set. Herb 3NN, of Yannac, has had the hard luck of losing his highest antenna mast in a storm, so at present is operating under some difficulties. 73, 3AKW.

QUEENSLAND

FREQUENCIES

News in Queensland this past month seems to have been of nothing but frequencies, frequencies, and more frequencies. Discussions on the bands and in personal QSOs have been particularly sparked off by the Federal comment at the beginning of the last "A.R." The announcement of a re-issue of licences which, by now should have almost been completed, was accompanied by the list of authorised frequency bands for Amateurs which was conspicuous by its cuts in allocations.

Besides the abandoning of the 50 to 52 Mc. and 288 Mc. bands, the little footnotes contained restrictions which in effect will cripple the service in a number of bands. Amateurs in Queensland were quick to realise the losses and a number have written personally to their local Federal members of parliament, while others have been urged to do so giving a full discussion of the issues involved.

Vince 4VJ has put forward a practical proposal to help some of those licensees almost exclusively knocked out by the announcement. He has given notice that at the next general meeting of the Queensland Division he intends to propose the following motion:

"That the Wireless Institute recommend to the P.M.G. Dept. that Z licensees be granted use of a portion of the 28 to 29.7 Mc. allocation in lieu of the 50 to 52 Mc. recalled for Channel 0 t.v., and that 29 to 29.7 Mc. be considered for this purpose, other aspects of their licences to remain unaltered."

Branches, clubs, and individuals were asked to notify the Divisional Secretary of their attitude to this by the meeting time, June 29, so it should not be too long before the result of the move is known. The V.h.f. Group in VK3 has been informed of the motion and asked for their opinion as members in Melbourne will be as badly off as those in Brisbane following the questionable decision on the controversial Channel 0.

OFFICIAL STATION

In a different vein on frequencies, the xtals prepared for the VK4WI tx unfortunately were ground off frequency and over the past few weeks, there has been difficulty during the Sunday morning hook-up. Bert 4AO has now collected them and it's hoped to have the ones for correct frequency in service very shortly. To remind all Amateurs who operate on Sunday mornings, VK4WI operates from 0900 on 7146 kc. for the news and after on 7105 kc. for the hook-up. As members are listening and taking part in this from as far from Brisbane as Townsville and Ayr, a sincere request is made for all operators not involved to keep these frequencies as open as possible, having regard to the particular conditions. In recent times, unthinking band users have almost wrecked both the news and the hook-up.

Also concerning frequencies, at least one Amateur in Brisbane was able to monitor one of the frequencies detailing the proposed first American high altitude nuclear blast which ended in failure. The broadcast was clear enough to be recorded so those looking out for freak conditions to accompany proposed explosions have no excuse of missing out.

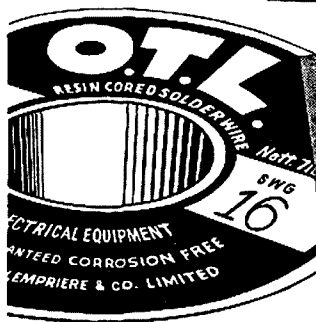
Oscar II. was duly put into orbit early in June and at least three v.h.f. members in Brisbane, State co-ordinator Vic 4ZBT, Dane 4ZAX and Lionel 4ZGL had picked up signals in the first week. Although the project might be completed by now, all who heard signals are asked to contact Vic.

America's second astronaut Commander Scott Carpenter was in orbit in late May but no Amateur in Queensland is believed to have received signals on the one spacecraft frequency released by Project Mercury officials, 15 Mc. No doubt many will be listening out for the next astronaut.

FIRST COUNCIL MEETING

The new VK4 Divisional Council held its first meeting on May 17 and the following were some of the positions decided: President and Chairman, Pat 4KE (a President back in

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the early 1930s; Sec., Peter 4PJ; Treas., Keith 4DG; Inward QSL Officer, Jack 4JF; Outward QSL Officer, Ron 4ZBZ; Librarian, Ken 4VM; Country Rep., Les 4ZZ; and Equipment Officer, Col 4CI.

Among the many visitors welcomed at the May 25 general meeting were Bill 4XM and Jim 4HZ who delayed a trip to Gympie to attend and to comment very favourably on the standard of the 4WI news broadcast. In a short, well-pointed address, Pat outlined the policy of the Council for the coming year, including a point that Amateur Radio should be 90 per cent. radio and 10 per cent. business. The large attendance of more than 60 was wholly in favour of this.

The lecture was given by Clive 4CC on his experiences as radio supervisor of the 1958-59 Antarctic team on Macquarie Island, and was illustrated with maps, photographs, and a sound film made at the time. A small "walkie-talkie" designed by Clive and built into an average sized metal tablet attracted much interest when it was handed around for show. Clive said that the unit worked well and filled a long felt want in the chain of communication on the island.

COUNTRY NEWS

In news from country centres, the Wide Bay and Burnett branch held a very successful monthly meeting at the resort of Bargara on May 6. Twenty-three members attended under the chairmanship of Eric 4XB and after the business and blindfold hunts were enjoyed while the XYLs and harmonics took advantage of the day by the sea. The Bundaberg Amateur Radio Club held its normal monthly meeting on the second Monday of the month, on May 14, and reminds any Amateurs visiting the Bundaberg area on meeting nights to make yourself known.

The Central Queensland branch advises that their field day at Fletcher's Creek on May 19 was a grand success, helped particularly by the hospitality of Don and Mrs. Gibb, together with Mark 4MJ. They too remind that the branch meets on the third Friday of the month at the High School in Bolsove Street.

From the north comes word that the radio clubs of Townsville and Burdekin soon intend visiting each other's meetings, which gives an idea others might like to follow.

A letter from Frank 4FN in Rockhampton says that the Central Queensland branch will soon be operating using its own call sign of 4IR. What with the W.B. & B. branch with 4WQ, those wanting to join in hook-ups should have no shortage of unwritten invitations.

Moves are under way in Queensland for the nomination of members of the Federal Contest Committee for which the Division takes responsibility for three years from July 1. All groups interested have been asked to contact the Divisional Secretary, and it's been pointed out that the job is not as binding and onerous as many members have supposed it to be. The suggestion has been made that a group in a country branch or club might like to nominate.

Speaking of country members, a number have raised a very legitimate issue. Remarks have been made that many did not vote in the recent Divisional election for they did not know the city members for whom they had to vote. Now the country members have replied that one of the best ways they can know the city members is over the air during the Sunday morning hook-up. However, in the hook-up the city members are conspicuous by their absence. Let's have many more of the city members joining in please.

Amateurs note with satisfaction that the V.h.f. Group in Brisbane has got itself a permanent home for their monthly meetings. The venue is the Social Services Institute Hall in Berwick Street, Valley; the time, the second Friday in the month. There is an assurance that all interested will be welcomed.

PERSONAL

Sunday, June 10, 1962, was a day that L. Rickaby, 4VR, has been looking to for 22 or 23 years, so he was heard to say. For then, he was able to make his most satisfying contact—with his son Brian, now operating on 40 mx with the call 4RX. For about five years, Brian has been heard under the call 4ZAF, but although he got his full licence in Feb., it wasn't until early in June he had his gear at his new home at Tennyson on the rail. On the 10th, father and son were heard to make a short phone QSO before trying out Brian's tx on c.w. (Father's verdict: Needs improvement; key clicks, sparks, etc.)

Frank 2ACQ last heard of north of Proserpine on his extended tour of the north and should still be rolling around operating portable very frequently. Stan 4SA not yet around the bands, particularly 40 mx, on doctor's orders, and a possible tx break-down, and all miss his cheery voice. His pal, Alf 4OL, is a regular around the place but in the last month

some of his fish stories have been a bit much. He said he caught plenty one day and the sole (or flounder, he's not sure which) were so large that only one could be cooked at a time in an electric frypan. 73, Don.

CAIRNS

Had a visit from Bob 4RW during the month. He turned up unexpectedly demanding his cake which he claims the XYL promised him for his birthday. He was talking to the wrong bloke, claims he was speaking to me from his home QTH and told us that he was coming up over the week-end and that he wanted a birthday cake made. Such is the problems associated with growing old (VK5 please note). Even though he was unexpected we were pleased to see him and hear all about his trip to the old dart and places east. He didn't get his cake, gave him a cup of tea instead.

Everybody will be sorry to hear that Claude 4ZY has been having troubles. His XYL has been very ill and has not been allowed any visitors, but I did hear today that she was improving, so Claude we hope that the improvement will continue. Graham 9DJ has been very active, mostly on 7 and 21 Mc. Chaps who knew Graham when he was 4DJ in Maryborough will not be very surprised, he is never off the air. Mickey 4ZJM finally got his movie projector, thank goodness. Ever tried to view 8 mm. movies without a projector? I did, once. He turned up in company with 4ZWG with a brand new projector and a case full of films. Got to bed just after midnight; can those jokers talk. Rick 4ZWL now has triplets, all girls. The only catch is that they were born several years apart. Does that count Pansy? The latest arrival, so far unnamed, is doing well so congratulations to you both. My spy from the Tablelands has either been beheaded or gone on holidays so I don't know how Harry 4HK got on with that flask that 4UX was saving for him. For that matter have not heard much of 4UX which is strange, so they both may have got to it. 73, 4WZ.

SOUTH COAST ZONE

It is pleasing to report that Dell 4RJ is looking very well and was very chirpy during a recent visit to him. Undoubtedly his return to Amateur Radio has had a beneficial effect. Early in the month, accompanied by Frank 2ACQ, returned to the home QTH after spending a week at Urunga and another week on the journey. Had a very enjoyable evening with Fred 2PF and Win, and called on the Byron Bay boys, John 2ATI and Bob 2AFP. Unfortunately we could not manage to meet Dick 2AOC. Frank, who is liaison officer for the VK2 country members, endeavoured to call on Amateurs that his itinerary allowed.

To give Frank a preview of the scenery to be expected further north, made a round trip through the Numinbah valley to the Natural Arch and thence on to Murwillumbah to Eddie 2BB. Moving on we called on Bill 2ZY, who was out tilling the soil. His XYL showed us Bill's shack which was an excellent show and equipped with Hallicrafter tx and rx. A hurried trip to Brisbane led to the finding of Stan 4SA. While watching "the rush and hurry" of the city, managed to spot Bill 4WX passing by. A CQ corralled him and an enjoyable yarn was had.

Southport Radio Club appears to be making heavy weather in its progress. The lack of interest by the younger people and probably the numerous counter attractions of the area being the cause. Here's hoping that in the near future the club will start to move on to greater progress than before. 73, 4WS.

TOWNSVILLE

Well as promised last month I have finally made it on s.s.b. thanks to the help of local boys who rolled up and gave their assistance to try and match my 4 element tribander to the tx. Sigs are not hot, due to fact that the feed line is 300 ohms and the output is between 50 and 70 ohms, and so far unable to effect 100% transfer of energy.

Due to the fact that the April meeting of the local club lapsed for the want of a quorum, there was a better roll up at the May meeting. It was decided that the local boys pay a visit to the Burdekin Dist. Radio Club at their next meeting and Claude 4UX has promised a reciprocal visit the following night to their club. Maybe both clubs will benefit from the exchange of visits.

A visitor to the shack was JA6BXV, fully equipped with camera to take some candid shots. Fumia promises copies on his return to Tokyo. Claude 4UX, Jess XYL and harmonic dropped in for a cuppa, but would not partake of the evening meal, hearing no doubt of my cooking.

On a visit to Cairns last week-end, managed to see Claude 4ZY, who informs me that Alice was not too well and unable to receive visitors

at the hospital, so missed out on seeing her. On calling on 4ZW, was frightened by the apparition who turned out to be Basil. Thought depression days were here again; he has lost so much weight since I saw him 12 months ago. Zoe said he had a touch of pressure not to confuse it with work. After usual cuppa, time was spent in discussing our usual topic—Amateur frequencies.

Bob 4TK was a visitor to Townsville, but to date has not called in, must be busy. The local boys hardly heard on the air, don't know if it is conditions or they are re-building in face of t.v. which is due to start around Sept. Then the trouble will start, will we be blamed for all the interference? The local R.I.s. will be busier than ever.

It seems that quite a number of southern boys have been passing through with their mobiles and have failed to visit the local shacks. Now remember, Queenslanders are noted for their hospitality and we in the north more so. Let us know when you arrive, there is always someone off work who will ensure you see all the places of interest, as quite a number of us are shift workers and thus you don't have to wait until the evening. We can organise it to suit your schedule. Let the secretary of the local club or the writer of these notes know before you arrive and we will be happy to greet you. 73, 4RW.

SOUTH AUSTRALIA

The monthly general meeting of the VK5 Division for May was held to a capacity house, in fact it was without doubt the largest house ever to grace the clubrooms. The meeting took the form of a display of Collins single sideband equipment, and a discussion by Mr. White on its generation and transmission. Fortunately for me, and my pride, a deal of blackboard work came into the discussion, and as Council is still firmly sticking to its decision to forbid me posting the blackboard away with my notes, something about expense or something, I cannot give any further notes on the discussion. A small pause whilst I breathe freely again!

An extra good film of the Collins Company's expansion in 1961 followed, and the enthusiastic reaction of the audience indicated just how much it was enjoyed. The vote of thanks was ably proposed by Phil 5NN and the applause which followed told its own story. A percentage of the applause must go to Phil, who brought down the house with his suggestion to Mr. White that in view of the tremendous amount of thought and work that has gone into the production of the Collins equipment to raise it to its present high standard, perhaps a little more thought and work might be attempted in an endeavour to bring down the price somewhat nearer to the empty state of the average Amateur's pocket! Hollow laughter from Mr. White!!

A practical demonstration of the equipment then followed and the voice of Dud 2DQ came out of the speaker from space, suggesting with a touch of sarcasm that this demonstration would surely make "Pansy" sit up and take notice. An attempt was then made by Comps 5EF to lure the said "Pansy" into saying a few words over the mike, but he being a somewhat wily bird, did not fall for any such birdseed and disappeared hastily toward the back of the room. Fancy thinking I would fall for that one, once they got my voice on s.s.b., my life would not be worth living. However, it goes to show to what lengths Comps will stoop to conquer, in his age-long battle with me on a.m. versus s.s.b. Quack-Quack to you!

Incidentally, most of those present went out of the way to let me know that the attendance at this meeting was more than even at a buy and sell night, and dared me to print it. Pooh! See if I care, I get them to a buy and sell every time, not just once a year.

QSL cards were then distributed by George 5RX and after a smoko the business for the night began. Nothing of extreme importance either Federal or general came up for discussion and then the chairman, John 5JC, announced that the letter received from the Ellabeth Amateur Radio Club be read and discussed. This letter will by now have been printed in the Divisional journal and read by all members and therefore little can be served by saying any more in these notes. However, I think that the general opinion of those present was that Council acted without sufficient discussion among themselves on the matter, thereby making the letter seem a lot more important than it really was, and the applying of a five minute time limit on the discussion of each item in the letter was a mistake, as it gave the false impression that Council was attempting to "gag" the discussion. However, the whole matter was adjourned until the next meeting, and I feel that by then a much more



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satisfactory approach to the whole thing will be made by both sides.

The meeting was forcibly brought to a close by the chairman at 11.20 p.m., as a number of those present were staking their claims to various cosy and comfortable places in the meeting room, in anticipation of spending the night.

Shep. 5DC should have been a proud man at the meeting in view of the wonderful attendance, as methinks he had quite a deal to do with the organisation of the night. He was a hive of industry all night, bobbing up with tape recorders and portable p.a. systems at the drop of a hat. Father Time is gradually catching up with me, but I am sustained in the battle with him by the certain feeling that the clubroom p.a. system will one day function all night, although there are times when I feel my chances of seeing that day are getting slimmer and slimmer. About the only part of me that is slim! Har-har, beat you to it.

Managed to contact all my annual contacts again this year whilst on my vacation, either at Oakbank or Kangaroo Island, and whilst at K.I., it was my pleasure to almost become a member of that distinguished group who proudly boast of having secured the "Elizabeth Award". I just couldn't make it, much to the enjoyment of those concerned.

Comps 5EF was another who led me up the garden path from K.I. I stupidly told him that I could copy his duck talk and for him to go ahead. I resolved, desolved, absolved and practically stood on my head, all with no success, only to be told later by a sympathetic listener that all my resolving, desolving and absolving was of no avail because Comps just stayed on a.m.! No wonder I couldn't copy it. Was my face red!

Harry 2DA was sighted in Renmark on his way to Adelaide, and my spies tell me that he was seen to be leaving at rather a fast speed. Perhaps Tom 5TL gave him a burst or two on his recorder (wood wind version).

Many years ago, the late Doc 5MD and I visited a certain church hall in our fair city where a choir was performing, and there in the front row, dressed in his "soup and fish," was none other than Tom 5TL. To this day, I am still amazed at the wonderful spirit of fortitude displayed by Tom on that stage, as Doc and I did everything in our power to break him up. My XYL finally caught up with me and put her foot down with a firm hand, and Tom was saved on the bell. It looks like I am due for a trip to Renmark (without my XYL) as my spies tell me that Tom is again a member of the local choir, and still warbling a wicked tonzil. It has also been suggested that the said choir might make an appearance some day on the A.B.C. Nice work, Tom. What are you? a mezzo-soprano or a soprano in a mezzo? How coarse can I get? That's what a month's holiday does for you!

Cec 5BZ and myself, as you probably already know, had the unenviable job of handling the disposal of Doc's (5MD) gear. Cec was on the financial end and I was the mechanic, although he did manage to order and boss me about along the lines of Simon Legree. I reckon I lost about three ounces trying to dodge the whip. However, the reason for alluding to this is that both of us have had faith in Amateur Radio restored by the courteous, considerate and thoughtful actions of all those who approached us to purchase the higher priced articles, in fact several made offers above the required value as a gesture to Doc. We salute you gentlemen.

Jack 5JS has returned from his travels throughout the wilds of VK3. He tells me that he had a wonderful time, and also promised to let me have some notes on the various characters that he met, including the VK3 laddie who offered him a place to sleep for the night on condition that he made his own bed. Jack jumped at the chance, but was a little overcome when the said laddie handed him a hammer and some nails, plus some timber to keep them company. Well at least I warned him about those VK3s!

On and off through the past months, several people have stopped me and informed me that Charlie 5ON has retired from business and is spending his millions in a life of luxury and indolence. Every time that I met him I would comment on this, only to have him go into hysterics and deny it. Again the rumour is prevalent, and rather than have him go into hysterics, I will mention it here and wait for the reactions. Nice work if you can get it, Charles!

Ray 5RK has been on holidays and was reported as being seen at Lincoln and Port Augusta. Rumour has it that he was going farther north but the roads did not impress him and he squibbed it. Cowardy, cowardly, custard. Vic. 5JH, better known on the v.h.f.s. than on the square bands, is now a grandfather and all reports say that he has come through the ordeal in tip-top condition. Congrats., Vic.

Al 5ZC has a poor opinion of the earth at Aldgate. He left his car outside his house one night, and when he came out in the morning it was down to the hubcaps in mud and the truck that came to tow it out did likewise. After several hours of digging it out, the surrounding earth had quite a scorched look about it, and his XYL was wearing cotton wool in her ears. Naughty-naughty, bring me the soap!

Col 5CJ has been batching for the past week and all he had to look after was the cat and the budgie. Heard the boys telling him that if he put the budgie in the cage with the cat, the cat would look after the budgie, and Col's life would be that much easier. When last seen he was heading for the back shed with the cat and the cage, and the only thing I hope is that Carl 5SS does not read this!

The Admiral 5ZAH and associate member Jack Parkin gave Luke 5LL a welcome hand to erect his 1 and 2 mx beams recently, and the two Scotchmen, Dave 5DS and Joe 5RC, also turned up to give a hand, but arrived too late. How canny can the Scotch get. However, Luke, who had promised to open a bottle of champagne after the job was done, kept his word, to everybody's astonishment and a good (hic) time was hic had by all, hic. Again, how canny can the Scotch get. By the way, Jack Parkin has just come out of hospital for the second time, and is reported as coming god rapidly. Glad to hear it Jack, and can I see your operation this time?

Reg 5RR has been helping out with the 5WI Sunday morning broadcast, and to good effect. Painstaking and conscientious, to a high degree, Reg is well fitted for the job because he was 5WI once and has been re-broadcasting the session on 80 mx for some time now. Nice work, Reg. Talking of 5WI brings up the point that Keith 5XK, who has been forced to give 5WI away for the moment, owing to being away in the country on business, and John 5JC, who will shortly have to give it away for the same reason, have been looking for a likely substitute for 5WI. As is always the case, there are plenty who will oblige with criticism on the session, but none who will give it a go. Anybody interested? Don't get killed in the rush!

One of my senior spies, who is planted right in the middle of the P.M.G. Department, and is said to handle a hep tea dispenser, tells me that he read in the Commonwealth Gazette that a certain Roy Dennett (ex VK6IV) retired at the 29th of May, from the position of Assistant Radio Inspector, Queensland. If the memory of my spy is not playing tricks, Roy left VK5 round about 1939 to be Postmaster (Radio) at Camooweal. He must have remained in VK4 from then on. This paragraph proves two things—VK5, like the elephant, never forgets a member—and what stamina he must have had to be able to stay that long in VK4! I know that I am not supposed to play with those rough VK4 boys, but my XYL is not home today!

Having given the s.s.b. gang such a rap up at the opening of these notes, much against my will, I feel that I would be failing in my duty to the a.m. gang if I did not quote the following from the "Ex G Radio Club Monthly Bulletin" number 3. I quote: "It is this writer's opinion that s.s.b. has created a lot of its own problems with the type of signal one hears every day of the week. S.s.b. has tried to sell itself on the fact that it takes up so little space as compared to A3, also that two stations should be able to hold a perfect QSO, side by side, one on the upper and the other on the lower sideband. This is just wishful thinking. No attention at all is given to the quality of the other station's signal. Is it because we side-band operators just do not know how to define between a good and poor signal? Is it because we do not know how to operate a s.s.b. transmitter?" Unquote. There is a little more along these lines, but as the tears are streaming from my eyes at such heresy, I must stop before the drought breaks. Can't you do something about this sort of thing Comps 5EF?

Heard Jack 5JS portable on 7 Mc. today, and as he kept on saying, "Herlo, herlo, going down to one; herlo, herlo, coming up from one." I decided to get into the act by calling him, under the impression that he was apparently portable on a submarine. He coarsely denied this, and informed tersely that he was simply testing out a number eleven set, and was having trouble with the power supply which was getting hot. He further elaborated on the power supply which turned out to be a bicycle with a generator back and front, and the XYL Doris doing the pedal work! No wonder the power supply was getting hot, she sounded like it when she spoke to me later. You have my sympathy, Doris. Didn't anyone tell you that sometimes you can be unlucky and get more of the for-worse than the for-better?

Had a call on the telephone this week from a character who wanted to know if I was on Victoria Avenue, and when I said that I was, he told me to get off as quick as I could or I would be knocked down by a motor car! I heard later that Arch 5XK was down for the holiday week-end from Lucindale, and putting two and two together, and making it six, I think I know just who was so considerate toward me. Gertcha!

Fate, in the guise of the magazine, dealt me two cruel blows this month. The first blow is to be found in the VK4 notes, with its suggestion of the boost in the circulation of "A.R." together with the sickening repetition of "The Sunshine State," which bobs up in the notes at the drop of a hat. I am forced to the reluctant conclusion that they are suffering from frustration, probably because they have never been able to grow a straight banana! Well, that's what the song says!

The second blow came with the complete absence of any VK5 notes for the month. Whilst I am tremendously flattered by the fact that in VK5 there is not one single soul who will take on the notes for one month, I am cut to the quick by the fact that but for the Elizabeth Amateur Radio Club sending in its notes, VK5 would have been the Mother Hubbard Division. A poor commentary on what was once called the Division with the "Oomph." I must have been blinded by my own eloquence when I wrote that! It is also somewhat ironical, from the viewpoint of VK5, that the E.A.R.C. should have saved the face of the Division. Get the message? 73, de 5PS, "PanSy" to you!

ELIZABETH AMATEUR RADIO CLUB

5PF, 5PY, 5BM and several other new faces were at the June meeting. Sorry that 5AX, another new member, couldn't make it. 5EU still keeping the DX phone bands ringing. 5CV has now worked above the hundred DX countries; 5ZC seems content with 40 mx. phone, and ZLs on 80; 5JO heard on 40 phone. 5IK, after having a taste of 20 mx c.w. at 5NO/NQ, is now effecting a band-move.

The first issue of "Info", our new club journal, has hit the news-stands. We wish we could report that it caused a journalistic stir. 5NQ has been pounding the DX during his vacation. Latest count of Hams in Elizabeth is 31—just over one per thousand normal people! (Pansy comments: "Do I read in this that the Amateur is not normal?"—Editor.)

5GV mainly on 40 and 20 mx; playing about with a modulator. Xtals have been purchased for the proposed v.h.f. W.I.C.E.N. net on 53 Mc., a mass produced effort planned in the same way that the 3.6 Mc. transceivers were built—5FE is again technically in charge.

New station active on 7 Mc., 5BM. 5FX and 5NO heard in contact at 6 one morning on 14 Mc. 5NO is C.H.C.574. 5QLL still working DX on s.s.b. 5FE active, must be the lack of fires. 5ZMA code practising like crazy for the next examination.

— . . . —

WESTERN AUSTRALIA

After a lapse of some months when no W.A. notes appeared, we hope to get back into the stride again. Many thanks to Harry 6ZCK for his efforts in the past and trust we'll hear from him again in the future.

Getting in right at the beginning, the success of a column such as this depends on you! If you have any snippets of information about the gear you are building, or you know your pals are building, let me know the bare details and I'll fill in the "ands" "thes" "buts" "ifs" etc. If you hear something of interest on the air which you think would be of general interest, scribble it on a piece of paper, pop it in an envelope and post it to me. Put a stamp on it first, of course!

If you have any visitors, Ham types, from afar off, let me know by note and will mention them in despatches—in short, an innocuous light, interesting, non-libellous items which will keep members in touch with each other is the stuff we want.

The May meeting of the Division was well attended, being held as usual so far, in the Perth Technical College, second floor. The lecture of the evening was given by John 6JU and was entitled "Transistors and their applications." Neglecting the facts that John is a lecturer by profession; that his normal stamping ground is the P.T.C.; and that he didn't have enough time for his lecture anyway, this talk was considered by a number to be the most. Practical models were displayed and demonstrated and it was quite evident that John had put a considerable amount of work into the preparation of this lecture. Congrats. John, and hope to hear you again sometime.

Mention of the good attendance reminds me that we have now enrolled our 200th member

of the W.A. Division, and as decided some time ago, one year's free subscription will be donated to mark the rapid progress that we are making in the West. He is the Rev. Bro. McKenna and, of course, we extend a welcome not only to him but to all those other new members who are coming along now.

I believe the S.E.C. has been busy down Kataning way where the changeover from d.c. to a.c. mains is proceeding rapidly and creating much jubilation and additional activity on the part of at least two of the X group. Band noises and crazy laughter from Frank 6XR who, with the disconnection of the d.c., is completely re-building his rig in readiness for the day the ripples arrive at his QTH.

Apart from the low frequency a.c., Robbie 6XR has been giving the high frequency a.c. a nudge along with a mighty fine cubical quad, which not only works, but has stood up to the winter willy-willies which are frolicking around Kataning.

I have heard, too, that Herb 6XO isn't satisfied with the S.E.C. anyway, and has built up a "spare" 150w. rig—just right for portable work at a barbecue or picnic. And don't think that Herb runs it off batteries either; a trailer mounted 2kva. diesel unit is the power source, thank you very much, and I'll bet there are some other appliances as well. This sounds like a very good spot to start our W.I.C.E.N. organisation being effective, Herb, Kataning would make a very good regional centre for the south.

Prior to what is known as winter, hitting the West (do you call this cold! Have you ever been in Melbourne in July!), Clarrie 6XG spent two weeks relaxing at Safety Bay. I understand that the main reason for the relaxation before winter starts is so that Clarrie can stay up later than usual for those 80 mx sessions.

Now what about some news from our other larger centres; Geraldton, Bunbury, Albany, Kalgoorlie, Norseman, Esperance, Carnarvon, Port Hedland, Broome, Derby, Wyndham. Have pen, will write!

Even mention of Meekatharra reminds me that Peter 6FG has forsaken city life and by the time these notes are printed should be on his way, after training, to take up the post at the Flying Doctor Base. Hope to hear you on, Peter. Had speech with Roy 6RY recently. Sounds as though Roy is working on another rx purchased recently. Anyway, he is disposing of his old rx, so something is doing.

Some considerable discussion has taken place recently with regard to the Sunday morning news service from VK6WI. The recent set-up was that 6WI, operated by Wal 6AG, disbursed news and notes at 9.30 a.m. 6WI then went portable to Dave 6WT who had been treating us to various technical articles. Wal then took reports from country members in various centres and closed sometime during the morning.

Now that the service, which is more for country members than city, has expanded into a two-band broadcast, being done on 80 and 40 mx, and the possibility of being re-broadcast on a v.h.f. band, the time taken for reports has gradually become longer and longer and going beyond the time nominally allowed by the P.M.G. Dept.

However, Dave 6WT has agreed to take reports and queries on the broadcast after the session is over and as 6WT can go on for as long as he is able to afford the time. Fine business, Dave, hope you can keep it up.

Incidentally, the Division has acquired an A20 tx very suitable for 40 mx transmissions to the country members. Wal says the reports have so far been very gratifying. You should see this box of r.f., as well as hear it. In fact there are two boxes, hammer-toned grey, 2 ft. wide, 3 ft. deep and 3 ft. high. Push buttons and meters, remote control, and cooling fans. All we want now is somewhere to operate it. Wally's lights go dim every time the main relay goes "clunk".

Believe 15 and 20 mx quite active lately. 15 has been open to ZS, VS and all VKs. Midday and early afternoon has been the best time. 20 has been a bit intermittent, but VEs and Ws have been heard and worked.

Just had word that Les 6WL is all portable like, Type A Mark III., using 6V6 Heising modulation, centre tapped speaker transformer in circuit. Good work Les, another W.I.C.E.N. possibility?

Don't forget the meeting night, third Tuesday in the month at the Perth Technical College. Country boys especially welcome. 73, 6LS.

TASMANIA

We extend our deepest sympathy to Bob TOM upon the death of his aged and very much respected father, Captain Harry O'May, during the month of May. Captain O'May has left us all a rich heritage in the form of books published about ships and shipping in Tasmania. For those of us who have not had the privilege to read these books, I can recommend them to you, they are fascinating.

In the field of Amateur Radio, the most interesting success story this past month is undoubtedly the contact on 2 mx between David 7ZAI on Mt. Wellington and Brian 7ZBE on Walkers' Lookout on King Island. This contact is all the more remarkable in view of the 1w. communicator gear used by Brian. Still talking v.h.f., the list of records supplied by the Federal Executive rep. for v.h.f. affairs in respect of this Division, should undergo considerable expansion when claims are submitted for ratification. Both on 6 and 2 mx, records will easily be topped.

At our July general meeting, we will be pleased to find a number of very comfortable chairs in our clubroom. We have to thank Ted 7EJ for "unearthing" these chairs at a very reasonable cost. Council has devoted a lot of time just recently to putting together copies of our Divisional constitution. All members can now obtain copies upon request.

Remember that the R.D. Contest is not far away. Get your gear ready and participate, and submit a log. Our Division was third last year, with your help the trophy can return to us. It is up to you. The functions of the Federal Contest Committee have been passed on to the VK4 Division. We thank those southern zone members who have given such unstinted help to the committee and also the members of that committee for the job so willingly and well done during the past three years. We also wish VK4 the best of luck in fulfilling the functions they have now assumed.

Charlie 7KS is re-building his aerial coupler to give him better output, particularly on 7 Mc. Ted 7EB is re-building his rig virtually from scratch, following the discovery that the 6146 in his final was only 50 per cent. efficient.

The lecture at the June Divisional meeting was delivered by Tom 7FM and we were privileged indeed to be addressed by Tom on the subject of Video Tape Recording. The subject matter was most lucidly presented and the important points were well made. Thank you Tom for a really interesting and informative address. 73, 7ZZ.

NORTHERN ZONE

The May meeting of this Zone was again above average for attendance and a very successful meeting was held. After the business of the evening was concluded, 7JF showed some very interesting slides of the Hydro Electric Poatina project.

A very pleasing angle on our meetings is the increasing number of associate members attending. These younger members are taking a keen interest in Amateur Radio and several of them are constructing equipment and receivers. The 144 Mc. band is now being watched regularly by some of these lads.

Visiting the Zone this month was Bryan 7ZBE, who left his car at 7BQ's whilst he visited Flinders Island on behalf of the P.M.G. Department. Bryan took 144 Mc. gear with him and with an output of 2.5w. has worked all Launceston v.h.f. operators, 7DK at Poatina (approx. 130 miles) and also to Mt. Wellington. Incidentally, what's left of his car is still at 7BQ's—any offers?

Bob O'May is also in the Zone at present and has found time to visit 7BQ and 7LZ. Naturally the talk got around to Ham Radio in the "old days". Bob has been on the air about 40 years so he can certainly be classed as an "Old Timer" and an authority on the subject.

It is with deep regret that we must here record the death suddenly of Perc. Crawford. Perc., although not a licensed Amateur, took a considerable interest in this Zone and over a period of at least thirty years he consistently gave help and advice to our members. It can safely be said that there is not a member in this Zone who has not benefited by Perc's unstinted help or guidance at some time or other. To his wife goes the heartfelt sympathy of all our members.

NORTH-WESTERN ZONE

It is regrettable that I have to report little activity this month. The quantity of gear idle in this Zone is amazing. And to add insult to injury, attendance is falling off at our Zone meetings. At the June monthly meeting only nine members attended. Why? Str yourselves, chaps, and if you think the organisation worthwhile, come along. I hate to repeat myself, but t.v. has certainly made inroads into our hobby.

7MS is busy soldering his rig into an airtight tin box, when he is not busy viewing. Went along to thresh out some technical problems with 7XL the other night and finished up viewing a variety show. The pattern is much the same everywhere. 7MZ has opened up again from Wynyard and apart from a few initial gurgles is putting out an f.b. signal. 7KH is heard consistently and I can't find any other sigs to report apart from 7XL on s.s.b. Actually apart from the Poatina boys, nothing much is heard of VK7 on the hearable frequencies. Congats. to Harry Young on getting his Z call. No doubt this will spark off some v.h.f. activity and Harry and Bob can now work on a Burnie-Devonport v.h.f. link.

Lamentations on the band cuts, and I suggest that we fill the remnants to the full. Now that the axe has descended once, watch out. Let us not be caught again. Use them, or lose them! It is up to you. I will report more news when someone creates some. 73, 7MX.

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SELL: "VK6GU Tri-band Beam," £20. 144 Mc. Crystal Converter, £10. 50 Mc. Converter, £9. 21 Mc. Converter, £8. Step-down Transformer, 240-110v., 1 kva., £6. Balun 75 ohms to 100 ohms (imported U.S.A.), £6/10/0. M. Hilliard (WX 2498), 57 Gardenia St., Blackburn, Vic.

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 2 μ F. 200v.d.c.w. 2 μ F. 250v.d.c.w.
 and others.
ALL 6d. EACH

Electrolytic Chassis Mounting:

24 μ F. 350 peak volts 2/- each
 32 μ F. 200 volts working 2/- each
 25 μ F. 40 peak volts 2/- each

Mica Condensers:

15 μ F. 08 μ F. 270 μ F.
 20 μ F. 70 μ F. 300 μ F.
 25 μ F. 100 μ F. 500 μ F.
 47 μ F. 220 μ F. 750 μ F.
 50 μ F. 250 μ F. 1000 μ F.

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Metalpak Pig-Tail:

0.022 μ F. Sprague 1/- each
 0.0022 μ F. Sprague 1/- each

VALVE SOCKETS

Ceramic 4-pin Valve Sockets, 2/- each
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 7-pin Miniature Valve Sockets and Shields. New. 15 for £1.
 9-pin Valve Sockets, McMurdo, 9d. ea.
 Octal Valve Sockets 1/6 each
 Ceramic Acorn Valve Sockets (955) 3/6

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INTER-COM. UNITS

Imported, 9v. Battery operated, suit Homes, Shops, Offices, etc.

Three-Station Interphone, Model IP-3R.
 Circuit: 3 Transistor audio freq. amp.
 Speaker: 3 $\frac{1}{2}$ " perm. (v.c. 8 ohms).
Price £16/7/6.

Seven-Station Interphone, Model ITK-7.
 Circuit: 3 Transistors and 1 Thermistor.
 Speaker: 3 $\frac{1}{2}$ " perm. (v.o. 8 ohms).
Price £32/10/0

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100 ohm co-ax. cable, $\frac{3}{8}$ " diam., 2/- yd.
 98 ohm co-ax. cable, $\frac{3}{8}$ " diam., in 100 yard rolls £5, or 1/3 yard.
 Twimex co-ax cable, 75 ohm 2/- yard
 72 ohm, 3/16" diam., 2/- yard, or 100 yard roll £8/15/0.
 50 ohm co-ax. cable, $\frac{3}{8}$ " diam., 2/- yard or in 100 yd. rolls £8/15/0.

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Single layer coil (Serial No. 6035).
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Price 7/6 each.

SAKURA CIRCUIT TESTER

Model TR-6S

Sensitivity: d.c. 20,000 ohms/volt, a.c. 10,000 ohms/volt. Ranges—d.c. volts: 6, 30, 120, 600, 1,200v.; a.c. volts: 6, 30, 120, 600, 1,200v. D.c. current: 60 μ A., 6 mA., 60 mA., 600 mA. Resistance: 10K, 100K, 1M, 10M ohms. Capacitance: 0.001-0.2 μ F., 0.0001-0.01 μ F. Inductance: 30 3,000H. Decibels: -20 to +17 db. (0 db.—0.775v.—600 ohms). Dimensions: 4 $\frac{1}{2}$ " x 6 $\frac{1}{2}$ " x 2 $\frac{3}{4}$ ". Weight: 1.3 lbs.
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1155 GENEMOTORS TYPE 34A

Input 93v., output 225v. at 110 mA. Complete with relays and filters, in case. Weight 30 lbs. 19/6 each.
 5/- handling charge.

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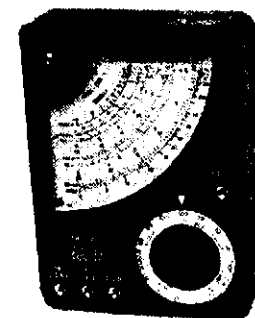
3-4 Mc. range £7
 7-9 Mc. " £6

SPECIALS!! SPECIALS!!

Dial Light Globes, Madaza, 9/- box 10
 40 mA. Dial Globes 1/- each
 Carbon Throat Mikes, (Y10A/55550) 7/6
 Magnetic Relay Switch, 20a., 24v., 10/-
 Egg Insulators, 1 $\frac{1}{2}$ " x 1" 9d. each
 300 ohm T.V. Ribbon 1/- yard
 Three-Core Domestic Cable 2/3 yard
 Hook-up Wire, 10/010, red, black, and green 4d. yard, 30/- 100 yd. roll
 Earphone Inserts, actuating diaphragm type, ideal as small speaker 7/6
 Pye double bulkhead mounting Chassis Co-ax Connectors 2/6
 Pye Co-ax Connectors 4/- pair
 English Co-ax Connectors, plug and socket, suit $\frac{3}{8}$ " cable, 4/- pair. Right angles 4/- each.
 Crystal Sockets, DC11 2/6
 Crystal Sockets, FT243 & miniature 2/9
 Jack Boxes, SCR522 type, contains 10K pot and knob. Size 3 $\frac{3}{4}$ " x 1 $\frac{1}{2}$ " x 2, 3/6
 AR8 Cables, 10 ft. long, 8-pin plugs attached 10/-
 High Impedance Headphones, 12/6 pr.
 SCR522 28v. Genemotor power supply, 20/- 5/- packing fee.
 English Filter Chokes, 40 mA., 100 ohm resistance 3/6 each
 Carbon Microphones 12/6 each
 Vibrators, Oak/M.S.P. 6v. synchronous 7-pin AV5211R £1 each
 Octal Plug and Socket, American Ampenol, in metal screw case, 8/6 set
 "Scope" Soldering Iron, to clear, 45/-; complete with transformer, £4/10/0.

MULTIMETER Model 200H

20,000 ohms per v. d.c. 10,000 ohms per v. a.c.



Specifications:
 D.c. volts: 0-5, 25, 50, 250, 500, 2,500.
 A.c. volts: 0-10, 50, 100, 500, 1,000.
 D.c. current: 0-50 μ A.; 25, 250 mA.
 Resistance: 0-60K ohms; 0-6 meg.
 Capacity: 0.01-0.3 μ F. (at a.c. 5v.); 0.0001-0.01 μ F. (at a.c. 250v.).
 Decibel: minus 20 db. plus 22 db.
 Output range 0-10, 50, 100, 500, and 1,000.
 Battery used: UM3 1.5v. 1 piece.
 Dimensions: 3 $\frac{1}{4}$ " x 4 $\frac{1}{2}$ " x 1-1/8 in.

Complete with internal battery, testing leads and prods.

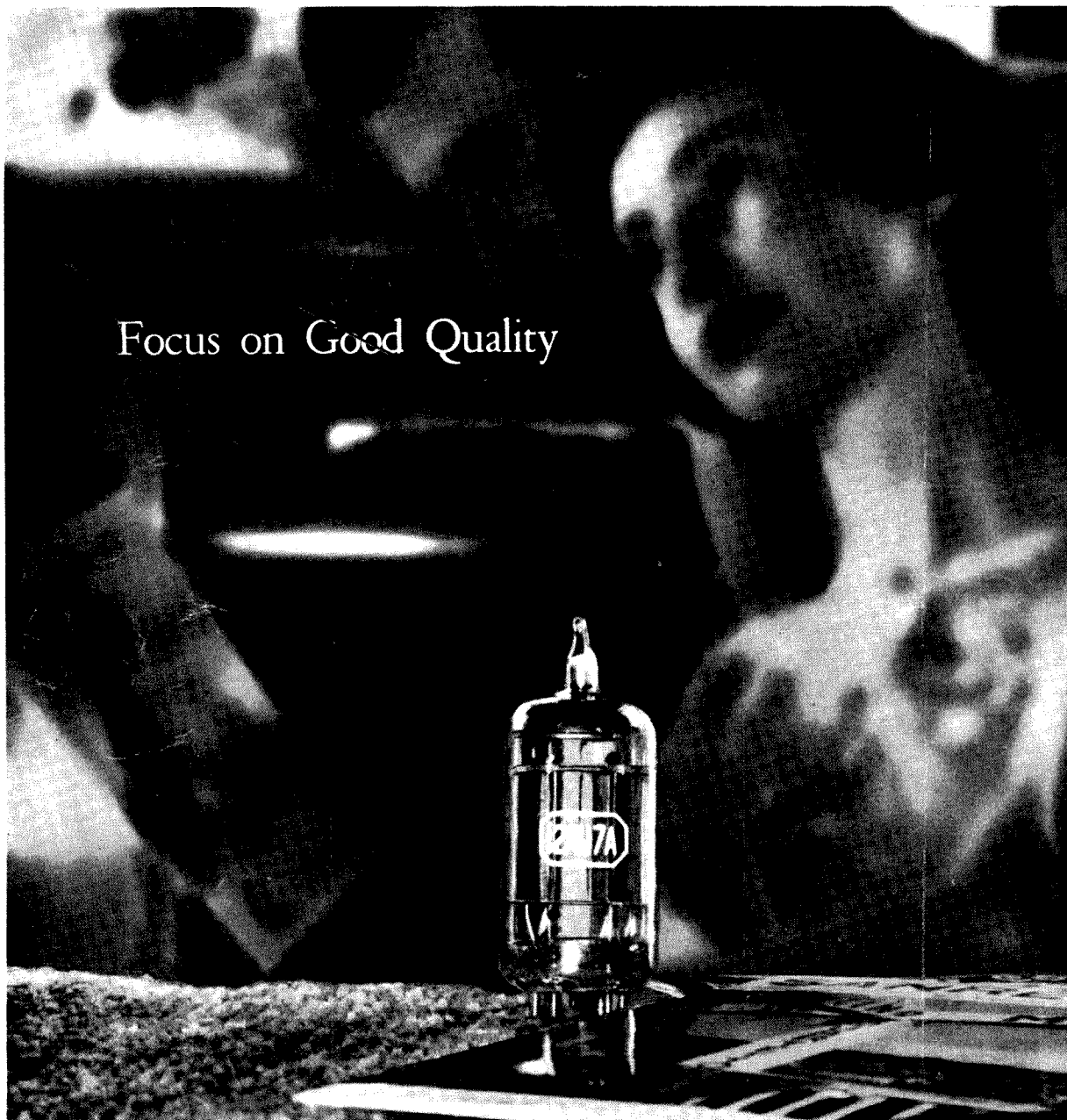
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A M A T E U R R A D I O

AUGUST 1962



Vol. 30, No. 8

2/-

CONDENSERS

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ALL 6d. EACH

Metalpak Electrolytic Type:

25 μ F. 25v.d.c.w. 2 μ F. 150v.d.c.w.
 2 μ F. 200v.d.c.w. 2 μ F. 250v.d.c.w.
 and others.

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 25 μ F., 40 peak volts 2/- each

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47 pF.	220 pF.	750 pF.
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 0.0022 μ F. Sprague 1/- each

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 .. 6-pin .. 2/- each
 .. 7-pin .. 2/- each
 7-pin Miniature Valve Sockets and Shields. New. 15 for £1.
 9-pin Valve Sockets, McMurdo, 9d. ea.
 Octal Valve Sockets 1/6 each
 Ceramic Acorn Valve Sockets (955) 3/6
 VCR139A C.R.T. Sockets, new 12/6

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 Speaker: 3 1/2" perm. (v.c. 8 ohms).
Price £16/7/6.

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 Circuit: 3 Transistors and 1 Thermistor.
 Speaker: 3 1/2" perm. (v.c. 8 ohms).
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100 ohm co-ax. cable, 3/8" diam., 2/- yd.
 98 ohm co-ax. cable, 3/8" diam., in 100
 yard rolls £5, or 1/3 yard.
 Twimex co-ax cable, 75 ohm 2/- yard
 72 ohm, 3-16" diam., 2/- yard, or 100
 yard roll £8/15/0.
 50 ohm co-ax. cable, 3/8" diam., 2/- yard
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8 Mc. MINIATURE CRYSTALS

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Model TR7R with built-in Radio, three
 speeds: 1 1/2, 3 1/2, 7 1/2 i.p.s., 240v. a.c. 50 c.p.s.
 Dimensions: 13 1/2" x 8 1/2" x 4 1/2" deep. Playing
 time: max. of 8 hrs. Will accommodate 3", 5"
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 extension speaker outlet. Magic eye level in-
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 Complete with xtal make and in-built speaker

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 Leatherette Carry Case, £6 extra.

RECORDING TAPE, 5 1/4" Reels

Well Known Make.

BRAND NEW, IN CARTON

No. 111A-8 Plastic backing, 1" x 850 ft.
£1 reel.

No. 311-8 Super P.V.C., all purpose,
 1" x 850 ft., 22/6 reel.

No. 150-12 Polyester backing, extra
 play, 1" x 1275 ft., 30/- reel.

RECORDING TAPE

TMK "Syncretape" 7" Rolls, PL-12

(Standard) **£1/16/6**

TMK "Syncretape" 7" Rolls AC-18
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Hand Magneto, 75v. a.c., w/handle, 12/6

Telephone Bells, to suit Magneto 7/6

Carbon Microphone Inserts 5/-

SAKURA CIRCUIT TESTER

Model TR-6S

Sensitivity: d.c. 20,000 ohms/volt, a.c.
 10,000 ohms/volt. Ranges—d.c. volts:
 6, 30, 120, 600, 1,200v.; a.c. volts: 6, 30,
 120, 600, 1,200v. D.c. current: 60 μ A.,
 6 mA., 60 mA., 600 mA. Resistance: 10K,
 100K, 1M, 10M ohms. Capacitance:
 0.001-0.2 μ F., 0.0001-0.01 μ F. Inductance:
 30 3,000H. Decibels: -20 to +17 db.
 (0 db.—0.775v.—600 ohms). Dimen-
 sions: 4 1/2" x 6 1/2" x 2 3/4". Weight: 1.3 lbs.
Price £9/10/0 inc. tax.

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Instrument and wedge type tips, 1/- ea.
 or 5/6 packet of 6. Carbon elements,
 1/- ea., or 5/6 packet of 6.

COMMAND P.A. COILS

For 3-4 Mc. Tx. (Serial No. 7247).

Price 7/6 each

COMMAND INDUCTORS

Single layer coil (Serial No. 6035).

For 5.3-7 Mc. and 7-9.1 Mc. Tx.

Price 7/6 each.

U55 GENEMOTORS TYPE 34A

Input 93v., output 225v. at 110 mA.
 Complete with relays and filters, in
 case. Weight 30 lbs. 19/6 each.
 5/- handling charge.

COMMAND TRANSMITTERS

3-4 Mc. range **£7**
 7-9 Mc. " " **£6**

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Dial Light Globes, Madaza, 9/- box 10
10 mA. Dial Globes 1/- each

Carbon Throat Mikes, (Y10A, 55550) 7/6

Magnetic Relay Switch, 20a., 21v., 10/-

Egg Insulators, 1 1/2" x 1" 9d. each

300 ohm T.V. Ribbon 1/- yard

Three-Core Domestic Cable 2/3 yard

Hook-up Wire, 10-010, red, black, and
green 4d. yard, 30-100 yd. roll

Earphone Inserts, actuating diaphragm
type, ideal as small speaker 7/6

Pye couble bulkhead mounting Chassis
Co-ax Connectors 2/6

Pye Co-ax Connectors 4/- pair

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socket, suit 3/4" cable, 4/- pair. Right
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penol, in metal screw case, 8/6 set

"Scope" Soldering Iron, to clear, 45/-;
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MULTIMETER Model 200H

20,000 ohms per v. d.c. 10,000 ohms per v. a.c.



Specifications:

D.c. volts: 0.5, 2.5,
 5, 25, 50, 250, 500
 A.c. volts: 0.1, 0.5,
 1, 5, 10, 50, 100, 500, 1,000
 D.c. current: 0.5, 5,
 10, 25, 250 mA.
 Resistance: 0-500K
 ohms; 0-6 meg.
 Capacity: 0.01-0.5
 μ F. (at a.c. 5v.);
 0.001-0.01 μ F.
 (at a.c. 250v.).
 Decibel: minus 20
 db. plus 22 db.
 Output range: 3-11,
 50, 100, 500, and
 1,000
 Battery used: UM3
 1.5v. 1 piece.
 Dimensions: 3 1/4 x
 4 1/2 x 1-1/8 in.

Complete with internal battery, testing leads
 and prods.

Price £5/17/6 inc. tax.

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"AMATEUR RADIO"

JOURNAL OF THE WIRELESS INSTITUTE OF AUSTRALIA. FOUNDED 1910.

AUGUST 1962
Vol. 30, No. 8

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VK2WI: Sundays, 1100 hours EST, simultaneously on 3573 Kc., 7146 Kc., 50.16 Mc. and 145.13 Mc.; Intrastate call-backs taken on 7050 Kc. VHF 1930 hours EST on 50.16 Mc. and 145.13 Mc.; call-backs taken on 2 metres.

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VK6WI: Sundays at 0930 hours WAST, on 7146 Kc. Intrastate hook-ups taken on 7085 Kc.

VK7WI: Sundays at 1000 hours EST, on 7146 Kc. and 3672 Kc. Intrastate hook-ups taken on 7115 Kc.

★

OUR COVER

The Victorian Division of the W.I.A. has adapted the technique of hidden transmitter hunting to the location of meteorological balloons. This has proved very reliable and has since been adopted by the Melbourne University. Our photograph shows the retrieved balloon and radar reflector together with the Amateur gear used for the task.

FEDERAL COMMENT

★

The month of August once more heralds in the popular Remembrance Day Contest. This year, the fifteenth on which it has been held, is ample tribute in itself to the popularity of the event. It is our way of paying annual homage to our comrades who paid the supreme sacrifice during the 1939-45 World War. This latter concept should be our guide in our attitude towards the Contest.

Any contest which extends over many years, as has this R.D. event, tends to lose some of the ideals which inspired its inauguration. Whilst we have endeavoured to remind all entrants, by way of an opening speech by an eminent Australian—this year the Governor of Western Australia, His Excellency Lt. Gen. Sir Charles Gardiner, K.C.M.G., K.C.V.O., K.B.E., C.B.—of the objects of the Contest, the R.D. has of recent years developed into the usual scramble for contacts and in some cases, selfish operating practices and infringements of Regulations.

While our efforts have always been directed towards encouraging active participation by as many Australian Amateurs as possible, it was never envisaged that some operators would be selfish enough to try to destroy the very precepts on which it was based. Had our lost comrades been of this same selfish turn of mind, we may not now be enjoying the freedom and pursuit of our hobby. Their effort was a team effort—let ours be the same.

When you operate later this month in the R.D.—as we hope you all will—think of your mates and that they may wish to make a few R.D. contacts also. Adopt good operating practices, abide by the Regulations and enjoy yourselves; then this Contest will indeed become a Remembrance Day Contest and not a battle for some more wall paper for the shack.

FEDERAL EXECUTIVE, W.I.A.

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MATTERS—MOBILE

PART ONE

K. WOODWARD,* VK2ZAU

At present being a flat-dweller (no external aerials allowed), I have been forced to investigate the possibility of mobile operation and to find out what a fascinating facet of our hobby it is that I was missing. During this investigation, I unearthed several interesting circuits and originated others which I trust might help some equally adventurous souls to get their feet wet on mobile operation.

As they say in the classics, "first catch the rabbit (car)". So let us examine what is to be expected of your humble automobile. If you are in the throes of purchasing your transport keep an eye on the fact that a 12 volt system is much preferable to the 6 volt system. Adding mobile radio equipment to a car means that the electrical system could be called on to deliver 15 amperes upwards during transmission and possibly reaching 8-10 amperes whilst receiving.

Point one, therefore, is to ensure a heavy duty battery in good condition with properly adjusted current and voltage regulators to achieve maximum charging without overloading equipment fitted to the car. In passing, we might emphasise this subject of overloading by pointing out that whilst in motion, should the generator voltage exceed 14 volts, it could cause the early demise of say a 12 volt vibrator.

Of course if you are purchasing a new car and have the choice, the alternator system is superior to the generator system both in charging rate and noise production.

NOISE SUPPRESSION

Mentioning noise, brings us to the next subject—"Noise Suppression," both your own and externally generated. If you are lucky enough to have a diesel engine, half of your problems are over. However, if you own a "tin-lizzy" like myself, the following steps may be taken, always remembering that complete elimination of radio noise cannot be expected unless the ignition key is in the off position.

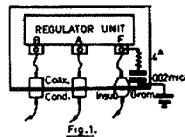
The generator is the instigator of a particularly annoying whine, usually varying with motor speed. To prevent radiation of this hash, a 0.1 μ F. coaxial type condenser should be mounted on the generator frame and connected in series with the armature lead ("A" lead). If unable to obtain a coaxial condenser, use an ordinary paper capacitor to ground from the "A" terminal. However, you will find that the effectiveness of an ordinary capacitor diminishes rapidly above 2 megacycles.

It is understood that the generator brushes and commutator should be in good condition before expecting good noise suppression. Improvement in generator suppression can be achieved by inserting a trap consisting of a 50 pF. condenser in parallel with a coil of heavy gauge wire inserted in series with the armature lead and tuned to

● Whilst this article will be of particular interest to Mobile Amateurs, many ideas will be found suitable for fixed station operators. Try them on your travelling "tired iron".

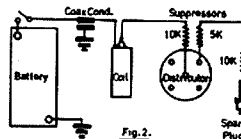
the operating frequency. Another possibility is to use a scrap length of coaxial cable to replace the "A" lead from generator to regulator, grounding the braid at both ends to ensure maximum shielding. **Note.**—Do not, under any circumstances, mistake your Field (F) wire for your Armature (A) wire.

A decided improvement in mobile noise reduction will result from the use of capacitors (coaxial if possible) in the leads to the voltage regulator as shown in Fig. 1.



Ignition noise is often increased by bad connections on the leads. This can be improved by cleaning all connections and soldering the leads to the crimped connections usually used.

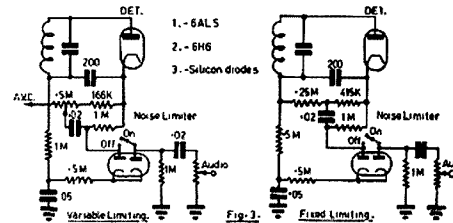
Fig. 2 shows normal steps taken to suppress ignition noise. Some modern cars are already fitted with resistive ignition wiring, saving the purchase of suppressors. Also available are suppressed and shielded spark plugs, should your pocket book extend to this expense. Ignition noise from cars tends to decrease above 120 Mc. and generally peaks to maximum around 30 to 60 Mc.



After suppressing ignition leads there remain two steps which may improve the noise position. They are: (1) If your ignition coil is provided with two insulated primary terminals, try reversing the connections on these and then listen to your receiver. You will find one way usually gives better noise suppression than the other. (2) Try bonding various parts of the car together, e.g. motor to body, bonnet to body, exhaust pipe to body. Whilst the motor and receiver are running you could try temporary bonds with a heavy file, etc. **Caution.**—Do not work on your mobile with the engine running in an enclosed area. You may not live to enjoy any mobile contacts.

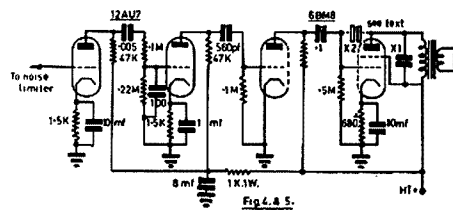
In conclusion of this section, your own noise and external noise may be reduced by the insertion of an effective noise limiter in your receiver. The circuit of such a limiter is shown in

Fig. 3, which gives details of two circuits, one using fixed limiting and the other variable limiting. An on/off switch is shown, but from use of this limiter circuit I myself have discarded the switching as an unnecessary refinement, the noise limiter being permanently in circuit. If long audio leads are necessary, these should be shielded.



The full-wave series noise limiter as shown lists in order the preference for the type of diodes to use. Never use germanium diodes.

Not generally known is the fact that to make any noise limiter effective, the audio amplifier following should be reasonably free of distortion and be frequency restricted. It is the writer's opinion that a receiver's audio section should be so limited as good communications practice notwithstanding the improvement in the noise limiting action. The ultimate in audio reproduction would be to achieve the rapid fall of audio response below 500 c.p.s., a 6 db. per octave boost from 500-2,500 c.p.s., and attenuation of all frequencies above 3,000 c.p.s. This is a fairly tall order, but a suggested circuit is given in Fig. 4 which gives a reasonably close approximation. All values shown should be adhered to and the condenser X1 should be chosen to give the final restriction on the reproduction of high audio frequencies. Condenser X1 may be about 2,200 pF.



Substitution for X2 can be made in the circuit as shown dotted in Fig. 4. The approximate value of X2 would now become 15 pF. and should be a high quality mica or ceramic with no leakage. With this circuit, as the audio frequency goes higher, the negative feedback increases, therefore you obtain a falling gain characteristics for increasing frequency.

MOBILE RECEIVERS

To receive the Ham bands mobile it is necessary to either extend the range of the normal car radio with a converter or to completely build from scratch a receiver especially designed for the

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job. I personally prefer the second method for achieving better efficiency and better band coverage.

On the subject of bands, let us consider what frequency should a mobile station operate. The 80 mx band, whilst very popular in New Zealand and America, has been totally neglected in Australia. One of the main reasons, although good results can be obtained, is that the antenna efficiency for mobiles on this band is very, very low. The 40 mx band is quite popular in Australia, good mobile contacts being made when band conditions permit with reasonably low power. Here again antenna design is critical and efficiency very low compared to the normal half-wave dipole (approximately 9%). The 20, 15 and 10 mx bands have not been utilised in Australia for fairly obvious reasons, although the 10 mx band could be extremely good during the height of the sunspot cycle or for local contacts if there were sufficient local stations active on this band.

The 6 mx band is not very populated by mobiles but is fast becoming so with efficient whip aerials easily secured; Interstate and DX working possible, subject to conditions, and very reliable short distance working (up to 50 miles) obtainable.

Finally, the 2 mx band, a popular frequency for mobile working, is reliable for short distance working, line of sight distance working and, as proved lately, an occasional possibility of DX or Interstate contacts.

In summation, it would seem that we should consider the use of 7 Mc., 50 Mc. and 144 Mc. The writer's opinion is that the mobile station should, especially if building from scratch, make provision for receiving and transmitting on all three of these bands.

It is suggested that the basic receiver have a frequency coverage of 4 Mc., including 7 Mc., say 6-10 Mc., and have a slow motion dial not exceeding 10-1 unless it has an over-riding fast motion incorporated.

Previous mention has been made of a suitable detector, noise limiter and audio for a mobile receiver, therefore we will restrict ourselves to the consideration of the i.f. amplifier and front-end to be used. Consideration has not been given to the use of transistors or hybrid valves as it is assumed that the transmitter power supply will be also utilised for reception.

Forty metres automatically presupposes for our purposes a high selectivity receiver. Our selectivity must be obtained in the i.f. section at a reasonable cost, therefore it is suggested that we use two stages of i.f. amplification

with the first stage utilising back-to-back i.f. transformers, the frequency being 455 kc. By using one r.f. stage, the image rejection will be quite reasonable and enhanced on 7 Mc. by the high Q of the mobile aerial. A suggested circuit is given in Fig. 6. This is not claimed to be the ultimate in receivers, but is capable of giving a good account of itself. Note that your favourite b.f.o. circuit should be added for s.s.b. and c.w. reception, or alternatively you might use the circuit of Fig. 7.

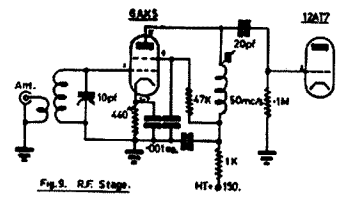


Fig. 6. R.F. Stage.

MOBILE TRANSMITTERS

The transmitter is the problem child amongst the mobile equipment. The transmitter is usually designed around the power supply which itself is dependent on the primary power source. The power available from most supplies is limited, so let us consider what radiated power means in terms of reception at the other Ham's shack.

In theory a signal increase of 3 db. gives about half an S unit increase in reception. A 3 db. change requires the doubling of actual radiated power. For example, a 300 volt 100 mA. power supply could produce a radiated (modulated) carrier of approximately 8 watts. To increase your power to produce half an S unit difference, the minimum signal change that is noticeable at the receiver end, it would be necessary to radiate 16 watts. This means that the primary current drain for a 12 volt system would increase from approximately 5 amperes to approximately 10 amperes. A further 3 db. increase, 32 watts output, would cause a primary drain increase to approximately 20 amperes.

It can be seen that a small increase in signal received is bought very dearly at the mobile transmitter. Therefore we are limited to radiate as much power as our power supply will stand on 7 and 50 Mc., but on 144 Mc. we are saved by the ability to increase our radiated power by the use of a high gain aerial.

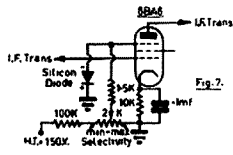


Fig. 7.

The values given in Fig. 7 should be closely followed, however if the gain is too low with the potentiometer at minimum selectivity, the value of the cathode resistor could be reduced. As you reduce the control to zero (earth end), the stage comes closer to regeneration, finally in the last stages of the control it becomes a b.f.o. pitch control and may be used for the reception of c.w. or s.s.b. quite successfully.

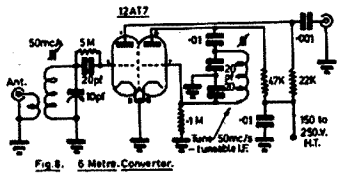


Fig. 8. 6 Metre Converter.

Having achieved reception on 40 metres, let us consider extending the range to 50 and 144 Mc. Several very good converters have been featured in "A.R." and other magazines, so some very simple converters are featured instead to give the d.c. boys an incentive to explore these foreign fields. Fig. 8 is a simple converter for 6 metres capable of reasonable results. If you are more ambitious, the r.f. stage illustrated in Fig. 9 may be added. A good shield across the 6AK5 socket is recommended to tame the r.f. stage. These simple circuits could also be used to get the newcomer started on 144 Mc., but I would strongly recommend that crystal-locked converters be used on both bands. In N.S.W. considerable success has been achieved by the users of the crystal locked converters sponsored by the N.S.W. V.h.f. and T.v. Group and featured in one of the national radio magazines.

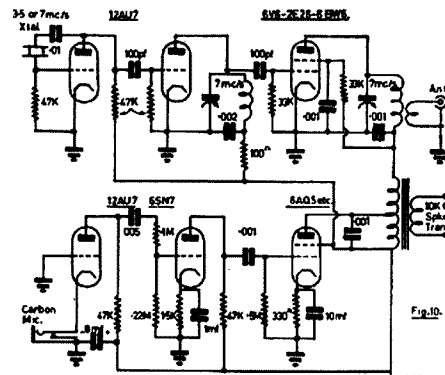


Fig. 10.

7 Mc. Transmitter

Two simple transmitters are illustrated in Figs. 10 and 11, giving two approaches to the use of a simple 300 volt 100 mA. power supply. In Fig. 10 the oscillator-driver stage can use 3.5 or 7 Mc. crystals and has an approximate drain of 15 mA. The final plate current is approximately 35 mA. and the preamplifier-modulator 5 mA. With an input of 10.5 watts, an approximate output of 7 watts is obtained, modulated approximately 80%.

In Fig. 11 gated screen modulation is used, the approximate current drains being: osc.-driver 15 mA., final 70 mA.,

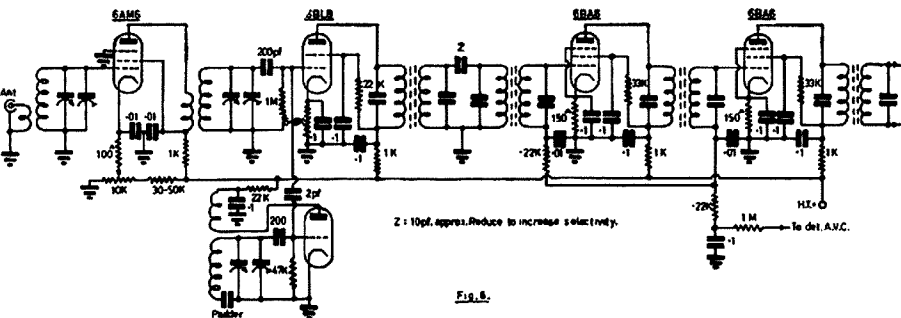
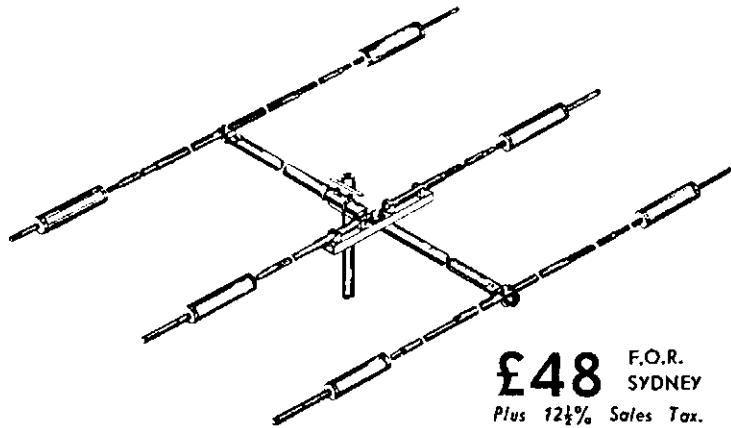


Fig. 9.

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THE IMPORTANCE OF ADJACENT CHANNEL SELECTIVITY (I.F. FILTERS)

E. C. HULME,* VK2EN

ON today's crowded Amateur Service frequency bands it is essential that a communications receiver be able to discriminate between adjacent signals. Various means of achieving the required selectivity have been proposed and this article will review some of the systems used.

Today the trend seems to be towards an r.f. input stage designed to provide sufficient gain to over-ride the noise generated by the first detector, with a high selectivity channel following the first detector. It is desirable that such a selective channel be placed as close as possible to the aerial in order to minimise the effects of cross modulation.

Means of defining adjacent channel selectivity in a receiver are varied but the system of quoting the response at the -6 db. and -60 db. points on the selectivity curve has much to commend it. The ratio of the selectivity at these points is termed the shape factor (s.f.) and in the ideal case has a ratio of one; i.e. a vertical sided response curve.

The first attempts to obtain a good s.f. followed the discovery by Dr. J. Robinson in England of the usefulness of quartz resonators. James Lamb, of the A.R.R.L., then developed the single crystal i.f. filter, a circuit of which is given in Fig. 1.

Regretably this circuit possessed the poor shape factor shown in Fig. 2.

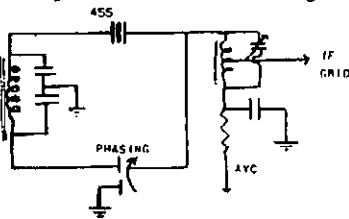


Fig. 1.

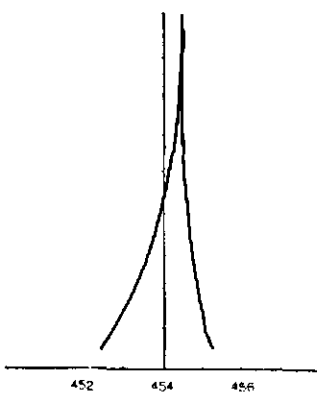


Fig. 2.

Over the next decade or so attempts were made to achieve a better shape factor by using a string of i.f.'s con-

• The writer covers the various means of achieving adjacent channel selectivity by showing representative circuits. A more detailed explanation is given in discussing mechanical filters.

nected back to back. This arrangement is shown in Fig. 3 and although it provided a better skirt selectivity, was still far from ideal.

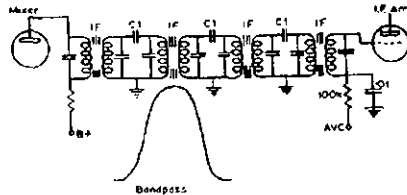


Fig. 3.

With the termination of World War II, a wide variety of surplus equipment became available. Among the various items were large quantities of crystals. Fortunately for Amateurs, many of these crystals had a fundamental resonance in the region of 455 kc., the most common i.f. frequency used in receivers.

The advent of these low priced crystals enabled Amateurs to experiment with multi crystal i.f. filters in an attempt to improve shape factor.

These attempts led, in general, to a series of modifications of the basic Lamb or Robinson filters in which more than one and up to six crystals were used.

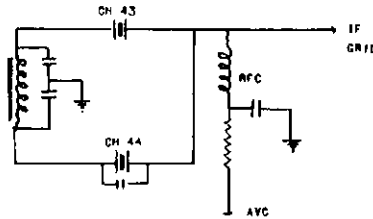


Fig. 4.

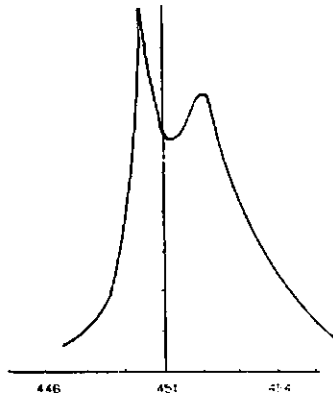


Fig. 4.

Typical of the circuits developed were those shown in Figs. 4, 5, 6 and 7.

From these circuits and their associated shape factors it will be seen that only one (Fig. 7) shows any real promise and six crystals are required.

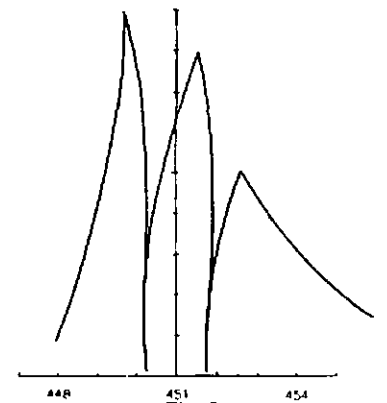
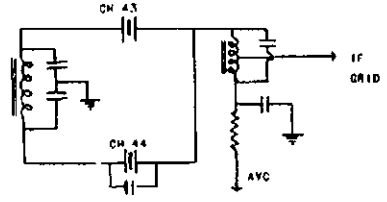


Fig. 5.

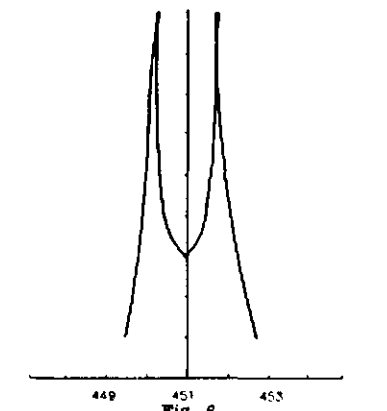
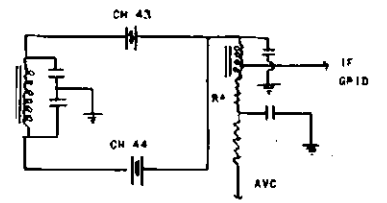


Fig. 6.

During this period of development the use of two crystals, suitably ground and a toroidal coil were proposed. This system exhibited an excellent shape factor and the use of high frequency

* 34 Garbo Ave., Carrs Park, N.S.W.

crystals (and thus a high frequency i.f.) offered exceptional freedom from image responses. Details are given in Fig. 8.

However, in most of the foregoing circuits, more or less difficulty was experienced in adjusting them correctly and they did not therefore meet with the wide acceptance from the Amateur fraternity that perhaps they deserved.

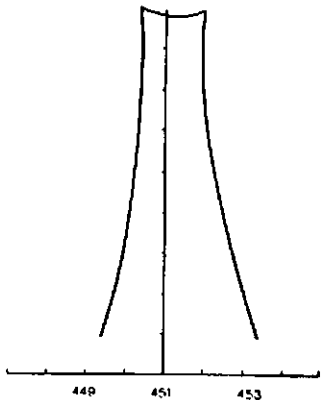
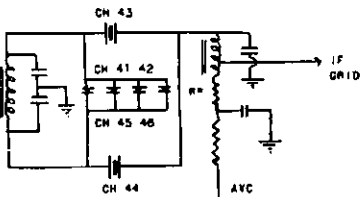


Fig. 7.

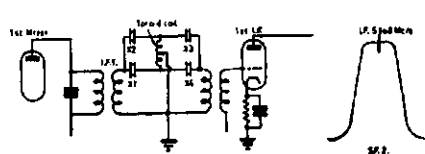


Fig. 8.

While these various attempts to derive ever smaller shape factors were being made, receiver manufacturers were offering double or triple conversion units. This was done on the grounds that multiple conversion gave the advantage of excellent image rejection by the high frequency i.f. channel while selectivity was provided by a low frequency (50-100 kc.) i.f. channel. Fig. 9 gives a schematic of such a system.

It will be seen that the shape factor was still far removed from that required. Strong stations only a few kilocycles away were still able to override a weak DX station tuned in at the selectivity curve.

Progress made until the late 1950s can be summarised thus. Using a number of crystals and/or complex circuitry

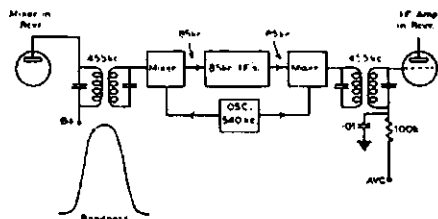


Fig. 9.

it was possible to obtain good shape factors but the critical adjustment required in all cases militated against their wide use in Amateur equipment.

At this stage a solution to the problem of a good shape factor combined with ease of adjustment was provided by the introduction of mechanical filters, a simplified diagram of such a filter being given in Fig. 10.

It can be seen that the mechanical filter comprises four main components: (1) An input transducer (left hand coil of Fig. 10) which converts the electrical input into mechanical oscillations in (2) the rod, so compressing (3) selected metal discs. In turn the oscillation of the discs induces an e.m.f. in (4) the output coil (the right hand coil in Fig. 10). Generally a magnetostriction type transducer is used.

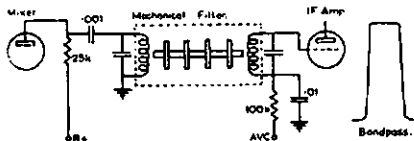


Fig. 10.

A very simple (and thus somewhat inaccurate) analogy to explain the mode of action of a mechanical filter would be a loudspeaker facing a moving coil microphone. Electrical energy fed to the voice coil of the loudspeaker (equivalent to the left hand coil of Fig. 10) causes a piston action of the cone attached to the voice coil. This piston action is transferred to the air column in front of the cone and this air column can be likened to the discs in the mechanical filter. The oscillating air column in turn acts on the cone of the m.c. microphone and in so doing causes its associated coil to move. This movement of the microphone coil is changed (or transduced) into an a.c. e.m.f. In this simplified example we have an electrical - mechanical - mechanical electrical energy transformation, while in the mechanical filter proper we only have an electrical-mechanical-electrical transfer.

Mechanical filters have very good shape factors. Six disc types are quoted at 2.2, a seven disc type at 1.85, and a nine disc filter at approximately 1.5. Thus it can be seen from Fig. 11 that if a receiver using a mechanical filter is tuned to station X at the -6 db. point, then a station only 500 cycles lower in frequency will be attenuated by (60 - 6) or 54 db.

Mechanical filters are stable in that they are relatively immune to vibration, shock, moisture (they are normally hermetically sealed), atmospheric pressure and most other external conditions. They do, however, possess a negative temperature coefficient (-3×10^{-5} per $^{\circ}\text{C}$.), but their gain is constant to ± 2 db. over the temperature range 0 to $+70^{\circ}\text{C}$.

They are compact and lightweight, taking up a fraction of the space needed by other filters of comparable performance. Due to their construction, no adjustment of the filter is necessary (or desirable) and once wired in require a minimum of external circuit alignment to function well.

The successful application of a mechanical filter is, however, subject to a

few simple precautions which, if followed, will ensure that maximum performance is realised.

Firstly a signal in excess of 10v. r.m.s. should not be applied across the input (i.e. between plate and B+). This point is not normally of importance in receivers where the signal level at the mixer plate is more likely to be in the millivolt range, but attention must be paid to input levels where such filters are used in s.s.b. generators.

Secondly, the filter should be placed directly after the converter (first detector) where the power level is low. Such placement of any selective network is obligatory if freedom from cross modulation is desired and this general rule of the nearer the aerial the better applies to mechanical filters. In some cases (transistor or transceiver duty for example) it can happen that the signal level is too low for optimum operation of a mechanical filter and a stage of i.f. amplification may be needed to rectify the situation.

Thirdly, it should be noted that the mechanical filter has terminal impedances which are low compared with the normal i.f. transformer and the average insertion loss may run at about 20 db. This loss is, however, relatively unimportant, as it can be made up by amplification after the filter. The selectivity of the transformers used in the subsequent amplifier stages will also

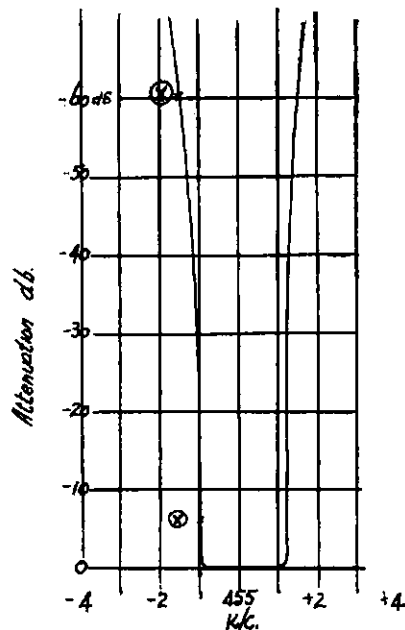


Fig. 11.

help to eliminate any spurious resonances generated by the mechanical filter itself, but broad band i.f. transformers should be used so that no degradation of the selectivity curve of the filter takes place. Low Q i.f.'s are the most suitable.

As a fourth point, it should be noted that short, direct plate and grid leads to mechanical filters are most important. The physical layout should be such that stray coupling round the filter is minimised as stray capacity coupling across the filter will noticeably degrade its selectivity characteristics. A small

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3680 ..	4095 ..	4340 ..	4635 ..	4930 ..	5235 ..	5435 ..	5730 ..	5950 ..	6235 ..
3720 ..	4135 ..	4395 ..	4695 ..	4950 ..	5245 ..	5437.5 ..	5740 ..	5955 ..	6275 ..
3760 ..	4165 ..	4397.5 ..	4710 ..	4980 ..	5285 ..	5485 ..	5780 ..	5995 ..	6315 ..
3800 ..	4175 ..	4445 ..	4735 ..	4995 ..	5295 ..	5500 ..	5782.5 ..	6000 ..	6362.5 ..
3885 ..	4215 ..	4490 ..	4780 ..	5030 ..	5327.5 ..	5545 ..	5815 ..	6042.5 ..	6375 ..
3955 ..	4240 ..	4495 ..	4785 ..	5035 ..	5335 ..	5583.5 ..	5820 ..		6405 ..
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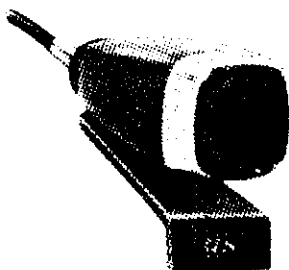
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metal shield across the filter terminals normally affords the necessary isolation. Mechanical filters are relatively sensitive to feed and terminating impedances so all external capacitances should be kept small (except where otherwise stated). Normally a total of 15 pF., including inter electrode capacitances, is the maximum.

Finally, it should be noted that a negative voltage must not be impressed on the filter, neither should the positive voltage applied to the input exceed 250 volts.

Having discussed the characteristics of mechanical filters it may be opportune to show how they are included in a receiver and Fig. 12 gives a typical circuit using a two-stage i.f. channel. Normally this provides more than enough amplification and the right hand part of the circuit could be omitted if desired.

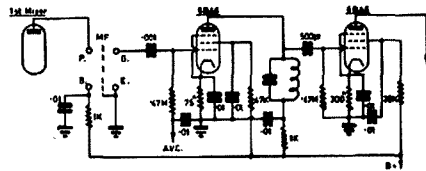


Fig. 12.

It will be obvious to sideband devotees that a mechanical filter is an ideal means of generating a good sideband signal. If, in addition, the same filter can be used for both receiving and transmitting functions, the cost would

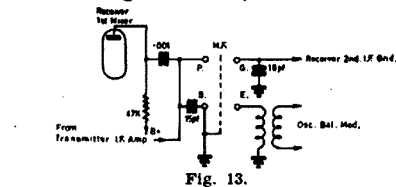


Fig. 13.

be reduced and performance improved. The circuit in Fig. 13 shows how this can be achieved and Fig. 14 gives its pass band. It can be seen that if the carrier frequency (or b.f.o.) is injected at the -20 db. point marked on the curve, then a carrier suppression of 20 db. is achieved before the balanced modulator starts its work.

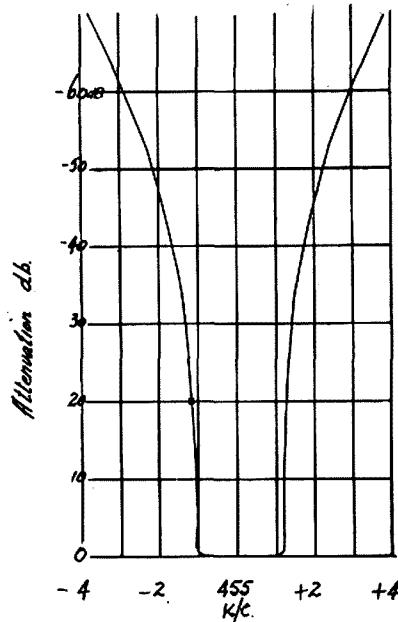


Fig. 14.

It is hoped that this article will have been of assistance to readers in reaching a greater understanding of mechanical filters, their ease of adjustment and their general lack of criticality when compared with their crystal counterparts.

MATTERS—MOBILE

(Continued from Page 5)

It will be noted that very little coil data is given in the circuits; this omission being deliberate. Every Amateur has a junk box with odd size coil formers and should preferably own or be able to borrow a g.d.o. Unless you are fortunate with extension leads, etc., a battery operated g.d.o. is extremely useful, as you will find when tackling your aerial installation. Fig. 17 is a circuit of a transistorised g.d.o. which is capable of operation up to 150 Mc.

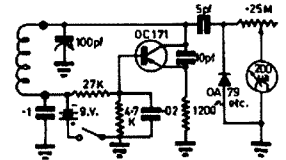


Fig. 17.

I hasten to add before finishing this section that if serious work is being considered on 2 metres, not just local contacts, that a separate transmitter for this band be built. Once again back copies of "A.R." are a good source of circuits.

Single and double sideband suppressed carrier mobile equipment has not been covered in this article, but will be experimented with by the author in the next twelve months and may be the basis of a later article.

(To be continued next issue)

JAMBOREE-ON-THE-AIR

The Fifth Annual Scout Jamboree-on-the-Air will commence on 20th October, 1962, at 1000 hours E.A.S.T. for a duration of 24 hours.

The Boy Scouts' Association, Victorian Branch, is asking Amateurs to participate in this world-wide event by co-operating with their local Scout Groups. This is not a competition; there are no prizes. Any Amateur, with a past or present association with the Scout movement, or who has Scouts in his shack, simply goes on the air any time during the week-end October 20-21 and calls "CQ Jamboree". He will find a great number of local, interstate and overseas stations who are similarly interested.

The Jamboree-on-the-Air has two main objects:

(1) To make the 4th Scout Law Live. This Law says: A Scout is a friend to all, a brother to every other Scout, no matter to what country, class, or creed, the other may belong.

The average Scout has few opportunities of meeting Scouts from other countries. Although he cannot shake hands with them during this Jamboree,

he can talk to them. Even if conditions are bad, he will be able to talk to Scouts from other parts of his own country and exchange ideas.

(2) To open new fields of interest. An introduction to Amateur Radio may help a boy discover a latent interest which may lead him to an eventual career in electronics, radio, television, computers, space-travel, etc. It may also encourage him to work on Scout Proficiency Badges related to radio, electricity and signalling.

Any information regarding the event can be obtained from your local Scout Group or from the Victorian Boy Scouts' Association Co-ordinator, Commissioner J. S. B. Y. Woodburn, VK3AGD, Dunderkeld, Vic.

REMEMBRANCE DAY CONTEST

SAT.-SUN., AUGUST 18-19

1800 hours to 1759 hours E.A.S.T.
See page 12, July "A.R." for rules.

W.I.A. D.X.C.C.

Listed below are the highest twelve members in each section. New members and those whose totals have been amended will also be shown.

PHONE

Call	Cer. C'tnt- No. ries	Call	Cer. C'tnt- No. ries
VK6RU	2 266	VK6KW	4 206
VK5AB	45 266	VK3ATN	26 204
VK3AHO	51 253	VK4HR	12 192
VK6MK	43 252	VK3AR	23 184
VK4FJ	21 230	VK3BZ	3 176
VK3WL	14 211	VK4WF	16 173

Amendment:

VK3TG .. 48 121

C.W.

Call	Cer. C'tnt- No. ries	Call	Cer. C'tnt- No. ries
VK3KB	10 300	VK3BZ	6 222
VK3CX	26 288	VK4HR	8 218
VK4FJ	29 269	VK3XU	48 213
VK3NC	19 255	VK7LZ	17 212
VK3FH	15 228	VK3YL	39 211
VK6RU	18 226	VK3RX	23 210

Amendments:

VK3ARX 66 181 VK3JF .. 70 145
VK2APK 76 166 VK3AX .. 68 131

OPEN

Call	Cer. C'tnt- No. ries	Call	Cer. C'tnt- No. ries
VK2ACX	6 300	VK2AGH	83 252
VK6RU	8 279	VK3HG	3 246
VK4FJ	32 275	VK4HR	7 233
VK3NC	77 260	VK3BZ	4 231
VK6MK	74 256	VK3JA	43 229
VK3AHO	76 256	VK3WL	45 225

Amendment:

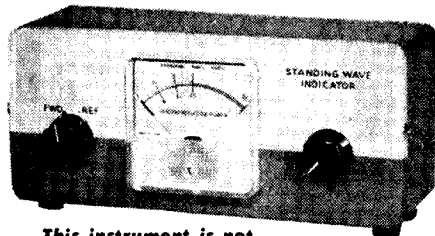
VK2APK 82 172

New Member:

VK3QP .. 86 119

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- Checks antenna match to transmission line by measuring standing wave ratio from 1:1 to 3:1 or per cent of reflected power.
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- Can remain in line at all times.
- Operates 160—2 meters.
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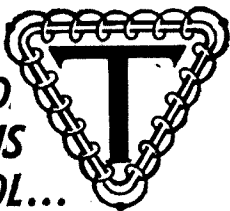
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ERECTION OF AMATEUR TOWERS

Recently Mr. A. Chandler (VK3LC) was refused permission by the Malvern City Council to erect an Amateur Radio tower upon his property. The matter was referred to the Victorian Council of the W.I.A. who agreed that in view of the importance of the matter, they would apply for a hearing before the Building Referees. (The latter body sits to hear an appeal against Council rulings given under the Uniform Building Regulations.)

The W.I.A., Victorian Council, decided that they would bear the legal costs involved, as, if the Malvern Council ruling was allowed to stand, then other Amateurs throughout Melbourne, and other cities, could be similarly penalised.

On 21st June, 1962, the hearing was heard before the Building Referees, and the following are the relevant details quoted from this hearing:

The W.I.A. solicitor stated "This appeal is of some significance to a number of Amateurs . . . it is submitted that this particular aerial tower is perfectly sound structurally . . . Mr. Chandler has been given no indication officially as to why this application has been rejected. He has been told . . . the reason was because of the appearance of the tower."

The Malvern City Council representative then stated: "The Council felt that the height of the tower would affect the appearance of the locality."

Discussion then followed this point and it was agreed that the proposed tower was structurally sound and that other towers had been erected within the similar area.

The W.I.A. solicitor then proceeded to demonstrate that under the Uniform Building Regulations, the aesthetic appearance was not well founded as a ground for rejection, therefore the Building Referees were requested to rule upon the structural capability of the tower, and if they agreed that it was sound, then they should allow the appeal. The attitude adopted by the R.S.G.B. was quoted and the Building Referees stated, ". . . don't think we can go any further. In due course you will be advised of the decision."

On 25th June, 1962, the W.I.A. was advised that the appeal had been upheld, thus the way was clear for the tower to be erected.

This appeal has established a precedent in so far that the W.I.A. have acted as a body and have assisted an Amateur to overcome a problem. Normally such a task would be beyond the normal individual. As the appeal was upheld, it could act as a precedent for other cases, thus if any Amateur is faced with a similar problem, then he or his advisers, can benefit by the case that has been described. It must be remembered, however, that in this particular instance, the tower was structurally sound, any rejection upon the grounds of insufficient strength in the tower would be a different story.

Thus once again the W.I.A. has rendered the Amateur a service. If any Victorian Amateur is faced with a similar problem regarding the refusal of permission to erect an aerial tower, he is requested to contact the Victorian Division Council of the W.I.A.

AWARDS AND CERTIFICATES

By John Velamo, OH2YV

The original meaning of the awards is to give recognition for certain achievement in Amateur Radio operating. So each award has its own rules, indicating the requirements according to which the award will be available to interested Amateurs.

The awards are a splendid aid in order to seek suitable destinations to the Amateur Radio activity, especially on the Amateur bands. Soon everyone would get tired of unsystematic and unplanned operating, for there really is no lack of contacts on the bands. If we only operate without any purpose, we soon will find that the mass contacts will not give us full satisfaction. So the awards come to help us. They help us to find certain "steps" along which we can improve our operating skill gradually, and get further and further in Amateur Radio. Reaching these destinations, one after one, will give us quite different satisfaction.

The general trend has been to keep the standards of the awards high and esteemed. However, during the last few years there has appeared quite a new kind of trend in Amateur Radio award fields. Certificates have been founded evidently in order to make profit from them. We cannot come to any other conclusion when looking at the numerous certificates issued mainly by individual Amateurs, the requirements of which often are easy, but which regularly are "sold" for plain money. In one case this trend has exploded to a degree which could be called "certificate industry," in a way that one and the same individual (in the U.S.A.) issues nearly 100 (one hundred) different certificates, each being granted for one dollar (U.S.) and the requirements of each certificate being of a pretty easy class. Certificates like these, according to the European understanding of Amateur Radio, are against the original Ham spirit! Such certificates should be avoided, in order to stop further spreading of the business trend in pure Amateur Radio!

The International Amateur Radio Union (I.A.R.U.) probably will give a recommendation about the awards which are in accordance to Amateur Radio. A separation—so regrettable as it even is—is a must just because of the "business" and false trend in this field. As well it will be very welcome because not all individual Amateurs are able—or they do not want—to judge which award is in accordance to Amateur Radio and which not! A recommendation like that possibly coming from the I.A.R.U. will be a tremendously valued help to the private Amateur now being ashamed among all the masses of certificates!

Today there are over a thousand certificates available in the world, and it is natural that among them there are both good and poor awards.

Because the popularity of award hunting has increased tremendously during approximately the last five to ten years, it is evident that in order to stop the false trend in this field, strong information and guidance will be necessary, as well in national as in international "frames". Nationally each individual who has ability of healthy consideration has the possibility to lead the trend in certificate operating into right rails. Internationally this task belongs to the national, official Amateur Radio organisations which must be able to control their individual members who are inclined to the trend against real Ham spirit! If these national organisations are powerless, there is very great danger that the Ham spirit will lose its pure meaning. The Ham spirit in its pure, original meaning must not be spoiled!

The Award Hunters' Club, the oldest and original organisation of the certificate and award hunters in the world, officially registered and affiliated with the I.A.R.U. organisation, seriously recommends a very strict consideration to every Amateur when choosing certificates as a destination for the activity on Amateur bands. As well, it is recommended that not too many certificates be issued in the same country (in fact, this is the decision of a I.A.R.U. Region I. Conference!), and that the certificate issuers be preferably the official organisations rather than private individuals. Have all Leagues checked this?

Awards issued by official national Amateur Radio organisations are recommended, among them also the old and esteemed world-wide awards issued by certain Amateur Radio publications in various parts of the world. Certificates which indicate a trend to "business" by means of Amateur Radio operating should be avoided. These certificates generally are known for their high price and often easy requirements.

Remember, approximately five I.R.C.'s will cover all packing and mailing costs of a certificate, even that may give some minor profit. The certificates themselves must not cost anything to the applicants, it being only reasonable that the applicant pays the postage.

VK-ZL OCEANIA DX CONTEST, 1962

N.Z.A.R.T. and W.I.A., the National Amateur Associations in New Zealand and Australia, invite world wide participation in this year's VK-ZL Oceania DX Contest.

Objects: For the world to contact VK/ZL/Oceania stations and vice versa.

When? Phone: 2 hours from 1000 GMT, Saturday, 6th October, to 1000 GMT, Sunday, 7th October. C.w.: 24 hours from 1000 GMT, Saturday, 13th October, to 1000 GMT, Sunday, 14th October.

RULES

1. There shall be three main sections to the Contest:—

- Transmitting phone.
- Transmitting c.w.
- Receiving—"phone and c.w."

2. The Contest is open to all licensed Amateur transmitting stations in any part of the world. No prior entry need be made. Mobile Marine or other non land-based stations are not permitted to enter the Contest.

3. All Amateur frequency bands may be used but no cross-band operation is permitted.

4. Phone will be used during the first week-end and c.w. during the second week-end. Stations entering both sections must submit separate logs.

5. Only one contact per band is permitted with any one station for scoring purposes.

6. Only one licensed Amateur is permitted to operate any one station under the owner's call sign. Should two or more operate any particular station, each will be considered a competitor, and must submit a separate log under his own call sign. (Not applicable to overseas stations.)

7. Entrants must operate within the terms of their licences.

8. **Cyphers:** Before points can be claimed for a contact, serial numbers must be exchanged and acknowledged. The serial number of five or six figures will be made up of the RS (telephony) or RST ((c.w.)) report plus three figures which may begin with any number between 001 and 100 for the first contact, and which will increase in value by one for each successive contact; e.g. if the number chosen for the first contact is 053, then the second must be 054, followed by 055, 056, etc. If any contestant reaches 999, he will start again from 001.

9. **Scoring:** (a) For Oceania Stations other than VK/ZL: 2 points for each contact on a specific band with VK/ZL stations; 1 point for each contact on a specific band with the rest of the world.

(b) For Rest of the World other than VK/ZL: 2 points for each contact on a specific band with VK/ZL stations; 1 point for each contact on a specific band with Oceania stations other than VK/ZL.

(c) For VK/ZL Stations: 5 points for each contact on a specific band and in

addition, for each new country worked on that band, **bonus points** on the following scale will be added:

1st contact—	50 points
2nd "	40 "
3rd "	30 "
4th "	20 "
5th "	10 "

For this purpose the A.R.R.L. countries list will be used with the exception that each call area of W/K, JA, SM, UA will count as "countries" for scoring purposes as indicated above.

10. Logs. (i.) Overseas Stations:

(a) Logs to show in this order: date, time in GMT, call sign of station contacted, band, serial number sent, serial number received, points. **Underline** each new VK/ZL call area contacted and use a different log for each band.

(b) Summary to show: call sign, name and address (**block letters**), details of equipment, **total score** by showing sum of VK/ZL call areas worked on all bands and total points for all bands. Sign a declaration that all rules and regulations were observed.

(ii.) **VK/ZL Stations:** (a) Logs must show in this order: date, time in GMT, call sign of station contacted, band, serial number sent, serial number received, contact points, bonus points. Use a **separate log for each band**.

(b) Summary to show: name and address in **block letters**, score for each band by adding contact and bonus points for that band and as well, **total score** by adding band scores together, details of equipment used and power, declaration that all rules and regulations have been observed.

11. The right is reserved to disqualify any entrant who, during the Contest, has not observed regulations or who has consistently departed from the accepted code of operating ethics.

12. The ruling of N.Z.A.R.T. Executive Council will be final.

13. **Awards. VK/ZL Stations:** The N.Z.A.R.T. will award certificates to the top scorer on each band and the top scorer in each VK/ZL district and silver mounted plaques to the top ZL scorers in both the c.w. and the phone sections.

Overseas Stations: Certificates will be awarded to each country (call area in W/K, JA, SM, UA) on the following basis:

- Top scorer using "all bands".
- Top scorers on individual bands.
- To those with minimum contact requirements to be determined by conditions and activity prevailing.

14. Entries from **VK/ZL stations** should be posted direct to N.Z.A.R.T. Contest Manager, 86 Lytton Road, Gisborne, N.Z., to arrive not later than 31st December, 1962.

Entries from **Overseas Stations** should be posted to N.Z.A.R.T., Box 489, Wellington, N.Z., to arrive not later than 19th January, 1963.

RECEIVING SECTION

1. The rules are the same as for the transmitting section, but it is open to all members of any S.w.I. Society in the world. No transmitting station is permitted to enter this section.

2. The Contest times and logging of stations on each band per week-end are as for the transmitting section.

3. To count for points, logs will take the same form as for the transmitting section as follows: date, time (GMT), call of the station heard, call of the station he is working, RS(T) of the station heard, serial number sent by the station heard, band, points claimed. Scoring is on the same basis as for the transmitting section and the summary sheet should be similarly set out.

4. Overseas stations may log only VK/ZL stations, but VK receiving stations may log overseas stations and ZL stations; while ZL receiving stations may log overseas stations and VK stations.

5. Certificates will be awarded to the top scorer in each VK/ZL call area and in each overseas scoring area.

W.I.A. N.S.W. DIVISION SOUTH WESTERN ZONE

TENTH ANNUAL

CONVENTION

at GUNDAGAI

29th-30th SEPTEMBER, 1962

Hotel, Motel and Cabin Accommodation available.

The usual field events will be held and a good time is assured for all. Further inquiries, contact VK2DE, Dave Evans, C/o. Ambulance Station, Gundagai.

Wireless Institute of Australia Victorian Division

A.O.C.P. CLASS

commences

THURSDAY, 2nd AUG., 1962

Theory is held on Monday evenings, and Morse and Regulations on Thursday evenings from 8 to 10 p.m.

Persons desirous of being enrolled should communicate with—Secretary W.I.A., Victorian Division, P.O. Box 36, East Melbourne (Phone: 41-3535, 10 a.m. to 3 p.m.), or the Class Manager on either of the above evenings.

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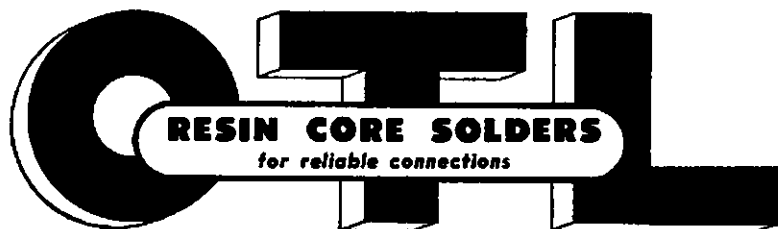
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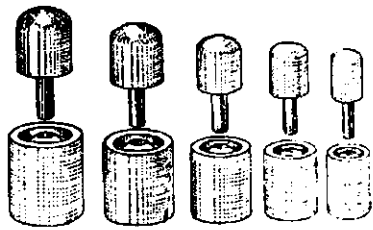
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DON'T FORGET THE

REMEMBRANCE DAY CONTEST

SAT.-SUN., AUGUST 18-19

1800 hours to 1759 hours E.A.S.T.

See page 12, July "A.R." for rules.

W.I.A. 50 Mc. W.A.S.

Call	Cer. Add. No. Cntr.	Call	Cer. Add. No. Cntr.
VK4HD	27 8	VK2VW	9 3
VK4AZ	26 7	VK5GG	19 3
VK4ZBE	29 6	VK5BQ	23 3
VK2WJ	13 4	VK7LZ	24 3
VK3ZFM	22 4	VK3ZHF	25 3
VK3IM	30 4	VK9AU	32 3
VK4PU	35 4	VK3ZGZ	28 2
VK4HR	4 3	VK3ZZ/T	31 2
VK3PG	5 3	VK7ZAO	33 2
VK2ABC	8 3	VK7ZAQ	34 1

New Members:

VK5AX	36	-	VK5ZBR	37	1
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Secretary, or W.I.A., P.O. Box 36,
East Melbourne, C.2, Victoria.

YOUTH RADIO CLUBS

KEN MATTEI, VK1KM

YOUTH Radio Clubs are increasing in number. These clubs do a fine social service for adolescents and will give a great boost to Amateur Radio. Some information about their purpose and results should quieten the occasional old-timer (usually not a father!) who rumbles "More QRM" and perhaps bring more VK Amateurs to find a little time to help in this satisfying work.

Briefly, the Youth Radio Club is formed wherever young people can be gathered (or are already in a prepared group) in order to help them make a start in simple radio construction, learn a little theory, and possibly progress to A.O.C.P. It is usually easier to form a club as an off-shoot of some existing organisation—High Schools (and private Church Schools, particularly those with boarders), Police Boys' Clubs, Boy Scouts, Church Clubs, A.T.C., and the like, provide large groups of adolescents at an impressionable age and easily attracted to Radio as a hobby.

The result is firstly a fine piece of social work for anybody who cares about young people and future juvenile delinquency as it might be if this country follows in the foot-steps of others. No one should expect to be a hero saving large numbers from an awful fate, but certainly you might be diverting a few from the anti-social path. Secondly, the young people are getting a fine start for a possible career in some branch of Electronics. Even if this does not turn out to be their eventual career, studying Radio certainly improves their school marks in Maths. and Science. Thirdly, there is a definite boost to Amateur Radio.

The QRM problem is no worse because Youth Clubs, if they operate a station, are nearly always on the air at uncrowded times such as lunch hours. We should be able to see from the events of the last 14 years that the official mind has little respect for our rights as private citizens or our value to the country; much greater numbers and better public relations are the only way to halt the cutting of our frequencies which is the great cause of QRM. **Greatly increased numbers in a few years are only likely from this adolescent age group.**

Whether or not they can find the time or inclination to help, the Amateur fraternity should appreciate the value of Youth Clubs and create a situation in which the officers of their organisations can take some steps to help those interested enough to do the work. Our officers themselves are only voluntary workers and cannot be expected to burden themselves with forming the clubs and doing the practical demonstrations, etc., but they can nevertheless give plenty of backing from the Divisions and Branches for those who do the work, even if only to provide gear from Disposals accumulations of semi-rubbish. How fertile is the soil of our executives for the seeds of this idea? The VK2 Division has made a

● Every Amateur should read unless there are others coming this article with the object of determining what he, as an individual, can contribute to the scheme, which has Federal Executive support. It is the young people to whom the future of Amateur Radio must be left, and forward, then our future cannot be accurately foretold.

start by approving, in principle, of the printing of official certificates for a series of five graded awards on lines worked out by Rex Black, VK2YA.

There are probably plenty of bright ideas and some are already in operation, but how about these for a start?

- (a) Approaches to the Director of Secondary Education, possibly resulting in official encouragement of Radio Clubs in High Schools and also Summer Schools to coach young Science teachers in running a Radio Club (anything to help over the crisis in Maths. and Science teaching will interest the Dept. of Education).
- (b) Similar approaches to Boy Scouts' Commissioners (at least their certificate for radio could be revised).
- (c) Offers of circuits, simple demonstration material (from Disposals?), wall charts, mounted instructions for the library, etc., to Science Masters of High Schools, even if there cannot be a roster of local Amateurs to look after a High School Club which is always successful if it is handled in a practical way.
- (d) Newspaper appeals for old radios and other gear to be pulled to pieces, the parts to be handed out to interested youngsters.
- (e) A Branch or Division project to make smart and efficient portable gear to be operated at suitable functions such as Boy Scout Fetes, Y.M.C.A. affairs, Hobbies Exhibitions, Education Week, High School Science Exhibitions, Agricultural Shows, Orphanages, etc.
- (f) The boarders' section of a private school is always receptive to Radio and the Headmaster is always grateful for help there.
- (g) Enlightened executives of big radio firms would sponsor a club—Rotary, Apex, Lions, etc., might help.
- (h) Formation of a class or hobbies group in an Evening College will get the instructor a few pounds a night for his trouble.

There are obvious advantages in a unified VK approach. Does Federal Executive agree about the need, for such an approach, and can it find the time (voluntary!) to make it an all-VK effort?

Here in Canberra, so far, youth groups have about 60 young people interested generally in radio construction. There are four groups formed: Lyneham High, Canberra High, Police Boys', and Canberra Radio Society. In groups like this, there is generally a hard core of about one-third who will do a lot of radio and probably the majority of them will become Amateurs. About another one-third will play around with simple work but there is no way of telling how far they will go, nevertheless they have some interest in a challenging hobby and that will do a lot of good. (Note the opinion of any Policeman-Amateur like Wal Salmon, VK2SA.) The remainder are interested to watch demonstrations and will try a simple set or two, but need more time in coaxing them than most of us can manage.

Old b.c. sets are obtained from radio repair shops and by public appeal. These are stripped, the parts given free to constructors and names written down so that parts can be recalled if not used. A set of 22 stencilled sheets is available for distribution, ranging from "Crystal Set" to "Colour Code and Valve Sockets," details of Awards by W.I.A. (VK2 Division), circuits for sets using one or two valves or transistors, Morse Code and Oscillator, A.c. Power Supplies, Midget Amplifier, etc. (Copies available if anyone interested.)

VK1LS at Lyneham High transmits during lunch times and after school, and another station may operate from the Police Boys' Club later in the year. On Friday nights at the Canberra Radio Society, steady progress is made through the W.I.A. (VK2) Correspondence Course (but the work is not allowed to interfere with High School home work!). Canberra is not the most active centre; the details are given here to suggest a line of action for others interested.

Most countries similar to ours in social standards have been shocked in recent years by the increase in serious crimes committed by some adolescents. It is quite likely that this wave of anti-social behaviour is coming our way. Its severity in this country cannot be predicted but some work now on preventive measures would certainly soften the impact. Nobody knows the full answer but a challenging interest like Amateur Radio is certainly part of that answer.

Any work you do on Youth Radio Clubs can only be good for Youth and Amateur Radio.

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Correspondence

Any opinion expressed under this heading is the individual opinion of the writer and does not necessarily coincide with that of the publishers.

BAND CUTS

Editor "A.R." Dear Sir,

I have read with interest the many letters, etc., which have appeared in "A.R." of recent months on our band cuts and alterations.

I can fully see the implications of the allocations of Channel Zero for t.v. as most Amateurs do. I work in an area where t.v. is received passably well from Adelaide. On many occasions Melbourne t.v. on Channel 2 causes considerable trouble, completely disrupting the picture and sound at times. This should be a common occurrence with Queensland and Victoria on Channel 0, plus at times a few JAs, Ws, etc., on about 50 Mc.

Why should we worry if trouble is experienced by t.v. viewers, it's not our fault?

Why is everyone moaning about adjacent channel interference on the 52-54 Mc. band? Why do Amateurs always operate from the lower frequency upwards? Why not, instead of getting crystals ground for 52.1 Mc., get them ground for 53.9 Mc.? Surely there is sense in this; it will mean we will be about 1.5 Mc. away from the t.v. channel, and not a few tens of kilocycles away if the usual Amateur practice is followed. Think about it, chaps, it may save a bit of t.v.i. and vice-versa. Don't get me wrong however, I am not in favour of the 6 metre band cut.

A piece in the July issue from the Queensland Division regarding the use of portion of the 10 metre band for Z call licensees. I have always been in favour of this and would like to see it come to pass.

—Rodney D. Champness, VK5ZCD.

Editor "A.R." Dear Sir,

Somewhere along the line we seem to have our values mixed. I have heard operators congratulating ourselves that we were fortunate to retain what is left of our frequencies.

Should we not organise a national day of mourning for the frequencies we have lost. How much of the 40 mx band is left? Odd spots between commercials is all I can find.

What are the weird and wonderful noises scattered across the 20 metre band?

Look at our 80 metre band. It is frustrating to hear the ZL boys working up to 3.9 Mc. and we are confined below 3.7. What is the reason? If this section is required in VK, why not in ZL?

Try this experiment. Listen closely for a couple of hours to from 2 to 30 Megs., on a good communications receiver. Some sections appear to have nothing, and are dead compared with the Ham bands.

I feel very apprehensive for the future. In a world of electronics what will youth have to look forward to for a worthwhile hobby?

Do not be apathetic about the situation, or under any delusion. We are on our way to extinction if something is not done.

May I make a suggestion to the powers that be.

We hope that there will never be another major conflict, but if there is, science will win it, and there will not be time to train anyone. So encourage the study of the sciences, particularly where people do it voluntarily, in their own time, and at their own expense. Give it serious thought.

—M. W. Ives, VK7MX.

Editor "A.R." Dear Sir,

I have just read VK2ZBL's letter in July "A.R." on Channel 0 and I wish to add a few comments of my own.

It seems to me that not much can be done at this stage to alter the allocation and/or use of this channel. It is more important to consider the effect of the Amateur on this channel and how t.v.i. may be minimised. In the U.S.A. when Channel 1 was in use a similar state of affairs existed in the location of the 50 Mc.: band as does our 52-54 allocation. My suggestion is that activity should be concentrated in the high end of the band (53.5-54) in those areas where Channel 0 operates and in the other end of the band in Channel 1 areas. This will place the Amateur's signal as far away from the t.v. channel as possible, so reducing the difficulty of using traps to prevent adjacent channel interference.

Another factor is the usefulness of the types of trap at present in use. Most of these do not have sufficient Q to remove interference

without removing a large slice of the t.v. signal. However, more elaborate devices should be able to handle such conditions adequately. As an example, I use a low pass filter in the tx output which has no significant attenuation at 50 Mc. while having attenuation of better than 30 db. at 52 Mc. Something along these lines may prove effective.

Rather than ceasing to use our hard-won allocation at this frequency, I feel we should persevere with its use and hope that measures such as those suggested prove effective.

—Peter A. Lowe, VK3ZDO.

SPLATTER

Editor "A.R." Dear Sir,

With reference to the article, "Splatter—Its Cause and Prevention" ("A.R." July 1962), I would like to point out that the splatter source mentioned, and its cure, were treated in "A.M. Without Splatter," which appeared in "A.R." for February 1961. The enhancement of certain frequencies in the O/C modulation transformer transients by the leakage inductance and distributed capacity was not considered in the earlier article, but the basic cause of the type of splatter discussed, and its cure, are nevertheless the same. However, this is by the way.

My real reason for putting pen to paper is to criticise the last two paragraphs of the 2JR article. To attempt to defer criticism, justified or otherwise, by quoting famous personages out of context and calling such criticism, if forthcoming, "hysterical correspondence" is, to say the least, unethical. It smacks, in service parlance, of "pulling one's rank," in this case educational rather than military, and is completely at variance with the scientific spirit, one of the underlying principles of Amateur Radio.

If Joe Blow, from practical experience, thinks that an article published by a professor of electrical engineering is rubbish, he has every right to say so, provided that, in his opinion, his reasons for differing are based on good grounds, and that he does not descend to personalities. One of the finest things about Amateur Radio is the fact that it gives each and every one of us an opportunity for constructive discussion without having to break down the social and educational barriers imposed by society on everyday living. If Joe Blow is wrong, then none should dismiss his considered opinions as "hysterical," but try to point out why he is wrong in a reasonable manner. Then at least he, and possibly quite a few other readers, will have a better understanding of the subject.

Similarly, with reference to some recent correspondence, rather than taking the Magazine Technical Advisory Committee to task for publishing "questionable" articles, one should consider their unenviable position as regards publishable material. There is always a dearth of good, down-to-earth articles which will appeal to the majority of readers. If the IN tray on the technical editor's desk is always full to overflowing, I think we can all be sure that questionable articles will be in the minority. I say questionable rather than controversial, since controversy can be a stimulant to progress. An occasional controversial article is all to the good, provided that the arguments which ensue are fought within the bounds of that part of our code which states:

"The Amateur is Gentlemanly."

—Bob Roper, VK5PU.

P.S.—The shunt diode has long been recognised as a good limiter, and will certainly reduce substantially the splatter due to negative peak over-modulation. Perhaps I am a perfectionist, but it is my humble and considered hysterical opinion that there will be even less splatter from rigs employing such limiters if the shunt diode is followed by a high-level low-pass filter, since even hard diodes generate switching transients.

[The Publications Committee would welcome an overflowing IN tray of Technical articles, as at present "A.R." has only two articles available for publication. Every Amateur station would be well advised to adopt some form of audio frequency range limiting, the bass frequencies add little to the intelligence but create heavy modulation; the higher frequencies in the audio range add little to the intelligibility but do greatly increase the sidebands radiated. Thus irrespective of the pros and cons of n.c.l., a low pass filter increases the effective modulation and at the same time decreases the sidebands. The most effective audio range, for speech, is from approximately 300 c.p.s. to 2.5 kc.—Editor.]

APPRECIATION

Editor "A.R." Dear Sir,

Unlike most of the letters which have been published in "A.R." in recent years, this one is intended to be one of appreciation.

I wish to thank all those associated with the production of this magazine for their efforts in bringing out our own magazine each month. Suggestions have been made at times to limit its production to six or even fewer copies per year. This would be a backward step I believe.

One feature which I would like to see revived is that giving brief reviews of "QST", "Break-in", the R.S.G.B. "Bulletin", "Short Wave Magazine," and "CQ" etc.

Few of us receive all of these magazines each month, however if a particular copy contains something of interest to us most of us could do something about seeing a copy in a library. Perhaps others would care to comment on this matter.

In general, I enjoy reading "A.R." The July issue, particularly, catered for a wide variety of interests.

Please accept my thanks for what must be at times a frustrating task.

—Max Riley, VK2ARZ.

P.S.—I need a copy of "A.R." for January 1951 to complete my bound volumes '50-'52. If any reader could assist me to obtain this issue, I would be very grateful.

VINTAGE HOME-MADE COMPONENTS

Editor "A.R." Dear Sir,

I was very interested to see the photo of Mr. Max Howden's 1925 vintage receiver published on the cover of the July "A.R." I am wondering if it is still intact as it should be a valuable museum piece and an example of ingenuity of the early radio fans. (It is the photo was taken only recently.—Ed.) I do recall the filament rheostats were something more than I attempted. Your question "How many Amateurs today could build their own tuning condensers?" prompts me to write.

I have an old home-assembled tuning condenser made in 1923. I purchased the two types of plates with the spacing washers, made the spindle, three clamping bolts and the ebonite end plates for a 0.0005 μ F. tuning condenser. My first experience on the short waves, then around the 200 metre band. I made a low-loss set as they were termed, long ebonite handles were used on the spider coils of the three coil tuner, the aerial and reaction coils were moveable and every precaution had to be taken to make the set leakage proof and avoid body capacity.

The tuning condenser for this set was made from tin foil glued to three ply, each about 4 x 5 inches, with one hinged at the bottom and moved in towards the other by means of a long ebonite handle. The valve was an Ediswan AR06. Unfortunately it did not last very long as I overheated the filament and it went west. The B battery was composed of a number of flat 4½ volt torch batteries, soldered together for high tension. Ediswan earphones were used. I still have two Philips A310 dull emitter and one Osram 125 valves intact. The aerial was a twin wire each 66 ft. long with 5 ft. spreaders and about 30 ft. high.

The next was a four-valve t.r.f. using three A310's, same valve in each stage, with 90 volt high tension. Hellenen's were now supplying 45 volt batteries. This set gave excellent reception, the r.f. stage helped considerably and the two audio stages gave good loudspeaker volume, for those days.

There must still be a few very old parts about, home-made fixed condensers, grid leaks made on paper with soft carbon pencils, old valves not listed for many years, and other parts which although very crude in construction yet gave results on the very low power used in those days.

If my few relics are of any use to the Institute, I will willingly send them in so that a range of old parts may be kept for posterity.

—Harry Major, W1A-L3102.



WORLD CALL SIGNS

The Federal Treasurer, W.I.A., again has for sale recent back numbers of "Call Book Magazine". Some copies list American Amateurs only, others list the world except America. These are a gift at £1 (either edition), post paid. Apply to the Federal Treasurer, W.I.A., Bob Boase VK3NI, 50 Cardigan St., Carlton, Vic.

REMEMBRANCE DAY CONTEST

SAT.-SUN., AUGUST 18-19

1800 hours to 1759 hours E.A.S.T.

See page 12, July "A.R." for rules.

An effort is being made to publish the October issue of "A.R." as a special v.h.f. edition. All V.h.f. Groups have been contacted and a number of very interesting articles have been promised. However, still more are required. It will be far better to have too many articles than not enough. Any not used in the v.h.f. issue will most certainly be published in future issues, because "A.R." is always in need of interesting material.

It does not matter whether it is a full coverage of a transmitter, converter, mobile equipment, etc., or just an item for the Hints and Kinks section. How about putting pen to paper and submit it to the Editor of "A.R."

Remember, "A.R." can only be as interesting as YOU, the active Amateur or S.w.l., care to make it.

There has been a suggestion that the v.h.f. page should include a small Hints and Kinks article peculiar to v.h.f. each month, but this, of course, will depend entirely on whether any such items are submitted to me for publication. Also, any photos suitable for publication will be most welcome.

During the winter months v.h.f. activity falls away considerably, even though there is still some DX about (see the following State notes). I hope that the inactive operators are not inside watching the "idiot box," but are busily constructing gear for the forthcoming v.h.f. field day season. All States will be having a series of field days and there is a possibility that everybody may be able to co-operate and get together on at least one field day.

Incidentally, have you passed that information regarding aurora v.h.f. contacts along to David Rankin, 3QV, as previously requested?

There appears to be a lot of confusion about which frequencies we are able to operate on in the "6" metre band. Even though the band became 52-54 Mc. officially on 1st July, we still have the use of 50-52 Mc. until further notice from the P.M.G. So those of you who have already cut the ends off your beam elements had better stick them back on and join in the DX activities. 73, 3ARZ.

NEW SOUTH WALES

50 Mc.: From Al 2ZFB, the following: On 10/6/62 worked eight VK5s between 1400 and 1600, heard KH6 S4 in and out. 17/6/62 open to VK5 between 1200 and 1750. 24/6/62 heard crossband duplex between 5ZDR and 5ZBI at 5 and 9 plus, but unable to break in.

Stations heard regularly on 6 mx are 2ZAV, 2ZVL, 2ZFB and 2ZJN who has moved from Inverell to Kingswood, 25 miles west of Sydney.

144 Mc.: The June fox hunt was won by Dave 2AWZ with Paul 2ZPJ second. Time beat the third place getter. The fox, Barry 2ZAH, hid off the end of Quartersessions Rd., Hornsby, where it was very hard to obtain cross bearings to pin-point the location.

At the July meeting, the lecture was given by Les 5ZBJ on v.h.f. converters. The lecture was particularly interesting as Les had brought his transistorised converter using AFZ12s with a noise factor of 2 db. along.

The lecture at the August meeting will be given by Mullard and should be very interesting. 73, 2ZLB.

VICTORIA

50 Mc.: During the month there have been a few openings on 6 mx to VK4. These took place on the following dates: June 17 and 18, July 3 and 7. On some occasions it almost seemed like the middle of summer as regards the activity on the band. George 3ZCG, at Morwell, reports a contact with a VK5 and a VK4 on June 17. 3WI had their first VK4 6 mx contact with Laurie 4ZGL on 7th July. David 3QV has burnt fingers to prove it.

John 3ZCB, at Olinda, was control station for the June scramble, which resulted in a tie between Ken 3ZKK and Ivan 3ASG.

144 Mc.: June produced quite a lot of activity on 2 mx, much of which was attributable to Oscar II. Stations were heard in QSO at all hours of the night and morning and every second word seemed to be "Oscar". The interest shown in this project was very pleasing to see and if all stations concerned send in logs the organisers will have no doubt as to the ability of VK3s to carry out any future experiments.

New stations on 2 mx this month include Bob 3ZRD in East Brighton, running 21w. to a cloverleaf antenna via a 52Z. His rx set-up

is home-brew using 954s in the r.f. end and 955s as mixer and oscillator. Ross 3ZNR is another newcomer and uses a Minitrans to a 4 element yagi with an "R. & H." converter to a home-brew rx.

The N.W. Zone conduct a hook-up on 2 mx on Thursday nights at 1930K.

Rod 3ZIW, at Sandringham, was control station for the 2 mx scramble for July. The result was a tie for 1st in the city section between Jack 3ZJF and Bill 3ARZ, whilst first in the country section was Daryl 3ZNC at Geelong. Jack 3ZJF is to be control station for the next scramble on August 12.

288 Mc. and above: Experiments are still being conducted on 576 Mc. by Geoff 3AUX and Mack 3QO. Geoff also has his Amateur t.v. equipment ready to go. Another Geoff, 3ZFX, is experimenting with t.v. on 288 Mc. with encouraging results.

During the month the Sunday morning news broadcasts were commenced from the rooms. Results from the v.h.f. gear are excellent, according to all reports to hand at the moment. Troubles in the v.h.f. converters have been attended to and crystals on the calling frequency in each band have been obtained. A pair of stacked cloverleafs are in use on 2 mx and a turnstile is under construction for 6 mx. Thanks are extended to the many people who assisted in this project.

Copies of the 2 mx frequency list are available during office hours from the rooms, or at V.h.f. Group meetings, price 6d. each.

VK3 v.h.f. news items may be passed on by mail to 62 Lucerne Cres., Alphington, or by phone to 48-1521, or on 2 mx on Friday nights between 1900 and 2000K. 73, 3ZLT.

QUEENSLAND

Six metres is still alive in Brisbane! In spite of the fact that we will lose the first two megs, building of new antennas and equipment is again in motion following a temporary lull in such activities. We had DX break-throughs to VK3 and VK5 on 17th June, and to VK3 on 25th June.

Kev, formerly 4ZDK, is now 4ZR, and has been heard on 6 mx a few times since the full call arrived, but after that was never heard of again. Come on v.h.f. again Kev.

Of all the many v.h.f. projects now in progress, the most notable to occur this month, and by far the hardest manually, was when 4ZEB cleaned up his shack. Another interesting doing by this gentleman consisted of clinging to the top of a 75 ft. tower by two legs while using both hands to fiddle with an armature.

Six metres is a very reliable band in Brisbane. If you turn on your tx 4ZBD is always listening. If you turn on your rx, 4ZEL is always talking—you can't miss.

There are two new stations on 2 mx this month: Arthur 4ZGA, who uses a 4 el. yagi for 2 mx, and can listen on 6 mx using a log periodic antenna. The other 2 mx station is Frank 4ZAS, from the happy suburb of Sunshine. Frank runs about 8 1/4 w. input, thence to a 4 el. yagi and receives on a super-regen.

Apparently one of the best things to happen on v.h.f. recently is the promise of the 420 Mc. band. Already equipment is being planned for this band and it would appear that an Amateur t.v. station will make its appearance known. Well, it is 30 Mc. wide, so there should be room for everyone, if the t.v. stations and mod. osc. keep to the high freq. end of the band.

The new meeting premises of the V.h.f. Group are quite good, but it is now apparent that re-organisation of the V.h.f. Group will have to take place, but the usual question arises: Who is going to do it? 73, 4ZBT.

SOUTH AUSTRALIA

50 Mc.: Sporadic E DX on this band has been quite good in June. On 8th June, 4ZJS put strong signals into Adelaide in the early evening. This was the only VK4 heard. Then on June 10, a Sunday, VK2s were worked, and on 13th VK4s. Sunday 17th, the band was open for four hours from 1400 hrs. E.A.S.T. The opening started with VK4 and then moved down through VK2 and finally into VK3. Signals were very strong and a number of new stations worked their first DX. The next day, 18th, VK4s were worked in Adelaide.

New stations on 50 Mc. include Leith 5LG and Trevor 5ZMT. Clive 5ZAT, of Hillcrest, is running 20w. to a 4 el. beam. Colin 5ZJH,

of Gawler South, is on 50.5 Mc. and running 25w. These four new chaps are part of quite a large increase in 50 Mc. stations in this State.

When we all go to 52 Mc. in 1963, VK5 is quite keen to see an Australia-wide calling and/or distress frequency. This would be invaluable for W.I.C.E.N. emergency use, or raising activity on a dead band. We are considering a suitable freq. and open to ideas.

144 Mc.: This band has been quite active also. Mick 5ZDR has been employed out of town, resulting in no regular skeds with 3NN. 7ZBA has mobile on 144 Mc. in Adelaide this month. Ern 5EN, in Pt. Pirie (130m. north), has made a comeback on 2 mx. Bob 5ZFG has put up a 16 el. colinear array on 2 mx.

One new station on 144 Mc. is Trevor 5ZIS (144.14 Mc.). Trevor is about 100 yards from Gary 5ZK, who does quite a little work on 144. Also new on 144 is Cor 5ZKC (previously PAOCHT), who now lives in Tranmere.

General: The 50 Mc. beacon has been given a new lease of life with the acquisition of an ideal location. A lot of the details have still to be finalised. Details will follow.

Project Oscar II, was closely followed here in VK5 with mainly 5ZFG, 5TN, 5ZK and 5ZCR participating.

On 10th June a 6 mx scramble was held. Rick 5ZFQ being outright winner. Bart 5ZGB is now 5GZ.

News is to hand from the Mt. Gambier v.h.f. group (previously the s.w.l. group) that a field exercise will be held on the long week-end, 6-7-8 Oct., 1962. The group will be on Mt. Edward and have gear on 50, 144 and 288 Mc. They have the use of a 90 ft. tower on Mt. Edward in addition to a petrol-motor generator, and also liaison gear on 80 mxy.

Keep an ear open for this party, which will include 5ZER and other new licences from the South East. 73, 5ZCR.

WESTERN AUSTRALIA

Oscar II, was first heard here on June 4. After some delay caused by unexpected troubles the combined effort tracking unit went into operation. The sigs. in VK6 were, for the most, very poor but improved towards the end. The passes were recorded and logged and much valuable information and experience gained. If in the future Oscar III, should be launched, the VK6 V.h.f. Group will be to the fore in tracking, recording and reporting its progress. Some of those who gave invaluable service on the unit were Rolo 6BO, Don 6HK, Rod 6ZDS, Mac 6MM, Doug 6ZDW, Wally 6ZAA and the t.v. group Cedric 6ZBC, Kevin 6ZCB and Tom 6KS.

Cocos Is. Beacon: Lance 9LA has indicated a yagi antenna as most suited for the location. A 3 el. wide-spaced beam is being constructed and the gear is in progress. Further information will follow. VK6 would like to hear the freq. of proposed beacons in other States, send info to Alyn 6ZDM, 13 Narrung Way, Nollamara, W.A.

Field Day: A successful field day was held on 24th June. 26 stations went to 13 different locations, forming a rough semi-circle around Perth; 8 home stations were reported working. Ian 6CL in Miling was the only country station heard and worked. The next field day will be in Sept. with a larger operating period, we hope.

Mav 6ZDQ has been heard on 144 from Pearce. 6ZDO has been on 50, Neil 8ZDK has had cross band tests, 144 to 50. Peter 6VR, ex 6ZDR, and Charlie 6LK, ex 6ZCE, received full tickets this month.

Don 6HK's 576 Mc. xtal locked converter is working. Wally 6ZAA informs me his 1215 Mc. gear is not xtal locked. Rod 6ZDS has had trouble as his 1215 Mc. super-regen. rx will not regen. 73, 6ZDM.

TASMANIA

The last meeting of the V.h.f. Section was held on 20th June and after an unusual large amount of business was dealt with, we retired to David 7ZAI's place of labour to drool over one thousand dbs. worth of "Racal" general coverage receiver. It was a most enjoyable evening.

Project Oscar: The last southern station to hear signals from Oscar II, was Wilf 7ZAG. Comprehensive reports are being prepared by several stations.

(Continued on Page 19)



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Voltage Gain A: 0.8 to 0.995.
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0.047 μF . 9/- doz.	0.001 μF . 22/6 doz.
0.15 μF . 14/- doz.	0.0022 μF . 22/6 doz.
0.47 μF . 26/- doz.	0.0047 μF . 22/6 doz.
600 Volt	0.01 μF . 24/- doz.
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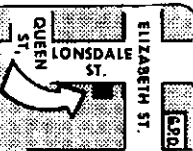
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Sub Editor: ALAN SHAWSMITH, VK4SS, (Phone 4-6526-7 a.m.-4 p.m.)

35 Whynot St., West End, Brisbane, Qld.

ADDRESS CORRESPONDENCE FOR THIS PAGE DIRECT TO THE SUB EDITOR

Conditions this past month have been down, but during the winter this is the usual occurrence. It is not until spring that the bands begin to liven up again. Right now the best band and period would be 14 Mc. during the afternoons. After dark this band falls away, leaving little but the QRN, and does not come to life again until morning when the band opens to the west, when, firstly, Europe is workable, then the circuit extends into the long path to America. Central America is often audible at this time.

7 Mc. is open at night but little of consequence has been heard. Mostly JS and UAs. On 21 Mc. Ws can be worked during the day, but nothing else.

NOTES, NEWS AND ADDRESSES

CR8AR, Portuguese Timor, is on nightly from 1100 hrs. GMT to 1400 hrs. GMT. Call 10 up from his frequency of 14110. He does, however, work stations on and below his freq. Get in the queue. His sigs. mostly skip VK4.

WA6CJL/KP6, Christmas Island, QSL manager W6AF1. Most afternoons 14 and 7.

AC4NC, Nera Chakravarti, Indian Mission, P.O. Gyantse, Lhasa, Tibet. 7 Mc. c.w. VEOMC, C/o. 202 Harbor Rd., Victoria, B.C., Canada.

WOMLY is really using up the new African prefixes. In the last few weeks he has run through TR8, TL8, T78 and more to come. Best time to work him is around dusk or dawn our time. Call five up from his freq. of 14010. Have no info on his s.s.b. activities. He is supposed to work also 21 and 7 Mc.

VK2VC/LH is on now but for how long is not known. 7 and 14 Mc. s.s.b. and c.w. F0BAN, no late news on Danny Well, but if you want a QSL send to W8EWS.

OA4JH: Sporadically on both 7 and 14 Mc. phone and c.w. Try around 1030 hrs. GMT. 9M2FZ: Wong Ching, 31 Free School Rd., Penang, Malaya.

HS2M: Seatco-MPO, APO 146, San Francisco, California, U.S.A.

K5FOQ/KS6, and one or two others, are active from Pago Pago, s.s.b. and c.w. VR5AA is active on 3.5, 7 and 14 Mc. c.w., various times from 0200 hrs. GMT onwards.

TG9AD is still prominent each afternoon, around 0500 hrs. GMT. He works VK readily, and says he is fairly new on c.w., so please don't QRQ.

FO8AA, a regular on 7070 approx. Good time around 0700 hrs. GMT.

HL9KB, HL9KR, HL9KD and HL9KN. JT-1AG on 14 Mc. nightly around 1000 hrs. GMT. All c.w. QSL for HL9KR is via K7KID.

6OIND, P.O. Box 397, Modagiscio, It. Somaliland. When conds. are right, he is easily workable around 14010 kc. in the mornings our time.

AP5AH, AP5CP, East Pakistan, new country. 14 Mc. c.w. nightly, 1000 hrs. GMT.

FW8BH, as is the case with most expeditions, it would seem that things have not gone exactly to plan, with Bill VK3AHO. It seems he is restricted to operating times dictated by the power supply available. He is on s.s.b., but so far I have heard no c.w. from Wallis Is.

HP11E, Panama City, QSL via W2CTN.

VR1M, QSL via WHGT.

H13PC, CX7CO, YVs, HKs, KP4s are still workable on 7 Mc. at night around 1030 hrs. GMT, with a little bit of luck.

ZL5AD is now on 14 Mc. phone. Week-ends in the early mornings might be the best time.

VP9AK: During week-ends, around 14010 kc.

Gus W4BPD. Latest reports coming from Gus' trip indicate that the trip back from VQ9AA was a harrowing experience—seasickness amongst the crew members, waves 20-25 ft. high, with 25-45 knot winds. All eating out of cans and somewhat frightened. Breakers sometimes came over the boat, everybody was wet most of the trip, radio gear wet—long periods of drying out. "There will never be another Ham station on the air from Aldabra, so fellows needing it had better get it this second time." Call this time will be VQ9A/VQ7 from Aldabra. A recap of the freq. to be used by Gus for general operations are: C.w.—3535, 3565, 7001, 14035, 14065, 21035, 21065, 28035, 28065; S.s.b.—3765, 3995, 7001, 14125, 21235, 21435, 28235, 28635. Please, only two QSOs per mode, per band.

Dahomey, 5N2RDG plans an expedition to TY in Sept. or Oct. on 20 mx c.w.

The following is supplied by Bev Cavendar, W4CKB, of the Florida DX Report: Qatar. John Garrett will be on Qatar for three to four months starting 1st June. C.w. 14070 to 14080. S.s.b. on 14120, listening 14320, daily. QSL via Ray Geophysics Ltd., T-567, C/o. Q.P.C., Umm Said, Qatar, Persian Gulf.

Campbell Is. ZL4JF is now active again on s.s.b. around 0530-0600z.

Marion Is. Sorry to say that things do not look very good for the activity from Marion Is. As best as we can determine, there is no a.c. power on the island. One of the boys in South Africa is looking into the matter. One of the operators was to be ZS6PC operating s.s.b. from ZS2MI this month.

Corsica. Walter DL9FF will be operating with K9PDA from Corsica, 9th to 29th July, all bands, all modes, 24-hr. service if necessary.

DX-pedition planned for later this year by the V59K party to go to Kuria Muria, a British-owned island off the East Coast of Oman. It is under political dependency of Aden. Total area of the five islands is 28 miles. Islands were acquired by Great Britain from the Sultan of Muscat for use as a cable station. This should count as a new DXCC country. (Ha, ha, what next?—A.I.)

A report from the States says that AC4NC, AC4CE are pirates. No genuine Amateur AC4 station is active from Lhasa. (I think this info will prove to be correct, knowing the political situation there.—A.I.)

TZ8BF is active from Bamako on 14 Mc. c.w. QSL via R.E.F.

ACTIVITIES

Chas L221 sends in some nice ones received on 14 Mc.: ON4NA, VR3UA, VR3B, G2PU, G3PLV, G5PM, G3MWG, G6DW, GM3NZC, JA1GC, JA1MJ, JA2MF, XE1IL, XE1CE, XE1FW, XE1HR, TG9MO, YN9CIL, FZUT, F9QU, YF2AIE, VE7QB, EA5JE and others.

Eric BERS195 comes up with his usual comprehensive list received. 3.5 Mc. c.w.: G3JFF/MM, VR2EG, VR2DK (0945z), VR5AA, ZL2FX/MM, 7 Mc. c.w.: AC4NC (1215z), DU6TY, HA5KFR, JA1IB, LZ1KBL, LZ2KBA, LZ2KFP, SM5BIC, TI2LA (1145z), UA1KFL, UA4KAC, UBSKYC, UC2BW, UC2KAR, VE7AA, YV2BJ (115z), 14 Mc. phone: VK0DS (0745z), ZL5AD, 14 Mc. c.w.: BY1PK (1245z), CR9AH, FB8XX, FK8AS, HL9KB, HL9KN, KM6CG, KV4AA, UA1KED (1315z), VR3H (0630z), XE1OK (0645z), YJ1RH (1030), VE9UN, QSLs recvd.: DU1OR, FO8AN, KX6AE, GAJ, OA4JH, ZS4MG, 9M2FZ, VE0MC, VK3NR/MM.

Ted VK5JE, who is now DXCC on 7 Mc., worked the following good ones during June: YV2BJ (1125, 1050), HK7ZT (1005), H13PC (1030), W1MV/KP6 (Palmyra Is., 1005), HK7YB (1120), VR1M (1030), W0VEH/VP9 (0730), KP4AA (1000), VK9RO (1005), G6ZO (2200), G3JAG (0630, 4 p.m. S.A.T.). All times GMT.

Al VK4SS landed these 7 Mc. c.w.: W1MV/KP6, YV5BLT, HK5CR, CX7CO, H13PC, FO8AA, KX6DK, VR1M, 14 Mc. c.w.: VR5AA, WOMLY, YJ1RH, HL9KB, HL9KN, JT1AG, TG9AD, 5N2LKZ, PY2DGB, 6OIND, DU1RT, 5T2AR, KR6AJ, K5FOQ/KS6, HK1QQ, HP11E, AP5CP, CP5EZ. All between 0500-1100 hrs. GMT.

Chilla VK4SD has a lament. QSL confirmation trouble. If you have the QTHs of any of the following, Chilla would be happy to receive same, and so would I, too, for that matter. HR1AA, OD5LX, OD5AV, OD5LJ, VP5PZ, FF8BZ/FL9, HH2JV, 9K2AD, Y8AG, UJ6AC, 5H3HZ, FW8AB, VP6KL, VP6PJ, VP6RG. (Will drop you a line giving you other QTHs you need, Chilla, O.B.)

Frank VK2QL worked the following. 3.5 Mc.: VR5AA, 7 Mc.: YV2BJ, AC4NC, 14 Mc.: 5N2LKZ, WOMLY/TL8, T78, T78. QSLs received were EPIAD, 9Q5AL, 9Q5AA, I1BNU/Trieste, 6OIND, 6OIND.

Graham VK2AGH scooped the cream with these 21 Mc. a.m.: CR5SP, ZE6JM, ZE7JR, 14 Mc. c.w.: WOMLY/TR8, TL8, TT8, T78, 7 Mc. a.m.: AC4NC, 7 Mc. c.w.: AC4NC and VU2DU on l.p., MP4BBL, RAEM, HL9KN, VR5CW, VR5AA, 14 Mc. a.m.: ZS1RM, FB8YV, VQ9AA, QSLs recd. UP6AS, 9K3TL/NZ, WOMLT/TR8, VP5BL, F9SC/FC. (Some news each month, pse Graham O.B.)

Hal VK4DO has not been very active this month. He says conditions are poor, but worked the following: 14 Mc. c.w.: W, K, KH6, VE, CTIDJ, F2ZE, F8BRJ, G5WP, UR0FF, 14 Mc. c.w. hrd: DL9JF, EA7JA, G3SU, I1BAV, KL-

7BJW, OK1US, OK1ZL, OK2GY, SP7HX, VE-8BC, VQ4TV, Y06XU.

Ken VK3TL found that conditions were down this month and he has been in the midst of shifting QTH. He did log these, 14 Mc. c.w.: DU1FM, JZ0ML, OK1ADP, S0W0I, VE2LI/2, 14 Mc. s.s.b.: FK8AC, GC2AAO, KIAZA/KP6, QSLs recd.: BV2A, D4DN, EA4GZ, G2DPP, GC2AAO, HMIAP, JT1KAA, KIAZA/KP6, KX6BU, LU2EN, OH2PO, SM3CPM, SM5BF, SM5LF, SM7BBY, UA4NM, UB5CG, VU2GE.

Peter Drew forwards a nice list of DX hrd.: 20 mx a.m.: DM3PVL, G2PU, VK0BB, F9BE, W8CAU/CN8, VK9RO, G3KPV, XE1FW, TG-9MO, XE1IL, XE1CE, XE1GX, VK0JM, VU2PP, G3NEL, G2IT, ZS1CD, ZE7JR, KY7BCS, I1ANY, VE7CE, G3KHU (all except VU2PP hrd. between 0400-0800 GMT), 20 mx s.s.b.: VE3CR, VK0DS, W7VPT/MM, I1RIF, VE7ZM, G3PCI, VEAWS, G3OKQ, VE6IN, VE7HJ, FK8AU, ZS-6AOW, V51AU, ZS1JA, ZS6OY, DL1RV, ZS-5JW, G3F6K, HB9TL, I1PF, YJ1RH, VR3S, VEAXY, XE1CV, KR6QW, ZS5JM, SM5LL, VP-5BL, DL2AB, VE3PR, VE5BQP, HB1MQ, VP-7NS, G16TK, WOANJ/KP6, VE7ALE, G3AWZ, HB9TY, XE1CE (all between 0400-0800 GMT), 20 mx c.w.: VKLBA (Cocos Is. every Sunday at 0230 GMT with VK6RU, UA1KAE (0450), 40 mx a.m.: W5, K7, W3, ZL1, 2, VK9DZ (all 0730-0900), 40 mx s.s.b.: W3, 4, 5, 6, 7, JA, ZL, VE, ZK1BS, KL7CWW (all 0730-0900), 40 mx c.w.: W1, 2, 3, 6, 8, 9, ZL, VE, VK9RO, JAs, UA0 ZG, G3FUN, UA3KGG, U05OA, UB5KAK, UI8AM, OH2BBR, DJ1XO.

Arie Bles, ex-PA0FM, who is now residing in Springfield, N.S.W., has sent me a very welcome letter on the state of things generally, at his QTH. He says the 20 mx band is still open to Europe in the late afternoons, our time, and also the l.p. to America on most days. He says that 80 mx is still open to Europe around 2100 hrs. GMT, and he has been hearing s.s.b. coming through just below 3800 kc. He also says there are plenty of Eastern Europeans, on c.w. (Good luck with your VK call sign and welcome to the ranks of A.R.) Please send me in any relevant information at any time.

My thanks to VK3TJ for the bundle of DX mags. The first one I opened proved to be very helpful.

In reply to those who are interested in the W.H.D. Award, it is necessary to work all Hungarian Districts (HA1 through HA0). Any bands or modes are permissible. A card to the Awards Manager, C/o. the QSL Bureau, for full particulars would be a good idea. I must apologise to VK3ZMS whose letter I have inadvertently misplaced. Please don't forget me next month O.M.

Conditions for the present are expected to be quiet until Spring arrives, when the bands show some life and the night path to Europe on 3.5, 7, 14 Mc. again becomes usable. From mail I have received, there promises to be some European activity looking for VKs on 3.5 Mc. this summer, so if QRN does not render the bands unusable, some good QSOs might result.

My thanks to all those mentioned above for their time and trouble to help this column along. 73, Al VK4SS.

"CQ" DX Contest, 1961 Results

C.W. SECTION

Congratulations are offered to VK5NQ upon winning the multi-operator, single transmitter section of the c.w. part of this contest. VK5NQ amassed the sum of 709,000 points. 2nd was HV1CN with 529,356 points.

Other section winners. All band single operator, multi transmitter: DJ3JZ, 1,451,437 pts. Continental leaders in each band: 28 Mc., K2HWL, 7,130 pts.; 21 Mc., PY4GA, 105,616 pts.; 14 Mc., UA9DN, 274,412 pts.; 7 Mc., W9WNV, 146,510 pts. (3rd, VK3ADB with 78,588 pts.); 3.5 Mc., OK3DG, 18,300 pts.; 1.8 Mc., OK1ADX, 740 pts.

PHONE SECTION

Sectional winners: All band, single operator, CX2CO, 876,304 pts.; multi-operator, single tx, VQ4RF, 542,244 pts.; multi-operator, multi-tx, K2GL, 319,144 pts.; Continental leaders on each band: 28 Mc., LU1DAB, 79,643 pts.; 21 Mc., ZBIHC, 57,009 pts.; 14 Mc., ZSP7, 225, 597 pts.; 7 Mc., 4X4DK, 22,410 pts.; 3.5 Mc., I1AIM, 7,560 pts.



FEDERAL AND DIVISIONAL MONTHLY NEWS REPORTS

(SEND CORRESPONDENCE DIRECT TO DIVISIONAL REPORTER NAMED AT PARA. END)

FEDERAL

NEW CALL SIGNS (APRIL)

- VK— Australian Capital Territory
 1JK—J. A. Koehler, 19 Herbert Cres., Ainslie.
- New South Wales
 2AIV—R. J. Graham, 44 May St., Inverell.
 2APO—F. Cox, 1 Janet St., Merewether.
 2AQA—J. E. Hughes, 179 Tower St., Panania.
 2AUA—V. R. Pratt, St. Andrew's College, Newtown.
 2ZBN—R. Breznik, 23 Judge St., Randwick.
 2ZCB—R. D. Conway, 30 Lilac Ave., Leeton.
 2ZCO—B. J. Hibberd, 31 Makim St., Dee Why.
 2ZCT—A. T. Mullen, Lot 97, Lonus Ave., Whitebridge.
 2ZCX—J. R. Williams, 40 Station Rd., Albion Park.
 2ZCY—P. M. Crane, 74 Hollywood Drive, Lansvale.
 2ZEI—R. L. Lucas, 60 Stanley St., St. Ives.
 2ZJI—C. Jackson, 22 Innes Rd., Manly Vale.
 2ZNP—J. Birdall, 22 Cabina Rd., Northbridge.
 2ZQW—B. T. Hill, 93 Babbage Rd., Roseville.
 2ZPQ—A. J. Gray, 37 Culver St., Kogarah.
 2ZSD—S. Dubrovich, 21 Grafton St., Eastlakes.

Victoria

- 3BO—S. C. E. Broadbent, Geelong Rd., Mt. Helen, via Ballarat.
 3GI—G. H. Cranby, Lot 61, Walker Rd., Mt. Waverley.
 3HA—R. F. Meaney, 21 Moore St., Moonee Ponds.
 3IG—R. Wilson, 55 Skene St., Shepparton.
 3LO—Dennis Radio Club, 159 Heidelberg Rd., Northcote.
 3XY—R. E. Frowse, 83 Brewer Rd., Bentleigh.
 3AHY—J. Vogel, 6 Frank Ave., Clayton.
 3AIP—E. F. Coate, 124 Prospect Hill Rd., Canterbury.
 3AOS—R. A. H. Blake, Telangatuk East, via Horsham.
 3AXI—H. G. Duggan, Princes Highway, Warrnambool.
 3ZIJ—J. I. Brown, Jr., 5 Yvonne Court, Glen Waverley.
 3ZNG—A. Boyle, 46 Regent St., Preston.
 3ZNJ—K. W. Jewell, 1 Armstrong St., Beaumaris.
 3ZNL—W. A. Whitbourn, 39 The Right, Ivanhoe.
 3ZNM—M. Torma, 7 Cambridge St., Maidstone.
 3ZNS—L. R. Stronell, 214 Jasper Rd., Bentleigh.

Queensland

- 4BL—B. J. Davey, Station: 140 Goodwin St., Carrara, Townsville. Postal: No. 10 (MR) Sdn., R.A.A.F., Townsville.
 4JN—J. W. Mullins, 31 Fourteenth Ave., Kedron.
 4ZBD—W. F. Donovan, 55 Meemar St., Cherm-side.
 4ZDC—D. K. Clarke, 3 Lorne St., Alderley.
 4ZEK—D. J. H. Gemmel, 87 Elliott St., Hawthorne.
 4ZNJ—N. D. Jackson, 9 Park St., Coorparoo.
 4ZWB—J. W. Brimblecombe, "Glencoe," Pir-rinuau, via Dalby.
 4ZWH—W. H. C. Hablutzel, 12 Spence St., Bundaberg.

South Australia

- 5IB—H. Driemann, Beltana St., Salisbury.
 5ID—A. B. Cleave, Seymour St., Tallem Bend.
 5PG—R. C. Scott, 33 Stanley St., East Glenelg.
 5TZ—A. A. Sinfeld, 6 McLaughlan Rd., Wind-sor Gardens.
 5UB—E. Garner, 19 Northampton Court, Eliza-beth.
 5WN—N. C. White, 3 Derwent St., Cumberland Park.
 5ZEG—B. A. McRae, 24 Henry St., Pt. Pirie.
 5ZEO—P. J. Gordon, 7 Rawlings Ave., Torrens-ville.
 5ZEQ—R. G. Gully, 10 Mathias Ave., Cabra Estate.
 5ZGY—G. L. Tillett, 28 Lincoln Ave., Warra-dale Park.
 5ZIE—R. B. Ziellinski-Petersen, 22 Gertrude St., Glandore.
 5ZIK—I. K. Carmichael, Yorketown.

Western Australia

- 6LR/T—L. G. Rock, 36 Essex St., Wembley.
 6NJ—J. R. Cox, Government School, Yornup.
 6TN—T. S. Long (Portable), 106 Spencer St., Bunbury.
 6ZDT—T. M. Stanicic, 77 Constance St., Tuart Hill.
 6ZDU—J. Trenning, 133 Boyce Rd., Tuart Hill.

Tasmania

- 7ZEC—E. Cooper, Collins St., Evandale.
 7ZEE/T—N. G. Fisher, "Wallace," Oatlands.

7ZAQ/T—W. J. Emmett, 6 Haig St., Lenah Valley.

Northern Territory
 8JI—J. A. Moran, C/o. 2 C.A.R.U., R.A.A.F., Darwin.

Territories

- 9AT—E. J. Roberts, Station: Lot 3, Section 41, New Boroka, Port Moresby, Papua; Postal: C/o. Radio Laboratory, Depart. of Posts and Telegraphs, Port Moresby, Papua.
 9RW—R. A. C. Washington, C/o. I.P.S. Station, Cocos Island, Cocos-Keeling Group.

FEDERAL QSL BUREAU

The Deutscher Amateur Radio Club (D.A.R.C.), the sponsor of the W.A.E. Certificate, invites the Amateurs of the world to participate in the 8th W.A.E. DX Contest, 1962. This contest was usually held in January of each year, but due to the reduced sunspot activity the DX conditions have been so poor during the last W.A.E.D.C., that the 8th W.A.E.D.C. is tentatively put off until August 1962.

The object of this contest is to establish as many contacts as possible between Radio Amateurs residing in Europe and Amateurs located throughout the remainder of the world. This time the contest will be held on two week-ends, one for telegraphy and one for telephony. C.w.: Sat., 11th August, 0000 GMT, to Sun., 12th August, 2400 GMT. Phone: Sat., 18th August, 0000 GMT, to Sun., 19th August, 2400 GMT. The c.w. and phone sections are separate contests and entry may be made in either or both.

The following bands are to be utilised: 3.5, 7, 14, 21, and 28 Mc. A control number consisting of two parts will be exchanged. The first part is a numerical RST or RS report, and the second part consists of a three-digit figure representing the number of the QSO starting with 001 and will continue serially even though operation may be conducted on different bands. A confirmed exchange of control numbers will count one point. Corresponding to the W.A.E. Certificate, a confirmed contact established on 3.5 Mc. will count two points. Full details may be had from this Bureau.

Rob Gurr, VK9RO (ex VK5RG, VK1RG), will close down in Papua as from early July. Rob expects to resume activity from VK5RG a little later in the year.

F9HF, QSL manager for the R.E.F., advises that the FC Hams do not QSL. He says it is useless enclosing I.R.C. or money as the result is the same. He himself cannot secure a FC QSL!

The Okinawa Radio Club advises details of the following awards: Okinawa Award, U.S. Marine Corps Certificate, and Okinawa Cotton Pickers' Award. Full details may be had from this Bureau.

Mr. Frank Punch, a radio inspector in Victoria for many years and well known to VK3 members, has, since retiring, journeyed overseas. Frank, writing from Berchtesgaden, Austria, states he is having a wonderful tour and is in excellent health.

Steve Grimley, well known from VK0VK and VK2VK, writing Mid June, states he has replied to all QSLs received prior to his departure for Boulder, Colo., U.S.A., where he will be working at C.R.P.L., NBS, from August to October. He expects to return to Antarctica with the 1963 expedition. He will return to Australia from U.S.A. via KH6, JA, VS6 and DU. While in U.S.A. he hopes to be active under a VE7 licence, portable W0.

—Ray Jones, VK3RJ, Manager.

FEDERAL AWARDS

V.H.F.C.C.: No. 22 has been issued to VK-7LZ for 144 Mc.

W.A.S. 50 Mc.: No. 36 has been issued to VK5AX and No. 37 to VK5ZBR with the addition of N.Z.

D.X.C.C.: As from 1/7/62 former Trust Territory of Ruanda-Urundi (9U5) has been divided into two new nations Rwanda and Burundi. These will be given new and separate listings for D.X.C.C. Credit will continue to be given for Ruanda-Urundi confirmations of contacts up to 30/6/62 under the old listing.

—Alf Kissick, VK3KB, Awards Officer.

NEW SOUTH WALES

HUNTER BRANCH

The June meeting of the Branch was a most successful visit to NBN studios. Thirty-five members, associates and visitors were given a most comprehensive and interesting tour of the studios and equipment by Ken 2KG. A really good feature of the evening was the discussion session which prefaced the actual viewing. During this time Ken described the complete organisation and equipment of the station and was able, as very few guides can, to answer all questions asked of him. The party then divided into two groups to be shown round by Ken and Rodney 2CN. Members were then fortunate in seeing both film and live presentations and the evening close down as well. In all, thanks to Ken and his staff, a most enjoyable and instructive evening.

Around the Branch this month once again we witness the big winter sleep, or so it seems, for activity is at an all time low. The duck-talkers have now firmly established themselves on the Monday night broadcast despite my comment about a.m. telephony in the last issue. Apparently it is easier for some members to copy this mode of transmission and progress is to be encouraged, but I find it impossible to set the rx and walk about the shack, for when I do, something drifts and I'm back turning knobs. Strange to say, WWV never moves at this QTH.

From Whitebridge a 2 mx signal is now radiating to far distant places and the man at the controls is Tony 2ZCT. I am told that he has had good reports from as far away as Sydney. The 288 rig is well on the way and may actually be in operation by the time these notes appear.

Things must be slack on the DX bands of late because Jim 2AHT has been heard working 80 mx on several occasions. The signal in this area has to be heard to be believed.

If you haven't already begun to blow the cobwebs out of the mobile or portable gear, then a start had better be made. All this is in preparation for the annual dinner and field day which will be held at the usual venue, Blackalls Park, during the last week-end in September. Watch the Bulletin and listen to 2WI for details, but get the gear ready just the same. What about some 160 mx gear for the car. It's really easy to get on this band and skip is a thing of the past. The usual car radio can be persuaded to operate on 1800 kc., so what about it you chaps?

As far as fixed station operation goes on the top band, things are at a low ebb in the Hunter Branch. Plenty of VK3s are audible and reports are that some have worked all States already. This is using high power, no doubt, but low power, a couple of watts will do, and a piece of wire will get you all the local contacts. Arrange a sked any time, I have a v.f.o.

Harry 2AFA is reputed to have not had a contact on any band for four months! This is a very bad thing and there is talk of a persuasion party being organised to get him going again. So, Harry, watch out or you'll be persuaded. Congrats, this month go out to Bill Munn, fellow chalk pusher, who has been notified of his pass in the A.O.C.P. exam. Bill is now flat out on the Morse and hopes to be able to have a go at the remainder of the quiz before long.

That being all the news, it remains only for me to remind you of the next meeting which will be held in the usual place, Newcastle University College, Tighe Hill, on 10th August, at 8 p.m. By listening to the Monday night broadcast you will be able to get all the details, but I believe that some films are to be shown. Bill Hall will be holding the usual social gathering at his well known hostelry on the fourth

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Wednesday, that's 22nd. and all are invited. And one more reminder; don't forget the field day, 30th Sept., with the dinner on the previous night. See you. 73, 2AKK.

BLUE MOUNTAINS SECTION

The notes for the last two issues were missing for which I apologise, holidays, work and all that. All club meetings have been well attended. Denis ZAWW gave a very interesting lecture on test equipment and has plenty of gear to demonstrate. The boys had plenty of questions on "db" ratings, etc., and our thanks go to Denis.

The last meeting had the pleasure of listening to Sid 2SG's voice on tape, the tape being his transistor converter which included slides and held everybody's interest. Business over the past months has been normal, mostly taken up with club crystals for 2 mx—no comment.

Yours truly had an enjoyable holiday at South West Rocks, where I was joined by Noel Walker, Jack 2AAT, Stan 2GC and Roy 2KO, so a good time was had by all. The fish were good also, if you had silver bait. Noel is now planning holidays at the end of the year, so I'm convinced I am working for the wrong firm. Jack 2ADF has finally bought his car, Australia's own, which I am told is a working model and a good looker, so it should not be long before Jack will be the cause of some mobile QRM. Ken 2AVN is busy on the week-ends these days getting his new QTH under way.

Oscar has caused a lot of interest in the club and about four or five indicate that they have heard him—hi, hi. Denis 2AWW had a few tapes of his tracking methods and proved very interesting. Laurie 2ZJC has been very active also. Noel has been busy listening out for the Pacific rocket and was disappointed when the last one was a "fizzer". Bob 2CT has been active since he received his licence and has been heard and worked with excellent signal strength.

A visitor to our last meeting, a newcomer to the district, is Arie Bles, ex PA0FM, ex PK4DH, now living at Springwood and I believe is well up on sideband and has lots of nice equipment.

Coming events to hand: R.D. Contest and Scout Jamboree of the Air, will no doubt receive the excellent support of last year. Next meeting should be interesting—a buy, sell and swap night, all welcome. 73, 2ADA.

BOORAOUL HIGH SCHOOL RADIO CLUB

Four of our members have been notified of their success at the recent examination for the elementary certificate. They were Susan Brown, Ray Elkin, Bill Brown and Warwick Elliott. It is hoped that several more members will be on the list after the next exam. Because of his very good mark of 94 per cent., Ray was presented with a multimeter, donated by Mr. Meinsma, of Mayfield. Thanks to him for such a useful award.

Open day at the school this year will be on 10th August and we hope to be on the air as in previous years. The bands we will be using are 40 and 80 and it is hoped that as many school stations as are able will call in on the net. Please listen for 2ATZ and give a call if you hear us. Among other exhibits we will have a portable station in the field, most probably on the top band. 73, 2ATZ.

VICTORIA

JULY GENERAL MEETING

The July meeting was held at the usual venue on the 4th to a somewhat smaller audience than was expected. Due to the late arrival of the President and Vice-President, the meeting was delayed. By general agreement, business matters were left and our speaker, Mr. Alec Little, proceeded with his talk on the transistorised equipment the University Physics Department use for finding their lost balloons. The tx runs about 100 mW. on 3.801 megs. to a half wave dipole. When they are very lucky the dipole will be caught in a tree. If things go normally the dipole will finish flat along the ground. If their luck is out, the antenna ends up a tangled mess of wire. Even so, recovery rate is highly satisfactory, only one balloon and tx has been lost, although the payload was returned to the University. Maybe, like the Southern Cloud, it will turn up in about 30 years.

After the lecture, Mr. Little demonstrated the equipment and surprised everybody with the sharpness of the loop-stick antenna. The receiving set-up comprises the loop-stick feeding an out-board r.f. amplifier, incorporating a sense antenna, thence into a commercial dual-wave transistor portable. All in all, a most interesting evening.

Next came business matters. Five new members were gathered to the fold, 3GI (ex-7GC), 3ZJI, 3ZIO, 3ZLT as full members, and R. F.

Gerling as an associate. The Secretary reported on the success of Alf Chandler's appeal to the Minister against the Malvern Council's refusal to permit the erection of a 47 ft. tower. You will recall the Institute undertook this appeal on Alf's behalf.

There are a number of jobs to be done at the rooms and volunteers are needed. If you have a few hours to spare, please contact either the Secretary or Mrs. Bellairs.

W.I.C.E.N. is well under way. 110 cards having been returned. A major exercise is being planned for the 22nd and 23rd Sept. Details will be sent soon to those who returned cards.

Now that 3WI is back on the air, a broadcast committee, comprising 3OM, 3BX, 3ARZ and 3ZEL, has been formed. Items suitable for the broadcast should be sent to one of these people. 3OM will be found on 80 mx at 8.30 Friday nights to gather news from country members. 3ARZ will be on the air about 10 a.m. on Sundays, I believe, for last-minute news.

A tape recorder has been purchased for 3WI and arrangements made for a replay of the broadcast on Sunday evenings for the benefit of those lucky fellows who can stay in bed until lunch time on Sundays.

Slow Morse transmissions are being made by 3DQ at 8.30 p.m. on Sundays on 3.550 Mc. Council desires to publicise all slow Morse transmissions. If you know of any Amateur or commercial transmissions, audible in VK3, please send details of times and frequencies to the Secretary.

COUNCIL MEETING

July Council meeting was held on 10th, a very cold night to go out. Amongst the matters discussed was the request that Council support an application for Limited licensees to operate on 29 Mc. After long discussion, Council decided not to support the request. The allocation of Channel 0 was discussed, but as F.E. has already got this matter in hand, no action is being taken for the present.

The W.I.C.E.N. report submitted to the State Government Co-ordinator was examined. There will shortly be a conference with the Division's representatives when further details will be ironed out.

The work of operating 3WI during the broadcast has fallen on too few shoulders. It was decided to roster member of Council to act as engineer. This necessitated running a class after the meeting so everybody concerned would be familiar with switches, buttons, etc.

Federal Councillor tabled a copy of the syllabus prepared by VK2 for Youth Radio Clubs. Council is taking steps to start a similar movement in VK3. Ways and means of increasing interest in W.I.A. were discussed, but due to the lateness of the evening a special meeting was called one week hence to discuss this matter alone.

GENERAL

Saw an interesting comment in June "A.R." regarding the service on Council in VK2, compared with VK3. Possibly service in VK2 is more rigorous. In VK3 things are fairly easy. Apart from 14 or 15 meetings a year, about 9 or 10 general meetings a year, two or three nights a week working on W.I.C.E.N. matters, compiling notes for the mag., compiling news for the broadcast, acting as engineer for 3WI once or twice a month, shifting furniture, constructing equipment for 3WI, painting, cleaning up premises, etc., etc., etc. VK3 councillors have nothing to do. By the time you count in F.E., Publications Committee, Disposables Committee, etc., the activities of about 30 people are rather restricted. I can sympathise with 2YB, and express the hope that if and when he finds a way to organise a tribe of volunteers, he makes his information public.

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The VK3 secret, Bill, is that if the same group did not go back year after year, VK3 would be as dead as the Dodo. It looks as though, of our seven hundred members, at least 650 pay their subs. and consider their duty to the Institute done.

After all that, I'll probably be kicked off Council and sacked as Notes Scribbler, but if it produces any extra workers I'll be satisfied.

In lighter vein, a certain scribe periodically says nasty things about people who donate old chassis to young s.w.l.'s. Said scribe may be interested to know that these same s.w.l.'s, recently tried to borrow a ferrite core or rod from their benefactor. As he has never seen one, in fact, doesn't even know what it would be used for, donations of technical literature would be appreciated. He promises to find time to read it during his long service leave.

There being no space left, personal notes will be skipped this month.

MIDLAND ZONE

It is pleasing to see that since my last notes there has been an increase in activities in the zone. 3SV (Castlemaine) is keeping the ball rolling on 144 and 3.5 Mc. bands and the numbers participating in these hook-ups are: 3SV, 3DG, 3FO, 3APJ (on c.w.), 3ZK, 3ZLJ, 3ZIK, and 3ED is expected to be on by the time these notes go to press.

3AHA, 3ACN and 3FY find the time inconvenient so what about 9.30 a.m. Sunday mornings on 80 mx? Jim 3SV will be on at that time and some others, I hope. As for myself, 3ND, I have not yet been able to get on 80 mx due to other commitments, but expect me any time from now. I appear regularly on 40 each Sunday morning at 9.30 a.m., so any other zone members on 40 could look for me there. 3UR (Bendigo) works N.E. Zone. How come OM?

After the hook-up and broadcast, 3SV will be looking for 2 mx contacts, so go to it. A reminder, too, to W.I.C.E.N. members to get cracking on some gear and get some practice in procedure during the hook-up.

3LP's new QTH at Lancefield adds another one to our zone, so let's hear from you OM. Col 3FO is looking for contacts on 2 mx. Ian 3ZLJ having mod. troubles on 2, but should be OK by now. Don 3ZIK re-building 2 mx gear. Jim 3SV re-building 2 mx tx. Roy 3ND will be on 80 regularly on collection of AR7.

The next meeting of the zone will be held at Kyneton, the location of which will be determined by Peter 3APJ. The date, 17th August.

In the copy of the minutes sent out to members you will note suggestion as to venue of meetings and I would be happy to hear from members as to suggestion, and particularly as to who could attend such meetings so as to be able to finalise arrangements. This matter could be discussed on Sunday hook-up and in the interim 3SV will be able to hand the information to me, until I get on 80 mx. 73, 3ND.

SOUTH WESTERN ZONE

The South Western Zone Convention and Annual Meeting was held at Geelong on 9th and 10th June and a new group of office-bearers elected for the next twelve months. Brian 3KN was appointed publicity officer and the minor placings of President went to Dick 3ABK and Secretary to Don 3AKN. Whether notes will be more interesting or flow more freely as a result of this daring move is doubtful to say the least. Other business dealt with at the Convention included the adoption of a constitution ably drawn up on the spot by Michael 3ZEO, and the decision to apply for a licence for a zone station; Don 3AKN having been appointed station officer.

The car trial tx hunt organised by the Geelong boys was the highlight of the Sunday's operations, the honors being taken by David 3ADW, ably assisted by Michael 3ZEO and Michael 3ZCZ. Have to admit that the city chaps can do something better than the S.W. Zone. I couldn't even find a loop, let alone four tx!

John 3AGD, Kevin 3AKR, Tony 3WB, Don 3AKN and Brian 3KN all became t.v. stars recently whilst taking part in operation "Gunga Din" in the fire damaged areas of the Dandenong ranges with the Westmore Radio Group. Other important personalities of the group there were Hugh O'Rourke and Tom Kinnersley, both Associates. The Westmere group were the pioneers of Rural Fire Brigades' radio communications, and went to the Dandenongs to see for themselves the problems up there and to see whether they could help with the communications problem in the hills. Anyway, the trip was certainly very instructive to the plainsmen, and apparently started some new thoughts amongst those of the hills. A good time was had by all after it was found that an empty can would top load a whip, and the only way to get cans was to empty them, much to the disgust of one resident.

Noticed a number of zone members in at the christening of the new band on 1st July, this being as it should as the band is not really new to us, tests having been conducted by the S.W. Zone W.I.C.E.N. on 1845 kc. last year. Kevin 3AKR was coming in like an A.B.C. announcer with a mighty signal, using the roof of the hayshed for an antenna. Don 3AKN, Jim 3ABT also John 3AMC. 3KN was there too of course (got to blow my own trumpet, nobody else will.) Most managed to work Ian 6CL the first evening, so the band looks like being an interesting one. Observations here are that the higher noise level and the broad Loran channel at the high end of the band will make receiver selectivity as imperative for 160 mx as for the DX bands.

In conclusion, a plaintive cry for zone members to send in news to me, otherwise the same old calls are going to get mentioned over and over again and that would never do. The gentlemen concerned will get swelled heads and it will need somebody stamping up and down the corridor at 0200 hrs. complaining about spilled pot plants to shrink them back to size! 73, 3KN.

EASTERN ZONE

Bert 3BB and George 3ZCG both were very busy during June tracking Oscar II, around the clock. George was able to take some good Doppler measurements, his equipment being calibrated by Bill 3AMH. These graphs and readings when computed with Bill's (3ABP of Melbourne) measurements, gave results showing the approx. location and height above the earth of Oscar II.

Quite a lot of crossband working (80-2 mx) took place with very good results, also there was a good write up of Project Oscar in the Morwell newspaper. Other stations in the zone who participated were Jim 3ZBV, Peter 3ZDP and Alan 3ZNE. The zone is now looking forward for the launching of Oscar III.

In last month's notes, Alan's call sign was incorrect, should have been 3AON. Alan did say there would be another 2 mx Z station also working from Mt. Tassie in the near future.

The Morwell High School, 3ANL, held their monthly hook-up on 12th July at 1930 hrs. on 80 mx band. The group welcomes any other school who would like to join in.

Norm Chapman (3ANC) hopes to be back on the air very shortly again. The Sunday morning Eastern Zone hook-up at 0930 hrs. on 3650 kc. could be far better supported. The usual stations are Gordon 3TH, Ron 3PR, Bert 3BB and Grahame 3QZ (before he left for England). What about it, boys? Where are the Warragul chaps? 73, 3ZCG.

NORTH EASTERN ZONE

3ACD has been occupied dismantling a windmill tower and transferring it to his home address; understand Cardy intends to put a quad on it. 3AUL has been tinkering with some mobile gear, but I have not heard if it is working yet. 3IG has nussed out circuits and layouts for mobile gear to be built after P.M.G. Senior Techs. exams are over. This is good news, 'ceptin' he does not have anything but the landlady's wheelbarrow in which to mount it! Bruce did make half a start on c.w. the other day. He transmitted on phone and received on c.w. His 348 is having a rest now that there is a type 19 going.

3AYD put up a ZL Special a few weeks ago and has since made several 15 mx contacts on it. Alan is like the cat which ate the fat budgie over his DX to Canada and U.S.A. Certainly great to hear of such joy! I understand that he has offered to help out with slow Morse transmissions when required; credit to the zone. 3ASF currently in hospital and looks like being there a total of four weeks. A couple of doors down, on the evening I visited, was 3ACK in for a week for a quick repair job. 3AAQ lost to golf; 3AGG just plain lost.

3UW has been trying out a sideband outfit but at the time of going to press, was not strongly praising the mode. He will give his considered opinion after more time and use. 3AWT has been trying out c.w. with good results. In between times he has erected a 2 element aerial; not sure whether it's for 15 or 10 mx, however it is mounted on a 40 ft. tower, adjustable to 50 ft.

Arthur, our W.I.C.E.N. co-ord., reports that 12 zone members have offered to give assistance to the network. This is approx. 25 per cent. of all licensees in the zone, 33 per cent. of financial members, and 66 per cent. of members. I know are active. These are only approx. figures.

What have I been doing? Scouting, golfing, and re-building. Have a safe month. 73, 3ASY.

MELBOURNE UNIVERSITY RADIO CLUB

After a period of relative quiescence the club is again active and should be on 7 Mc. between 1 and 2 p.m. most week days. The

club wishes to thank Mike 3AVV for the work he has done in getting the club transmitter on the air. The Annual General Meeting was held recently with some 20 members present, including several new members, many of them as yet without call signs. The following were elected office-bearers for the next 12 months: Ian 3ZHR, Pres.; Jim Boyle, V.P.; Mike 3ZMC, Sec.; Peter 3ZIL, Treas. It is hoped the club will enter the Remembrance Day Contest again this year and compile a big score. 73, 3ZHR.

QUEENSLAND

FREQUENCY MOVE

The Queensland Division's general meeting, held in Brisbane on June 22, carried a motion which might result in the limited licensees being able to use the 29 to 29.7 Mc. band. The motion, proposed by Vince 4VJ and seconded by Bob 4RB, was to the effect that the P.M.G. be approached about the possibility of Z licensees using a portion of the 28 to 29.7 Mc. allocation because the 50 to 52 Mc. allocation has been taken for Channel 0 t.v. There were no dissenters.

The meeting drew a good number of members. Pat 4KB was in the chair and Jim 4HZ, from Gympie, managed to stay over on his way home. Apologies were received from Jack 4JF and Frank 4FN.

The second main item of business was a discussion on the election of a Federal councillor. After some discussion, the Chairman pointed out that the meeting should give the Council a positive direction as to how Federal councillor should be elected. A member then moved: "That the Council abide by the terms of the official Divisional Constitution of 1951 and elect the Federal councillor from Council." This was carried with four dissenters.

The meeting accepted four new members—A. J. Fuller, 4ZBF; I. R. Brown, 4IB; and associates, N. E. Fenton and D. W. Amussen.

Mr. Walker, of the Southern Electric Authority Communications Division, lectured on Transistorised Power Supplies, and the subject naturally lent itself to an attentive and interested audience. He illustrated his lecture with diagrams and some of the more interesting components of these units. The lecture will be taped for the Institute lecture library.

COUNCIL MEETING

Pat 4KB also chaired the Divisional Council meeting, held on June 14. Among the matters decided were the appointment of Kev 4ZR to fill the vacancy on Council (he's now Asst. Sec.), Alf 4OL as 4WI Station Manager, and Bill Jehn, of Golebys Chambers, Brisbane St., Ipswich, as Short Wave Listeners' Group Registrar. Stewart 4LA was co-opted to be Minute Secretary and News Officer.

Council also appointed some of its members to form a sub-committee to review the Divisional Constitution, and the names of 4LT and 4PJ be put forward for membership of the Advisory Committee.

More informal Divisional doings involve the Central Qld. and Wide Bay and Burnett Branches. Central Qld. first used its call sign 4IR on June 9 and this has been heard (despite rotten conditions) in the hook-ups on Sat. afternoons with the W.B. & B. boys with 4WQ. Needless to say that when the 7 Mc. band improves, things will be a little hotter as the two groups organise a convention. Word is that it will be held in conjunction with the Bundaberg Sugar Festival at the resort of Bargara, probably on Oct. 6 and 7. Further words will no doubt spread quickly around the bands.

CONTEST PLEA

Queensland members this year are asked to make a very special effort in the R.D. Contest. In past years, activity in VK4 during the Contest has been quite high. However, to send in the logs with just a dozen or so contacts appears to have been too hard. There should still be a couple of weeks by the time you receive this to organise the week-end well.

Talking of activity, enthusiasm appears almost negligible to help Al 4SS organise a slow Morse session on 80 mx. Surely there are enough members around who can pound a key for a half hour perhaps one night a fortnight. The more in will make the job easier, so contact Al direct if you can help.

Now is the time to move on what is likely to be the best Jamboree of the Air ever, at least in VK4 land. Quite a number of members have offered their services to join up with local Boy Scout groups, but many more could come in, we feel sure. Last year, the Jamboree brought back on to the air many call signs which had not been around for quite some time. Remember, where the station is to be set up is entirely up to you. If you feel

that you would like to operate at the local scout hall using perhaps a mast erected specially by the Scouts, well and good. If you want to operate from your home QTH, that's OK too and interested Scouts will only be too willing to visit you. Noel at 40S is organiser this year and he is frequently on the air on 7 Mc. on Sundays if you'd like to contact him and tell him you'll be in it.

On the sick list in recent weeks have been Les 4EH, Bill 4WX, Al 4AW and Gordon 4GH. Les, Al and Gordon all had spells in hospital, but latest reports say they are well on the mend again. On the air we hear that Stan 4SA is still not up to putting his cheery voice back into his tx.

These cold mornings are really meant for staying in bed, but the Kookaburra group seem to think it's the best time for working. Conditions have forced them to use 3.5 Mc. lately starting about 6.30 a.m. Then the Kingfishers come on at 9 a.m. and have been upset by conditions, not being able to work a couple of miles yet hearing stations at 59 from the south and north. Conditions have also upset the operation of 4WI on Sunday mornings. A suggestion, however, for those not getting the long skip. Try listening on 14 megs., the other transmitted frequency, and things might come good for a while. However, if you don't get through, take some time off to jot down some news and post it to the Brisbane box for it is rare to receive anything this way from clubs in the country who so dominate the hook-up. Better still, write the news before you come on the air so I don't miss out. Cheers, 73, Don.

SOUTH COAST ZONE

Apologies for scarcity of notes this month, not on account of hibernating or preparing for the influx of tourists. The fact is that there has been little doing in this quarter, other than a little re-building, still incomplete. Would appreciate an offisider as Stan 4ST has in Charlie. While Stan fishes for the big 'uns, Charlie fishes in the junk box and has 4ST on the air in readiness for the Jamboree of the Air.

The grapevine has it that Ken 4ZGK is preparing to take the c.w. portion of the exam. We wish you success, Ken and hope that stress of business will not delay your obtaining the full ticket.

Cres 4ZAO has become tired of doing nothing and has gone into business. We hope the venture will be very successful and lead to more overseas equipment, if you have room for it, going on the benches.

Regret to hear that Les 4EH has been in hospital for some time. Hope by now, Les, you have fully recovered. Bruce 3IG informs me that your friends down south, round Shepparton, have been inquiring about you and he has passed on all the news he has received of you. 73, 4WS.

CAIRNS

Frank 2ACQ/portable arrived in town during the month. I cannot skite very much about our Sunshine State, as it rained most of the time that he was here. Frank has the back of his station saloon filled with radio gear, also has a caravan which he pulls along behind the car and has found room for the XYL also. She claims her job is to get out of bed during the night to close the hatch in the roof to stop the rain from coming in. Apart from the rain and the lack of good signals on 40 mx, I think that they both enjoyed themselves very much, saw a lot of the local beauty spots, and not so beautiful spots, e.g. Ham shacks, etc.

Claude 4ZY, I believe, is now eating well again as his XYL is now out of hospital and back home again. Not too strong on the old pins yet, but is coming along quite well. Very pleased to hear that Claude, might hear you on the air now.

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4TW generates his own power, the traitor, from a small generator which is pushed along with a diesel motor. Apparently it is getting like my good friend (?) in VK5 land, worn out. You should hear the things that Col calls this engine, but you have heard nothing until the night that he broke the crank-shaft in his main diesel which drives his timber mill. Heard Col tonight, so everything must be OK again as he was putting a mighty signal out. 73, 4ZW.

TOWNSVILLE AND DISTRICT

Consensus is that the bands must get worse before they get better; from observations lately it is hard to realise that conditions could deteriorate any further. But such will be the case, so the newcomers to the band must often wonder if it was worth the long tedious hours of study. But every cloud has a silver lining and won't be long before conditions will improve and then one will realise that the midnight oil was well spent.

The last monthly meeting of the Burdekin District Radio Club was honored by visitors from the local club, namely 4PS, 4MF, 4PF, 4WH and one other whose name escapes me. According to 4UX, the meeting was one of the best as 17 of the locals turned up to meet the visitors and listen to the two lectures by Joe 4OJ on Class C Amplifiers, while Claude 4UX expounded on his pet subject, Modulation Systems with special emphasis on the clamp tube type.

The classes at Ayr are promising to the local scouts as three of the leaders are doing the course and that will mean the three troops will have their own club stations under the guidance of their leader in the future. So the Scout Jamboree on the Air in the future will have some following in the north.

The T.A.R.C. has apparently pulled up its socks in an endeavour to make things interesting and attract more members by publishing a monthly bulletin called "CQ Local" and edited by Bill 4ZBE, who, I believe, is trying hard to get the boys on 144 Mc. and soon hopes to get a class started with a view to getting more Z licenses in the district. Speaking of v.h.f., Ken 4KT still trying to hear the Z boys in Ingham on 144. Heard Ken in QSO with Vern 4LK the other Sunday on 7 Mc. and zeroed in on s.s.b. and managed a QSO with them. Vern not on s.s.b. as my spies previously reported.

As the R.D. Contest is very near, Claude 4UX guarantees to out-perform any other VK4 this year. So what about it, boys? Don't let him crow as I can imagine him saying "I told you so" and I'll have to eat humble pie, because I maintain his gear is just so, so. Him and his quad and piece of wet string! 73, 4RW.

SOUTH AUSTRALIA

The monthly general meeting of the Division which can lay claim to its fair share of sunshine, to wit, VK5, was held to a capacity house, in fact it was breathing room only, and took the form of a buy-and-sell night, although in this case it was purely sell. Only the gear of the late Doc 5MD was disposed of, and as there was plenty of that available, almost the whole night was given up to it. The Chairman, John 5JC, unfortunately, was stricken with an attack of boils and could not make it at the last minute, and Phil the photographer (5NN) stepped into the breach and, if I might be permitted to say so, excelled himself in the position of Chairman and gave us all a taste of what we can expect when he takes over the job in the future.

One or two items of business were transacted before the gear was displayed, the most important being the proposed purchase of an electric Gestetner to replace the hand job in use at the present, with its attendant hard work that is imposed upon it by the almost monthly issue of a VK5 journal. All present apparently realised the need for a modern approach to the matter and when it was put to the vote, the members were solid behind it. The matter will go before the Trustees for their approval and whilst I am only guessing, I feel sure that they will OK the purchase, because they see the sense behind the move and fully appreciate the position.

At this point the gear came up for auction, and after an enjoyable time by all, was finally disposed of to everybody's satisfaction. George 5RX then gave out the QSL cards and the looks of astonishment and disbelief on the faces of a good many present when that debonair and modest athletic type, Warwick 5PS, was handed a card from a JA for some slick key tapping on 21 Mc. was worth a guinea a box. Har-har-ho-ho; so I am never on the air hey? Try that on your grand piano! (Have you found the pirate yet?—Ed.)

The main business of the night then came on, to wit, the question as to whether or not

students under 21 years (full-time students) would be subsidised by the Division in its student classes, to enable them to get their licenses. Arguments for and against were heard and then Clive 5PE moved that because of the lateness of the hour, plus the fact that the discussion was now only going around in circles, that the matter be put to the vote. This was done and the motion was defeated by a fairly large majority, although I noticed that quite a few members did not vote, for reasons best known to themselves.

Phil 5NN, at this point, drew attention to the fact that there was still the question of the "Letter" to be discussed, and without waiting for any member to get to his feet, he gave a demonstration of diplomacy and tolerance toward both sides, which silenced the matter for good and all, or so everybody present hoped. Once again it has been proved that with the lapse of a month between meetings, and a consequent mellowing of both parties' outlook, that more can be achieved by a waiting policy than all the rapid-fire discussions, which in most cases are only egged on by one or two interested in personal ambitions rather than by Divisional ambitions. However, I must add that the "Letter" has achieved its intention, as was evidenced throughout the meeting, and this fact will be greeted with cheers by all who are Division-minded.

Frank 5MZ has at last taken delivery of the new tx built by Carl 5SS. Frank was so excited about it all that he started to shave with toothpaste and clean his teeth with hair oil! It won't seem the same Frank, no Type 3, oh dear, oh dear, like milk and tea, hot dogs and sauce, Pansy and modesty, and s.s.b. and—I am frightened to say it, Frank and his Type 3 went together. Vale old friend.

I have discovered the fact, despite all the funny har-hars, that I am eligible for the Worked Elizabeth Award. I have made application to the right source and, again despite the fact that I was informed tersely that the cards would have to be checked to see if perhaps someone was using my call, I am, with great pleasure, putting my thumb to my nose in a gesture of victory.

Fred 5FH was noticed at the meeting and even purchased a Z match. When I accidentally picked it up and started to walk off with it, he said, in tones dripping with acid, "You could not get away with it, big as it is, you protruded from it in all directions." How low can one get?

Comps 5EF, of s.s.b. fame, or is it infamy, is reported as being confined to his slumber couch. His brother tells me that it was only the flu, although for a couple of days Comps was far from well. So much so, I am told, that even my gibes and funny asides on s.s.b. failed to raise even a grin or a retort. He must have been off colour!

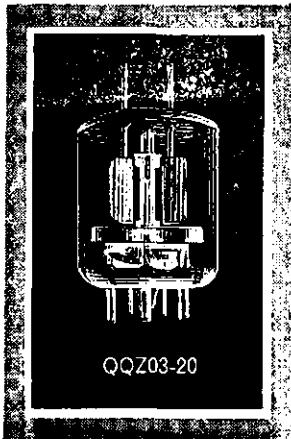
Bram 5AB was at the meeting, and like a good many of us, felt decidedly down in the mouth as Doc's gear went to the highest bidder. Incidentally, he mentioned to me that if Joe 5JO liked to get in touch with him he might pass on to him some of his old fashioned a.m. gear for the use of the Brompton Church Boys' Club (Joe's pet baby). I have promised to let Joe know, despite the wicked look in Bram's eyes as he distinctly said, "I have no use for that old fashioned a.m." He repeated it, just to make sure that it registered. It did! Quack-quack, blurr-blurr, in fact make it double in spades!

Alan Jarman, a met. officer from Forrest in VK6, has been transferred to Alice Springs and has been issued with the call of 8CP and is probably on the air by now. This now means that there are four active VK8s from Alice. Ralph 8NK is still pounding the key exclusively on 14 Mc., with satisfactory results to all concerned. Frank 8AE is mainly interested in the technical side of our hobby, plus the commercial side as well, and as he corresponds with my Chief at times I must watch my step, dot my i's, and look after my pees and kews. Oh the things I say!

Les 5UX is working all and sundry throughout the world on 7 Mc. via the key, and has also been very successful on 14 and 21 Mc. He also says that the re-broadcast of 5WI on 14 Mc. by Tom 5AQ comes through f.b. There you are Tom, you are famous at last. Three hearty quack-quacks!

Associate member Jack Parkin, now well on his way toward good health after two visits to the hospital, tells me that Luke 5LL, Frank 5MZ, Carl 5SS and the "Admiral" 5ZAH made his sojourn in hospital much more than usually bearable by their visits to him, by their many little acts of kindness, but mainly by the very pleasant hours they passed for him by their grab-chews among themselves at the sick bed. Nice work fellows, and once again I say, if it is true that one only gets back from our hobby as much as one puts into it, then you

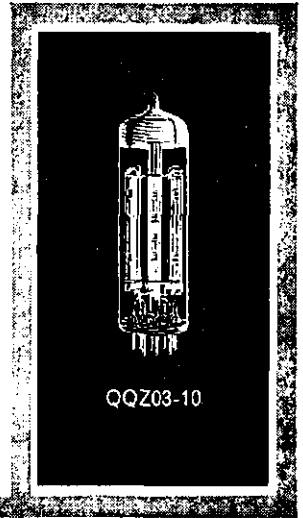
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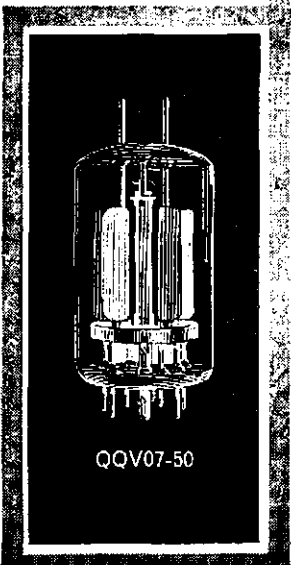
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	Power Output at Full Ratings (W)	Max. Operating Frequency (Mc/s)	Max. Operating Frequency (Mc/s)
QQZ03-10	13	200	225
QQZ03-20	45	200	500
QQZ06-40	85	200	500
QZ06-20	70	60	175

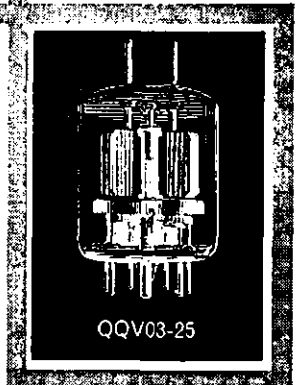


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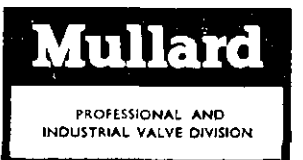
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MT118



chaps certainly have built up an equity in the game.

Talking about hospital and sickness, reminds me that the Division has a Type 3 Mark II, available for any member that might be confined to the sickbed, but still capable of a little chat on the air. It is years since it was used and probably because few know about it. Anybody sick?

Once again I have been taken to task for daring to mention an Amateur in these notes who is not a member of the W.I.A. Once again I have openly stated that I don't give a hoot whether an Amateur is a member of the W.I.A. or not. Naturally I qualify that statement by saying that I cannot understand how short-sighted anyone can be as to not belonging to the W.I.A., but everybody is entitled to their own opinion and as far as I am concerned, if they are an Amateur and they deserve a mention in the Divisional notes, then they get it.

All of which is a lead-up to a story heard this week about a fictitious Radio Amateur who was told by his doctor that his days were numbered, and immediately started to put his house in order. His last request to his XYL was that she ask eight members of the W.I.A. to act as pall-bearers on the fateful day. Something amazed, his XYL said, "But dear, you have never had anything to do with the W.I.A. in all the years that you have been an Amateur, so why this request now?" "Well," the doomed man replied, "The W.I.A. has carried me on its shoulders for all these years, so it might as well continue the job to the end." Get the message?

Met Les 5NJ at the meeting this month and commented to him that I had heard him mobile on 7 Mc. several times with a signal that had to be heard to be believed. He told me that he has never had such fun with Amateur Radio as he has had since going mobile, especially in view of the flea-power, and his greatest thrill came recently when parked in a city street he called CQ on 7 Mc., and back came a ZL for an f.b. contact on both sides.

A big load of disposals gear arrived from Santa Claus and so big and varied was it that a special meeting had to be called to get rid of it in record time before shipment number two arrived. Before starting time, the "no seating available" sign was up, and when the Chairman, John 5JC declared the meeting open, the usual buy and sell audience had squeezed their way inside. VK5 have never fared very well in the disposal set-up and we have often read with envy of the gear which has at times been available to the other Divisions, and we have become resigned to the fact that we would always "dip out". However, it was worth waiting for, both in the quality and the quantity available, and the members showed their appreciation of this fact by buying to the last bolt and nut. The entire evening, although it started off as one of the best disorganised confusions that I have ever seen, turned out to be the best night's entertainment ever held by the Division.

The sincere thanks of all present must go to the Council members and the Disposals Committee, without whose superhuman effort the night would not have been possible. The two gentlemen, and I say that with some reservation, to whom the bulk of the organising fell were John 5JC and Brian 5CA, and as one who knows the amount of work that it entailed, I can truthfully say that the Division is indebted to these two. Of course, as auctioneer and general entertainer, I did my share toward the success of the evening, but my modesty will not let me comment on this, and therefore it must remain a secret. By the way, they tell me that the next hand-out will be bigger and better, so stick around and don't go away, you ain't seen anything yet!

John 5KX is the latest to join the ranks of the Grandfathers, and he is tickled pink. He gave me all the necessary publicity on the matter, and became quite starry-eyed, and as one Grandfather to another, we tried to out-boast the other. Without being accused of bias, I think I just got my nose in front at the end. I know, I know, I wasn't behind the door when noses were handed out. Gercha!

Luke 5LL had a little trouble with his 288 Mc. tx, and like the rest of us, ignored the fundamentals and went looking for something real big in trouble. Eventually, to the intense amusement of all concerned, he discovered that he had forgotten to connect up the h.t. He is managing to live it down, but only just!

Joe 5RC has taken delivery of a new Collins rx and is in the seventh heaven. The "Admiral" 5ZAH, at present based at the Klemzig dockyard, has opened another branch of the School of Technology. Woe betide any youth who shows the slightest interest in radio. Before he knows where he is, the "Admiral" has shanghaied him aboard, and another prospective Amateur is in the making. Nice work, pity there were not a few more like him.

OBITUARY

IAN GINBEY, VK6IG

With much regret we have to advise of the sudden passing of Ian Ginbey, VK6IG, on 10th June last.

Ian was one who regularly came on the air to work mostly VK stations and fitted radio as a hobby into his everyday occupation. Always ready to assist a new comer and well thought of by many well known to him. Amateur Radio in VK6 land has no doubt lost a real Ham.

Our sympathy goes out to his wife and family in their loss.

Frank 5FJ noticed at the meeting and rumour has it that he is making a comeback after a long session of inactivity. Good to see you, Frank. Brian 5ZBI, of Maitland, has again wangled himself into another P.M.G. city class of instruction, and was heard debating the workings of the G.P.O. clock tower, with the "Admiral".

I close this month's notes with the statement that due to a balancing of the budget, the intricate details of which are known only to my creditors, I am now the proud owner of a new Holden. The gears are going out of their way to trick me. My last car was a Morris Oxford, and at the moment I am never sure whether I am going backwards, forwards, sideways, or up and down. However, I am told by a well known authority on car driving, who at times calls me Petals, and has warned me about the danger of playing with those rough VK4 boys, that the first twenty years are the hardest, which cheered me up immensely. Oh well, let's go—(You to PanSy) 5PS de 73—Oh dear, on gear, oh dear!!

ELIZABETH AMATEUR RADIO CLUB

Both 5QL and 5TM have made several QSOs on the new 1.8 Mc. band. We have been approached to man 5LZ at a Hobbies Exhibition in August and, of course, we have the Elizabeth Birthday Celebrations coming up again in November. 5FY is painting his new beam. 5EU has been slumming it on eighty. 5CV having trouble getting a decent antenna going for eighty. There was a humilatingly large turn-up at 5NO's place to help tear down the beam and tower. 5EJ still on 20 metre c.w.

Morse Code sessions are sent from 5LZ at 2000 E.A.S.T. on 3504 kc. on Wednesdays. Operators so far have been 5NQ or 5FY.

Welcome to 5AW, who has taken up residence in Elizabeth. 5GV still practising with his elbug. 5ZC seems to work all the rare DX that raises its ugly head. 5RC joins in sometimes with the club net on 40 at 11 a.m. on Sundays. 5DY and Tony Strong now playing with a zero bias triode linear. 5HA hopes to make a comeback for the R.D. Contest. 5ZMK and 5ZBR got a mention in "QST" last month. 5LZ has almost enough QSLs for a DXCC application.

Club meetings are held on the first Saturday evening of the month at the Elizabeth South School—all welcome.

WESTERN AUSTRALIA

As mentioned last month, this Division has obtained a transmitter of "adequate" power output rating. The inverted commas are used in the same sense as the makers of the Rolls Royce car use when advertising—sorry—telling the public about their product. Under the heading of horsepower—adequate!

It was also mentioned last month that the lecture for June would be given by Ralph 6ZAD, who has been appointed "Keeper of the Beast," i.e. Technical Officer. During the lecture it became quite obvious that the complexity of operation behind the act of pushing the "on" button was slightly different from the ordinary Ham tx. Good show, Ralph!

The Division has now been advised officially that Sir Charles Gardner, Governor of Western Australia, would be pleased to perform the opening ceremony for the R.D. Contest for 1962. It is intended to pre-record the opening ceremony and distribute copies to the other States, as has been the practice over the past three or four years.

This reminds me, don't forget the R.D. Contest, by the time you read this it will only be a matter of days away. So, a special effort this year, you chaps, and help W.A. retain the trophy. Read up on the rules, every station counts that has five or more valid contacts. Log sheets will have been forwarded with the Bulletin. Anybody wanting more should contact Jim 6RU.

Our worthy President, Ron VK6KW, will depart this State for nine weeks on 25th August for Singapore and Japan. At the time of writing, Ron says he feels like a pin cushion at the moment from all the needles which have been stuck into him. And from the usual passport photograph, Ron feels if he doesn't get out of the State pretty quick, the Police Dept. will slap a number on him and toss him into Fremantle. Oh! Ron is taking his XYL with him too! Nearly forgot. Best of luck to you both.

Now that 160 mx is open, some activity is already reported and I have heard that Ian 8CL had an f.b. QSO with two VK3s about the first of July. Other bands are varying with 80 mx OK early in July, but 20, 15, and 40 very patchy.

With the Goldfields area in the news and on t.v. lately, with Dan Farson doing his version of the slag dumps and the Farrell's local version showing that trees actually grow there, it is interesting to note that Bill 6DX has been experimenting with a Type A Mk. III. portable in his caravan. Bill has done the trip from Kal. to Perth and back and I understand the Type A works OK. Good work, Bill, should be more of these mobile units about when the W.I.C.E.N. is organised.

I have heard, too, that a brace of Z boys have claimed the full ticket and should be making good use of it for the R.D. Contest. Peter, ex 6ZDR, has now taken the call 6VR, and the other is Chas, ex 6ZCE, who has taken 6LK. Congrats. to both of you.

It seems there has been another call taken out recently, too, 6RL is the W.A. call which has been taken out by an ex KH6 operator. Has been heard on 20 and 15 with a Vallant tx. Welcome, OM, hope to see you about.

The single sideband monkey chatter has grabbed another victim in the shape of Graeme 8GR at Kondinin. Has been active of late on the s.s.b. The way everybody is going to s.s.b. makes me wonder if there will be any a.m. stations left at all in the not too distant future.

Have just heard that there is another foreigner to these parts, John 6CE, recently out from G land, and is making himself heard on 160 mx band. John, of course, would be used to 160 mx, so may be able to hand a few hints out. Welcome to the State anyway, John.

Wal 6AG, our worthy broadcast officer, has not tackled 160 yet, but hopes to soon. Be careful, Wal, there won't be anybody on 80!

Smoke signals have been seen from the far nor' west. These are believed to emanate from Cec 6KK, who is at present at Kuri Bay, out of Broome. Cec has been training the oysters up there to make with the pearls. Says it's a fine place for a single man to spend 12 months holiday—and be paid for it! A letter from 6KK will probably be in the August Bulletin.

Enquiries are still proceeding about a meeting room for the Division, close to the city of Perth, and we hope to have something definite soon. A room of our own would mean having a place for 6WL; a convenient rest place for country lads when they come to town; a place to have a library, provision for Morse code classes, etc. I had better stop before I get carried away!

Once again, don't forget the R.D. Contest. Be in it for honour of those Hams who made the supreme sacrifice. 73, 6LS.

TASMANIA

The new frequency allocations which come into force have made very little difference to Amateur activity in this Division. I did hear some mainland stations on 160 mx coming through at good strength on the first evening of that band's allocation. Jack 7JB is considering the project of building up transistorised portable gear for this band as are one or two others. What can you do in the same line?

The A.O.C.P. Class in the South got under way on 10th July with Terry 7CT as master of ceremonies. A class in excess of 10 should produce a crop of new licences this time next year.

Harold 7MZ has been removed from Winyard to Hobart, so we can expect to see much more of him in the South. It is also likely that I shall have a local to talk to as well when the DX bands are out. Geoff 7ZAS has been out of the State on holidays, and the grape vine has it that he did over Sydney and Melbourne with his young son Ian.

I have noticed regular interference to the various Divisional official Sunday morning broadcasts over several weeks and I was even more surprised to find two VK7s QRMing VK-5WI just recently. If we offend in this regard, we can hardly expect other States to do better than us, so chaps, leave 7146 Kc. and the lower sideband clear of interference in the interests of our hobby.

Snowy 7CH is still collecting QSL cards for inclusion on 7WI's card panel. Mine is missing, but that will be remedied; is yours there? A few of the old-timers are missing, so if you could help fill in the gaps, your help would be much appreciated.

At the August Divisional meeting, the club-room fund raising committee will be conducting an auction of donated gear. Rummage through your junk box and give what you can for sale to swell the fund for our new club-rooms, every little thing will help. Scrap metal will also help the fund. The July meeting heard an edited tape on v.h.f. communications by Ed WILDQ followed by a contribution edited by Reg ZAO. All members were very much impressed by this most absorbing history. We realise all the more what a great field of endeavour lies awaiting investigation in this frequency region.

There are two projects under consideration at present. One is a fund raising venture for our new clubrooms, which we hope will take place about the end of Sept., taking the form of a convivial get-together with adequate additions to ensure the most pleasant running of the evening. The other project under consideration is a Hamfest about the midpoint from the three centres of Amateur population. You will be hearing more about this project in the months to come. 73, 7ZZ.

NORTH WESTERN ZONE

I have some heartwarming news this month. TMS has closed the last tin crack in his sealed box and the rig is now 100 per cent. t.v.i. proof. David goes on the air while the family watch the t.v. Must see David and get some clues. TXL has inserted 50 kc. i.f.s. into his rx and there are only sidebands left. Mighty selective things, George. Last night our monthly social meeting was held and once again a very poor attendance. What is wrong? The same old faces again. Take warning slackers, things may be made easier for you shortly—there won't be any meetings.

Anyhow, those present had an enjoyable evening, several present contributing short informal talks on a variety of subjects, including the GSRV, t.v.i. proofing, and maths. to the tenth power or something.

Sid gave a demonstration with an electronic wheel balancing device. I feel we all finished a bit off balance.

There was some talk of the R.D. Contest and David will probably launch his offensive with a foot pedal and a systemic accelerator. So once again it's coats and slippers off and on with the offensive. Have heard little activity during the month and what is left of our bands has not been greatly disturbed. We are having great difficulty with the Sunday morning broadcast from Hobart and were it not for the 80 mx relay we would be in the dark. Thanks, chaps, and keep on with the good work. 73, 7MX.

NORTHERN ZONE

The June meeting of this zone was held at the home of Peter 7PF and judging by the large attendance, our office-bearers will soon have to start considering, if they are not already doing so, the procuring of a hall or large room in which to hold our meetings because if our present rate of growth is main-

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tained it will soon be impossible to hold meetings in individual homes, pleasant and successful though this method has been.

Lecturer for the month was Mr. Alf Cook, a lecturer at the Launceston Technical College and Alf gave a very information and instructive lecture on the means and methods of judging the performance of a communication receiver.

7PF also brought members up to date on the behaviour of Oscar II.

A tape recording of 12 mystery voices was played with a prize given to the member who correctly named the most voices. It appears as though 7BQ and 7PF do the most eaves-dropping.

On the air activity by zone members is very limited. 7EC is active on 7 and 14 Mc. c.w. chasing the elusive DX. 7PF can be heard on 3.5 Mc. discussing satellites. 7BQ is also due to appear on this band shortly, whilst 7LZ is all set up for 1.8 Mc.

Zone activity on the v.h.f. bands is at present practically nil. 7EB is now recovering after a successful operation; glad to see you about again, Ed. 73, 7LZ.

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EXCHANGE: BC342N Receiver in mint condition, modified front end, noise limiter, Q5er output, for V.h.f. Receiver—Hallcrafters S72 or S36 or similar. Cash adjustment if necessary. VK3ZGF. Phone 25-3968 (Vic.).

FOR SALE: AR7 Receiver, complete, £25. Hallicrafters SX39A same price, also AT5 and other transmitters and receivers, p.a. equipment, c.r.o., and power supplies. No reasonable offer refused. Must sell. VK2EI, L. West, 38 Fullers Ave., Chatswood, N.S.W.

FOR SALE: Cavity Tuned Oscillators, from No. 10 Sets, 3,500 Mc., £2/10/0. Transmitters and Receivers, No. 10 Set, 3,500 Mc., £5 each. 12 volt Vib. Trans., C.r.o. h.t. Trans., 600-60,000 ohm Line Trans., all 5/- ea. C.r.o. Indicator Unit with p/supply, £5. A.W.A. batt. operated Mod. Osc., A8.15. £5/10/0. 100w. Public Address Amp., p/supply, no tubes, £10. 5 metre 4 el. Beams, new, £4. Line Amplifiers, has 6v. vib. p/supply, £1/15/0 each. 700v. aside, 300 mA. Power Trans., £4; others at lower prices. 1,500v. aside, possibly 1,000 mA., oil filled, P. Trans., new, £10. Other bits and pieces. Boxes of assorted components, 30/- each (you will need a car). All gear to be disposed of. Shifting QTH and cannot take—make an offer. Will exchange any of above for 2 metre gear or test equipment. Eddy-stone 750 Rx, excellent order, £85. Heath Kit OM1 Oscilloscope, new, £33. Able to arrange finance if required. T. E. Straughair, VK3ABV, 185 Stephen St., Yarraville, W.13. Note, I am not on telephone.

FOR SALE: Gear ex late VK4CU. Command Tx's, modified and good performers, 3-4 and 7-9 Mc., with plug-in Heising choke modulator and 380v. pack, D104 mike, £16. H.t. pack, 550v., 250 mA., pair 5Z3s, 6.3v. fil., £5. H.t. pack, 385v. 150 mA., 5Z3, 6.3v. fil., £3. 3-6 Mc. Command Rx, modified 7 Mc., 455 i.f.s., £4. Palec Valve Tester,

Model VCT, Offers? Chassis Punches, 3" 15/-, 1 1/2" 25/- BC348, original wiring, inbuilt h.t., £28. A. Marshall, Clifton, Qld. VK4AF.

FOR SALE: Transmitter-Receiver R.A. A.F. type ATR2B with a.c. and d.c. power supplies, in perfect working order. This is a going mobile, portable, or base station on 3.5 and 7 Mc. with xtal and v.f.o., £25. Communications Receiver AR7, in excellent condition with a.c. and d.c. power supply, range 140 Kc. to 32 Mc.; this is probably the best AR7 in Victoria, £35. Commercial Public Address Amplifier, with 6L6s in p.p., £7/10/0. Test Equipment: Valve and Circuit Tester, Palec VC2 with attachments for t.v. and miniature tubes, £12. 6" Oscilloscope APW9922, in first class condition (with pwr. supply), £12. Modulated Oscillator, Philips TA101A, 100 Kc. to 25 Mc.; this is a piece of laboratory standard equipment, £17. Modulated Oscillator Palec M101, range 150 Kc. to 30 Mc., £15. Wavemeter, Type W1117, range 125 Kc. to 20 Mc.; this item will meet your most stringent frequency measuring requirements in the shack, includes two sets of spare calibrated valves, £15. Vacuum Tube Voltmeter, Palec Model VTM, with r.f. probe, £12/10/0. Mobile Transmitter (less pwr. supply), A.W.A. Type J3244, freq. approx. 2 Mc., final 807, 8" x 10" x 8"; this item is worth seeing if you intend going mobile, £7/10/0. Range of modern series tubes, most new and unused, includes two photo electric cells, a parcel of 25 for £4. All equipment is in guaranteed working condition and will form the basis of an excellent test bench for any Ham. I am going overseas late in August and early buyers will not regret an inspection. John Morris, VK3AES, (WF 2090), 302 Riversdale Road, Camberwell, Vic.

FOR SALE: Type 3 Mk. II. built-in modulator (plate and screen), complete with spares, assembled in carrying case 21" x 16" x 7". Phone Robb, 29-2384 (Vic.).

SELL: Collins 75A2 Rx, mint condition, £175. "Minifon" Recorder, subminiature, runs 2 hrs., complete, mic., headset, etc., a.c. or d.c., fits easily in pocket, as new, £50. C.r.o. "Nagard," 5" dual beam, d.c. to 20 Mc., and matching supply, £75. Taylor Valve Tester and Multimeter, Model 47A, £25. Class C Wave Meter, £10. Command Tx, £5. Command Tx converted 80 mx v.f.o., £5. B. & W. Coil Turret and Cond., 80-10m., £3. Inverter, 12v. d.c. input, 240v. a.c. o/p., commercially made for elect. shaver, or similar, £2 1/2. Signal Generator, 100-155 Mc., £3 1/2. Vibrator, 12v. supply, £1 1/2. Genemotor and filter, 12v. input, 300v. o/p., £3 1/2. Auto Keyer complete, power supply and key, £4. R. Hall, 17 College Gr., Black Rock, Vic. VK3NZ. Phone 99-4363.

WANTED: B.f.o. Coil 85 Kc. from BC 453. J. Tutton, VK3ZC, Phone 81-6131, or 60-1031 (day).

WANTED: 122 or ATR2B Transceiver or similar. Must be good condition and complete. Preferably Sydney area. Also require meter and vibrator for 122. VK2IT, Peter Long, C/o Sgt's Mess, R.A.A.F. Richmond, N.S.W. Phone Windsor 2271, Ext. 356 (working hours), Ext. 217 (after).

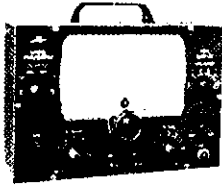
SCR522 TRANSCEIVERS

Modified Units, complete with £7 1/2
832s. Few only left at

Receivers only, incomplete, but 19/6
ideal for wrecking. To clear

LSG11 SIGNAL GENERATOR

120 Kc.-390 Mc.
Freq. range (six bands): 120 Kc. to 130 Mc. on fundamentals; 120 to 390 Mc. on harmonics. Mod. freq. 400 and 1,000 c.p.s. Tubes: 12BH7, 6AR5. Rectifier: half wave selenium. Provision for crystal oscillator (xtal not supplied), 1 to 15 Mc. 100, 117 or 230c. a.c. input, 50-60 c.p.s. Size: 7 1/2 x 10 3/4 x 1 1/2 in. Weight: 6 lb.



Price: LSG11—£16/17/6 inc. tax
LSG10—£13/17/6 inc. tax

No. 122 COMPONENTS

Headphone and Microphone Sets, Good condition 25/- set
Aerial Pack, complete with 30 ft. mast (ten 3 ft. lengths of 1" diam.), ropes, pegs 50/- to clear

PLUGS AND SOCKETS

Small bakelite speaker 4-pin Plug and Socket 1/9 pair
Jones' small 6-pin Plug and Socket 7/6 pair
2-pin Mike Plugs and Sockets, 4/5 pair
Phone Plug (with 2 ft. Cord) and Jack, Brand new 2/6 set

CERAMIC SWITCHES

Two-Pole, Six-Position 15/-

V.H.F. RECEIVERS

Type R89/ARN-5A. 300 Mc. Valves: seven 6AJ5s, two 12SN7s, one 12SR7, one 28D7, six relays, and three crystals of 6522.9 Kc. As new. £5 each.

VARIABLE CONDENSERS (Ceramic)

Trimmers, Ducon, 4-30 pF., 3/6 ea.
Philips air trimmers, 3-30 pF., 3/- ea.
Compression trimmers, c.t. 3-55, 1/- ea.
50 and 55 pF. screwdriver adjustment, chassis mounting 12/6 each

FERROCART VACUUM TUBE VOLTMETER

V.T.V.M. £19/17/6 inc. tax
H.V. Probe £3/5/0 inc. tax
R.F. Probe £2/10/0 inc. tax

ECKO NO. 88 TRANSCEIVER

Portable, xtal locked 4 channel, 40 to 43 Mc., 14 valves, 1L4, 1T4, 3A4, etc., 12v. 3a. input power supply. Less crystals, mike and headphones, etc.
To Clear. £6/10/0 each

NEW VALVES

1A3	2/6	10 a	£1	6SJ7	12/6
1A5	5/-	5 a	£1	6SK7GT	12/6
1A7GT	7/6	3 a	£1	6SL7GT	12/6
1C7	3/-	7 a	£1	6SQ7	12/6
1D5GT	5/-	5 a	£1	6SS7	7/6 3 a £1
1D8	7/6	3 a	£1	6T7	7/6 3 a £1
1F5	7/6	3 a	£1	6V4	11/4
1H4	5/-	5 a	£1	6V6GT	16/-
1H5	5/-	5 a	£1	6X5	15/-
1H6	5/-	5 a	£1	6Y6	5/- 5 a £1
1K4	5/-	5 a	£1	6Z7	7/6 3 a £1
1K5	5/-	5 a	£1	7A4	5/- 5 a £1
1K7	5/-	5 a	£1	7A8	2/- 11 a £1
1L4	5/-	5 a	£1	7C5	5/- 5 a £1
1L5	10/-			7C7	2/- 12 a £1
1M5G	5/-	5 a	£1	7E6	3/6 7 a £1
1N5	5/-	5 a	£1	7W7	2/6 10 a £1
1P5	2/-	10 a	£1	12A6	4/- 6 a £1
1Q5	5/-	5 a	£1	12AT7	7/6
1S4	7/6	3 a	£1	12SA7GT	10/-
1S5	10/-			12AH7	5/- 5 a £1
1T4	5/-			12C8	5/-
2A5	7/6			12H6	3/6
2A6	7/6			12J5	5/- 5 a £1
2D21	15/-			12K8	5/- 5 a £1
2X2	5/-	5 a	£1	12SK7	5/- 5 a £1
3A4	10/-			12SQ7	5/-
3AP1	25/-			12SR7	5/- 5 a £1
3BP1	35/-			14A7	3/6 7 a £1
3Q5	5/-	5 a	£1	11Z26	5/- 5 a £1
3Q4	10/-			1625	5/- 5 a £1
5V4G	15/-			1626	5/- 5 a £1
5Y3GT	13/9			1629	5/- 5 a £1
5Z3	17/6			30	1/3
6A3	7/6	3 a	£1	35T	30/-
6A6	7/6			45	5/-
6AG7	12/6			71A	7/6 3 a £1
6AJ5	7/6	3 a	£1	726A	10/-
6AK5	20/-			80	10/-
6AM5 (EL91)	10/-			805	15/-
6AM6 (EF91)	10/-			807	7/6 3 a £1
6B4	10/-			808	10/-
6B7	10/-			809	20/-
6BE6	12/6			815	15/-
6C4	5/-	5 a	£1	830B	15/-
6C5	5/-	5 a	£1	832A	19/6
6C6	5/-	5 a	£1	866	32/6
6C8	10/-			954	5/- 5 a £1
6D6	5/-	5 a	£1	955	5/- 5 a £1
6E5	5/-	5 a	£1	956	5/- 5 a £1
6F5	7/6			958A	2/6 10 a £1
6F6	12/6			2051	5/-
6F7	10/-			9003	7/6 3 a £1
6F8	5/-			AV11	2/11
6G6	7/6	3 a	£1	DI75	2/6 10 a £1
6H6	Glass 2/6			EA50	2/- 10 a £1
6J6	10/-			EC91/6AQ4	10/-
6J8	20/-			ECH35	20/-
6K7	5/-	5 a	£1	ECH35	20/-
6K8G	20/-			EF36	5/- 5 a £1
6K8GT	12/6			EF39	5/- 5 a £1
6L7	5/-	5 a	£1	EF70	5/- 5 a £1
6R7	7/6	3 a	£1	EF72	5/- 5 a £1
6SA7	7/6			EF73	5/- 5 a £1
6SC7	7/6			EL41	10/-
6SF5	7/6	3 a	£1	EY91	5/-
6SF7	7/6	3 a	£1	KT61 (6V6)	15/-
6SH7	4/-	5 a	£1	OB?	30/-

1N21 SILICON DIODES

U.h.f. mixer, design freq. 3,060 Mc.
7/6 each, or 3 for £1.

BC433-G COMPASS RECEIVERS

Freq. range 200 Kc. to 1750 Kc., 14 valves—6.3 volt series, 6K7, 6J5, etc.
I.F. freq. 142.5 Kc. Clean condition
Priced only £10/0/0
Flexible Cable 10/-

JAPANESE METERS

0-1 mA. square, 1 1/2" hole, MR-2P 35/-

CRYSTAL MICROPHONES

Price only
57/6



Stand to suit
15/- extra.

Model BM3 illustrated: Response 100-8,000 c/s., fitted with 6 ft. cable and phone plug with on-off switch. Can be used on stand for hand use.
BM3 Insert 10/- each

Model LM4, small lapel clip, sensitivity —57 db., response 100-6,000 c.p.s. 17/6

Model M-30, lapel type (small) 20/-

Model M34, in bakelite case, suit Tape Recorder 22/6

Model M33, pencil type with stand, 50/-

AMERICAN POTENTIOMETERS

American Bradley, 2" long, 1" shaft, 1" diam. Available in following sizes: 20,000, 25,000, 30,000, 50,000, 100,000, 250,000 ohms, 1 and 2 megohms.

Price 2/6 each

50 ohm 25w. wire wound (D129) 5/-

OA79 and OA81 DIODES

Well known make. Brand New.

To Clear—2/6 each

FUSE HOLDERS

Bakelite, round type, takes standard auto fuse 3/6
Slide lock, single 3/6
Slide lock, twin 4/6

FILAMENT TRANSFORMER

240v. primary, secondary: 5v. at 2 amp. and 10v. at 3 amp. 35/-

TRANSISTOR POWER SUPPLIES

A. & R. Types PS21 and PS25.
Prices on Application.

VALVES—NEW (Continued)

QQV06/40	97/6	VR136	2/- 12 a £1
RL18	7/6 3 a £1	VR137	2/6
UL41	7/6 3 a £1	VR150	10/-
VR53	5/- 5 a £1	VT52	5/-
VR101	5/- 5 a £1	VT127	4/11 5 a £1
VR102	5/- 5 a £1	VT501	7/6 3 a £1
VR103	5/- 5 a £1	Y65	5/-

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Design for communications



Designed for rugged service;
the AKG D17 cardioid microphone
provides:—

- Frequency Response: 50-15,000 c/s
- Front-to-Back Ratio: 18 db
- Impedance: 60 or 200 ohms

A lightweight communication set, the AKG Headphone/
Microphone set combines the well-known K50 headphones
and a D58 noise cancelling microphone and provides:—

- | | |
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| Headphones: | Frequency Response: 30-20,000 c/s |
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| Microphone: | Frequency Response: 50-12,000 c/s |
| | Impedance: 200 ohms |

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Head Office: 47 York Street, Sydney. 20233

A M A T E U R R A D I O

SEPTEMBER 1962



Vol. 30, No. 9



2/-

SCR522 TRANSCEIVERS

Modified Units, complete with 832s. Few only left at £7 1/2

Receivers only, incomplete, but ideal for wrecking. To clear ... 19/6

LSG11 SIGNAL GENERATOR

120 Kc.-390 Mc. Freq. range (six bands): 120 Kc. to 130 Mc. on fundamentals; 120 to 390 Mc. on harmonics. Mod. freq. 400 and 1,000 c.p.s. Tubes: 12BH7, 6AR5. Rectifier: half wave selenium. Provision for crystal oscillator (crystal not supplied), 1 to 15 Mc., 100, 117 or 230v. a.c. input, 50.60 c.p.s. Size: 7 1/2 x 10 1/2 x 4 1/2 in. Weight: 6 lb.



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LSG10—£13/17/6 inc. tax

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Aerial Pack, complete with 30 ft. mast (ten 3 ft. lengths of 3/4" diam.), ropes, pegs 50/- to clear

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Small bakelite speaker 4-pin Plug and Socket 1/9 pair
Jones' small 6-pin Plug and Socket 7/6 pair
2-pin Mike Plugs and Sockets, 4/6 pair
Phone Plug (with 2 ft. Cord) and Jack. Brand new 2/6 set

CERAMIC SWITCHES

Two-Pole, Six-Position 15/-

V.H.F. RECEIVERS

Type R89/ARN-5A. 300 Mc. Valves: seven 6AJ5s, two 12SN7s, one 12SR7, one 28D7, six relays, and three crystals of 6522.9 Kc. As new. £5 each.

VARIABLE CONDENSERS

(Ceramic)

Trimmers, Ducon, 4-30 pF., 3/6 ea.
Compression trimmers, c.t. 3-55, 1/- ea.
50 and 55 pF. screwdriver adjustment, chassis mounting 12/6 each

FERROCART VACUUM TUBE VOLTMETER

V.T.V.M. £19/17/6 inc. tax
H.V. Probe £3/5/0 inc. tax
R.F. Probe £2/10/0 inc. tax

IN21 SILICON DIODES

U.h.f. mixer, design freq. 3,060 Mc. 7/6 each, or 3 for £1.

JAPANESE METERS

0-1 mA. square, 1 1/4" hole, MR-2P 35/-

NEW VALVES

1A3	2/6	10 a	£1	6SH7	4/-	5 a	£1
1A5	5/-	5 a	£1	6SJ7	12/6		
1A7GT	7/6	3 a	£1	6SK7GT	12/6		
1C7	3/-	7 a	£1	6SL7GT	12/6		
1D5GT	5/-	5 a	£1	6SQ7	12/6		
1D8	7/6	3 a	£1	6SS7	7/6	3 a	£1
1F5	7/6	3 a	£1	6T7	7/6	3 a	£1
1H4	5/-	5 a	£1	6V4	11/4		
1H5	5/-	5 a	£1	6V6GT	16/-		
1H6	5/-	5 a	£1	6X5	15/-		
1K4	5/-	5 a	£1	6Y6	5/-	5 a	£1
1K5	5/-	5 a	£1	7A4	5/-	5 a	£1
1K7	5/-	5 a	£1	7A8	2/-	11 a	£1
1L4	5/-	5 a	£1	7C5	5/-	5 a	£1
1L5	10/-			7C7	2/-	12 a	£1
1M5G	5/-	5 a	£1	7E6	3/6	7 a	£1
1N5	5/-	5 a	£1	7W7	2/6	10 a	£1
1P5	2/-	10 a	£1	12A6	4/-	6 a	£1
1Q5	5/-	5 a	£1	12A7	7/6		
1S4	7/6	3 a	£1	12SA7GT	10/-		
1S5	10/-			12AH7	5/-	5 a	£1
1T4	5/-			12C8	5/-		
2A5	7/6			12H6	3/6		
2A6	7/6			12J5	5/-	5 a	£1
2D21	15/-			12K8	5/-	5 a	£1
2X2	5/-	5 a	£1	12SK7	5/-	5 a	£1
3A4	10/-			12SQ7	5/-		
3AP1	25/-			12SR7	5/-	5 a	£1
3BP1	35/-			14A7	3/6	7 a	£1
3Q5	5/-	5 a	£1	117Z6	5/-	5 a	£1
3Q4	10/-			1625	5/-	5 a	£1
5U4GB	14/6			1626	5/-	5 a	£1
5V4G	15/-			1629	5/-	5 a	£1
5Y3GT	13/9			30	1/3		
5Z3	17/6			35T	30/-		
6A3	7/6	3 a	£1	45	5/-		
6A6	7/6			717A	7/6	3 a	£1
6AG7	12/6			726A	10/-		
6AJ5	7/6	3 a	£1	80	10/-		
6AK5	20/-			805	45/-		
6AM5 (EL91)	10/-			807	7/6	3 a	£1
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6B4	10/-			809	20/-		
6B7	10/-			815	15/-		
6BE6	12/6			830B	15/-		
6C4	5/-	5 a	£1	832A	19/6		
6C5	5/-	5 a	£1	866	20/-		
6C6	5/-	5 a	£1	954	5/-	5 a	£1
6C8	10/-			955	5/-	5 a	£1
6D6	5/-	5 a	£1	956	5/-	5 a	£1
6E5	5/-	5 a	£1	958A	2/6	10 a	£1
6F5	7/6			2051	5/-		
6F6	12/6			9003	7/6	3 a	£1
6F7	10/-			AV11	2/11		
6F8	5/-			DL75	2/6	10 a	£1
6G6	7/6	3 a	£1	EA50	2/-	10 a	£1
6H6	Glass	2/6		EC91/6AQ4	10/-		
6J6	10/-			ECH33	20/-		
6J8	20/-			ECH35	20/-		
6K7	5/-	5 a	£1	EF36	5/-	5 a	£1
6K8G	20/-			EF39	5/-	5 a	£1
6K8GT	12/6			EF70	5/-	5 a	£1
6L7	5/-	5 a	£1	EF72	5/-	5 a	£1
6M7	7/6	3 a	£1	EF73	5/-	5 a	£1
6SA7	7/6			EL41	10/-		
6SC7	7/6			EY91	5/-		
6SF5	7/6	3 a	£1	KT61 (6V6)	15/-		
6SF7	7/6	3 a	£1	OB2	30/-		

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5 1/2" REELS, Well Known Make

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No. 311-8 Super P.V.C., all purpose, 1/4" x 850 ft., 22/6 reel.

No. 150-12 Polyester backing, extra play, 1/4" x 1275 ft., 50/- reel.

CRYSTAL MICROPHONES

Price only
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Model BMB illustrated: Response 100-8,000 c/s., fitted with 6 ft. cable and phone plug with on-off switch. Can be used on stand for hand use.

BMB Insert 10/- each

Model LM4, small lapel clip, sensitivity —57 db., response 100-6,000 c.p.s. 17/6

Model M-30, lapel type (small) 20/-

Model M34, in bakelite case, suit Tape Recorder 22/6

Model M33, pencil type with stand, 50/-

AMERICAN POTENTIOMETERS

American Bradley, 2" long, 1/4" shaft, 1" diam. Available in following sizes: 20,000, 25,000, 30,000, 50,000, 100,000, 250,000 ohms, and 1 megohm.

Price 2/6 each

50 ohm 25w. wire wound (D129) 5/-

OA79 and OA81 DIODES

Well known make. Brand New.

To Clear—2/6 each

FUSE HOLDERS

Bakelite, round type, takes standard auto fuse 3/6

Slide lock, single 3/6

Slide lock, twin 2/6

FILAMENT TRANSFORMER

240v. primary, secondary: 5v. at 2 amp and 10v. at 3 amp. 35/-

TRANSISTOR POWER SUPPLIES

A. & R. Types PS21 and PS25.

Prices on Application.

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QQV06/40 97/6	VR136	2/-	12 a	£1			
RL18	7/6	3 a	£1	VR137	2/6		
UL41	7/6	3 a	£1	VR150	10/-		
VR53	5/-	5 a	£1	VT52	5/-		
VR101	5/-	5 a	£1	VT127	4/11 5 a	£1	
VR102	5/-	5 a	£1	VT501	7/6	3 a	£1
VR103	5/-	5 a	£1	Y65	5/-		

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JOURNAL OF THE WIRELESS INSTITUTE OF AUSTRALIA. FOUNDED 1910.

SEPTEMBER 1962

Vol. 30, No. 9

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before the 8th of the month preceding publica-
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be typed, double spaced, on one side of the
paper, signed and numbered. All drawings
should be large and done in Indian ink.

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OUR COVER

An engineer is shown testing a
versatile two-channel tape recorder
exhibited at the recent International
Audio Festival and Fair in London.
This new professional transportable
recorder is equally suitable for re-
cording chamber music as the roaring
blast of a jet aero engine. (Photo by
courtesy of the United Kingdom
Information Service in Australia.)

FEDERAL COMMENT

★

I.T.U. PLANNING

As another year draws towards its close, we come nearer to the next I.T.U. Conference. Although a definite date has not yet been set for its time or venue, present indications are that it will probably be held some time in 1965. Irrespective of when it would commence, some discussion took place at the recent Federal Convention in Perth as to the Institute's preparedness for this event and what Federal Council action was to be taken.

It is obvious to every Amateur who stops to think about it that Amateur frequencies will again be under fire from other Services and will probably be harder pressed than in 1959. We came out of the last battle reasonably well when everything is considered, but we can ill afford to be complacent about our status in Australia or the support of our American contemporaries. We must be prepared to fight our own battles. We can only do this effectively if we again send a representative to Geneva or wherever the Conference is to be held.

No one will deny that we may have fared a lot worse if the late John Moyle had not been present in Geneva to represent the Institute and carry our battle into the front line. His personal diplomacy, discussions behind the scenes with other representatives, lobbying where necessary and particular knowledge of all the problems involved were contributing factors in the Australian Amateur's rise in status with the authorities and the at least partially successful prosecution of our aims.

It is therefore equally true that we must be represented once more, and to this end, planning is already in hand to determine the best and most effective way of again raising sufficient funds to send another representative. Who this representative may be is a matter for the future but you may rest assured that we will again have the best man that is available at the time. This is, however, not our main concern at this juncture—we must first raise sufficient funds to enable us to send one.

Premature action in any fund-raising scheme of this nature can easily kill it if it is not properly organised, although donations at any time for this purpose would always be welcomed. But until this has been fully discussed by Federal Council and a policy determined, individual organising attempts may be largely wasted. We know from past experience that when the case is put fairly and squarely before the average member and non-member, he will rise to the occasion as he did before, and give his wholehearted support to the financing of the representative to protect his interests and hobby. At the appropriate time, the "green light" will mark the opening of a nation-wide appeal.

—FEDERAL EXECUTIVE, W.I.A.

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MATTERS—MOBILE

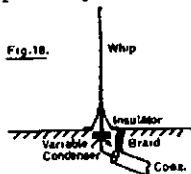
PART TWO

K. WOODWARD,* VK2ZAU

MOBILE AERIALS V.H.F. AERIALS

If the previous sections have not caused fires of wrath to descend upon the author's head, this should finish the job. Firstly, we will tackle the problem of v.h.f. aerials. The simplest mobile aerial is a quarter wave whip (not on 7 Mc. please) and a short discussion on achieving the best results from these will not be out of place.

The impedance of a ground-plane aerial will give good matching when fed with 39 ohm coaxial cable. This cable is commercially available, but should your Scots blood prevail, use two lengths of 72 ohm coax. in parallel. The approximate lengths for a quarter wave whip on 50 and 14 Mc. are 55 and 19 inches respectively.



Now should you wish to use 52 or 72 ohm coax. to feed your whip, you can do so and achieve very close matching with the following method. As illustrated in Fig. 18 a variable capacitor is placed in series with the inner conductor feed to the whip, but the length of the whip must be altered. The approximate lengths would be—50 Mc.: 52 ohm coax., 66½"; 72 ohm coax., 73½". 144 Mc.: 52 ohm coax., 23½"; 72 ohm coax., 25½". The whip should be adjustable in length and varied as well as the variable capacitor to give maximum radiated field strength. This is, of course, where your field strength meter will be invaluable.

When testing a ground plane aerial use a vertical whip on the field strength meter, and when testing beams (horizontal) use a horizontal dipole. When you make an adjustment to your aerial do not forget to re-peak your transmitter output, watching the field strength meter for maximum output.

For field days you will want to make provision for v.h.f. beams and Fig. 19 illustrates the one used by the author with considerable success. This beam converts from 2 metres to 6 metres for stationary operation, but the 2 metre

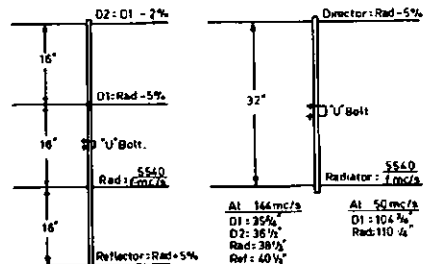


Fig. 19.

section has travelled at 50 m.p.h. on country roads. The original beam has snap-in type elements, but there is no reason why extension pieces could not be engineered for the radiator and D2 of the 2 metre beam.

A folded dipole as the radiator would give a good match to 72 ohm coax. feeder, but the author prefers the original method of matching with a quarter wave stub. This stub, illustrated in Fig. 20, is made of 39 ohm coax., the lengths being—50 Mc., approx. 39"; and 144 Mc., approx. 13½". In practice, except for the most stringent conditions, the 50 Mc. stub is left on permanently as it does give a fair match on 144 Mc.

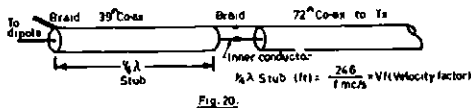


Fig. 20.

The velocity factor for coaxial cable can be taken as 0.66 when calculating the quarter wave stub. The four element beam on two metres will give an approximate power gain of eight times and if designed for 50 (with the 0.2 wavelength spacing) would make an excellent home station beam. The two element beam on 50 Mc. gives an approximate power gain of three times.

In v.h.f. mobile aerials, one which has no gain but permits fairly circular horizontal coverage is the turnstile. This aerial illustrated in Fig. 21 is simple to make and to match, and will give better results than a quarter wave whip when working horizontally polarised home stations. Incidentally, at least one Sydney home station has been using a similar aerial on 2 metres with very good results. The two distances X are not important as long as they are of equal length. The correct phasing being achieved by the extra quarter wavelength on one set of dipoles. This quarter wavelength should be calculated as for a quarter wave stub and would be approximately 13½" at 144.5 Mc. The feeder cable could be two parallel lengths of 72 coaxial cable.

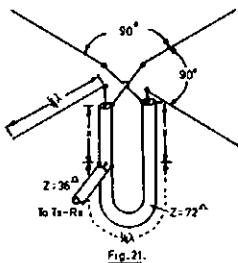


Fig. 21.

To finish the discussion of v.h.f. aerials, it must be pointed out that the most efficient position for a whip is in the middle of the roof. If you do not wish to cut a hole in your roof, it may be possible to fix a metallic base plate to your whip and fasten it to the roof with rubber suckers. Remember that

if you mount the whip on your mudguards endeavour, wherever possible, not to get your car body between the whip and the station being worked.

First choice is the roof, second choice can often be the centre of the boot lid, third choice is the mudguards. If you have an external metallic sunvisor these often make a good mounting place for a v.h.f. whip. When siting your whip other than on the roof, try for a removable ornament or drill your holes so they can be used for a normal car aerial or side-vision mirror, etc., when the car is to be sold.

7 Mc. AERIALS

A book could be written on this topic alone as there are so many approaches to the manufacture of an efficient 7 Mc. mobile aerial. Firstly, the spiral whip, secondly the base-loaded whip, and thirdly the centre-loaded whip. We will deal only with the centre-loaded whip. The most important factor in this aerial is the loading coil. It should have the highest possible Q with smallest dimensions, thus reducing to a minimum air-resistance.

We will assume a whip of 8 feet, 3 feet at the base and 5 feet above the loading coil. The loading coil suggested for 40 metres is approximately 32 microhenries, wound as follows: 30 turns of 14 gauge enamelled wire, 2½" in diameter, approximately 5" long. This coil should ideally be air-wound, rib supported. However, should this be impossible, the best insulator possible should be used, polystyrene, etc., remembering any loss in this coil makes a very big loss in radiation efficiency.

With the aerial installed and the transmitter operating, the top section of the whip should be adjusted to give maximum radiated signal. If the coil has been wound correctly, this need not be touched, however in no circumstances whatever leave a shorted turn on the coil or introduce any unnecessary metallic objects. Remember after each adjustment to the whip, to re-peak your transmitter before noting the exact radiated field strength.

The approximate radiation resistance of this whip, depending on installation, will be 10 ohms, so you will readily appreciate that there will be a mismatch with any coaxial feeder used. This can be overcome by placing a capacitor from the base of the whip to ground. It may be necessary to add a turn or two to the centre loading coil, but the necessary adjustment can usually be made by the top section of the whip.

The size of the condenser depends on the impedance of the coaxial cable and the impedance of the aerial, the formula for determining this being as follows:—

$$C = \frac{2 \times \pi \times f_s \times R_o \sqrt{R_a \div (R_o - R_a)}}{10^9}$$

where R_a = impedance of aerial.
 R_o = impedance of feeder.

Assuming an aerial impedance of 10 ohms and a feeder of 50 ohms at 7 Mc., the condenser value would be 1,099 pF.

* Flat 28, Block 3, Curtis Place Flats, Moorehead Street, Redfern, N.S.W.

Portion of the calculated capacitor should be made variable to allow final adjustment. Adjust the top portion of the whip to re-resonate the aerial for maximum field strength, then adjust the base capacitor and transmitter tuning for best results. Repeat all adjustments several times. The final capacity may be made up with ordinary receiver-type mica condensers.

Having spent the time to make up this aerial and tune it correctly, should reward you with many pleasant QSOs. Remember that this aerial has a high Q and should be resonated on your favourite operating frequency. If your transmitter is v.f.o. controlled, you can check the exact resonance point of your aerial and operate within ± 30 Kc. of this point for best results.

MOBILE POWER SUPPLIES AND MISCELLANEOUS

This is the last of this series of mobile equipment and we will discuss briefly the fundamental basis of all mobile operation, the power supply.

While good results may be obtained with the humble vibrator power supply, we will look into the use of transistor power supplies and adaption to genemotors for mobile operation.

TRANSISTOR P.S.

I do not intend to give a circuit for a transistor power supply as an excellent one has been featured by Mullard and details, if not at hand, can be obtained from that company at no obligation. Moreover, the transformer for this power supply, the thing which most people like myself are too lazy to manufacture, may be purchased from an Australian manufacturer (an advertiser in "A.R.") for a reasonable sum. Also you may purchase a complete power supply from two or three sources which give satisfactory results. Whatever your approach, it is handy if possible to obtain a tapped power supply of at least one high and one medium output voltage. It is possible to run your power supply on receive at low h.t. voltage with much lower primary current drain than when transmitting at high h.t. voltage.

Never abuse your transistor power supply. Mount it so that it receives, if possible, a good flow of air current. If not possible at least make sure it is not subjected to a great deal of heat from external sources. Make sure that you connect the correct polarity to the supply and if purchasing same ask for the facility, and the instructions how to, of changing the polarity input—remember you may sell your car some day.

If the power supply is not fused make sure you insert the correct size fuse in the l.t. lead. Normally a transistor power supply fails safe if incorrectly treated, but do not rely on this feature; you may be unlucky and power transistors are not cheap. Although not so critical as vibrators to car voltage, take care that your regulator system is working correctly and the charging voltage is not exceeding approximately 14 volts.

In manufacturing any type of power supply I do recommend the use of silicon rectifiers, OA210s, etc. Most power supplies these days use voltage doubler circuits, thus saving a little

space and weight as far as the transformer is concerned, especially if you are hand-winding same! Illustrated in Fig. 22 is the output filtering and voltage doubling circuit as used in a commercial power supply. The electrolytic condensers are dual types. The reason for the simple filtering is, of course, that the supply is working at audio frequencies, not 50 c.p.s. Should the same voltage doubling circuit be used with a vibrator supply, it may be necessary to replace the first 27 ohm resistor with a choke to obtain efficient filtering.

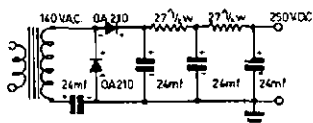


Fig. 22.

The big advantage of the transistor power supply other than conversion efficiency is the absence of radio noise at short wave frequencies as compared with the genemotor and vibrator power supplies. However, do not be surprised if you try to listen to your portable wireless in the car if you get several birdies on the broadcast band from the transistor power supply.

MODIFICATIONS TO I.F.F. GENEMOTOR

The following adaption for a genemotor supply was extracted from VK-22ZVL by gentle persuasion too horrible to record in this magazine. VK22ZVL has been using this idea for some years very successfully on the v.h.f. frequencies. Nearly everyone is familiar with the I.F.F. style genemotor designed for operation of 18 volts but which functions quite well on 12 volts. However, the output voltage of 250 or less, depending on loading, does leave something to be desired. Fortunately this can now be remedied with a little work on the input side of the genemotor.

As can be seen in Fig. 23 a third brush holder (insulated) has been fitted to the l.t. input of the genemotor. No wiring changes are to be made. It is simply necessary to ground the original terminal for reception and change this ground over to the new brush holder terminal during transmission periods. The third brush position should be adjusted for best output voltage before fastening securely to the genemotor frame.

I stress that the third brush be used for intermittent transmitter use only, as

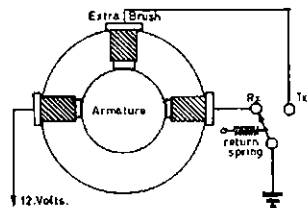


Fig. 23.

depending on the position of the third brush the genemotor could be run to destruction in approximately one hour continuous running on the third brush due to overheating. This method, however, is OK for normal mobile transmission periods excluding the fox on fox hunts.

FOX-HUNTING AERIAL

Having mentioned the subject of fox hunts, brings us to the first topic in the miscellaneous items, the fox-hunting aerial for 2 metres.

Fox-hunting beams are constructed for maximum back-to-front ratio and whilst most beams used seem to consist of three elements with 0.1 director spacing and 0.15 reflector spacing, the author is not fully in agreement with this system. I prefer a three element beam with 0.1 director spacing and 0.25 reflector spacing, however the element lengths are not cut to standard length as for maximum gain.

The director should be approximately 10% shorter than the radiator and the reflector approximately $7\frac{1}{2}\%$ greater than the radiator. A sample beam cut for 144.5 Mc. would then be as follows: Director $34\frac{1}{2}$ ", radiator $38\frac{1}{2}$ ", reflector $41\frac{1}{2}$ "; director spacing 8" and reflector spacing 20". The result looks horribly unbalanced but performs well. A very rough match can be made to coaxial cable with a folded dipole radiator and seems good enough for the purpose of fox-hunting.

In chasing hidden transmitters you must be able to turn your receiver gain right down, preferably at the front-end otherwise when you get very close to the fox you will not be able to get a reasonably true bearing. Of course a good S meter or magic eye is virtually a must. Maybe someone with a good deal of experience in this field will contribute an article on how to beat the experts.

I understand an excellent article on mobile switching, road safety, aerial efficiency, and layout of mobiles is shortly forthcoming, so we will leave these subjects to our fellow author. ●

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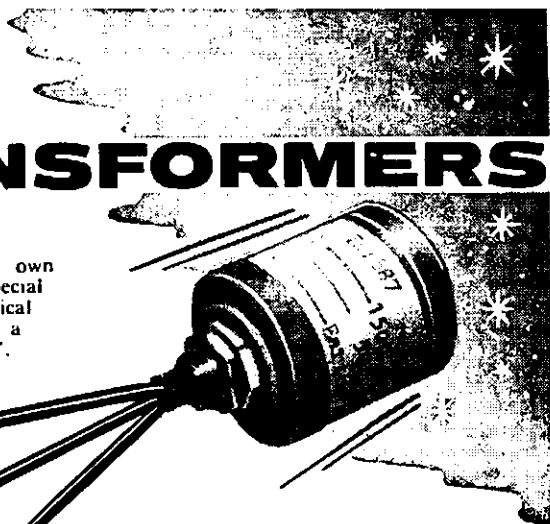
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MODIFICATIONS TO MODULATOR DESIGN WITH OC26 TRANSISTORS*

It has been found that under unfavourable circumstances—particularly under sustained drive—the previously described ("Mullard Outlook", Australian Edition, Vol. 3, No. 3, pages 28, 29 [also "A.R.," May '61—Editor "A.R."]) "Modulator Design with OC26 Transistors" may be thermally unstable. Leakage currents in the OC74 driver transistors and in the OC26 output transistors may be equally responsible. To guarantee thermal stability under sustained-drive conditions at ambient temperatures of up to 45°C., it is recommended that the following modifications be made:—

Revised Performance Figures

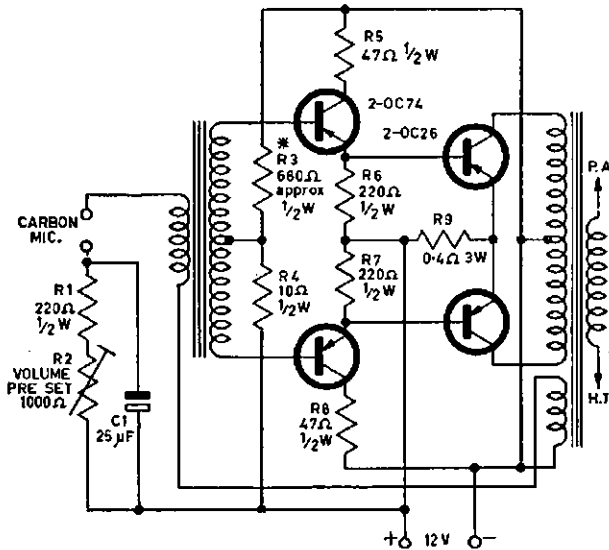
Maximum output power, 1,000 c/s. (10% total harmonic distortion)	14.5 W.
Voltage across input terminals for maximum output power	920 mV.
Input impedance (approx.)	50 ohms
Negative feedback	9 db.

The above concludes the extract from "Mullard Outlook," Australian Edition. Below is an extract from "Info," (VK5 Division Bulletin).

The iron loss is estimated at 0.25w., therefore if our calculations are correct it would seem that, with two perfectly matched transistors, one expects an output of just over 12 watts, and further, that in order to obtain 15 watts of audio power into the modulated stage, it would be necessary to obtain a more efficient modulation transformer and either—

- Re-design the modulation transformer so that the primary impedance is 10 ohms, i.e. 52 turns per side.
- Reduce the impedance of the modulated stage to 3,160 ohms, or
- Increase the supply voltage to 13.5 volts.

We feel that taking normal variations of components into account, that the modulator would fall more happily into the 10 watt rather than the 15 watt class. We also feel that 0.9 of a volt is quite a bit too much to expect from average microphones, and a preamplifier stage would be necessary, and this, of course, entails a re-design of the input transformer.



* Adjust base bias for total quiescent current of 40 mA., not including microphone current.

- A resistor of 0.4 ohms (R9 in the accompanying circuit diagram) should be included in the common emitter return of the output transistors.
- To minimise heating of the driver transistors under drive, 47 ohm collector load resistors (R5, R8) should be used.
- The return resistors for OC74-emitter-OC26-base (R6 and R7) should be decreased from 1.2K ohms to 220 ohms.

It should, in addition, be ensured that the 2-OC74 as well as the 2-OC26 have adequate heat sinks—the cooling fins being screwed on to any available flat metal surface.

The use of an emitter resistor in the output stage results in some loss of power and sensitivity, although there is an improvement in the fidelity at moderate power levels. The revised performance figures are as follows:—

Editorial Note.—Looking at the output circuit, we see that, with the original output transformer and load, the collector load on each transistor is the sum of the following.

Emitter Resistor	0.4 ohms
Load Impedance reflected on half primary,	
Load Resist. + Sec. Resist.	
(Turns Ratio) ²	
= $\frac{4225 + 190}{335 \times 4}$	3.3 ohms
Resistance of half primary ..	0.25 ohm
Making a total Resist. Load	3.95 ohms

Allowing a knee voltage of 1 volt in the OC26, i.e. a peak collector swing of 11 volts, the peak current of the OC26 equals $11 \div 3.95$... 2.8 amps.

Because of leakage inductance and iron loss the peak current induced into the secondary will be less than $2.8 \div 36.6$... 0.77 amp.

And the power into the load will be less than—
 $\frac{0.077 \times 0.077 \times 4225}{2}$... 12.5 w.

COMPUTER "PREVENTS" SHIP COLLISIONS

A computer designed to act as the "eyes and ears" of sea-going vessels and which may virtually eliminate ship collisions, has been developed in the United States.

Designed to tie in with a ship's standard radar system, the marine collision avoidance computer was developed by the Goodyear Aircraft Corporation, Akron, Ohio.

A Goodyear spokesman said that the computer would give audible and visual warnings of collision courses, forecasting both relative and true courses of other ships 30 minutes in advance. In addition, the equipment advises the navigator of the necessary evasive action to manoeuvre out of a potentially dangerous location.

With existing ship radar, such information could be obtained only by plotting data obtained from the radar screen on a manoeuvring board, the spokesman said. Use of the computer provides continuous and accurate information without laborious plotting, thus freeing the navigator and other officers for other important duties on the bridge.

Targets are automatically released from the trackers as they leave the 20-mile range, or may be manually released by the operator, the Goodyear spokesman added.

W.I.A. N.S.W. DIVISION SOUTH WESTERN ZONE

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DIVERSITY FOR THE AMATEUR

N. BURTON,* BERS-11494

THE Amateur Radio Service, in common with other Services using the short wave spectrum, has been, and still is, plagued with what is perhaps the most annoying of radio troubles—fading. Other Services have tackled this problem seriously, but apart from automatic gain control, which is only a partial palliative at the best, the Amateur has been notably backward in adopting any form of remedy against this nuisance.

Before the last war at least one commercial firm offered a diversity receiver for Amateur use, but in spite of the modest price, around £160, few Amateurs availed themselves of the benefits this receiver could offer.

The idea of diversity, as is well known, is to utilise the better of at least two signal voltages derived from separate aerials at any one instant, since, at any one instant, the voltages produced in different aerials by the same transmitter will vary widely.

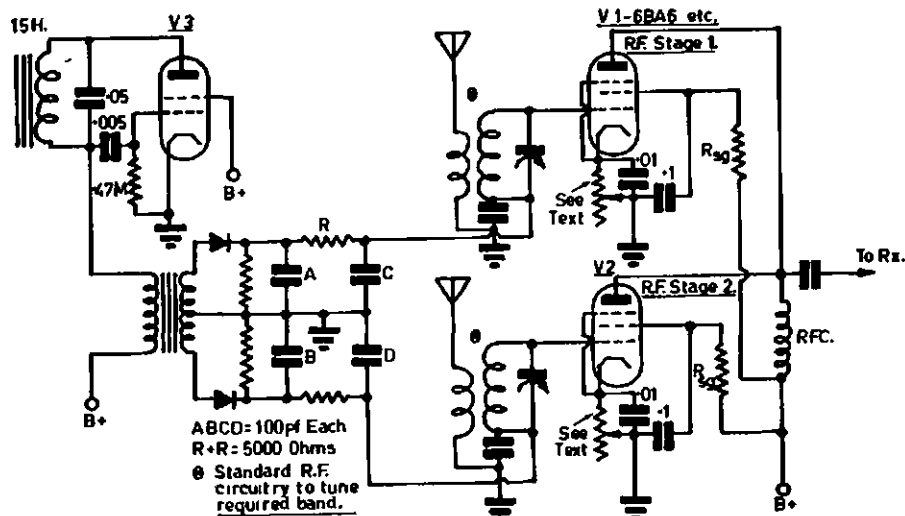
A method was offered some years ago to Amateurs utilising the receiver a.g.c. line to operate a mechanical switch, but as the switching action depended on the uncertainty of a gas triode to trigger the switch, it, if for no other reason than this, failed to gain popularity.

The position today remains the same; fading is still with us and any Amateur today wishing to purchase a diversity receiver will find that the ones available commercially are meant for point to point w.t. or r.t. working and hence are ill adapted to rapid searching of the band. Even if they were suitable for rapid searching, the cost (around £1,500) is such that most Amateurs would give a second thought to the matter before purchasing one.

What can we do about the matter then? The answer would seem to be simple and within the means of any Amateur. It is to make our own switching device, but instead of using a

and, dependent upon the cycle, this applied voltage either adds to the standing bias on the valve, so cutting it off else it subtracts from the standing bias, and so allows the valve to conduct. The reverse cycle reverses the operation of the valves and so at any one instant only one aerial is connected to the receiver, but as this changeover occurs 30 times a second, it is rapid enough to provide a much more level audio output from the receiver and renders signals far more pleasant to read and so adds enjoyment to a contact.

Concluding on a practical note, it is suggested that the oscillator be well screened; also the filter components up to the output ends of the two rectifiers, whilst arranging the bias on the r.f. valves at cut off point, or almost so, it can be ensured that the valves do cut off or conduct. As little amplification is needed from these valves, there is no objection to a high standing bias on them.



The aerials may be spaced to obtain the largest voltage difference or they may be of different polarisation, which will produce the same effect, and this latter is perhaps the easiest for the Amateur, and technically for him, the best, since most short wave transmissions suffer varying degrees of rotation of polarisation in the reflections they make on their journey from the far point. It follows then that one aerial can be the normal transmitting aerial whilst the other aerial can be a simple dipole arranged vertically.

It is of course impossible to combine the outputs directly due to the phase difference, but some kind of switching from one aerial to the other allows the better signal to be used at any one instant. The switching could, of course, be done by hand when, aurally, the signal began to fall, but this method is hardly practical and is hardly in keeping with good practice.

clumsy mechanical switch, to do the job elegantly, automatically and electronically.

Referring to the circuit, it will be seen that two aerials have been fed into separate r.f. amplifier valves and that these r.f. amplifiers share a common anode load and output condenser. This departs little from normal practice with the exception of the common anode load and this will explain itself as we proceed. The remaining valve is the odd man out. Close examination reveals this to be an oscillator of very low frequency—the values indicated set this frequency around 30 c.p.s. The output from this oscillator is fed via a Class B transformer into a pair of suitable small metal rectifiers at whose output, across the load resistors, appears a voltage which, after smoothing is applied, as would be a.v.c. to the grids of the two r.f. amplifiers.

The working is as follows: At any one instant one of the rectifiers applies a voltage to the grid of one of the valves

NEW W.I.A. QSL BUREAU ADDRESS

Members are asked to note the new address for the Wireless Institute of Australia Federal QSL Bureau. It is also requested that VK stations, when in contact with DX stations, inform them of the new address so that the widest publicity can be given to this matter.

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FREQUENCY PREDICTION CHARTS

The Frequency Prediction Charts were discontinued due to space demands and the fact that it was considered they were of little interest. These Charts will be re-introduced as soon as suitable data is again available to "A.R."

The Publications Committee requests readers interested in these Charts to advise how they would like the data presented. Regrettably, cost prohibits their presentation in graphical form.

W.I.A. N.S.W. DIVISION
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75-WATT MODULATOR

THE modulator circuit is based on information appearing originally in R.C.A. "Ham Tips," re-printed in "Amateur Radio" (August 1948 and August 1960) and "Radiotronics" (July-August 1949) showing a method of using 807 valves as zero bias Class B Modulators. Tests have proved that this system produces the results claimed and does this without the usual complications of bias and screen voltages, etc.

Considering the popularity and low price of 807 valves, this circuit has much to commend it.

A complete modulator unit with pre-amplifier was designed, built and tested as a prototype, and all relevant tests were made including actual operation with a 100 watt transmitter. The performance of the modulator was very satisfactory, after one or two modifications were made to the original circuit in order to produce the required frequency response. The pre-amplifier provides sufficient gain for most high impedance type microphones.

● By popular request the following two articles are reprinted as the back issues of "A.R." are no longer available.

Many Amateurs are at a loss to know the best manner to obtain the audio power required to modulate their transmitters. A very good means to obtain 75 watts of audio is the use of 807s (or 1625s) in Class B zero bias.

TEST RESULTS

The frequency response was taken overall from the input of the driver valve to the secondary of the modulation transformer, terminated in a resistive load of 10,000 ohms, and with 100 mA. d.c. through the secondary winding.

At full output of 75 watts the frequency response was within 1.5 db. from 200 to 7,000 c.p.s. The distortion present at full output over the frequency range was quite low and aural tests

showed that the speech quality was excellent.

The response of the pre-amplifier stages can be modified to suit a particular microphone by altering the coupling condenser values and in the case of a crystal microphone by reducing the resistor value from grid to earth on the first valve. It will be noted that the low frequency response falls off below 200 c.p.s., the transformers being designed to aid in this respect.

Reduction of the high frequency response and harmonics produced by the negative peak clipping valve is also desirable, and can be achieved by the use of a filter or to a degree by a suitable by-pass condenser.

It is well known that speech waveform is of a very peaky nature, and this means generally that either a low average modulation level must be tolerated, or some means must be provided to overcome this limitation. Without suitable precautions, an increase of the audio gain above a certain level will cause some of the higher negative voltage peaks at the modulation transformer secondary to exceed the final

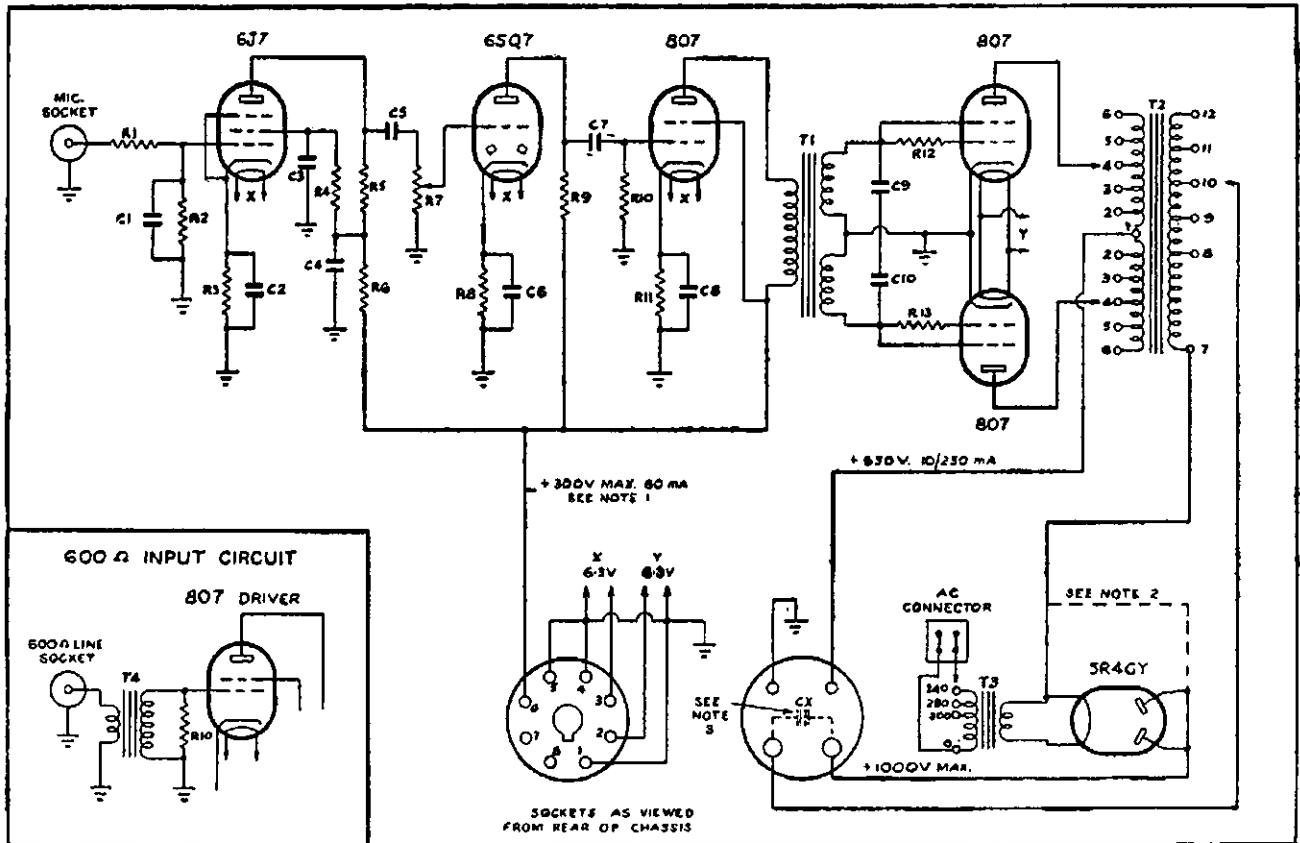


Fig. 1.—Circuit of 75 Watt Modulator.

T1—Type IT588 A. & R. Transformer.
T2—Type MT15A " "
T3—Type PT1516 " "
T4—600 ohm input transformer.
C1—50 pF. mica.
C2, C6, C8—10 μ F. 40 v.p.
C3—0.1 μ F. 200 v.w.
C4—8 μ F. 525 v.p.

C5, C7—0.01 μ F. mica.
C9, C10—400 pF. mica.
CX—2,000 volt working, see text.
R1—20,000 ohms, $\frac{1}{2}$ w.
R2—5 megohms, $\frac{1}{2}$ w.
R3—1,500 ohms, $\frac{1}{2}$ w.
R4—1.5 megohms, $\frac{1}{2}$ w.
R5—0.25 megohm, $\frac{1}{2}$ w.

R6—50,000 ohms, $\frac{1}{2}$ w.
R7—0.5 megohm pot.
R8—5,000 ohms, 1 w.
R9—0.25 megohm, 1 w.
R10—0.5 megohm, $\frac{1}{2}$ w.
R11—225 ohms, 3 w.
R12, R13—20,000 ohms, 1 w.

NOTES

1. If voltage exceeds 300, reduce with a resistor and by-pass with 8 μ F. condenser.
2. Short circuit plates to filament if negative peak clipper is not required.
3. Up to 0.01 μ F. by-pass may be required (inc. r.f. by-pass).

r.f. stage d.c. plate voltage. This will reduce the effective voltage acting on the r.f. stage to zero for the period of time that there is no positive voltage applied, thus causing discontinuity of the carrier power and so-called splatter takes place.

Volume compression and a.m.c. circuits reduce the peaks and increase the average modulation, but the time constants normally used allow high speed speech peaks of some frequencies to pass through to the modulator output circuit. The solution to this is to add a high level negative peak clipping valve with a low pass filter following.

The negative peak clipping circuit is included in the modulator so that those who use the equipment will be provided with the basis for possible improvement of their transmissions if they desire a high average modulation level with minimum interference to other stations.

It is not claimed that the best results will be possible without a low pass filter between the modulation transformer and the r.f. final stage of the transmitter, although useful suppression of high frequency response can be obtained by providing as large a capacitance as possible (2,000 v.w.) in the position marked CX in the circuit.

A filter, if used, will carry the final stage d.c. current and the audio frequency currents. The condensers and reactors should be able to withstand the maximum working voltage continuously; i.e., approximately 2,000 volts r.m.s. at full audio output and 1,000 volts d.c. It is best to use "air core" reactors for the reason that less trouble will be experienced from noisy operation under heavy modulation.

Details of the design and operation of suitable filters, and of other methods of reducing the f.f. channel width will be found in "QST," April 1948; R.S.G.B. Bulletin, February 1949, and in other publications.

VALVE LINE-UP

The modulator includes pre-amplifier stages, and is intended for use with a high impedance microphone. The overall gain is more than sufficient for full output using a D104 type crystal microphone.

A 6J7 metal valve was used in the original unit, and should this type be difficult to obtain, a 6J7G would be quite suitable if provided with a metal shield to completely enclose the valve,

grid resistor and r.f. filter circuit. A single ended valve, such as a 6SJ7 is not recommended.

The second valve is a high gain triode type 6SQ7, and this valve and the following valves are readily obtainable.

It was found that a single 807 valve as a tetrode provided adequate driving power for the modulator valves, when used as shown in the circuit diagram. Negative feedback was not necessary, as the distortion visible on the c.r.o. screen was not excessive at 75 watts output, over the voice frequency range for which the unit was designed.

The driver transformer is a type specially designed for use in this circuit, but the modulation transformer is a semi-universal type suitable for use with many other Class A, AB1, AB2, or B circuits, using such valves as 807s, 809s, 830Bs, etc. The maximum signal modulator valve plate current should not exceed 150 mA. d.c. per side of c.t. on the primary side, and the d.c. current through the secondary should not exceed 150 mA. A maximum d.c. voltage of 1,000 may be applied to the primary and/or secondary windings.

MODULATION TRANSFORMER IMPEDANCES	
PRIMARY	SECONDARY
1 H.T.+	7-8 4,000 ohms
2-2 3,800 ohms	7-9 5,000 "
3-3 5,000 "	7-10 6,000 "
4-4 6,600 "	7-11 8,000 "
5-5 8,500 "	7-12 10,000 "
6-6 10,000 "	

The modulation transformer is fitted with a spark gap to provide protection against excessive peak voltages which may occur in the event of loss or reduction of load during transmitter adjustment or tuning operations. This gap should be carefully adjusted so that during full modulation the points are as close as possible, but do not spark over under normal peaks.

The modulation transformer has been carefully designed and is not likely to break down with normal use if the maximum voltage and current ratings are not exceeded. The primary and secondary impedance ranges should be suitable for most modulator and transmitter valve combinations usual with a transformer of 75 watts rating.

POWER SUPPLY

It is necessary now to point out that full power output with low distortion from this or similar audio equipment, is not possible without power supplies having the necessary voltage regulation under minimum to maximum signal conditions.

The power supply for the pre-amplifier and driver stages should provide 275/300 volts at about 80 mA. with sufficient filament windings for all valves (except the 5R4CY). It is advisable to check the filament voltages at the valve sockets, as low voltage, particularly on 807 valves, is to be avoided.

The power supply for the modulator valves is most important, and should be a separate unit with good regulation. The voltage output should be approximately 650 volts at the no signal current of 10 mA. and should not drop to less than about 600 volts if full output of 75 watts is required, the maximum signal current for both valves being approximately 220 mA. It is possible to use up to 750 volts (maximum at no signal) on the valves, and obtain the power output with poorer power supply regulation. A power supply with good regulation and additional current capacity may also be used for both the modulator valves and the Class C final r.f. amplifier.

The degree of voltage regulation required can be obtained by using 866A rectifier valves, with a choke input filter (preferably a swinging choke) and a second filter choke, both with low d.c. resistance of the order of 50-60 ohms. The filter condensers may be 2 μ F. after the first choke and 4 μ F. after the second choke.

When wiring the modulator, make all earth connections to a bus-bar, and earth at one point only on the chassis.

MODERNISING THE DRIVING STAGES

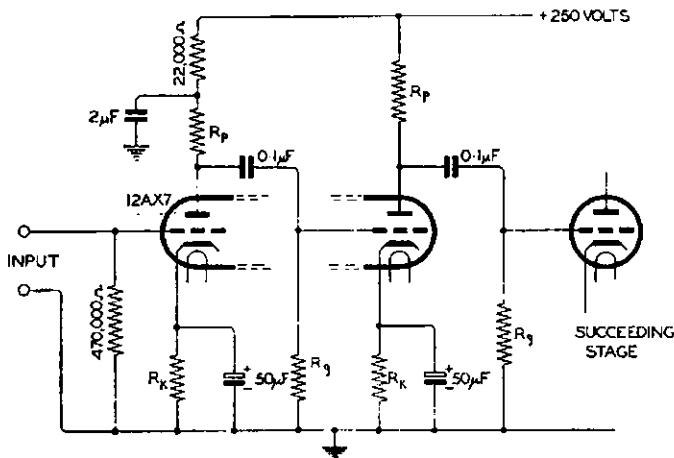
The 6SQ7 can be replaced by a 6AV6 or one section of a 12AX7, and the 6J7 by a 6BR7 or EF86 or similar low noise pentode.

Alternatively, the 6J7 and 6SQ7 can be replaced by a 12AX7 with both sections in cascade if the microphone has sufficient output.

Fig. 2 is from the S.T.C. Valve Data Handbook, Vol. 2. It is necessary to use separate cathode bias resistors and condensers and suitable plate decoupling. Plate and grid leads should be kept short and separated with shielding if required. For voice frequencies, the cathode and coupling condensers can be reduced in value to limit low and high frequency response.

★

Fig. 2.—12AX7 Cascade Amplifier.



	Cond. 1	Cond. 2	Cond. 3	Cond. 4	Cond. 5	Cond. 6
Plate Load Resistance Rp (ohms) .. .	100,000	100,000	220,000	220,000	470,000	470,000
Grid Leak Resistor Rg (ohms) .. .	220,000	470,000	470,000	1M	1M	2.2M
Cathode Bias Resistor Rk (ohms) .. .	1,500	1,500	3,300	3,300	6,800	6,800
Max. r.m.s. output voltage at 1 kc. for 5% total harmonic distortion ..	27	31	25	32	28	32
Voltage gain at 1 kc. .. .	2,080	2,420	2,840	3,370	3,420	3,590

DRIVING THE ZERO BIAS 807s

NOWDAYS it is quite common to have a contact on phone and hear, "I am using 807s in zero bias as modulators OM," and find another convert to using our "Maid of all work," the 807, in a new job.

This is quite understandable, for used in zero bias, the 807 is completely tamed, and parasitics are non-existent.

For those who have not got access to the original article, it may be as well to run briefly over the circuit, shown at "A" in Fig. 1.

The centre tap of the driver transformer is grounded, and the ends of the secondary windings connected to the screens of the 807s. A 20,000 ohm resistor is connected between the screen and grid as shown, and the plates of the 807s are fed to the conventional modulation transformer. The cathodes of both 807s are grounded.

With this circuit, the driver transformer was the catch, as it had to match the driver tube to the grids of the 807s which had an almost constant impedance of 14,200 ohms, grid to grid. In addition, to obtain 120 watts of audio it was necessary to use a driver which would supply 5 watts of drive to the grids; this meant a pair of 2A3s or equivalent, after allowing for transformer losses, etc.

In our applications, 120 watts is not required, and therefore the most popular arrangement has been to use a 6L6G as driver, which allows us to obtain at least 75 watts of audio, and for lower audio requirements, a 6V6 or 6F6 was adequate. Obviously then, with zero bias 807s, the harder we drive them, the more we get out, up to their limit of 120 watts, provided of course, that our plate voltage, regulation, and impedance match are correct.

Ahead of the driver, we need the usual voltage stages to lift the gain from the microphone to give a voltage which will enable the driver to operate at its correct output. With a crystal microphone, this is about two stages, or with a carbon microphone, one stage.

So much for the circuit as originally described, and now to the circuit described in February 1950 "CQ," shown in "B" Fig. 1.

T1 is a conventional plate-to-push-pull input transformer, such as the type used to feed a 6C5 to a pair of 2A3s; in other words, an ordinary voltage transformer (most of us have a transformer of this type lying about). The centre tap of the transformer is grounded, and the ends of the secondary fed to the grids of a 6SN7, which operates as two cathode followers. The cathodes are not grounded, but are connected as shown to the 807 screens and grids.

The plates of the cathode followers are tied together, by-passed, and supplied with 300 volts. The remainder of the circuit is the same as "A".

Conventional methods of producing driving power in circuit "A" Fig. 1 would involve power consumption largely cancelling the power economy advantages of the Class B operation. Such power need be supplied to each grid only on its positive half of the cycle, however, the cathode follower driver is a natural.

Note there is no connection from the 6SN7 cathodes to ground, except through the grids and screens of the 807s. Thus the plate current flowing in the 6SN7s is equal to the grid and screen current of the 807s, and varies from less than 1 mA. to peaks of 20 mA. with voice modulation. Actually the total current of a 6SJ7 pre-amplifier, 6SN7 two-stage resistance coupled triode amplifier, and the 6SN7 cathode follower stage totals less than 10 mA. under static conditions. Since the driver section works on about 250 volts, its plate power as well as that of the two voltage stages is obtained from the one supply.

Actually the direct-coupled cathode followers supply approximately 10 volts of positive bias with resultant total static plate current on the 807s of 30 mA. Of course with modulation, this plate current increases to 80 to 150 mA., depending on the output required.

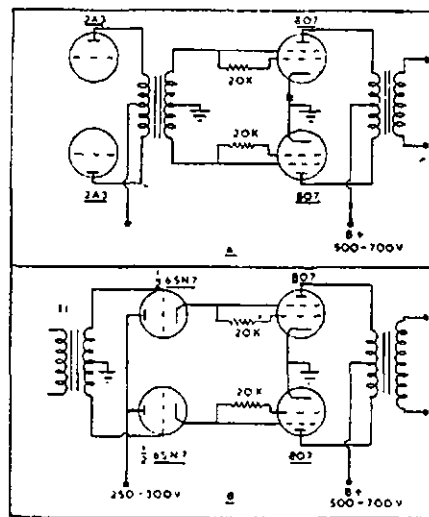


Fig. 1.

The voltage stages required ahead of T1 are important, and it is necessary to see that sufficient voltage is supplied to the primary of T1, otherwise the power output from the 807 stage will be inadequate.

It is recommended that the minimum required from a crystal microphone would be: a 6SJ7 high gain amplifier, followed by two triode sections of a 6SN7 as resistance coupled triodes. In the writer's case the voltage stages used were:—

Pre-amplifier on operating table, 6SJ7 and 6J5 to 500 ohm line, 6SN7 as two resistance coupled amplifiers, feeding T1, cathode followers and then the 807s Class B stage. From the 500 ohm line, all other stages are in the main rack of the transmitter. With this line-up, the gain control is one-fourth on for 100% plate modulation of a 50 watt power amplifier, i.e. 25 watts of audio. The meter reading the combined plate currents of the 807s varies from a resting current of 30 mA. to about 80 mA. on peaks, which means that for 25 watts of audio, the 807s are simply loafing along. The plate to plate im-

pedance was 10,200 ohms, and the plate voltage 500 volts, rather poorly regulated.

IMPEDANCE OF CLASS B STAGE

The following plate-to-plate impedances for the 807 Class B stage are appended for readers who have not a copy of the original article.

Case	1	2	3
Plate Volts	750	600	500
Plate to Plate load	6650	5050	4000 ohms
Output	120	90	72 watts
Max. av. anode current (two valves)	240	240	240 mA.

Note.—If the Class B stage is run at lower plate currents or voltages, the plate to plate impedance will be different. The calculations are very simple with the following method, which is accurate enough for our requirements.

CALCULATING IMPEDANCE

In a Class B stage at any instant the grid of one tube will be driven positive and the other tube driven past cut off, and therefore in calculating impedances we need only consider one tube. As far as the one tube is concerned the primary of the output transformer is a resistance and therefore we have this plate load (R_p) and the resistance of the Class B tube in series across the power supply. We can assume that about 80% of the power supply voltage will appear across the plate load R_p as audio voltage, so if our plate supply is 500 volts, 400 volts peak of audio will appear across the plate load R_p . This gives us our voltage for calculation.

Now we want the peak current. Manufacturers' characteristics give the maximum average current for two tubes (sine wave input), so to find the peak current we divide the average current by 0.636. Therefore our peak current for Case 3 in the lists above is: 240 mA. \div 0.636 = 377 mA. = 0.377 Amp.

Then from $R = E \div I$ we have: 400 \div 0.377 = 1061 ohms for one tube.

The plate to plate load for two tubes will be four times this value or 4244 ohms, which is very close to the manufacturers' ratings (Case 3).

The audio output can be found by the simple formula $W = (I \times E) \div 2$ and working on peak values found, we have $(0.377 \times 400) \div 2 = 75$ watts output.

Below is the case of Class B 807s to give 100% modulation of a 50 watt carrier (25 watts of audio). Example: Supply voltage 500 volts.

Av. I_p (2 tubes) = 100 mA. = 0.1 Amp.
Then E peak = $(500 \div 1) \times (80 \div 100) = 400$ volts.

(i.e. 80% of supply voltage.)

Peak current $I_p = 0.1 \div 0.636 = 0.152$ Amp.

Plate impedance (one tube) = $E_p \div I_p = 400 \div 0.152 = 2630$ ohms.

Then plate-to-plate impedance = $2630 \times 4 = 10,520$ ohms,
and audio output = $(I_p \times E_p) \div 2 = (0.152 \times 400) \div 2 = 30.4$ watts.

—J. C. Duncan, VK3VZ



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CALCULATING INPUT IMPEDANCE OF GROUNDED GRID LINEAR AMPLIFIERS*

JOHN WEATHERLEY,† VK5QL

Impedance matching in grounded grid linear amplifiers seems to be a problem worrying many Amateurs. The following notes are based on articles published over the past few years in British and U.S. magazines. The notes refer to tetrodes and pentodes connected as high- μ triodes as these are probably the types for which this type of information is difficult to obtain.

In a g.g. amplifier there are the same number of impedances to be matched as in a normal grounded cathode amplifier. Impedance matching is probably of greater importance in a g.g. stage because the input and output impedances appear in parallel to the driver stage (see Fig. 1).

It will be seen that any variation of either impedance will affect the other; this can demand high drive. The actual basic circuit with impedances indicated is shown in Fig. 2.

The plate load impedance Z_L is calculated the same as for any power amplifier. The input impedance is a different matter and apart from being complicated, requires tube data not normally available. Fortunately a simple approximation can be made for the input impedance of g.g. tubes connected as high- μ triodes.

First the conductance is calculated—this is the opposite of impedance. If the plate resistance R_p is much greater than the load impedance Z_L , and the μ of the valve remains much greater than unity, the input conductance g_i can be shown as

$$g_i = \mu \div R_p = gm$$

where g_i is in umhos,
 R_p is in megohms,
 μ = amplification factor.

This represents the tube conductance in g.g. As impedance is the reciprocal of conductance the input impedance Z_g may be determined by dividing the gm into 1 (one). The tube transconductance can be readily obtained from tube tables and if this is in turn divided into 1 (one) will give the input impedance Z_g in ohms.

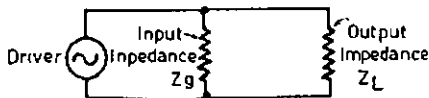


Fig. 1.

For example, the 813 has a transconductance of 3,750 micromhos, the formula becomes $10^6 \div 3750$, which becomes 267 ohms or the impedance to which the driver must be matched to give maximum transfer of power.

It should be remembered that tubes in parallel will behave the same as resistors in parallel and two 813s in parallel would thus have an input impedance of 133.5 ohms.

Table 1 lists some of the tubes found to perform well with both control and

screen grids grounded and in the case of pentodes with separate suppressor with this grounded also. The transconductance was obtained from manufacturers' data sheets and input impedance from the formula $Z_g = 1 \div gm$, where gm = transconductance in mhos.

Valve	gm μmhos	Input Z ohms
6AG7	11,000	91
6V6	3,750	267
6L6	5,200	192
802	2,250	444
837	3,400	294
6146	7,000	143
4E27	2,800	357
4E27A	2,150	466
4-125A	2,450	408
813	3,750	267
803	4,000	250
4-250A	4,000	250
1625 (807)	6,000	167
EL34	11,000	91
EL38	11,000	91
4X150A	12,000	83

Table 1.

[The above gm only apply at a specific series of voltages.—Ed.]

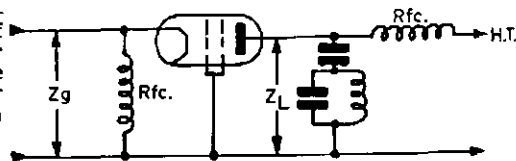


Fig. 2.

Trade Review

V.T.V.M., MODEL 300H

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Full technical information is available from Warburton Franki offices in Queensland, New South Wales, Victoria, South Australia, and in Western Australia from Tough Instrument Service Co.

"AN AWARD OWED"

Conditions these days, are not very good
 And QSLs aren't returned, as I think
 they should.

At times I hear prefixes from all over
 the place,

And so do others who get in the race.
 It's very enjoyable to work a rare station
 And receive a card without much frustra-
 tion.

But sometimes I find it extremely hard
 To persuade a station to send me a card.
 And as for Certificates, I seem to recall
 That I've won a couple, but they're not
 on my wall.

Is it procrastination, or writer's gout,
 That prevents 'em from sending them
 out?

I'm referring, of course, to the R.D.
 Award
 And their reluctance to send one to
 Claud.

I have heard just lately of tidings dire,
 That these awards and records went up
 in a fire.

It must have been serious, of that I've
 no doubt,
 'Cos it's taken a year to put fire out.

In the meantime, of course, the contest
 continues.

But how can you win? They're all agin
 youse.

The whole complete set-up has a cer-
 tain aroma,

Why in heck won't they issue an R.D.
 diploma

To those willing log checkers who
 worked night and day?

I "dips me lid", they're not in the fray.
 But that elusive character, the award
 designer,

Where in heck is he, on a slow boat
 from China?

In a recent "A.R." some mention was
 made

That the necessary blocks didn't quite
 make the grade.

"Get on it" chaps, their excuses are
 worn,

Why try to hand us "a very raw
 prawn"?

The contest itself has meaningful aims
 To remember our comrades, to treasure
 their names.

In conclusion, may I have this to say,
 If you can't do the job, you'd best give
 it away.

—C. P. Singleton, VK4UX.

* Reprinted from S.A. Division, W.I.A., Bulletin.
 † 10 Green Street, Elizabeth Park, South Aus.

SPACE COMMUNICATIONS IN AUSTRALIA

Australian Amateurs lead the world in reporting of Oscar 2! Congratulations, chaps.

Oscar 2 is dead, though its memory is still with some of us, but Oscar 2 is known by many more of the VK boys. We watched its progress, measuring its temperature, its speed, its height, placing a protractor along the equator and knowing the inclination to be 72 degrees at the equator, produced the orbital path across our continent with a few figures, and the knowledge that the earth moves from west to east at 15 degrees each hour (at the equator), worked out the number of degrees per hour we move here at Sydney. (For those interested, it is 40 naut. miles per degree.)

Thus after having worked out the number of orbits per 24 hours (60° times 24 hours/90" = 16 per day), we were able to make our own predictions as to when and where Oscar would be at any given time. All States had their own Co-ordinators who were supplied with full data on how to find Oscar, Doppler shift, slant angle, and so on.

We ran a Oscar 2 network on 3.565 Mc., where you could hear what was going on daily. The operators of this net were VK3ABP (Bill), VK7PF (Peter), VK2WH (Hugo) and VK2HO (Roy). We tried the 40 mx band, but it was a wash out. I also tried out 21 Mc. but it was too inconsistent.

At headquarters here in Sydney, phone calls, letters, telegrams and visitors were frequent daily. Much information had to be sent across the continent each day, not to mention the report form service. The W.I.A. N.S.W. Division were busy printing the forms, and also printed a special sheet on how to find Oscar 2, etc., thanks to Tim VK2ZTM and Tony Patterson. In N.S.W. there were small country groups

under selected leaders, and they were the Lismore group, Woolongong, Blue Mountains, Tumut, Kulnura, Gosford, Canberra and s.w.l's. all over the State. Single operators in country towns did a very good job, not forgetting the many v.h.f. groups in all the capital cities.

VK2ZCF ran a tape on 144 Mc., a recording of Oscar 1, and from this all were able to get some idea what to look for, and what the Doppler shift sounds like, how to count the HI's, etc. This proved very useful. VK2ZJC, at Kurragong, did a sterling job and logged the greatest number of fly-overs in his State, giving times, HI rate, and predictions. Publicity was given to the project via t.v., radio stations, newspapers, magazines, bulletins, etc.

Reports are flowing into Oscar headquarters from all parts of the world. Special honors are due to the Amateurs of Australia, Finland, Austria and England who are providing a great volume of excellent data. Reports from all call areas in W land are excellent. Ed Hilton, W6VKP, states that Oscar 2 reports show a much higher degree of competence and awareness than did the reports received from Oscar 1. Obviously the self-training aspect of Amateur Radio is working well! Many Amateurs are computing Doppler curves, determining satellite slant range, and figuring the period of the satellite and making their own orbital predictions. Congratulations!

To date, 428 stations have reported data to headquarters, with more mail arriving every day. Most reports are of such excellence to enable the Data Reduction Group to directly transcribe them to I.B.M. punch cards for quick sorting and analysis. This operation is now in progress under the direction of Harley Gabrielson, W6HEK. Early analysis indicates satellite temperature remained relatively constant, rising slowly from a lunch figure of 20°C. to

30°C. by revolution No. 293. By revolution No. 294 the package temperature was up to 44°C. and by revolution No. 295 the temperature had soared to 58°C., which is close to the temperature of transistor failure.

Headquarters in America send their congratulations to Amateurs in Australia. Through your efforts the number of reports from VK (based upon Amateur population) are first compared to all countries, and they are excellent in quality. One of the Oscar crew works at I.B.M. and all Oscar 2 data is being placed on punched cards to run through a computer. This will greatly aid the analysis of data. Headquarter staff offer their profound thanks to the VK gang. "It is a pleasure to obtain such co-operation, which stresses once again the International friendship and co-operation that exists within the ranks of Amateur Radio! I am sure that the long-range effects of the Oscar programme will be of great benefit to our hobby."

In conclusion, I wish to thank all who participated in this project. I want to particularly thank all State Co-ordinators, VK1ML, VK3ABP, VK7PF, VK2WH, VK4ZBT, VK5ZX, VK6ZDS, and VK9AU for a very excellent job indeed.

Further, I thank VK2HZ, VK2PF for publicity. Last, but not least, the Council of the W.I.A., N.S.W. Division, for co-operation.

Chaps, don't stop now! Oscar 3 is on the way, and let us be on top again in this next project. Oscar 3 will be a communications satellite not unlike Telstar.

Cheers and 73,

—Roy Hart, VK2HO,
Australian Co-ordinator.

CRYSTALS for Lattice Filters and S.S.B. Equipment

Brand new FT-241 Crystals in MATCHED PAIRS ± 5 CYCLES are available in following frequencies:

444.444 Kc.	451.852 Kc.	459.259 Kc.	464.815 Kc.	Price per MATCHED PAIR £3/12/6 Includes sales tax and one dual crystal socket.
446.296 Kc.	453.704 Kc.	461.111 Kc.	466.607 Kc.	
448.148 Kc.	457.407 Kc.	462.963 Kc.	468.519 Kc.	
450.000 Kc.	Kc.	Kc.	470.370 Kc.	

455.000 Kc. Crystals, Type FT-241, £2/0/0 each, includes sales tax and crystal socket.

HC6/U 100 Kc. Marker Crystals, £4/16/0 each, includes sales tax and crystal socket.

FX-1 Type Crystals, 0.001% accuracy: 1,000 Kc., £5/15/6; 3,500 Kc., £4/6/6

FA-5 Type Crystals, 0.01% accuracy: 1,500 Kc., £4/17/6; 7,000 Kc., £5/8/0
14,000 Kc., £6/8/3; 21,000 Kc., £5/8/0

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NO CALLERS PLEASE
XJ 6181, XJ 2353

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123 BALGOWLAH ROAD, FAIRLIGHT, N.S.W.

NATIONAL FIELD DAY CONTEST RESULTS, 1962

Participation in this year's Contest was much the same as last year, judging by the number of logs received. However, activity and scores were greater than last year. The number of logs sent in for Section B unfortunately was very small again, although apparently quite a few stations were active in this section.

A lot of very fine, and obviously very effective, portable and mobile equipment was in operation during the Contest week-end. Everyone seems to be quite happy with the rules as they are at present and with the re-organisation of Civil Defence and, we hope, a revival of W.I.C.E.N. in all States, we hope to get even more participants in the Contest next year.

Here are some details of some of the more elaborate field day set-ups:—

VK3APC—Moorabbin & District Radio Club, with six operators and 10 assistant operators had transmitters operating on 3.5, 7, 14, 21, 50 and 144 Mc.—all with their own receivers and antennae. Power provided by 1.5 kva. alternators. On 21 Mc. they had a quad for their antenna!

VK5LS—Elizabeth Amateur Radio Club had eight operators in the field and worked four stations on 3.5, 7, 14, 21, 50, 144 and 288 Mc.

VK6VT—The V.h.f. Group of W.A. also had eight operators who used all bands except 288 Mc. Four transmitters were used, including a Gelson GR222 and a Collins 32SI.

VK3WI went out to Mt. Blackwood with nine operators and worked the same bands as VK3APC. Equipment used included No. 22 and No. 122 sets and quite a bit of transistorised gear and transistorised power supplies.

VK3CS had also eight operators working 80, 40, 20, 15, 6 and 2 metres. Equipment included a s.s.b. transceiver on the h.f. bands, among others, and an a.m. rig and a f.m. transceiver on 2 metres.

We regret that lack of space does not permit us to list the wide variety of equipment used by all the other stations operating in the field.

We have again received several reminders about outstanding Certificates and would like to assure all those concerned that they have not been forgotten. Certificates will be issued as soon as possible.

—Federal Contest Committee, W.I.A.

AWARD WINNERS

Section A (Portable Phone):

VK2AAH—H. F. Burtoft	515	pts.
VK3AUL—A. Lock	806	"
VK4ZAZ—J. L. C. Bickford	60	"
VK5BQ—B. Cleworth	426	"
VK6JO—R. J. Skevington	224	"
VK7TT—T. J. Tongs	500	"

Section B (Portable C.W.):

VK2JM—J. A. Mead	56	pts.
VK5TL—T. Laidler	50	"
VK7CH—C. Harrison	288	"

Section C (Portable, Multi-Op.):

VK1SB—S. E. Brown	400	pts.
VK2SW—S. R. Ward	582	"
VK3APC—Moorabbin & District Radio Club	1783	"
VK5LZ—Elizabeth Amateur Radio Club	1847	"
VK6VF—V.h.f. Group of W.A.	1125	"

Section D (Fixed Station):

VK2APK—D. Kiesewetter	495	pts.
VK3XB—I. Stafford	565	"
VK4UX—C. P. Singleton	105	"
VK5CV—G. A. Lane	200	"
VK7SM—S. G. Moore	575	"

Section E (Receiving):

WIA-L2033—D. W. Shepherd	335	pts.
WIA-L3099—J. Jobson	425	"
VK5—K. Wehr	470	"
WIA-L6021—P. Drew	175	"
WIA-L7012—G. F. Sharpe	540	"

INDIVIDUAL SCORES

Section A (Portable Phone):

Pts.		Pts.	
VK2AAH	515	VK4HZ	426
2RX	204	5BQ	233
3AUL	806	5GG	64
3HE	385	5YA	27
3ASW	207	5TL	40
3YA	194	5PE	20
3ZCG	182	6JO	224
3JO	128	6MM	68
3AUC	104	7TT	500
3EM	68	7BT	117
3LW	49	7JB	58
4ZAZ	60		

* Check Log.

Section B (Portable C.W.):

VK2JM	56	Pts.	VK7CH	288	Pts.
5TL	50		7LJ	104	
5PE	10				

Section C (Portable, Multi-op.):

VK1SB	400	Pts.	VK3WI	1455	Pts.
2SW	582		3UJ	743	
3APC	1783		5LZ	1847	
3CS	1552		6VF	1125	

Section D (Fixed Station):

VK2APK	495	Pts.	VK4UX	105	Pts.
2AHV	315		4ZAZ	75	
2ANO	290		5CV	200	
2DU	175		5EQ	145	
3XB	565		5LL	140	
3AST	470		5LD	*	
3AXT	425		6AS	*	
3AKN	400		7SM	575	
3ABP	240		7KH	210	
3RJ	220		7BJ	85	
3ADU	65				

* Check Log.

Section E (Receiving):

WIA-L2033—D. W. Shepherd	335	pts.
SWL-VK2—R. B. Pinning	225	"
WIA-L3099—J. Jobson	425	"
WIA-L3042—E. Trebilcock	420	"
SWL-VK3—D. Wilke	165	"
SWL-VK5—K. Wehr	470	"
WIA-L5015—W. J. Clayson	395	"
WIA-L5030—T. R. Hutchesson	390	"
SWL-VK5—Miss O. J. Martin	320	"
WIA-L6021—P. Drew	175	"
WIA-L7012—G. F. Sharpe	540	"
SWL-VK7—G. C. Johnson	510	"

JAMBOREE-ON-THE-AIR

Please Note: Correction to August issue "A.R." page 9. The duration of the **Fifth Annual Scout Jamboree-on-the-Air** is for **48 HOURS**, not 24.

In order to avoid the confusion of previous years, the times have been given as Eastern Australian Standard Time, so here they are again. The event will take place between 1000 hrs. E.A.S.T. on Saturday, 20th October, 1962, and 1000 hrs. E.A.S.T. on Monday, 22nd October, 1962.

Plans for the Victorian participation are well under way. Every Victorian Scout Group has received two forms. One is to be returned to me as soon as they have arranged their participation, giving the call sign of the Amateur Station and the bands to be used. This information will provide a list of both local and DX stations. Those who will be using DX bands will be listed and published by the World Scout Bureau throughout the world before the event.

Groups who are unable to contact an Amateur Radio Operator have been asked to let me know so that assistance can be given if possible.

The second form is the log sheet for use during the event, to be compiled by the Group in conjunction with the Radio Amateur and returned immediately after the event. This will enable a report to be compiled of the Victorian participation.

The Boy Scouts World Bureau will again be operating its own station from its head office in Ottawa, Canada. This year the call sign is VE3WSB (VE3 World Scout Bureau), using the following frequencies:—

- 10 mx band—28,490 to 28,510 kc.
- 15 mx band—21,195 to 21,210 kc.*
- 20 mx band—14,195 kc. (listening also on 14,210 kc.)*
- 40 mx band—7,250 kc.

* On these bands, VE3WSB will give preference to stations outside Canada and U.S.A. at all times.

Amateurs requiring further information or who have any suggestions which might help, are asked to contact Lin VK3ARL or myself (VK3AGD) any Tuesday or Thursday evening on 80 metres after 2030 hours E.A.S.T.

—John S. B. Y. Woodburn,
Branch Organiser, Boy Scouts Ass.

SCANDINAVIAN CONTEST 1962

The Scandinavian Activity Contest, 1962, will be held on the 3.5, 7, 14, 21, and 28 Mc. bands. C.w.: 1500 GMT, Saturday, 15th Sept., to 1800 GMT on Sunday, 16th Sept. Phone: 1500 GMT, Saturday, 22nd Sept., to 1800 GMT on Sunday, 23rd Sept.

Non-Scandinavian stations call "CQ SAC" on c.w., and "CQ Scandinavia" on phone. The Scandinavians will use "CQ-Tect" and "CQ-Contest."

Logs are to be mailed not later than 15th October, 1962, to the Traffic Department of E.D.R., P.O. Box 335, Aalborg, Denmark.

Correspondence

Any opinion expressed under this heading is the individual opinion of the writer and does not necessarily coincide with that of the publishers.

FILTERS

Editor "A.R.," Dear Sir,

In his article on "The Importance of Adjacent Channel Selectivity" (August "A.R.," p.6) Mr. E. C. Hulme, VK2EN, inferred, possibly unintentionally, that crystal filters are inferior to mechanical filters. I would like to make the following points.

1. It is just as impractical for the average Amateur to construct a mechanical filter as it is for him to build a modern crystal filter. No Amateur, to my knowledge, has attempted to manufacture a mechanical unit and the reasons for this are illustrated by VK2EN's comments on the "works" of such devices. Those crystal units described in constructional articles cannot be considered as representative of modern filter units as they invariably use obsolete types of crystals. A modern crystal filter uses hermetically sealed, plated crystals carefully manufactured for frequency, inductance and lack of spurious responses. The average Amateur just has not the facilities available to make such crystals and thus he must purchase a "black box" to get a first class unit.

2. If the filter is considered as a "black box" supplied by a manufacturer then neither the mechanical nor crystal type of unit is particularly difficult to instal provided the directions are followed.

3. Shape factors obtainable with mechanical filters are also possible with crystal filters, e.g. a six-crystal filter can be built with a shape factor of 2:1.

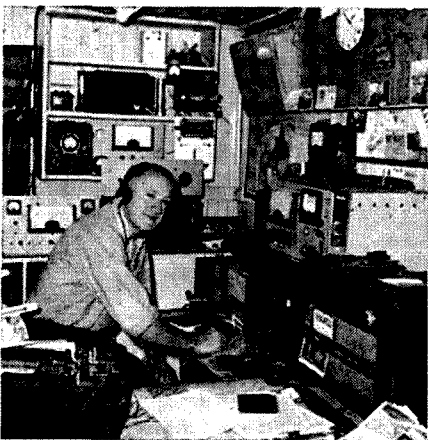
4. The insertion loss of a crystal filter is usually considerably less than that of a comparable mechanical unit, e.g. 5 db. as compared to 20 db. Figures on inband ripple are of the same order, viz. 1 db.

5. Crystal filters can be made for frequencies between 50 kc. and 40 Mc., whilst, at the moment, mechanical filters are limited to frequencies below 600 kc. This means that in receivers employing only one i.f. and a mechanical filter, the i.f. is, of necessity, low and image responses are still a problem. However, if the one i.f. is of the order of 5 Mc. and a crystal filter is used, then good selectivity is obtained where it is most needed and images are no longer a problem.

6. In all fairness, however, I would point out that within the range 400-500 kc., the mechanical filter is smaller and usually more economical than the crystal type.

Summing up, it seems the mechanical filter is the better proposition for the Amateur i.f. s.s.b. exciter, but there is no doubt that the h.f. crystal filter is the device for the modern communications receiver whether it be for c.w., s.s.b. or a.m. work.

—David Rankin, VK3QV.



"A.R.'s." DX Editor, Al. VK4SS.

Rig, 80 through 10 mx, 70 watts. Rx AR88 and home brew. DXCC on 7, 14, 21 Mc. Forty Awards and Contests. Many times VK/001. C.H.C., A.H.C., Q.C.W.A., etc. Countries worked, 230 plus.

SPLATTER

Editor "A.R.," Dear Sir,

I would be the last to brand VK5PU's criticism of my article on "Splatter, Its Cause and Prevention" ("A.R.," July '62) as hysterical.

No claim was made by me for originality in application of a shunt diode to provide a conductive path for excessive negative swing of modulation potentials; even the generation of ringing frequencies dependent on the distributed constants of open circuited inductors is a well known factor. However, the realisation that this phenomenon is the basic cause of monkey chatter heard during excessive modulation, and NOT audio frequency harmonics of the fundamental speech signals seems to have escaped attention.

The "Amateur Bible" (A.R.R.L. Handbook, p. 285, 1962 edition) persists in the erroneous explanation that splatter is due to audio frequency harmonics generated by clipping of the modulation envelope, consequently confusion among its devotees is explicable.

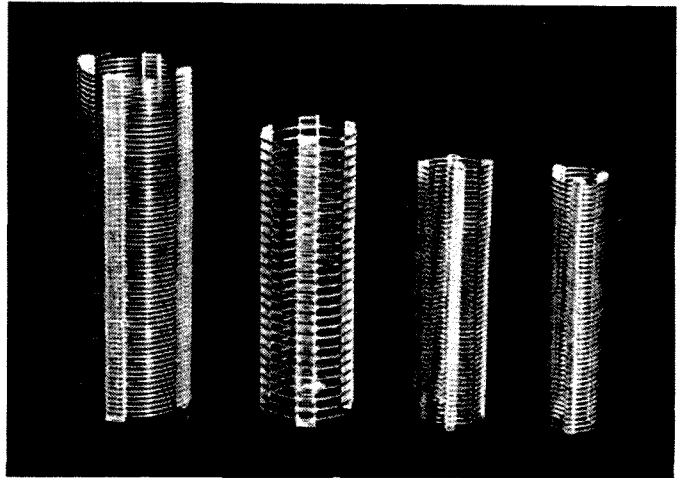
Permanent "Negative Cycle Loading" as advocated by Reinartz ("A.R.," March '62) is a decidedly amateurish and brute force method, wasteful of audio power, and a chronic source of audio frequency distortion at all levels.

Low pass filters in the modulated amplifier h.t. supply undoubtedly assist in reduction of modulation by lower order audio harmonics of speech frequencies, and should be used in addition to any form of Negative Cycle Loading or Clipping. At the radio frequencies generated by ringing of open-circuited modulation inductors the usually jumble wound filter coils no longer operate as essential inductances but by-pass increasing levels of splatter producing energies.

In conclusion, I would like to stress that my article was intended to place before the Amateur fraternity a simple method of serious splatter cure, not requiring specially wound and insulated diode heater transformers. Also to VK2AZG I would like to publicly express my appreciation for his assistance in making available the 6R3/6AL3 diodes.

—J. G. Reed, VK2JR.

AIR-WOUND INDUCTANCES



No.	Diam.	Turns per Inch	Length	B. & W. Equiv.	Price
1-08	1/2"	8	3"	No. 3002	5/3
1-16	1/2"	16	3"	No. 3003	5/3
2-08	5/8"	8	3"	No. 3006	6/3
2-16	5/8"	16	3"	No. 3007	6/3
3-08	3/4"	8	3"	No. 3010	7/4
3-16	3/4"	16	3"	No. 3011	7/4
4-08	1"	8	3"	No. 3014	8/5
4-16	1"	16	3"	No. 3015	8/5
5-08	1 1/4"	8	3"	No. 3018	10/6
5-16	1 1/4"	16	3"	No. 3019	10/6
8-10	2"	10	4"	No. 3907	13/9

SPECIAL ANTENNA ALL-BAND TUNER INDUCTANCE (equiv. B. & W. No. 3907-7")

7" length, 2" diameter, 10 t.p.i. 24/6

References: A.R.R.L. Handbook, 1961; "QST," March 1959; "Amateur Radio," December 1959

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428 Elizabeth St., Melbourne, C.1, Vic. 34-6539

DX

VP4, OA4, BV, ZM7, 7G1, FP, AC5, MP4, ZC6, TY2

Sub Editor: ALAN SHAWSMITH, VK4SS, (Phone 4-6526-7 a.m.-4 p.m.)
35 Whynot St., West End, Brisbane, Qld.

ADDRESS CORRESPONDENCE FOR THIS PAGE DIRECT TO THE SUB EDITOR

These last two weeks of July, conditions have been near an all time low. However, there is quite a bit of mail to hand, which indicates that DX will be worked, no matter what.

NOTES, NEWS AND ADDRESSES

Gus has been having extreme difficulty getting licences for VQ8s. GZMI is working on it. However, two VQ8s will accompany Gus to operate from Chagos and Agalegas, if licence difficulties persist. Gus is in very close touch with R.E.F. for operations from Tromelin, Comores and Europa. Gus and a V59 will try to sneak into Yemen for 4WI operations. Chances are very good. No definite time yet, probably in late July or August. After Yemen, a possible try for VS9K, then to EP, YA and 9NI. Then to Calcutta. He has a letter from the King of Bhutan inviting him to operate from AC3 and AC5. Gus has changed his low frequency operating slightly. 0000z 40 c.w. 7001, 0030z 3502 kc. c.w., 0100z on 7002 s.s.b. Gus has been operating as VQ9C from Cosmoledo Is. This will not be considered a new country due to its proximity to the Aldabras. You better keep your ears open on Gus' frequencies, because he may come on with some rather funny sounding calls. It won't be because he ran out of coke, but because he may have a little trouble getting the VQ8 calls. In this case he will go there and operate anyhow with call signs like VQ9A/8C and VQ9A/8A. Gus will probably make all of the VQ8 islands, except Rodriguez. His operating times have not been favourable to work VK.

Ascension Island—ZD8RN has been heard, between the hours of 2200-0200z. He was heard two days in a row on 14053. Times and frequencies: 1405z at 2130z, 04z at 2315, 05i at 0041. QSLs go via P.A.A., Box 4187, Ascension Is., viz Patrick AFB, Florida.

KG6 Land: The U.S. Navy has turned over the administration of Saipan to the Department of Interior, while retaining control over the rest of the Marianas. K5BGB says the Islands of Saipan and Rota may be considered for separate status.

Timor: CR8AB has now gone QRT. QSLs go via W4QCW.

Dick WOMLY is being operated as TY2MY from Dahomey. His next stop will be Togo. On 1st July, Ruanda-Urundi became two independent states. Now called Rwanda and Burundi. Dick WOMLY will probably try for these after leaving Togo.

Rhodes: SV0WH and SV0WY are due to be on from Rhodes this month.

VR5AA has been worked on 14001 kc. at 0745 and 0830z. His name is Herb. and he has a 4-way rhombic on U.S., with 300w. QSL to Box 36, Nukualofa, Tonga Is. He usually comes on around 0600 GMT.

Christmas Is., VK9: Bruce VK9XO was wk'd. 2nd July, his c.w. (14305) to K5ADQ's s.s.b. on the same freq. Anyone have any info on this one?

9G1DP, XT2Z, 5T5AH QSLs: Louis 9G1DP requests that all stations still needing a QSL for his 9G1DP, XT2Z or 5T5AH operations, forward their QSL directly to Louis Kaiser, P.O. Box 1981, Kumasi, Ghana, West Africa. The return QSL will be forwarded via the Bureau.

(All the above by courtesy of Bev. W4CKB.) FM7WQ is on s.s.b. (14304) with the travelling H97TL s.s.b. rig.

October?: VS9 boys from Kuria Muria Is. for a new one.

(Above two paras. from Bob K6CQM.) DL9KP is off to 3A2 for a short spell. All modes and bands. Call will be 3A2EZ. Try around 2100z for a QSO on 20 mc.

Alan VR4CV will be QRT at Honiara on Sept. 5. He will then spend a week in VK9 before coming to VK land. If you haven't already worked him you may have time to snatch a QSO after reading this before he packs up. Try 14 Mc. in the late afternoons. Try 7 Mc. around 1200z and freq. 7010 or 7020 kc. Also 80 mc around this latter time.

Several Vs are operating from Pago Pago, KS6. Very early morning or afternoon is OK. K5KOR/KS6 is one in particular.

FZ1AX is often audible here on 3.5 Mc. s.s.b. around 3790.

Brian VK5AB reports that he is now almost to the 300 wk'd. mark. When this happens he will QRT. (Are you serious OM?)

Frank VK2QL reports that the QRP Club is increasing in membership and is considering running a contest. This should be very good. If your rig is designed to run at 100w. or less then you simply get in touch with Frank or drop a line to W6CIS, 1783 Montrose Road, Concord, California. I am a member and I find the common meeting ground of its members around 14100 kc. late afternoons a very good place to pick up a little DX.

Alf VK3KB reports having followed Dick's (WOMLY) vagabonding through Africa and working each prefix as it is created. He also has already a number of the T series QSLs. Also has a QSL from CR8AB.

QTHs FOR QSLs

KS6AM—American Samoa. QSL via W1BYH. VP2KJ—QSL via Curt W4SSU.

TA4RZ—QSL via Fla. DXer Ross K4WIS.

KS4BF—Serrana Bank DX-pedition. QSL via K4S4F—WADQS.

VQ9AA—Gus on Aldabras. QSLs to W4ECI. MP4TAO—QSL to DJ1BZ.

VR5AA—Herb Chapman, Box 36, Nukualofa, Tonga.

VQ1DR—Zanzibar, via W2TSD.

CR5SF—Silva, Sao Thome. QSL direct.

KH6ENT/KS6—1825 Nicholson Dr., Baton Rouge, La.

HMIAP—Via K6QPG.

ZA1GB—Via W2PZY.

VR3S—WA6MAZ.

OD5LX and OD5LJ—C/o. P.O. Box 1217, Beirut.

OD5AV—C/o. P.O. Box 235, Tripoli.

VP6KL—F. Roberts, Waters Meet. Worthing, Christ Church.

VP6PJ—C. Jones, Hill Crest, Palm Beach Gap. Hastings, Christ Church.

VP6RG—R. Gibbs, Beechgate, Hastings, Christ Church, Barbados.

ZK2AD—L. T. Hack, C/o. Radio Station, Nuie Island, via New Zealand.

3A2BT—N. Fitch, 79 Murchison Rd., London, E.10.

FW8AB—Try via FK8 Bureau.

CE0AD—Via CE QSL Bureau.

VP2HJ—Via R.S.G.B.

HH2JV—J. Vabre, P.O. Box 671, Port-au-Prince, Haiti.

UJ6AC—Box 88, Moscow.

5H3HZ—P.O. Box 2387, Dar-es-Salaam, Tanganyika.

XE1IL—P.O. Box 907, Mexico City.

K1FIW—P.O. Box 314, Toulouca.

I1PP—P.O. Box 347, Genoa.

AC4NC—N. Chakravarti, Indian Mission, P.O. Gyantse, Dhassa Tibet.

KC4USS—Gary Ernst, RM2, U.S.N., U.S.S., Burton Island, AGE-1 F.P.O., S.F.

VK4IC was active from Willis Is. some time back. Pse can anyone help with QTH?

VK0WB has sent QSLs to all VKs worked during 1981 from Wilkes.

Dick WOMLY is about QRT from TZ2. 5T5 is to be his next prefix.

Gus WB4PD is about to commence from Chagos Is.; period 10 days.

Gus and Dick move about so fast that it is impossible to keep you posted with their latest whereabouts.

Ian Thomas, WIA-L3065 kindly sends this note from ZL3OX on 160 mc operation. Freq. used by ZLs are 1.875 to 1.900 Mc. South Americans are to be found anywhere between 1.75 and 2.025 Mc. North Americans on the East coast use mainly the freqs. 1.8 to 1.825. Those on the West side 1.975 to 2.00. Many Ws are calling CQ VK/ZL.

ACTIVITIES

Ray VK2RA comes up with these wk'd. 7 Mc. c.w. FK8AU, KX6DK, VR1M, KC4USB, VR4CV, etc. 7 Mc. s.s.b. FW8BH, FK8AU. 14 Mc. c.w. WOMLY/TJ8, TY2MY, K5FOQ/KS6, VQ9A/7, TG9AD, YU3YU, YV5AE, etc. 14 Mc. s.s.b. DLs, 4X4DK, ZS5JM, VR3B. 21 Mc. Ws only. (Hope you are 100 per cent. again, Ray OM.)

Hal 4D0 reports condx very bad. He wk'd. on 14 Mc. c.w. KX6DK, KL7AY, plus several Asian and Nth. Americans.

Yours truly (VK4SS) managed these: KR8AP, K5KOR/KS6, OA4PZ, VE0MC, K2QGC/KG6 (Saipan?), 5V4MY, FW8BH, TG9AD on 14 Mc. 40 mc c.w.: KX6AZ, VR4CV, YV5BE. 80 mc VR2EG, VR4CV, VR2DK.

One of the most noteworthy pieces of DX info to hand is the first country wk'd. on 1.8 Mc. VK3AKR QSOed PY8RN with 88 sigs. Don

VK3AKN reports quite a bit of activity on this excellent band. He says VK4RZ was the first to show on s.s.b., but others are now using this mode. (I would appreciate any more DX wk'd. on this band.)

Dietmar VK2APK reports over 20 Certificates to hand. Soon we will have another CHC'er. (What abt. the QRP Club OM?)

Frank VK2QL has had a quiet month as he has been busy with other things. On 7 Mc. wk'd. VS1FJ, 14 Mc.: VR1G, VR1J, K5KOR/KS6, and TY2MY and 5V4MY were two that got away. Frank also wk'd. FW8BH on 7 Mc., which gave him a total of 107 on this band. QSLs rec'd. were HC1AG, DL1FF (both 3.5 Mc.), KS4FB, UT5HE, VQ4HE, CX2BT, 9Q-5AAA, UA2AC, UO5PK (all 7 Mc.).

Eric BERS195 logged these 3.5 Mc.: VR2EG (0900z) 7 Mc. c.w.: DJ8CU, DU7SV, KL7FAG, KX6DK, SP8AJJ, UA4RA, UB5KEP, UP2KAF, VK8UX, VR2DK, YV2BJ, 5H3GC, 9M2FZ. He rec'd. these QSLs: CR7IZ, HC4IE, KR6AM, VE-2AY, UH8AKA, VQ9RR, V58KAC, YJ1MA, ZC4PB, 5N2LXZ, 6W8DE. Eric advises that CR7IZ, whose name is Rutelo Graca, will be returning to the mainland very soon from Ibo Island. He is mostly known for his c.w. activities, but also uses s.s.b.

Ted VK5JE, the 7 Mc. specialist, comes up with some very good ones. KX6AJ (1130z), YV5BLT (1115z), YV2BJ (1100z) HK1IQ (1055z), VP5BL (1100z), 9Q5AAA (2200z), G3JFF/MM (1200z), AC4NC (1000z), XE1OK, YJ1RH, KC4USV, KL7DDQ, etc.

Ian Thomas, L3065, heard: 20 mx s.s.b. VE-7ZM, DL1VR, 11RM, G1GTK, VK0DS, KG6LJ, TG9AL, YJ1RH, ZL4JF, XE1CV, VK2VC/LH, VR3S, VK9NT, VR7MD, W6CL/KP6. 21 Mc. a.m.: T2HK, ZE7JR, K7OXB and ZL3OX was hrd. on 160 mc.

Bill Jehn, L4001, sends in a very good list, logged 80 through 15 mx. VK8OW, VK8AD, VK8UX, VK8AV, VK9GP, ZL5AI, ZL4JF, VR-4CB, VR1G, CE3RO, T12HK, SP9HK, XE1FB, ZE6JA, YV4HE, VQ4HX, OA4DT, GW3EQ, HK3LX, LU9DAH, CX2XA, YS1JM, ZS6OY, ZS6AUZ, and many more good European and African prefixes. (Next month pse. indicate band and QTR OM.) All were on a.m.

Peter Drew, L6021, heard: 20 s.s.b.: ZS5JM, ZE7JJ, ZSTR, VR2BJ, KX6CG, VE7ZM (all between 0500-0800; all times GMT). 40 mx a.m.: 9M2FX (0025), ZL3BL, VR2DI, W3PHL, VR1G, DUBFET, DU9FC, DU6RG (0800-1045). 40 s.s.b.: XE2WH, W4VCA/KH6, K2VCV/LH, KX6NG, KORQO/KH6 (0800-0930), XE1CV (0930). 40 c.w. VS1FJ, JAIHGJ, W0FCL/KH6, JAI1DMX, many Ws and JAs. 15 mx a.m.: ZE7JR, VK9DS, 4STBR, MP4TAC, VQ4RF, ZS6AXI, CR7CK, CR6JL, ZS20M, W6HQ1/MM, VS9MB, ZS6ARX, ZS1MW, VS9ARC, VS1GC, VS4RS, ZS2DY, ZS1JQ (Africans 0700-1000). 15 mx s.s.b.: Ws, W5YNI/KS6, KX6DC.

SUMMARY

Anticipation flavours all things and in the field of Amateur Radio the keen DXer will be looking forward to the warmer months when the bands begin to liven up. 80 through 20 will improve during the night on the S.R. to Europe. This North-West circuit may let some sigs through on 3.5 Mc. at 1900z. 7 Mc. is already open from 1600z but QSOs are hard.

Well that about wraps it up for this month chaps. Once again I ask that you be kind enough to send me any relevant DX info. My thanks to all those mentioned above for taking the trouble to help the column along. 73, de Al. VK4SS.

P.S.—Stop Press: Alan VR4CV advises that due to staff shortage he will not be leaving Honiara on Sept. 5th as planned.



WORLD CALL SIGNS

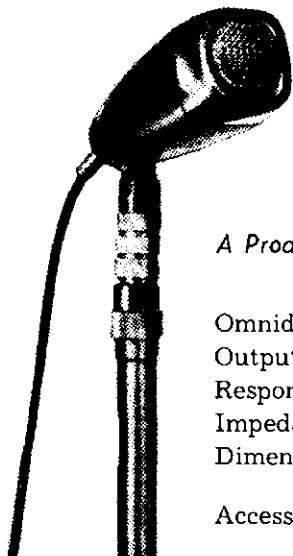
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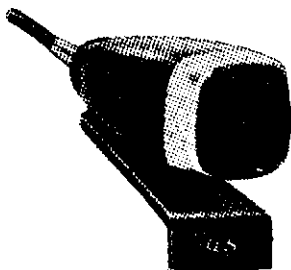
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NEW SOUTH WALES

At the V.h.f. Group committee meeting on 30/7/62 two members of the Group were co-opted to help out as Reg ZACK had resigned and also another committee member indicated that he may be leaving the State, although this is not finalised. The committee wishes to thank John ZAAW and Terry ZBBL for coming forward.

The Group meeting was held on 3/8/62 where the lecture was given by Barry ZAAH on a 576 Mc. xtal locked converter. The Group meeting for Sept. will be held on the 7th, as usual on the first Friday of each month.

The day event for Sept. will be a long distance fox hunt, held on Sunday, the 9th.

I would like to be able to include v.h.f. news from areas other than Sydney as I understand v.h.f. activity is relatively high in other areas, such as S.W. Zone, but unfortunately very little news filters through regularly. If anyone has any news they think would be suitable for inclusion would they please contact me on 144.18 Mc. or write to 17 McIlvennie St., Canley Heights, N.S.W.

144 Mc.: Conditions have been reasonably good seeing it is the middle of winter and the Newcastle stations are hearing Sydneyites regularly. Unfortunately the converse does not apply, which is probably due to higher noise level, lower power and not listening in the right spot at the right time.

Concurrently with the sporadic E opening on 50 Mc. many stations are listening for break throughs on 144 Mc. On 14/7/62 Horrie ZHL reported hearing 3ARI (?) calling CQ at 1211 E.S.T. At 1221 E.S.T. 5ZPO (?) was heard and 7ZAO heard between 1220 and 1224. It has not been verified if these stations were active on 2 mx at this stage as the last letter of the VK3 and VK5 calls was not clear. Horrie did suggest that the stations were heard on a retransmission from 56 Mc., but this angle could not be confirmed.

New stations heard this month include 2ZXB at Balgowlah, 2ZBC at Terry Hills, and 2OK from Sans Souci, who was last heard on 2 mx nine years ago but has made the plunge again.

Alec 2AAK at Kulmura and David 2ZVW at St. Ives has been using s.s.b. with vox control for their QSOs. Tony 2ZBU of Waitarah has been discovering the joys of a xtal locked converter.

50 Mc.: Openings occurred regularly each Sunday during the early part of July. One of the best openings occurred on 15th when all States except VK8 and VK9 were audible at various times during the day.

576 Mc.: No activity at the moment, but ZAAH/P and ZHO have claimed a State record of 62.5 miles from St. Ives to Mt. Gibraltar. 73, ZLBE.

VICTORIA

VK3 Friendly Frequency.—If you have ever tuned up to 145.8540 Mc. you might have heard some peculiar sounds. Probably you have tuned in a station operating in the f.m. net. The net operates equipment that was available some twelve months ago through the Victorian Division's disposals department. The mobile sets have an input of 24w. to a 2E26, the rx's are double converted, and both are crystal controlled. The tx has a total of 10 tubes, the rx 14. Mobile to mobile contacts are common over 15 miles and on occasions up to 50 miles. Stations active include: 3DF, 3EM, 3BX, 3NR, 3OM, 3XK, 3XM, 3AVE, 3ARD, 3ZCA, 3ZCB, 3ZEL, 3ZEO, 3ZFS, 3ZLO. It is hoped that in the near future we will be able to publish details of a crystal osc.-modulator which will convert any 2 mx tx to the f.m. net frequency. So watch out for it. 73, 3OM.

QUEENSLAND

Hurrah for H bombs. July DX has never been so good. On 7th, 11th and 12th—VK3s; on 13th, VK3, 5, and 7; on 14th, VK5; on 15th, we had VK2, 3, 5, 6, 7 and ZL land; on 16th, the band was open to ZL, and on 17th and 18th the band was open to VK3 and 5. On 20th, to VK3; 22nd to VK5 and VK3, and on 18th to VK5.

Maybe it was just coincidence about the H bomb, but if we could have the opportunity to study further similar experiments it may point the way to understanding the modes of propagation at v.h.f. better.

New station on 6 mx is Ken 4ZKP, who is running 6w. into a folded dipole nailed to the wall. Rx is a 6J6 converter into a com. rx. Other new thing possessed by Ken and his XYL is a brand new baby daughter.

Reverend Doug 4ZDL now visits Brisbane every Tuesday and it is a very great pleasure to hear his voice again after a long absence. Previous to this only the Gold Coast had the benefit of Doug's presence on 6 mx. George 4ZGD is now in the wilds of Tully in North Qld. He points out that not only is there a great lack of enthusiastic and progressive Amateurs, but there are very few full licensees also.

Newcomer to this part of Brisbane is Bruce 4BZ and his family. Bruce has returned from the Toowoomba area at last. V.h.f. activity in this suburb, Mt. Gravatt, seems to be mysteriously growing. There are Amateurs, Amateurs moving in, Amateurs who are going to move in, and budding Amateurs. With such a concentrated area of t.v.i. we may eventually create a t.v. set-free zone or something.

The V.h.f. Group meeting was held on the third Friday of the month at the Social Services Institute Hall at Berwick Street, Valley. This is now the new time and place. The meeting was well attended, was organised, was noisy, in fact even some business was attended to. 73, 4ZBT.



A guard of honour was formed at the recent wedding of Christine and John 5ZZ (ex-5ZCJ). 5TN and 5BQ are holding the 2 mx yagis to form the arch. A very high percentage of the guests were V.h.f. Group members and notable amongst them were VKs 5ZBI, 5KX, 5TN, 5ZDR, 5ZCQ, 5ZDQ, 5ZAH, 5ZBI, 5BQ and 5ND. Radio contact on 6 mx was maintained with the newly weds on the first leg of their honeymoon. (5BQ mobile to the bridegroom's car.)

WESTERN AUSTRALIA

July Meeting: 30 members and visitors attended. Four new members were welcomed to the Group. These were Michael 6ZCX, Ian 6ZCL, Trevor 6ZDZ, and Graham Byass who has sat for the L.A.O.C.P.

Cocos Island Beacon: Work is still continuing on the gear and antenna for the installation of this beacon. Further progress will be reported next month.

V.h.f. Field Day Award: Entries received for this award following the field day were of a very high standard. It was found impossible after due consideration to separate the entries of John 6ZAG, Vic 6VK and Dennis 6AW. The prize was divided and presented to these stations.

Western Video Transmission Club, VK6WV/T. This club has been transmitting regularly on 288 and good results have been achieved in reception using a converter into a standard t.v. set on Channel 3. Numerous reports have been received on picture quality and many local Amateurs are building converters. Transmission times are: Week days, 1100-1400 hrs., 1900-2200 hrs.; week-ends, 1500-1700 hrs., 1900-2200 hrs. Test patterns and caption boards have been the main subjects, but technical transmissions are aimed at soon.

V.h.f. Group Annual Meeting: The minutes of the previous annual general meeting were read. Wally 6ZAA read his report as the retir-

ing President. He reported on the achievements and successes of the Group during the preceding year. He thanked the Secretary and members of Council for their support, and also thanked all members of the Group for their support in running the Group and participation in the Group's activities and contests.

The election of officers followed. These were: Patron, Mr. Graham; President, Wally 6ZAA; Sec.-Treas., Rod 6ZDS; Council: Don 6HK, Dennis 6AW, Kevin 6ZCB; Trustees: Ron 6FM, Syd 6SJ; Auditors: Mr. Dooley, John 6ZAG; Press Correspondent, Alyn 6ZDM; Programme Directors: Max 6MM, Dennis 6AW; Contest Organiser, Lance 6LR; Keeper of the Records, Charlie 6LK; Librarian, Rolo 6BO; QSL Manager, Lance 6LR.

An award was founded for the most outstanding achievement in the field of V.h.f. Amateur Radio by a member of the V.h.f. Group. This award will be accompanied by a remuneration of £5/5/0 as an incentive for Amateurs to further the achievements and technical ability of Amateur Radio in general.

50 Mc.: The first major v.h.f. opening during winter was experienced here on 15th July. VK2, 3, 4, 5 and 7 were heard and worked. The band was open from 0800 hrs. to approx. 1400 hrs. W.A.S.T. Conditions were so good that both 6ZDW and 6ZDC reported hearing 2AXI mobile, but were unable to make contact with him. Except for the activity this break through caused, 50 Mc. has been fairly quiet. Ian 6ZCP has been heard and worked using double sideband. Peter 6ZBK has a tx working and is now working on a converter and beam.

144 Mc.: Bob 6ZDP has just completed a converter for this band and both he and Brian 6ZDE are building 10 el. yagis. Viv 6ZCM is hoping to be on the band soon. As usual cross band operation to 50 Mc. is the major activity on this band.

288 Mc.: Major activity is building of converters to receive the Amateur t.v. transmissions by 6WV/T.

It has been seen in the past that winter time is building time, so it is this year. A number of mobile stations have appeared on 50 Mc. this month, talk of 144 Mc. mobile has been heard in a few quarters. Please remember the scribe needs reports of these and other activities to give an accurate account of v.h.f. in VK6 for these notes, so pass on any news you have. 73, 6ZDM.

PAPUA

Oh what confusion regarding frequencies available for use! We were amongst those caught and were not aware until the last few days of July that 50-52 Mc. was in fact still available for use. As a result, opportunity was taken for modification of existing equipment by both 9ZBV and 9AU and both stations were inactive during the month. At the time of writing, 9ZBV still has to replace his converter xtal socket and 9AU has to carry out a lot of wiring on a new converter for 50 Mc. Murray 9CK had not made any alterations and is active again on 6 mx, but has not heard anything other than some 49 Mc. TE signals from our friends up north. No activity at all during the month on 144 Mc. 73, 9AU.

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Here we are once again with information on activities of the s.w.l.'s in Australia. Firstly, I must apologise for the absence of notes in the August issue of "A.R." The reason was that only two letters were received by me for the notes. As you can understand it is impossible to write a page of notes out of practically nothing. I wish to thank the few regular members for their support every month. So chaps, how about helping to support this page by writing of your activities or equipment, etc.?

VICTORIA

At the last general meeting of the group, 19 members were in attendance. The meeting moved very smoothly, but nothing happened of great interest. After the closing of the general meeting we were all shown how VK-3WI operates on 6 and 2 mx. We contacted a large number of Amateurs while on the air.

At the construction night on 14th Sept. Ian L3006 will supply a parts list and circuit for those who intend building a 50 Mc. converter. It will be a three-tube unit with an L/C osc. and will feed into a tunable i.f. in the s.w. range. It will require a power source of 6.3v. and 100 to 250v. h.t. The finished article will also be at the meeting. Those who intend to construct this unit should bring along a list of all the glass-base valves they have, pentodes, twin triodes and triodes being most useful. We will advise you.

As a large group turned up at the visit to VK3APC it has been decided to continue the visits to places of interest for the rest of the year. The next visit, on 7th Sept., will be to GTV9 Studio at 22 Bendigo St., Richmond. The time at the studio is 8.45 p.m., or for those requiring transport, meet at Victoria Parade at 8.15 p.m. Visits for October and November will be announced when finalised.

In a note from Ian L3006, he requests information for the compiling of a list of frequencies used by such services as the Flying Doctor, Bush Fire Networks, School Broadcasts, Forest Commission, Ship-to-Shore, Fishing Boats, Lighthouses, Citizen Frequencies, Model Aircraft, Pleasure Boats, Aircraft Control, Aircraft-to-Ground, and other frequency users operating in the range from 1.6 Mc. to 30 Mc. Details required are the exact frequency, time of operation, location, call signs, type of service, and other details which would assist in reception of the signal. This information can be forwarded to him direct, the address is given in any Call Book, or to me.

Those who assist will be forwarded a free copy when it is completed. We do not want overcasting stations as there is enough information on these signals.

Yours truly has not been listening very much on the DX bands due to being bitten by the v.h.f. bug, and has been listening on 2 mx. To date have only received DX as far as Ballarat, being VK3ZER/M at Mt. Buninyong, received here with a 5 by 9 signal. He was using a four element beam three feet above the car and was running 9 watts to a 312. He worked about a dozen Melbourne stations without any trouble.

SOUTH AUSTRALIA

It seems that the S.w.l. Group in Mount Gambier is fast turning into a V.h.f. Group. It is hoped by the end of the year that there will be three more Limited licensees in Mount Gambier, due to three members sitting for a Z call licence at the recent exam. Those who sat were John Lehmann, Trevor and Colin. All that is to be done now is to await the results.

Listening at Collin's QTH has been mainly on 6 mx and a little on 2 mx. On Sunday, 15th July, there was an extremely good opening on 6 mx to VK4, VK2 and VK7—a total of 25 different stations were logged during the opening. The converter used was a r.f. unit type 26 which is on loan until a xtal locked converter is completed. The antenna used for 6 mx is only a temporary three element yagi about 18 to 20 feet high. All stations heard during the opening were all running 5 x 8-9.

Gary VK5ZGR spent his first day on 6 mx on 15th July and worked seven VK4s and two VK2s and Dale VK5ZER, ZL2GG was heard but not contacted. Gary was then running 6w and later on the power was increased to 15w. input to a pair of p.p. 807s. The antenna used is a four element yagi about

40 ft. high. Gary's operating frequency is approx. 50.95 Mc.

Dale VK5ZER is running roughly 15w. input to a 832A, but at the moment is having trouble with his converter, but did manage to hear a few stations during the opening. The 6 mx band came good from 1000 hours till 1800 hours and there were still stations audible when it came time to pull the big switch at 1800 hours.

Colin's three tube converter for 6 mx is progressing very well and should be in operation very soon. The converter consists of a 12AT7 osc., 6U8 mixer, and a 6ES8 i.f. amp. which will feed into the Eddystone 640 at 7 Mc.

RADIO MAIL

I wish to thank the following for their letters: Eric Trebilcock, Chas. Abernathy, Peter Drew and Ian Thomas.

QSLs received by Eric L3042 so far include HC4IE, OX3UD, TG9AL, UB5ES, UD6KAB, UH8KAA, VE3KE (3.5 Mc.), VK9RR, W9WNV (3.5 Mc.), ZC4PB and ZL3BAH. It may interest you to know chaps that Eric has mailed out 666 reports this year which is not bad going.

Chas. L2211 reports that s.w.l'ing has been out for a while, although he did log Oscar 2 on 145 Mc. on six occasions, and has sent logs away to California and hopes to receive confirmation in due course. Chas. has had his son home from VK3 so the Ham station has been working hence no s.w.l'ing.

Peter L6021 has recently acquired a new rx, which is mainly being used for overseas broadcasting stations. It covers 550 kc. to 9.5 Mc. in four bands and then has another six bandspread coverages on the 31, 25, 19, 16, 13 and 11 mx broadcast bands. This of course is very good for the use stated above with good results, however it also covers 160, 80, 40 and 15 mx Amateur bands which is a great advantage, especially 15 mx which Peter has not been able to receive before. This band comes

in on the 13 mx band coverage. The rx is a nine-tube superhet. put out by Pye.

Band conditions in VK6 have been poor, but 15 mx has been fairly good for W, JA, VS, ZS, ZE and CR7 in the afternoons. 20 mx has been fair for VE and W in the afternoons, while 40 mx is good for Ws on c.w. in the morning and good in the late afternoon and early evening for Ws on s.s.b., also JA and even DU, KX6, KH6, VRIG and one rare one —XE1CV (7 Mc. s.s.b.). On 80 mx, ZLs have only been heard, even the locals have been fading in and out on 40 and 80 mx.

Ian L3065 is still finding time to listen in and has sent out 123 QSLs since March and has received so far 14 in return. The latest were VK2UC/LH, CN2BK, KL7IR and ZL3OX for 160 mx c.w. report. Ian has not logged too many countries or DX stations in the past month due to being busy at his studies, however he managed to get the 6 mx converter in action again after blowing all the dust out of it and logged a few weak locals on the band. It seems a 6 mx quad will have to be erected and also may get to work on the 6 mx tx again, during the meantime it is hoped to see a rise in the DX total during the next few months.

So 73, and best of DX, Robert L3076.

DX LADDER FOR SEPTEMBER

	Countries Conf.	Zns. Hrd.	S.s.b. Conf.	W. Hrd.	Stat.
E. Trebilcock	277	282	40	—	50
D. Grantley	101	249	27	14	90
A. Wescott	84	159	31	33	92
M. Hilliard	69	210	33	9	106
M. Cox	48	215	26	12	128
C. Abernathy	42	82	26	—	13
N. Harrison	34	61	24	—	26
P. Drew	33	180	19	7	93
P. Fields	26	133	—	—	4
I. Thomas	19	134	17	7	88
D. Jenkins	10	141	7	—	—
H. Burger	6	185	5	1	19

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SIDEBAND

Phasing, Xtal Filters, Balanced Mod., Linear Amps., Vox

Sub Editor: BUD POUNSETT, VK2AQJ,

6 Alice Street, Queanbeyan, N.S.W.

ADDRESS CORRESPONDENCE FOR THIS PAGE DIRECT TO THE SUB EDITOR

A NEW BALANCED MODULATOR

Arie Bles, ex-PA0FM, supplied the circuit and information on this balanced modulator. Arie now lives at Springwood and hopes very soon to be back on the Amateur bands with a VK2 call sign. A friend of Arie's, Mac van Schagen, PA0LZ, developed this circuit to overcome the difficulties in obtaining and maintaining balanced circuits associated with most balanced modulators. It was published in CQPA magazine and is used extensively in Holland. Fig. 1 shows the circuit of this unique balanced modulator having unbalanced input and output circuits. Impossible? This is how it works.

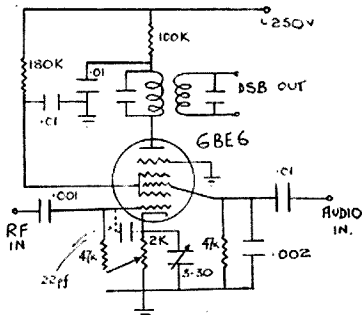


Fig. 1.—A New Balanced Modulator.

Any tube with three grids will work, but a type 6SA7 or 6BE6 pentagrid converter will perform best. A carrier signal of one volt maximum is applied to grid No. 1. As the cathode resistor is not by-passed, a large portion of the signal will appear across this resistor, approximately 0.9 volt. This produces a plate current of $Sg1 \times (1.0 - 0.9)$ mA. $Sg1$ being the mutual conductance of grid No. 1 and 1.0 — 0.9 or 0.1 mA. being the signal voltage between grid No. 1 and cathode.

Grids 2 and 3 are grounded for r.f. With 0.9 volt of r.f. on the cathode, the effect of grids 2 and 3 on the plate current would be as though this voltage was applied to these grids. In other words, in relation to grids 2 and 3, the tube is operating in grounded grid. The result is that another r.f. plate current will flow amounting to — ($Sg2$ plus $Sg3$) \times 0.9 mA. $Sg2$ and $Sg3$ are the mutual conductances of grids 2 and 3.

If these two r.f. plate currents can be balanced, they will cancel and no r.f. plate current will flow, resulting in no r.f. plate voltage. The carrier will be suppressed in

the plate circuit. The carrier suppression can be adjusted with the cathode potentiometer. This adjustment has greater effect on the grid No. 1 to ground voltage than the grids 2 and 3 to ground voltage, making the balancing control easy to use. To make the balance perfect, phase-correction is required. A small trimmer capacitor across the cathode resistor is used to accomplish this. If, however, complete carrier suppression cannot be attained with the trimmer capacitor and less capacitance than the minimum is required, a small capacitor will need to be connected between grid No. 1 and cathode. Audio modulation is applied to grid No. 3, unbalancing the circuit at audio frequencies, so producing two sidebands in the output.

Using a 6BE6 tube and applying 0.5 volt of r.f. and audio, a peak d.s.b. voltage of 6 volts can easily be obtained in the plate circuit. Some manipulation of screen and plate voltage may be necessary. Keep the screen voltage fairly low. With the large cathode resistor and large grid No. 1 bias voltage, d.c. plate current can be expected to be less than 0.5 mA. Typical circuit values are given in Fig. 1.

Many thanks go to Arie for this very interesting circuit which will probably become known as the PA0 balanced modulator and should prove to be very popular.

B.S.G.B. AMATEUR RADIO HANDBOOK

Chapter 10 of the current R.S.G.B. Handbook is entitled Single Sideband and in forty-one pages, very well illustrated, provides the reader with an excellent short course on s.s.b. transmitting and receiving techniques. The text is easily read and understood so that those Amateurs with a sketchy knowledge of sideband will find this a good place to begin their search for knowledge of this subject. The reader is taken through a step by step discussion on the fundamentals from how to suppress the carrier and produce a sideband to linear amplifiers and how to test them. At all times the emphasis is on the practical application of these principles and no great knowledge of mathematics is required.

Examples are given of actual designs of both filter and phasing exciters, while the "Third Method" is described in theory only. Linear amplifiers are adequately treated both in theory and practice, there being several designs to suit the Australian Amateur, from the man who wants a modest final to those who want the limit.

If you are a keen sidebander, new or old, here is a worthwhile manual to add to your library.

S.S.B. NOISE LIMITER

Effective noise limiters for single sideband reception are few and far between. The one marketed by Collins Radio, while doing a good job, has a high price tag hanging from it.

Ron Harrison, VK3AHJ, has come up with the noise limiter shown in Fig. 2. Ron uses this limiter in his 20 mx mobile s.s.b. receiver and finds it very effective. It works best at low levels so should follow immediately after the detector, and before the volume control. The threshold clipping level is adjusted by the 10K potentiometer.

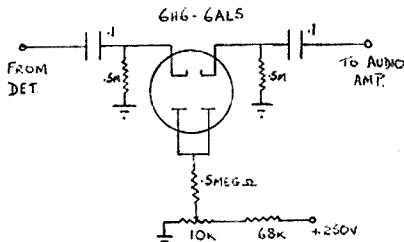


Fig. 2.—Noise Limiter.

SOME DEFINITIONS

The last two issues of the "Mullard Outlook," Australian Edition, Vol. 5, Nos. 1 and 2, have contained an interesting discussion on the fundamentals of s.s.b. Those of you who have not yet become familiar with some of the terms used frequently by sideband opera-

tors will find the list of definitions of assistance. Here, for those more seasoned s.s.b. operators, some of the commonly used terms are defined. Give these a little thought, it could lead to better operating practices.

Automatic Load Control: A means of maintaining a signal level adjusted so that the power amplifier works near its maximum power capability without being overloaded on signal peaks.

Break-In: The ability to break-in on a transmission during pauses in the sending station's transmission.

Linear Amplifier: An amplifier whose output is always proportional to its input.

Load Comparator: A circuit technique used to indicate correct loading.

Modulation Envelope: Envelope of modulated signal. When recovered by rectification, it is the modulation of an a.m. signal. In s.s.b., the rectified envelope does not represent the modulating signal—the carrier must first be re-inserted. Envelope of s.s.b. signal is of prime importance in determining the limits of linearity and power of an amplifier.

Product Detector: A type of demodulator, in operation somewhat analogous to the mixer in a superheterodyne receiver. Usually preferred for single sideband reception detection since it minimises intermodulation distortion products in the audio output signal and usually requires a low amplitude local oscillator signal.

Shape Factor: The ratio of the bandwidth of a filter at 60 db. to its bandwidth at 6 db. The definitions used in this item were taken from the March-April "Mullard Outlook," Australian Edition, and our thanks go to the Editor of that publication.

W.I.A. N.S.W. DIVISION

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FEDERAL AND DIVISIONAL MONTHLY NEWS REPORTS

(SEND CORRESPONDENCE DIRECT TO DIVISIONAL REPORTER NAMED AT PARA. END)

FEDERAL

NEW CALL SIGNS (MAY)

VK— Australian Capital Territory
1PF—St. Columbian Fellowship Association,
Fawkner St., Braddon.

New South Wales

2BM—J. Birdsall, 22 Caibina Rd., Northbridge.
2DG—D. R. Shaw, O.T.C., Bringelly.
2TD—C. Jackson, 22 Innes Rd., Manly Vale.
2AVY—W. K. Rogers, 145 New Ballina Cutting,
Lismore.
2ZDF—P. L. Bochtmann, 26 Coane St., Mere-
wether.

Victoria

3ZAP—A. J. F. Paterson, Lot 27, Victor Cres.,
Forest Hill.

Queensland

4DT—A. T. G. Hanson, Station: Chester St.,
Thursday Island; Postal: O/o, O.T.C.
Radio Station, Box 3, P.O., Thursday
Island.

4IR—Wireless Institute of Australia (Qld. Div.),
Central Qld. Branch, Station: Official
Residence, National Broadcasting Station,
4RK, Gracemere; Postal: F. M.
Nolan, National Broadcasting Station,
4RK, Gracemere.

4JJ—Mrs. M. J. McGrath, Elliott St., Elliott
Heads, Bundaberg.

4ZR—K. J. Dibble, 84 Imperial Ave., Morning-
side, Brisbane.

4ZAS—F. A. D. Smith, 373 Bilsen Rd., Geebung.

South Australia

5RG—R. S. Gurr, 9 Richmond Ave., Colonel
Light Gardens.

5ZGT—J. R. Tilbrook, 10 Corunna Ave., Colonel
Light Gardens.

5ZJH—J. A. Hackworth, 34 Oaklands Rd.,
Somerton Park.

5ZLV—B. A. White, Willalooka, Postal: C/o,
J. P. Thomas, Private Mail Bag 25,
Willalooka.

5ZMT—T. J. Mell, Fenden Rd., Salisbury.

Western Australia

6RL—R. E. Leigh, 53 French St., Joondanna
Heights.

6ZDY—K. L. Robinson, 8 Goldsmith Rd., Clare-
mont.

Tasmania

7RF—D. E. Briggs, 22 Cottesloe St., Linds-
farne.

Territory of Papua and New Guinea

9JM—J. P. Meehan, P.O. Box 82, Port Moresby,
Papua.

9AT—E. J. Roberts, Station: Lot 31, Section
41, New Boroka, Port Moresby; Postal:
P.O. Box 816, Port Moresby.

NEW SOUTH WALES

GENERAL MEETING

The July meeting, which was held in the Wireless Institute Centre at Crows Nest, was the largest roll up of people seen for quite a considerable time. The lecturer for the evening was Keith Jeffcoat, VK2BK, and his lecture was on receivers for s.s.b. His demonstration of rx's using xtal lattice filters, etc., was excellently shown, and a 144 Mc. s.s.b. tx at the back of the hall enabled everybody to hear the effect of changing the bandwidth of the i.f. strip.

After the lecture was finished, a discussion about our property at Dural, where the Divisional Station VK2WI is situated, took place. Many people spoke both for the retention of the property and against the retention of it, and the final outcome was that there was to be a series of tests carried out by the Communications Committee in order to see if the Wireless Institute Centre was as good a site for propagation as the present site at Dural.

At the outcome of the meeting, the President, Vol Molesworth, VK2VO, tendered his resignation, and handed the chair over to the Vice-President, Max Pfeffer, VK2MP.

GENERAL NOTES

Tim 2ZTM, owing to the pressure of work, etc., has been forced to seek leave of absence from Council for three months, and to resign from the position of Communications Officer. He has, however, remained as chairman of W.I.N.A.P. (Wireless Institute News and Publications) and his place as Communications Officer has been filled by Sid 2SG.

The Public Relations Committee is going ahead like wildfire in the renovation of the front portion of the Centre. Plans are in hand to have the walls plastered, patched and painted by the time our Spring Ball comes off on 1st Sept. This should be a really excellent show, and we hope to see a good roll up.

W.I.N.A.P. is going ahead like a house on fire and so far have produced a Handbook of Hints and Tips, circuits of 144 Mc. transistorised transceiver, transistorised converters, valve converters for 144 Mc. and similar things. These are available to all members of the Institute for the price of a s.s.a.e. and an enquiry to W.I.N.A.P.—Tony, L2219.

HUNTER BRANCH

The July meeting was held, as usual, in the University College and there was a good attendance of 32, including four visitors. Sid 2SG was on hand to give his most informative illustrated lecture on transistor converters for the Amateur bands. The lecture was very well received if the questions asked at the end are any indication. Sid dispelled from the mind of the oft-told bogeys of transistors and even our worthy Vice-President was convinced that they should, as he said, "be in every home." To be able to see the actual gear described in the lecture and to personally talk about problems with the lecturer is a great encouragement and I am now confident that my own converter, so long dormant because of self oscillation, will be in action for Blackalls.

Ian 2AJF has abandoned all thoughts of building his own tx and is now the owner of an AT21 which, up to the time of writing, succeeds only in making the screen at his home a complete blank when switched on. We welcome back to our circle of local natters Jack 2KQ. By the time these notes appear, Jack will be away "in the warm country," to use his own words, where he will stay for six weeks. Chalk pushers are the traditional long vacation characters. My note about Harry 2AFA being persuaded to go on the air apparently worked, for, hardly was

the ink dry than he was heard calling Bill 2ZL. If this is the power of the press, then surely the pen is mightier than the sword. Harry is even making mild mutterings about two metres.

It is reported that Stuart, our worthy President, is about to join the rank of our duck-talking colleagues and will be active on all bands before long. This is in addition to his two metre activity where all is reported to be going very well. Another 144 man, Tony 2ZCT, was tempted to have a go at the farmyard cackles with a circuit which appeared in a U.S. magazine. He is, however, unable to find any information on a tube type 6AR8 which is used in colour t.v. in the land of April Weather. Anybody with gen on this tube, see Tony.

Norm 2ZNF has had the phone to the shack disconnected because he is tired of hearing the much repeated phrase, "Are you on the air?" Norm has a wonderful beam which does quite remarkable things even though it bears no resemblance to the drawings in the textbooks. Stan 2AYL has been heard at my QTH on two and is, according to remarks, having some trouble putting bits of piston back in place in the Jaguar. It is quite likely that yours truly may be on 2 soon because of a generous offer by Mac 2ZMO. More of this later. 2QB is soon to be heard on the band. Fred 2AEE is reported to be still active although I have not heard him. Ron 2ASJ has recently, thanks to the help of the boys, gone on 2 mx. It is good to know that Ron is well enough to be very frequently on the air of late. It is said that Bob 2AQR may be preparing a surprise for us all at the field day; is this true?

Activity among the associates is growing rapidly and several of our members are known to be contemplating an early try at the big quiz. Belmont Bob had to steer some local youths on the right track recently concerning the use of the v.h.f. portion of the 19 set. Bill Munn is looking for crystals for 2 mx so it looks as if he will be on this band while getting ready for the Morse.

Elsewhere in this issue there is the advertisement for the Dinner and Field Day. Study this and the Bulletin carefully and come along for a good day's fun by the shores of the lake. Yes, I'll be there and you will be able to personally challenge me for wrongful reporting if this ever could truthfully be said.

Also you are reminded of the next meeting which is to be held at the usual venue, University College, Tighe Hill, on Friday, 14th Sept., at 8 p.m. The lecture as far as I know at this time is Keith 2BK's s.s.b. rx's which was postponed from an earlier meeting. Bill 2XT will be holding his usual social gathering at a rival hostelry this month I imagine as the Dinner is only three days later than the usual fourth Wednesday, but come along to the monthly meeting and ask for details of all the goings on. Don't forget Blackalls, we'll all be there. 73, 2AKX.

BOORAGUL HIGH SCHOOL RADIO CLUB

A small party recently travelled to Dural to visit 2WI. Those fortunate in the selection were Susan, Ray and Allen who, with past member Bruce, accompanied Keith 2AKX on the journey. A very good day was had by all and the duty operator and engineer were most helpful in their explanation of the gear. To make the day complete Harold 2AAH arranged for some gear donated by 2TL to be passed on to the club. Our sincere thanks to these two gentlemen for the useful items so kindly donated to our club. We do appreciate gifts of components and units and you may be sure that these are being put to good use.

At least three members are trying out for the Technician in Training course with the P.M.G. We already have two past members with this Department and we wish the new applicants success. Another group of candidates is ready for the Elementary Certificate exam. and several members are completing the projects for the Junior Certificate. 73, 2ATZ.

VICTORIA

A Special Council Meeting was held on 16th July to formulate a proposal to increase interest in Amateur Radio in general and the Institute

FEDERAL QSL BUREAU

Denis Andrews, G3MXJ, radio officer on the Orion, who proposed to change to a land-based job, has now decided to continue on the Orion for a further period.

The new address for the Radio Club of Chile is P.O. Box 13630, Santiago, Chile. The QSL Manager is CE3VU.

Radio Amateurs throughout the world are invited to take part in the first R.S.G.B. 7 Mc. DX Contest to be held on October 27/28 and November 3/4, 1962. Contest hours are 0600z to 2400z in each case, the first period being for phone and the latter period for c.w. Full details of the Contest will appear in a later issue of "A.R."

Due to difficulties associated with the clearance of Box 2611W, G.P.O., Melbourne, since the retirement from employment of the Federal QSL Manager, it has been decided to open a new address for the Federal QSL Bureau. This address should be used forthwith for all QSL Bureau business only.

The new address is:—

W.I.A. FEDERAL QSL BUREAU,
P.O. BOX 41, BOX HILL, E.11,
VICTORIA, AUSTRALIA.

Divisional QSL Managers should now destroy all adhesive labels bearing the old address. New labels will be printed and distributed in due course.

—Ray Jones, VK3RJ, Manager.

SILENT KEY

It is with deep regret that we record the passing of:—

VK300—Eric Wardle.

in particular. The considered opinion was that it was necessary to place a definite suggestion before members to discuss.

As Council saw the problem, there is something lacking in the Institute, the question being "what?" From questions asked, the most common complaint seemed to be lack of opportunity for the chaps to natter informally and meet the other bloke in a social atmosphere.

Discussing this aspect, the thought arose that monthly meetings did not meet this need. Possibly members felt that travelling to the city or the difficulty finding parking space made the effort too much.

If this were the case monthly meetings as such must be a waste of time and may as well be discontinued, and an alternative found. Reviewing all aspects, Council formulated a plan for the formation of suburban radio clubs.

AUGUST GENERAL MEETING

Despite widely publicised appeals only a little over 40 members attended the August meeting. Formal business was quickly disposed of to allow plenty of time for the agenda item for the evening.

This was to be a critical discussion of some aspects of Institute activities. The chairman asked Michael Owen to open the discussion. He explained that the basic reason for Council raising the matter was the continuing poor attendance at monthly meetings. Average attendance is between 25 and 30 from a membership of about 500. Council considered that the Institute functioned well on an administrative level, but that the social side of things could be improved, and with this object in view suggested the formation of affiliated clubs operating throughout the metropolitan area, catering for the needs of members within a relatively limited district. It was suggested that in order to qualify as an affiliated club, the club would require a minimum licensed membership of, say, 15, of which two-thirds should be members of the Institute. A member of the Institute could be a member of as many local clubs as he desired (or could afford), but for the purpose of affiliation would have to nominate only one club.

Clubs could be supported by a per capita payment in respect of each Institute member of the club, similar to present per capita payments to country zones. Each club's constitution would have to be approved by Council, but the conduct of its own affairs would be a matter entirely for the club.

To enable clubs to have representation on Council the metropolitan area would be divided into three zones, the clubs in each zone would jointly elect a member of Council. Seven councillors would then be elected as at present, by the membership as a whole.

A further suggestion was that a committee of representatives from each affiliated club be formed to co-ordinate the activities of the clubs, to advise Council in relation to the clubs and to make recommendations to Council.

If this proposal was adopted, it was suggested there was little point of continuing the formal general meetings. Possibly a city club could be formed to cater for those members who preferred to attend meetings in the city.

The administrative functions could be left entirely to the Council. It was emphasised that Council would be subject to the Annual General Meeting, and to Special General Meetings. It was suggested that the status of the State Convention should be changed so that the Council became subject to a decision of the State Convention which could be attended by delegates from country zones and affiliated clubs.

It was stressed that the whole object of the plan was to encourage membership of the Institute by linking the clubs as closely as possible with the Institute, by representation on Council, by participation in State Conventions and by some financial contribution from the Institute to the clubs, although leaving it to the clubs to conduct their own affairs.

The matter was then opened to the meeting for discussion, and many of those present spoke on it. Most opposed the abolition of general meetings, but, as was pointed out, most of those present were regular attenders of general meetings anyway. Alf 3LC, speaking on behalf of the Moorabbin & District Radio Club, said that his club was in general behind the idea, although on some points he felt his club was anxious to retain its independence.

The general feeling of the members present was to support the formation of clubs, which, as Len 3LN said, had operated very successfully in the past. A few members indicated they strongly opposed any change, as they felt that the formation of suburban clubs, with lower membership subscription, would attract members away from the Institute, thereby weakening the Institute. However, no precise alternative proposals were formulated.

A number of suggestions were made to improve general meetings, including the use

of lapel badges to identify those present; the appointment of hosts to introduce new members, and generally conducting the meetings in a less formal manner.

All members are urged to consider these proposals and to make their views known to the Council.

The following new members were admitted to the Institute: Bernard Coles, VK3JS; David Smith, VK3ZKS; Mikolaj Subocz, VK3AVV; John Winton, VK3XR; Angus Harding, VK-3ZKZ; Ralph Birrell, VK3ZNE; Robert Terrill, VK3ZFT, as full members, and the following as associate members: Arthur Hall, Douglas McKenzie and Arnold Marks.

Having devoted so much space to the matter of the last general meeting, I cannot carry out my threat to fill the mag. with personal notes this month, so I'll close by observing that a certain make of vehicle bought after checking a certain budget is a waste on anybody who never drives over 25 m.p.h.

EASTERN ZONE

Jack 3AJK, of Moe, hopes to be on the h.f. bands again by the time you read this, after over five years absence. He is busily getting together his equipment, including a Lafayette rx and a tower. Cliff 3AIT has been working some 40 mx evening DX, including KX6 VR2, as this band is getting better. 4ZBP is now residing in Bairnsdale and may get on 144 Mc. in the near future. Alan 3AON has been operating portable on 144 Mc. from Mt. Tassie, working the local boys.

About a week after the Pacific high altitude atomic test, Peter 3ZDP and George 3ZCG experienced some good sporadic "E" contacts on 50 Mc. Also two weeks later, David 3DY had an excellent QSO with JA4OI, of Okayama, for nearly an hour on 28 Mc., one of the best QSOs they had for the year. He has a weekly sked each Sunday at 3 p.m. local time. Most times they make contact, so the old 10 mx band is not as bad as it seems.—3ZCG.

MIDLAND ZONE

Activities in the zone have been mainly on 80 and 2 mx. Jim 3SV active on both bands and is the backbone of the present zone activities. Col 3FO is active on 80 and 2 mx also, together with 3APJ, 3AHA, 3ZIK, 3ZLJ and 3JW.

Conditions on 40 mx have not been very stable, VK5 and VK2 being the only areas heard with any consistency. I am not yet transmitting on 80 mx, but listen there regularly. By the time these notes are in print I will be in VK4 land on vacation, departing from the land of rain and snow on 31st Aug. and returning on 1st October.

We will also have held our general meeting of the Midland Zone at the residence of Peter 3APJ, on 17/8/62. Notes from this meeting will appear in the next issue.

What about some news from zone members on general activities? If you are unable to contact me directly, Jim 3SV will hand the info. on to me. 73, 3ND.

WESTERN ZONE

We have decided to hold our Annual Convention on Sunday, 28th October, and the location will be Murtoa. This spot is rather central as far as the zone is concerned, but perhaps a little far for the metropolitan chaps. However, distance will not be much of a problem for one of our members who expects to attend per light aircraft, working mobile on the way. Will give more details in next month's "A.R." and W.I.A. broadcasts.

A couple of our members have been active on the new 180 mx band with very encouraging results. This band may prove very handy in the near future. Chas. 3IB is on the air from his new QTH, however as yet his antenna system is very limited so is not very active. We offer congratulations to Chas and Audrey on the arrival of another son.—3AKW.

GEELONG AMATEUR RADIO CLUB

The Geelong Amateur Radio Club held its annual meeting on 27th June at the studios of the local b.c. station 3GL. Club President, Jack 3ALP, chaired the meeting. Jack presented to members the annual report, and commented on the fact that during the past year the club had encountered numerous setbacks, not the least being the loss of the club rooms. However, a newly acquired tx room/workshop helped compensate for this loss. The club station, 3ATL, along with a number of members' stations, took part in the National Field Day with 3ATL/P at the You-Yangs, also the Jamboree of the Air with portable operation from various Scout Halls. The club badge was another achievement this year.

The following office-bearers were elected for the ensuing 12 months: President, Alf 3AJF; Vice-Pres., Jack 3ALP and Jim 3ABT; Secretary, Dick 3ABK; Treasurer, Harry 3ASI;

Assistant, Vic Clark; Publicity Officer, Daryl 3ZNC; Assistant, Jim 3ABT; Auditor, Geoff Woods; Committee, Fred 3ALG, Peter 3APK, Bob 3IC, and Frank Rocca; Librarian and Equipment Officer, Eric 3XL.

QUEENSLAND

Business officially this month starts with the July Council meeting, held on 19th. The meeting was told of letters sent to all the non-member licensees in Queensland, giving reasons why they should members of the Institute, and of the quick response to them with letters of application. Advice was presented that the P.M.G. Department had advised that Peter 4PJ had been chosen to fill the vacancy on the Advisory Committee. Peter resigned from the sub-committee handling the constitution review.

The Council was told the following had so far been given S.w.I. Numbers beginning with L4001: W. Jehn, K. King, D. Ness, J. Ness, J. S. Luck, R. Campbell, L. Lane, L. Haagsma, N. Fenton, G. Franks, G. Millner, and C. Charles. Al 4LT was nominated as the new Federal Councilor and as there were no further nominations, he was elected. It was moved that the motion on the use of the 28 to 29.7 Mc. band adopted at the June general meeting be forwarded to the authorities.

MONTHLY MEETING

The regular monthly meeting held on 27th July attracted the good proportional attendance of about 40. The meeting adopted the following for membership as recommended by Council: R. C. Harris, 4ZJR; Oakleigh Boy Scouts, 4OS; D. J. H. Gemmel, 4ZEK; G. B. H. Gray, 4JP; R. Lyon, 4ZFL; J. C. Balrd, 4ZBB; D. N. McGrath, 4ZDM; and associates A. Beimers, V. G. Wright, W. Dalgliesh, D. W. L. Condie, C. C. McDonough, D. Marcus, and Y. L. Yarrow.

The meeting was told there was always a need for technical articles in Amateur publications. Pat 4KB said it was inevitable that there were fewer articles about old subjects for they had been covered before. However, he suggested someone might have a new approach. Major articles should go to "A.R." and the minor ones to "QTC". Mention was also made of a discussion on a technical subject on the 4WI hook-up each Sunday. What do you think?

Main business of the night was a discussion of the operation of the Hallcrafters SX115 rx. A model was flown to Brisbane for the meeting and thanks go to associate Gil for arranging this and also to Vince 4VJ for the discussion.

AUGUST COUNCIL

The August Council meeting was held in the Institute of Engineers' rooms on 10th August. At this, the names of 21 new applicants and old members re-joining were received and recommended for acceptance by the general meeting. They are 4MB, 4FM, 4XT, 4MP, 4WW, 4ZRS, 4BM, 4AG, 4LM, 4UT, 4ET, 4ND, 4BY, 4WM, 4OC, 4DA, 4ZAB, 4GT, 4ZAR and associates M. Bennett and J. J. Burow.

That's quite a response for the penned request, but do your bit by urging along those who have not quite made up their minds to join. The Council received a letter from Bill 4WX tendering his resignation from Council because of his own and his wife's ill health, and it was accepted with regret. The Council asked Stewart 4LA, who is actively associated with Council, to fill the vacancy caused by the resignation.

The Council decided to submit the following names to Federal Executive as nominations for the Federal Contest Committee: Col 4CI, Ron 4RL, Harry 4ZB, Graham 4LW, and Lionel 4NS. These people will become ex-officio members of the executive and operate as a body responsible only to the executive. Thanks for nominating, chaps.

No doubt that by this you will have read of the September Intrastate Contest, but in case you haven't, here are some facts. The Contest will be held on the third week-end in the month from 1200 to 1800 on the Saturday, and from 0930 to 1200 on the Sunday. All bands may be used and there will be a point for each VK4 Amateur contact on any band. There will also be an s.w.I. section.

GENERAL

There are at the time of writing 19 in the S.w.I. Group in VK4 and the first visit and Ipswich meeting have been arranged. Things look promising for this section when there are more involved. Perhaps the R.D. Contest, which will have been held, might do something to add to the interest.

During July, the Northern Command Signals Amateur Radio Club presented 12 persons for the A.O.C.P. exam, so there should be some

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new call signs on the bands before too long. The club's annual meeting elected Ian 4ZCI, President for the next year; Jim Green, Secretary; Tony 4ZTC, Treasurer; and Brian 4UW and Alex McNaughton as members. The President's report for 1961-2 makes interesting reading for what a small club can do. 73, Don.

SOUTH COAST ZONE

No improvement in conditions here has been noticed, in fact they are reaching an all time low as regards contacts with others in our State. By arrangement with Jack 4JF, Inward QSL Officer, cards for this area will be forwarded to me for distribution. This shall be done personally when and where possible. Those expecting cards should they be in town will be welcome to call on me and pick their cards up.

Frank 2ACQ and Ethel passed through recently on their way home after a grand trip in the Sunshine State, which they thoroughly enjoyed. They were followed the next day by Bob 2IN and Daphne in the homeward trek. Both families should now be safely ensconced in their own homes. However Frank's itchy feet will have him packing up on his way to Gundagai for the Convention to be held there at the end of September. 73, 4WS.

TOWNSVILLE AND DISTRICT

News from Ayr and District is as follows: Frank 4CW will have been on for the R.D. Contest using a brand new home-brew tx.

A t.v.i. committee has been formed to help with the northern station starts in late Sept., all being well. This committee, with plenty of publicity in the local press, will help to foster that goodwill of the Amateur and see that he is not held responsible for all the interference that may occur.

They also hope to hold a Convention in Sept. or Oct. and have started allotting jobs to members. The social side will be looked after by 4OJ and 4ZFA, and fox hunts, etc., will be organised by 4ZBG, 4UX and associate Harold Csisloski.

Claude hopes that all the six students will face the barrier first exam. in the New Year. Good luck to you all.

Just heard that Bert 4LB has been in hospital for the past fortnight, and if I didn't hear otherwise would have come up and sat on the bed and consoled you. Glad to report the operation was a success and Bert is home again looking forward to the R.D. Contest. Believe that John 4DD had a trip to Thursday Is. on inspection, while his co-worker, Eddie 4WH, attended a freshers course in Sydney. They don't have those trips in my job, hi! Believe Les 4XJ is on the way north to partake of our wonderful winter climate and is bringing along his mobile gear.

It seems that the Rocky boys will grab all the signs passing and let no r.f. past them. Share a little with us up here, please.

No information if the local club is forming a t.v.i. committee. A lot of spare time will be required to help out, or are we hoping that our area will be saturated and hence no problems? Hope so, but still will get the odd complaint that it is the Amateur if the picture fails. 73, 4RW.

SOUTH AUSTRALIA

The monthly general meeting of the VK5 Division, the Division with not too much sun or rain, in fact just right, was held to a very representative gathering of members and visitors. The guest speaker was Mr. A. Smyth (SMF), who gave an interesting and informative talk on various types of s.s.b. tx's and associated gear. Al. made a somewhat unusual approach to his talk, inasmuch as he had already prepared a number of block diagrams on paper of commercial s.s.b. set-ups, and discussed at length the merits and demerits of each, displaying a wealth of knowledge of his subject, which clearly indicated the time and preparation he must have devoted to the talk. Judging by the quietness of the audience during the talk, together with the number of intelligent questions asked at its conclusion, that the entire gathering thoroughly enjoyed themselves, which was amply demonstrated by the applause which followed the vote of thanks to the speaker, so ably proposed by Harry 5MY. Al. also brought along a demonstration purpose-built own constructed s.s.b. table-top set-up which, if I might say so, was a joy to behold, and further proved, if proof was necessary, that he sure had a thorough grasp of his subject. A good night's entertainment, Al. Many thanks.

Now at this point appreciative reference should be made to the fact that the XYL of Brian 5CA, Marlene, acted as minute secretary at the meeting and, I am informed by my spy

planted in Council, is also acting as minute secretary to that august body. Marlene does a terrific amount of work for the Division, mainly in assisting Brian with the publishing of the Divisional Journal, etc., etc., and I personally have nothing but admiration for her efforts.

Roy 5DA was sighted this month passing through Renmark on his way to the temptations and frustrations of VK3. Don't know how long he intends staying over there, but if he takes my advice he will take care, when he crosses any of their bridges! (Sticks and stones may break our bones, etc., but cracks are forbidden.—Ed.)

Comps 5EF was another to visit Renmark and during the lunch hour, when Tom 5TL was having a little snoop around the bands, opened up full blast with his mobile s.s.b. rig with a consequent bulging at the sides of Tom's dx. Whenever a duck goes quack-quack these days, Tom goes white and shivers from head to foot. How could you, Comps?

Fred 5MA has been heard on 3.5 Mc. at times, and from his conversation it would appear that he is thinking along the lines of the power supply described in this magazine recently. It will certainly save having to charge a battery if he can get away with it, as the writer of the article assures he did. Erg 5KU is not very active on the air these days. Claude 5CH is heard occasionally on 7 Mc. Usually with a signal that bends the S meter. Leo 5GJ is still under the influence of the "Goggle Box" and has not been to a local group meeting for some time. Dale 5ZER, who really does not come under my searching glance because of the Z call, but then I will do anything to fill this column, now has his beam tx going great guns, plus a 5 element 6m and is now working on the converter.

Col 5CJ is to be heard regularly on the well known "lunch time" session, but his main activity is in the direction of preparing the tower for the next v.h.f. season. Col, whatever did happen to that budgie? You know, the one that the cat was minding for you?

John 5KX and Ken 5KC have been chosen to attend the next Radiological Reconnaissance Course to be held at Mount Macedon in connection with W.I.C.E.N. Of course by the time this is being read it will be all over, but as I have said before, I never miss a chance to fill this column.

I don't know whether to write a "Letter" to the Elizabeth Amateur Radio Club, or not. Some two months ago I made an application to them for their worked all Elizabeth award, and after all the course and suggestive remarks regarding its legality had died down, they promised to consider the application. Now in view of their "Letter" to the VK5 Council on its supposed dilatory attitude and slowness in getting things done, I don't know just what to do. Perhaps I could wait another six months or so, and see what happens, or am I being just a little impatient? Life gets tedious, does it not?

Clive 5PE has taken the much sought after job of 5WI in his bosom, and going on reports, plus what I have heard of the session, is doing an f.b. job. As you can well imagine he was nearly killed in the rush to take on the job and several applicants for the job are still licking their wounds. Excuse my mirth, but all jokes aside, he is to be complimented for offering to do the broadcasting and the associated chores, and it now remains up to all the Divisional members to keep him flooded with news and information for the betterment of the session. No matter how good he is, nor how hard he works, without a number of shoulders to the wheel he must find the going too hard. Incidentally, a chap I know was saying just how the session should be handled to several at the meeting, and when I suggested that possibly he might like to write to Clive each week with information or perhaps some newsy paragraphs, he looked at me as if I had just escaped from the nut factory, and said, "I am too busy for that." He apparently was not too busy to run the session in his imagination.

Whilst I am still in such an amiable mood, may I sincerely be permitted to congratulate VK6 on the re-appearance of their notes in the mag., and also to say that I like the style being adopted. May also be permitted to say to my palsy-walsy 6LS, that he must expect only criticism of his efforts, no matter how good, but always remember, he will receive his reward in heaven. Perhaps!

Talking of VK6, I notice with some envy that their 200th member was the Rev. Brother McKenna (6AQ). Now unless I am suffering from a memory lapse he is a one-time VK3 who called in to see me some years ago when the Best and Foremost Broadcasting Station in VK (My, how it's climbed.—Ed.) was situated on top of the C.M.L. in King William St. We had a long chat about Amateur Radio and sundry subjects at the time, and despite

the fact that he was a VK3, I was very pleased to make his acquaintance. If I am right, then VK6's gain is our loss, although how he came to go to VK6 after having to pass through VK5 will always amaze me. Salutations, Brother, do you still read my notes?

So the VK3 notes squeezed out 5PS recently did they? Har, har, that's what you think. I was scuttled, that's what I was. I had it all nicely and neatly tied up when I left for all my holidays, but someone undid the pretty blue ribbon, and everything went up the spout. If my palsy-walsy, the Editor, would graciously print it, I would tell you just what I said in certain quarters when I returned. He will! Well here goes. I said, "What are all you drongoes doing betacht cteowyt wouridusu cirpouae woupeisurn, do you want to get like the banana-eaters?!!!!"

Heard George 5GG on 7 Mc. the other Sunday in contact with Charlie 3ACR and George was quoting a well known fact that if one leaves 7 Mc. for very long, one soon loses contact with a long list of friends made on this band. George was declaring his intention of working more on this band of many friendly contacts. I also heard Vic 5JH telling George 5GG, later on, that he (Vic.) had just finished a contact with his one-time foreman, Charlie 5ON, and from what he said, this Charlie bloke must have been a somewhat rare type of foreman. Vic said he was very sorry when he retired. Well, blow me down, sorry when the foreman retired! Did you ever? Saint Charlie they call him!

Neil 5WN heard also on 7 Mc. in QSO with Frank 5FJ, and you might be interested to know Neil, I picked your voice as soon as I heard it, long before you signed. A good and solid signal, OM.

Occasionally, when the lights are turned off, when the windows are closed and barred, and no man's footsteps disturb the silence of the night, I turn on my b.f.o. and revolve, dissolve, or what ever it is that one does to get some sense out of the quack-quack that comes out of the speaker. Always when I do this I find another of my acquaintances who has left the well known straight and narrow. This time it was Ron 5GM who was nobly calling CQ DX on the high end of 7 Mc., and seemed to be in exceedingly high spirits. Oh dear, oh dear, soon I will be the lone VK5, the only one not quacking, the only one who has stood his ground, even though there are quacks to the left of me, quacks to the right of me, and not a single egg to spare!!

On page 4 of the June issue of "A.R." is an article under the heading of "A Like-New Mixer Circuit," which, if I might be permitted to say, is a "Wow!" I scrapped my 6AC7 mixer and replaced it with the one recommended in the article and it lived up to the claims of the writer, and then some. Dave 5DS and Joe 5RC commented highly about it at a recent meeting, and I then thought they were laying it on a bit thick. However, from my personal experience, I now know that they were, if anything, playing it down, and I can thoroughly vouch for it. Why it even worked first time, which if I might say so, seldom happens to me. I congratulate the "Mag" on its choice of articles.

Believe it or not, the issue of "A.R." for August was without any reference, oblique or otherwise, to my humble self from any of the Divisions that have been sniping at me for some time. Admittedly there was a dubious reference to my ability to work DX from none other than my buddy (the Greeks have another word for it), Ye Editor, and a slighting reference to my youth from VK4, but aside from this, all was quiet. This disturbs me. Am I losing my ability to "Needle," am I losing my small section of readers, or did my recent reference to VK4 and their inability to grow a straight banana cause a split in that direction? Oh there I go again, banana split, get it? Banana split, get it? Oh well, I thought it was funny, how was I to know they would be thin-skinned. Oh-oh-oh, get it? Banana skin, banana skin!! Will someone please stop me. At this rate I will be going s.s.b. any day. What am I saying? 73, de 5PS—PanSy to you. No not you, Reg 3MZ, sit down. (All comments direct to 5PS—please. The Common Pub., sorry, Pub. Comm. accept no liability.—Ed.)

WESTERN AUSTRALIA

Well the cloak and dagger boys are really starting to work for me now. I am getting a network of spies together covering the greater part of the State of W.A. Secret messages are passed quite openly through the mails, in plain envelopes (stamps attached, of course!) telling me of the doings of fellow Amateurs throughout the land.

So to mix the metaphors a little, as we've had the heaters running for the required per-

iod, we press the "h.t. on" button, turn up the wick, and to the tune of a busy humming sound from the power supply, call Aileen 6YL. Believe Aileen had been thinking earnestly about the R.D. Contest at the time and discovered that she hadn't been on since last Christmas! Shame on you, and I hope you got the required number of contacts. Now Bill 6RX, who is Aileen's XYM—Eh! There's a new one; that means Ek's Young Man—is having beam trouble. The beam motor has locked in one position, which is tough luck, Bill. If you're my type, Bill, it will be due north and south and the only contacts available will be Polar Bears or Seals. And I guess they wouldn't play with you either.

Talking of things playing, reminds me. If anybody is passing by Bob's (6BE) new QTH and hears odd ompah sounds emerging from the lounge room, it could be either of two things. (1) Bob playing the electronic organ which is built into the lounge room, or (2) Bob working on his rig which is built into the lounge room also. As Bob and his XYL have not been married a great while, there appears to be some sort of moral here, if only I could see it. Good luck to you both in the new QTH, Bob.

This leads me to another QTH, that of Les 6WL, who is also moving shop. As Les had a lot of trouble with t.v.i. at his old QTH in Bunbury, I shouldn't be surprised if he has been dissuading would-be purchasers in his immediate vicinity not to buy those troublesome square-eyed monsters. Have heard too, that about three weeks prior to the time of writing, Les burnt his hands with molten lead. Trust that all is OK again now, Les.

From the south of Perth we go to the north and drop a signal in on 6WU. However, it will soon be a loud and clear signal on 6 mx, for with urging and some assistance from Lance 6LR, I believe a four element beam is to raise itself above Moora. This should prove to be very interesting.

And just to prove to you that my spies cover the greater part of this State, we go further north and find that Col 6CJ is going share-farming up top, and so that he won't get too lonely, is taking his portable gear with him. So be watching for the weak sigs as they roll down.

Rolling down the State again, we stop at Katanning, and who should roll in there recently but an old timer, "and that's for sure," Alan 6AB, checking up on the "X" gang in that town. For your edification, just in case you think Ham activity only started with the last I.T.U. Conference. Katanning was really active 30 years ago. Between 1936 and 1939 there were at least nine Amateur stations around the place, and such call signs as Bert 6AR, Fred 6FJ, Ivan 6IW, Clarrie 6LL, Max 6MZ, Jack 6WO, Clarrie 6XG, Harry 6ZZ, and even the Katanning Radio Club with the call 6KC, must bring back nostalgic memories to a number of other "old timers" in other parts of the State. And "that's for sure." Cyril 6CN, now of Kellerberrin, received his call while at Katanning. But with World War II disrupting our joys, some joined the Services, others were transferred to other jobs, and some just plain drifted away. Heck! What's gone wrong! Keep the flag flying chaps, don't

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Great excitement amongst the v.h.f. boys, when a break through was predicted for 19th July—and arrived on schedule. At the time of writing, another is predicted for 18th August. You'll know by now whether that one was as successful as the July break through when Eastern States boys were worked with great gusto.

By the time you read this, too, the 1962 R.D. Contest will be another memory, but we trust that, at the going down of the sun and in the Contest, you will have remembered them. 73, 6LS.

TASMANIA

Late in July we farewell Brian 7ZBE. Brian has been selected to join the next Antarctic expedition to leave Australia shortly after next Christmas. His job will be weather and radio. Brian will be operating, probably from Davis Base, both on h.f. and v.h.f. we hope. So keep an ear turned for him from some time in January 1963 and for the ensuing year.

Bob 7OM could not participate in the R.D. Contest this year as he was away in Brisbane at the time, on holidays.

The explosion of the high level thermonuclear bomb in mid Pacific early in July produced some very worthwhile experimental work of an investigatory kind. Len 7LE monitored and taped transmissions from WWV on both 5 and 10 Mc., as well as the control station at Johnson Island. The resulting edited tape gives a clear representation of what happened to signals. The accompanying graphic representation derived from pen recordings made from the WWV transmissions served to demonstrate the point all the more. We were indeed fortunate to have a short address and playback from Len at the August Divisional meeting. The active Amateur has also had an excellent opportunity to make observations on conditions before and after this explosion, and it is my hope that an effort will be made by our Institute to collate these observations to form the foundations for findings of some scientific merit.

The two heaters bought by the Division during July have materially improved conditions in the club rooms. Taken with the chairs recently purchased, the rooms are now much more attractive and comfortable for meetings.

The A.O.C.F. class under Terry 7CT is now functioning weekly, and hard work is under way on the part of the students. Council is most grateful to various members for donating Handbooks to the Institute for loan to students attending this course.

At the August meeting of the Division an auction of donated gear was conducted on behalf of the club room fund and the sum of £19/15/- was cleared to add to the fund. Also, please keep in mind the function in aid of the same fund to be held in the C.W.A. rooms in Criterion St., Hobart, between 8 p.m. and midnight on Sat., 29th Sept., 1962. The charge for admission is £1 per head, which includes the cost of supper and all refreshments. Bring along your friends as paying guests, after all, all the more the merrier. But please let the committee have your subscription or undertaking to attend well before the function, to ensure proper and adequate arrangements.

80 mx has become very popular during the day time. It is quite usual now to find half a dozen or more stations on 3590 kc. How about you coming up on that frequency too? The same band has also been most reliable for call backs after the Sunday morning broadcasts. Excellent signals have been heard here in Hobart from stations on the North-West coast, as well as the Northern Zone. 160 mx, to the best of my knowledge, has now three VK7 stations capable of operating on it, namely 7LZ, 7RY and 7CH. I know there are at least two other stations contemplating gear for that band. One final reminder. Send in your R.D. Contest log, for sure. It will help our Division. Remember the final date for posting is 17th Sept. 73, 7ZZ.

NORTHERN ZONE

It just had to happen—attendance reached a new high of 20 at the July meeting and as from Sept. it has been decided to move into a special meeting room. Fortunately suitable accommodation has been found over Geoff Lutwyche's radio store at 73 George St. Launceston, and as far as I can gather the entrance fee for August will be one chair—no chair, no seat. It's as simple as that. If this progress keeps up our worthy officers will have to start organising a "Bob-a-Job" campaign so that we can purchase the Town Hall.

Activity in the zone is still rather restricted from the "on-the-air" angle, however this will

definitely improve as the younger members become licensed—as many undoubtedly will in the very near future. 7BQ and 7DK are still keeping skeds on 144 Mc. and 7BQ is also completing a tx for 1.8 Mc. 7LZ is active on 1.8 Mc. and has managed to work a few VKs and ZLs with a rather inefficient aerial system. 7EC is now starting to receive QSLs from his first DX. Ted is quite active on 7 and 14 Mc. c.w. of an evening. 7CA is busy with t.v. but manages to be around of a Sunday morning for the Tasmanian hook-up.

Activity on the v.h.f. bands is still very low, however on Sunday, 15th July, 50 Mc. opened up to VK2, 4, 5 and 6 and 7BQ made a few contacts.

Will all members please note that the Sept. meeting will be held at the address given earlier in these notes on Friday, 14th Sept. Keep this date clear and if possible bring a friend.

NORTH WEST ZONE

7XL has been playing with vox and from tests it really works. 7MS is still modernising his outfit and will soon be the envy of the local b.c. station. A stony silence still emanates from Ulverstone, so no comment. 7SM, as always, is the most consistent Burnie station on, and I heard him work a VK6 on 80 mx the other night.

The annual meeting was held on 7th August, and the following office-bearers were elected: President, Ken 7AI; Vice-Presidents, Ken 7KH and George 7XL; Secretary, David 7MS; Treasurer, Max 7MX; QSL Officer, 7XL; V.h.f. Officer and Zone Correspondent, Harry Young. We congratulate the in-coming office-bearers and look forward to a successful year.

We were delighted to see Terry in person once again, looking a little older, maybe. So I now bow out and await Harry's notes next month. 73, 7MX.

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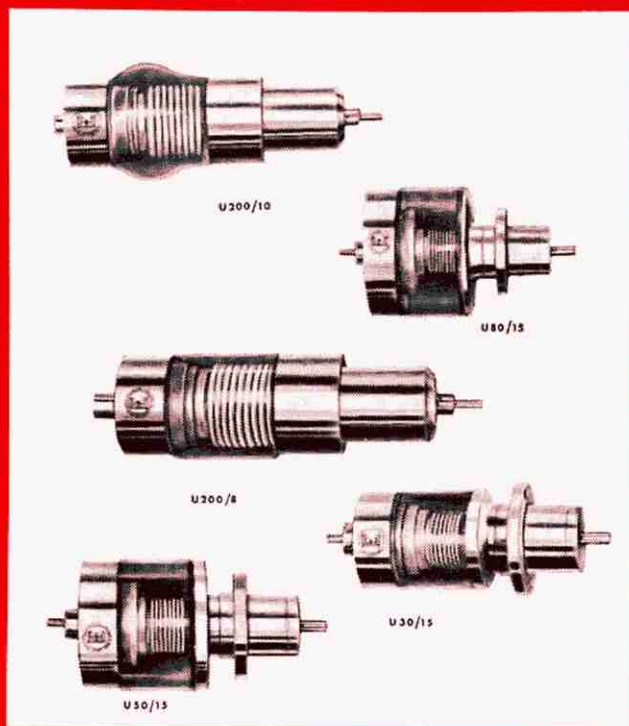
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The extensive range of electronic products marketed by AWW now includes a series of high vacuum variable capacitors manufactured by the English Electric Valve Co. Ltd. These capacitors have been developed and designed for operation in high voltage r.f. circuits and give an approximately linear variation of capacitance with tuning shaft turns.

Type	Capacitance range		Shaft turns		Max. peak r.f. voltage (kV)	Max. r.f. current (r.m.s.) (A)	Max. length (in.)	Max. dia. (in.)
	Overall (pF)	Linear (approx) (pF)	Overall	Linear				
U30/15	3-34	5-30	13.75	10.4	15 or 20	20*	6.5	2.14
U50/15	5-58	8-50	13.75	10.4	15 or 20	30*	6.5	2.73
U70/15	7-89	16-80	13.75	10.4	15 or 20	40*	6.5	3.30
U200/8	5.5-206	20-206	17	15	8	20†	8.78	2.49
U200/10	5.5-206	20-206	17	15	10 or 15	40†	9.06	3.50
U240/15	10-240	25-240	34	31	15	50*	8.0	4.06
U400/8	10-400‡	24-400	22	20	8 or 10	40†	9.188	3.30

* up to 30 Mc/s

† up to 20 Mc/s

‡ Slight mechanical modification permits extension of range.

High vacuum variable capacitors offer outstanding advantages over conventional air dielectric counterparts:

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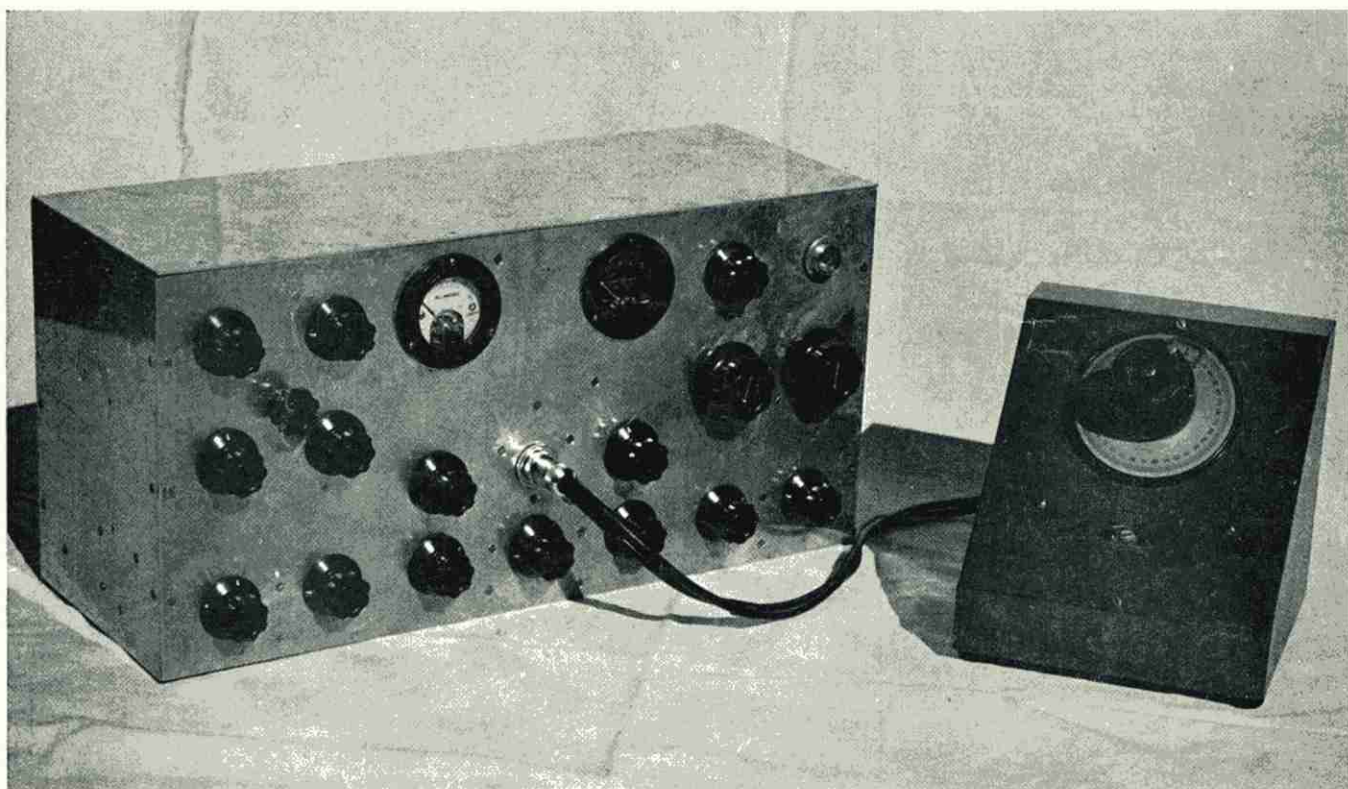


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A M A T E U R R A D I O

VOL. 30, NO. 10

OCTOBER 1962



ANNUAL ISSUE



2/-

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Modified Units, complete with 832s. Few only left at **£71 1/2**

Receivers only, incomplete, but ideal for wrecking. To clear **19/6**

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120 Kc.-390 Mc.
Freq. range (six bands): 120 Kc. to 130 Mc. on fundamentals; 120 to 390 Mc. on harmonics. Mod. freq. 400 and 1,000 c.p.s. Tubes: 12BH7, 6AR5. Rectifier: half wave selenium. Provision for crystal oscillator (x'tal not supplied, 1 to 15 Mc. 100, 117 or 230v. a.c. input, 50/60 c.p.s. Size: 7 1/2 x 10 1/2 x 4 1/2 in. Weight: 6 lb.



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Trimmers, Ducon, 4-30 pF., 3/6 ea.
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EA50 Valve Sockets **1/6**
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Ceramic Shaft Couplings **3/6**
Pointer Knobs, small (black or wh.) 1/6
Belling Lee Coaxial Plugs and Sockets, suit 1/2" coax. 3/6 socket, 4/- plug

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1C7	3/-	7 a	£1	6SK7GT	12/6		
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1F5	7/6	3 a	£1	6SQ7	12/6		
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6K7	5/-	5 a	£1	ECH35 20/-			
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6K8GT	12/6			EF39	5/-	5 a	£1
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6R7	7/6	3 a	£1	EF70	5/-	5 a	£1
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6SC7	7/6			EF73	5/-	5 a	£1
6SF5	7/6	3 a	£1	EL41	10/-		

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American Bradley, 2" long, 1/4" shaft, 1" diam. Available in following sizes: 20,000, 25,000, 30,000, 50,000, 100,000, 250,000 ohms, 1 and 2 megohms.

Price 2/6 each

50 ohm 25w. wire wound (D129) 5/-

OA79 and OA81 DIODES

Well known make. Brand New.

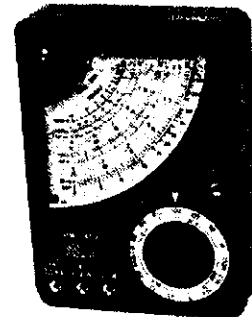
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Slide lock, single **3/6**
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MULTIMETER Model 200H

20,000 ohms per v. d.c. 10,000 ohms per v. a.c.



Specifications:
D.c. volts: 0-5, 25, 50, 250, 500, 2,500.
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D.c. current: 0-50 μ A.; 25, 250 mA.
Resistance: 0-60K ohms; 0-6 meg.
Capacity: 0.01-0.3 μ F. (at a.c. 5v.); 0.0001-0.01 μ F. (at a.c. 250v.).
Decibel: minus 20 db. plus 22 db.
Output range 0-10, 50, 100, 500, and 1,000.
Battery used: UM3 1.5v. 1 piece.
Dimensions: 3 1/4 x 4 1/2 x 1-1/8 in.

Complete with internal battery, testing leads and prods.

Price **£5/17/6 inc. tax.**

Spare Probes for 200H **5/- pair**
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IL41	7/6	3 a	£1	VT127	4/11 5 a	£1	
VR53	5/-	5 a	£1	VT501	7/6	3 a	£1
VR101	5/-	5 a	£1	Y65	5/-		
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taken on 2 metres.

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and 146.25 Mc. Intrastate hook-ups taken
on 7135 Kc.

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Intrastate hook-ups taken on 7105 Kc.

VK5WI: Sundays, 0900 SAT, on 7146 Kc.
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Mc. Intrastate hook-ups taken on 7125
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VK7WI: Sundays at 1000 hours EST, on 7146
Kc. and 3672 Kc. Intrastate hook-ups
taken on 7115 Kc.

★ OUR COVER

A 100 watt p.e.p. band-switched
Phasing S.s.b. Transmitter with an
external v.f.o. Designation of the
front panel controls is given below
the photograph of the interior of the
transmitter on page 3.

FEDERAL COMMENT

★

It is just over eight years since the Limited Licence was introduced into Australia and there can be little doubt on the effect on the v.h.f. bands since then. Scanning the bands with the receiver, looking at the logs submitted for V.h.f. Contests or examining the logs of keen v.h.f. operators will reveal that the majority of active stations are those of Limited Licensees. Further enquiries would show that a large number of A.O.C.P. holders operating on v.h.f. commenced their Amateur careers with Z calls.

Most Amateurs should be aware of the pressure on Amateur bands by commercial users. The emphasis has in the past been on the high frequency bands, but it can be expected that more and more will come on the v.h.f. bands in the future. Looking back to 1954, the year of the introduction of the L.A.O.C.P., although it was not foreseen at that time, it was opportune that the L.A.O.C.P. came into existence for without it, it would have been almost impossible to justify our use of some of the v.h.f. bands at Geneva. The L.A.O.C.P. licensee has materially changed this picture, and in this respect earned his place in Amateur affairs.

At the recent Federal Convention in Perth, some concern was expressed at the growing numbers of L.A.O.C.P. holders who appear to be disinterested in the Institute and its affairs. There also appeared to be an attitude arising of the L.A.O.C.P. considering himself one of an "elite" group. The Federal Council discussed these and other v.h.f. problems at length, and concluded that the fullest possible integration of the L.A.O.C.P. licensees into all phases of Institute activities should be encouraged by education programmes providing for slow Morse transmissions and adoption of terminology that did not infer a "separateness" of Limited licensees. This matter will be one for the Divisions to solve, guided by the overall Institute policy.

In view of the fact that the Institute itself was instrumental in obtaining the L.A.O.C.P. privilege with the P.M.G.'s. Department, this is reason in itself for all Limited licensees to become a part of the organisation which nurtured them. Just as the Institute needs the Limited licensee, so does the Limited licensee need the Institute to represent him in official matters and preserve his frequencies and other privileges. Unity is strength, and with strength we can confidently face the future.

—FEDERAL EXECUTIVE, W.I.A.

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MULLARD POWER TRANSISTORS UPDATED

TYPES OC28, OC29, OC35 AND OC36

The maximum DC and average collector current of these four Mullard Power Transistors is now 8A instead of 6A and the maximum allowable peak current has been raised from 6A to 10A. This means that these devices can now be used in high current applications, for example, in high current servo systems where it has hitherto been necessary to use larger and more expensive power transistors, often in the 12A range.

Consequently, it becomes possible to have more amps per shilling with these Mullard Power Transistors, since they are available at the same price as that before their uprating.

QUICK REFERENCE DATA

Power junction transistors of the p-n-p alloy type intended for use in medium and high voltage and high current switching applications. Matched pairs of each type are available under the prefix '2-OC' e.g. 2-OC28.

	OC28	OC29	OC35	OC36
V_{CE} max. ($I_E = 0A$)	-80	-60	-60	-80
V_{CE} max. ($I_E = 0.5A$)	-60	-48	-48	-60
V_{CE} max. ($I_E = 6.0A$)	-60	-32	-32	-32
V_{EB} ($I_C = 1.0A$)	20-55	45-130	25-75	30-110

Unless otherwise shown, data is applicable to all types

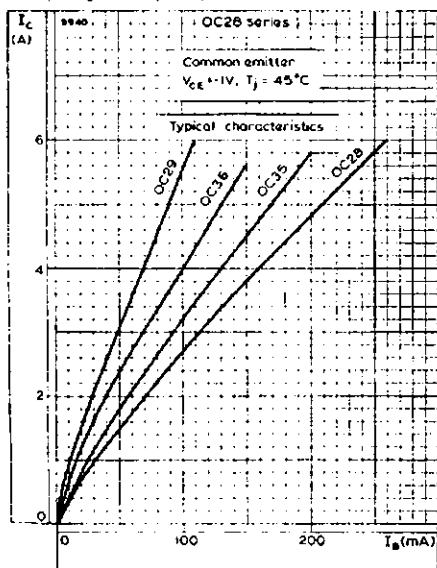
ABSOLUTE MAXIMUM RATINGS

The equipment designer must ensure that no transistor exceeds these ratings. In arriving at the actual operating conditions, variations in supply voltages, component tolerances and ambient temperatures must also be taken into account.

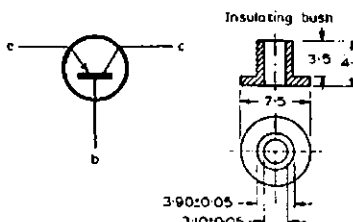
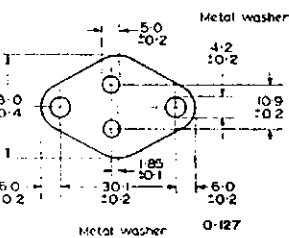
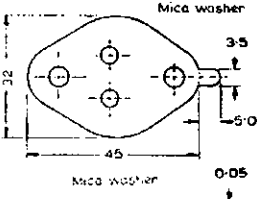
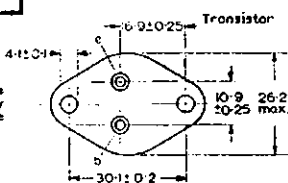
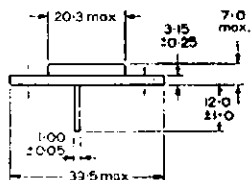
Collector voltage	OC28	OC29	OC35	OC36
V_{CE} max. ($I_E = 0A$)	-80	-60	-60	-80
V_{CE} max. ($I_E = 0.5A$)	-60	-48	-48	-60
V_{CE} max. ($I_E = 6.0A$)	-60	-32	-32	-32
Collector current				
I_{CM} max.			10	10
I_{CAV} max.			8.0	8.0
Emitter current				
I_{EM} max.			12	12
I_{EAV} max.			9.0	9.0
Reverse emitter-base voltage				
V_{EB} max. ($I_C = 0A$)			-40	-40
Base current				
I_{BM} max.			2.0	2.0
I_{BAV} max.			1.0	1.0
Total Dissipation at $T_{case} < 45^\circ C$				
			30	30

$$P_{DM} \text{ max.} = \frac{T_j \text{ max.} - T_{case}}{\theta_j - case}$$

†Averaged over any 20ms period.



TRANSFER AND INPUT CHARACTERISTICS. COMMON EMITTER



All dimensions in mm

OUTLINES AND DIMENSIONS

TRANSISTOR TYPES

OC28, OC29, OC35 and OC36

Temperature ratings

T_{JM} max.	75	$^\circ C$
T_{JM} min.	-55	$^\circ C$
T_J max. (Continuous operation)	90	$^\circ C$
T_J max. (Intermittent operation total duration 200 hours)	180	$^\circ C$
θ_j case max.	1.5	$^\circ C/W$
$\theta_{case-air}$ max. (when mounted with metal washer 0.127mm thick and with mica washer)	0.5	$^\circ C/W$

†Likelihood of full performance of a circuit at this temperature is also dependent on the type of application.

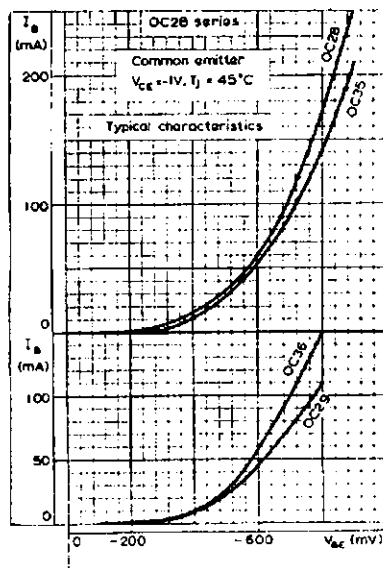
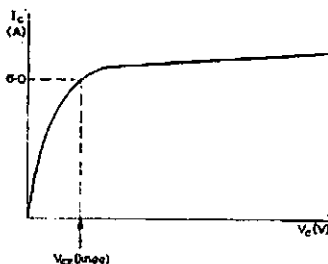
CHARACTERISTICS at $T_{case} = 25^\circ C$

Common base

Collector leakage current ($V_{CB} = -500mV, I_E = 0mA$)	I_{CBO}	Typical production spread Min. Typ. Max.
$V_{CB} = -14V, I_C = 0mA, T_{case} = 100^\circ C$	—	— 100 μA
$V_{CB} = -40V, I_C = 0mA, T_{case} = 100^\circ C$	—	— 20 mA
$V_{CB} = -80V, I_C = 0mA, T_{case} = 100^\circ C$	—	— 8.5 30 mA
$V_{CB} = -80V, I_C = 0mA, T_{case} = 100^\circ C$	—	— 12 30 mA

Common emitter

Collector knee voltage at $I_C = 8A$ (see Fig. 1)	$V_{CE(knee)}$	Typical production spread Min. Typ. Max.
		— -0.5 -1.0 V



TRANSFER AND INPUT CHARACTERISTICS. COMMON EMITTER



MULLARD-AUSTRALIA PTY. LTD., 35-43 CLARENCE STREET, SYDNEY, 20 2006, AND 123-129 VICTORIA PARADE, COLLINGWOOD, N.5, VICTORIA, 41 6644. ASSOCIATED WITH MULLARD LIMITED, LONDON.

M103

A 100 WATT P.E.P. BAND-SWITCHED PHASING S.S.B. TRANSMITTER

A. S. MATHER,* VK2JZ

THERE is nothing new or novel about this transmitter, and it is very similar to others that have been described in "Amateur Radio" from time to time.

The layout is far from ideal, but it was dictated by the fact that a very nice 14 gauge aluminium panel 19½" x 9½" with a large number of holes already drilled was available.

One look at the photograph (if it does not frighten off a would-be s.s. bander) shows that I was quite successful in filling them all up and in fact, one was added. Most of the controls and switches were fitted somewhere near their associated circuitry and the generous use of plastic covered twin shielded wire took care of those that could not.

After a chassis was added, a cabinet was constructed around the unit measuring 19½" x 9½" x 7½" and divided into three compartments, but anyone who wished to build a similar transmitter would be well advised to make it on at least a wider chassis. However, it should serve as a good starting point for those going on s.s.b. and the output stage can readily be operated Class A to drive a grounded grid linear.

Once you get on s.s.b. and talk to the various Hams operating, you will quickly become familiar with it and will pick up much valuable knowledge from them. S.s.b. is like most things, easy when you know how. It is, therefore, a good idea to get out with a reasonable signal, then go about improving it and your knowledge of s.s.b. and if you were like me, you will have plenty of scope for both.

I would like to recommend to all would-be s.s. banders the A.R.R.L. "Single Sideband for the Radio Amateur" and the many excellent articles in "Amateur Radio."

Although what I have to say is old hat to most, a brief description of the various parts of the unit may be of interest.

THE AUDIO STAGES

The frequency response of the audio stages is restricted from 300 c.p.s. to 3 kc. for three reasons.

Firstly, this contains all the useful audio frequencies; secondly, this is the frequency range that the "Aswell" audio phase shift network is designed to operate on to give the 90° audio phase shift necessary. Thirdly, improves the power handling capability of the output stage and allows improved reception by narrow band pass filters in s.s.b. receivers. The narrow pass band is accomplished by small coupling condensers, un-bypassed cathode resistors and a 3 kc. cut-off filter.

● This article does not advise every stage required for the construction of a s.b. rig, it is intended for the Amateur well versed in the art of construction. All readers should gain by following the construction practices outlined by the writer who has produced a very practical and well built unit. The author is able to supply blue prints of the circuit for 2/9 each.

Please remember if writing to any author of a technical article to enclose a stamped addressed envelope.

A 2K linear pot "ratio control" determines that the audio voltage, 180° out of phase, is fed into the audio phase shift network in the correct proportion or ratio of 2 to 7 and is used to balance out the unwanted sideband as will be described later.

9 Mc. OSCILLATOR

A 12AU7, the first section a Pierce oscillator and the second an untuned amplifier or doubler, is used to permit the use of either a 4.5 or a 9 Mc. crystal.

About 2 volts of r.f. is fed to the balanced modulators 90° out of phase via the r.f. phase shift network.

BALANCED MODULATORS

This consists of four bridge-connected germanium diodes type OA85s, which,

when adjusted by the two 1K linear "carrier balance" pots to give equal forward resistance, no 9 Mc. carrier energy will appear in the output coil. However, when audio is applied via the function switch, it unbalances the diodes and d.s.b.s.c. will appear in the output coil until the unwanted sideband is "phased" out by adjustment of the ratio control.

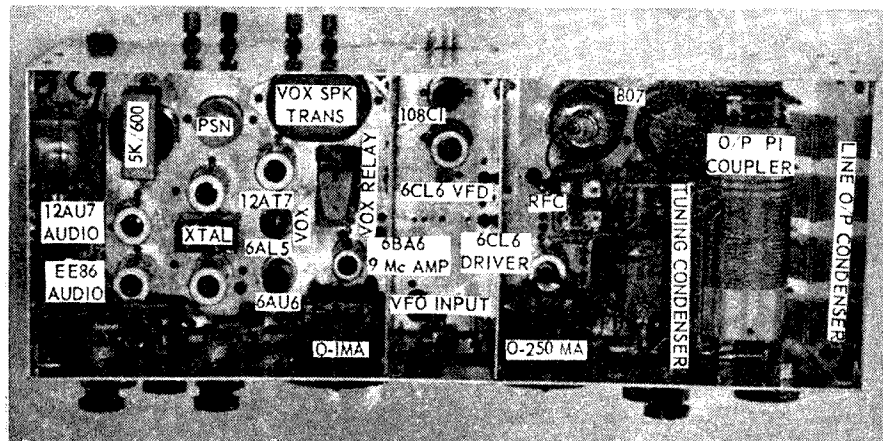
You will notice that in the "a.m." position, some h.t. is applied to the balanced modulators via the carrier insertion pot., as well as unbalanced audio, which will produce a.m. with the narrow pass band characteristic.

The a.m. output will be considerably less than for s.s.b. and there are easier and cheaper ways to get a.m. modulation. The a.m. position of the function switch is also used to make the two-tone test on the linear amplifier as will be described later. I would recommend the use of vacuum twin diodes such as the 6AL5 as I experienced some variation of diode impedance due to thermal effect on the germanium diodes during warm up periods.

9 Mc. AMPLIFIER

The output from the balanced modulators is link coupled to the grid circuit of the 6BA6 9 Mc. amplifier with the screen grid voltage regulated. It may be well to emphasise here that no other signal than that from the balanced modulators must be amplified and extreme care must be taken with layout and shielding.

The 6BA6 has a variable control in the cathode circuit which serves two



Layout showing placement of major parts. It is suggested that for proper operation and trouble-free performance, other constructors follow a very similar pattern. Note the use of "surplus" items. The front panel and external v.f.o. is shown on the front cover of this issue.

Designation of front panel controls. Five at top left corner (left to right): speech vox in, anti trip vox in, tone oscillator, audio gain and carrier insertion. Left meter: linear grid current; right meter: linear cathode current. Four at top right corner (l. to r.): pi output s/w., output, output tuning, line tuning. Below meters: Function switch, v.f.o. tuning jack, netting. Along the bottom (l. to r.): ratio control, carrier balance, carrier balance, v.f.o. output switch, 9 Mc. amp. gain, driver plate-linear grid switch, driver trimmer.

* 14 William Street, Singleton, N.S.W.

forms them as regards voltage output and regulation. The relay paralleling SW2 and SW3 is only used if the power supply was to be switched on remotely. Normally the power supply runs all the time with SW1, SW2 and SW3 made manually, the idling current of the 807s providing sufficient drain. All power connections, earth, 6.3v. a.c., minor h.t., minor h.t. to VR tube, major h.t. and bias are connected to transmitter via a 7-pair cable and female socket. The male 7-pin socket can be seen on the back of the transmitter. The vox operating functions are connected to four terminals also on the back panel.

CONCLUSION

I trust this article has been of some help to those about to take the plunge and I would like to thank those Amateurs who have, from time to time, helped with my s.s.b. problems.

If you have half the enjoyment that I have had since going on s.s.b. you will be more than compensated for the work and effort you put into it. ●

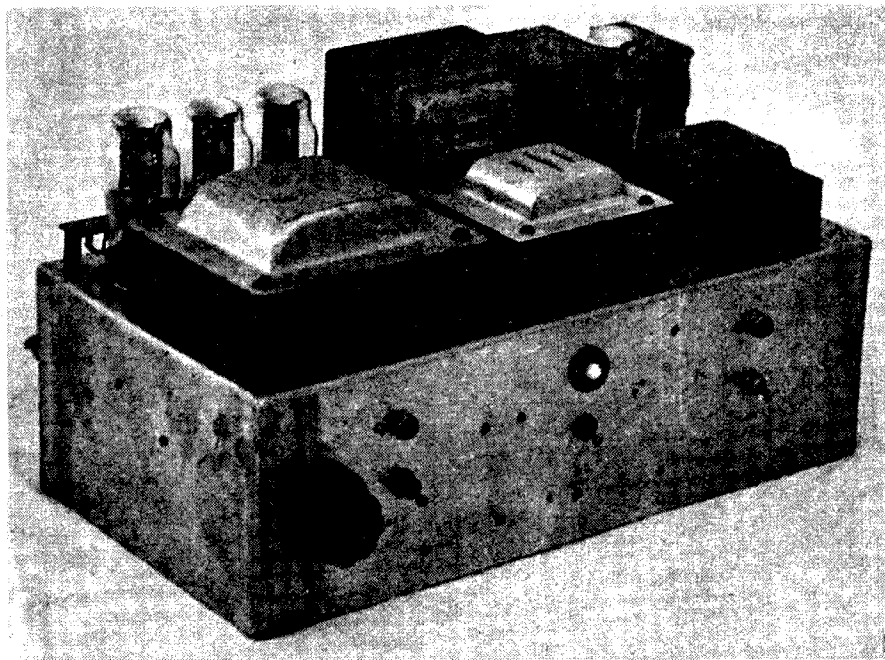
★

ERRATUM

In last month's "A.R." we noted that "Info" was a VK5 Divisional Bulletin. "Info" is the Elizabeth Amateur Radio Club Bulletin, and we regret the incorrect statement.

★

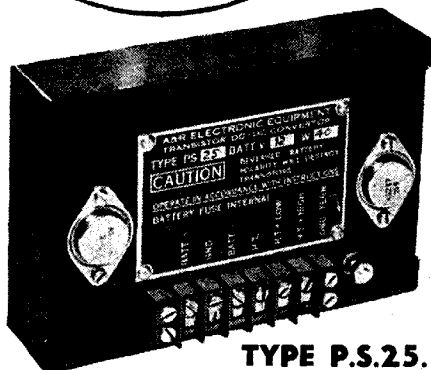
Looking for an article in a back issue of "A.R."? Consult the yearly index in the December issue and the master index in the 1955 and 1960 December editions. Back copies may be available upon request to P.O. Box 36, East Melbourne, C.2, Victoria.



Power Supply for the 100 Watt Phasing S.s.b. Transmitter. The three components along the front (left to right) are the major h.t. transformer, major h.t. choke, minor h.t. transformer. At the rear (left to right) are the three bridge rectifiers (5V4), major h.t. filament transformer, minor h.t. choke, minor h.t. rectifier (5V4), and minor h.t. choke. Note: the two minor h.t. chokes are paralleled. Large knob on front panel is the bias control. Pilot lights (l. to r.) are P3, P1, and P2. Switch: SW3, SW1 and SW2.



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A COLPITTS TRANSISTOR OSCILLATOR

M. R. HASKARD,* VK5ZBH

THE BASIC CIRCUIT

It is commonly known that an emitter follower, when capacity loaded at the output, can have a negative real part to its input impedance. If a crystal or parallel tuned circuit is connected across this negative resistance, as shown in Fig. 1, oscillations will occur. On several occasions now, a crystal controlled oscillator using this principle has appeared in literature, but in every case a tuned circuit has been included in the emitter circuit. Apart from the cases where a transformer is required for impedance matching, there is no need for the inductance to be included.

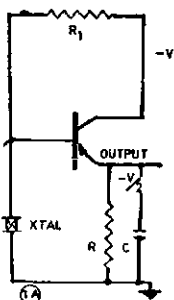


Fig. 1A.

The basic crystal oscillator which is fed by applying voltage to the collector. The output being taken from the emitter.

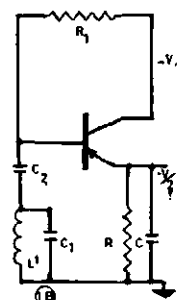


Fig. 1B.

The basic self excited Colpitts oscillator which is voltage fed to the collector with the output being taken from the emitter.

The simple emitter follower oscillator can also be used as a frequency multiplier, eliminating the need of tricky overtone circuits. The required harmonic is "extracted" by inserting a tuned circuit in the collector, as in Fig. 2. This circuit, while offering a high impedance to the required harmonic, does not affect the fundamental in any way, for at this frequency its impedance is negligible.

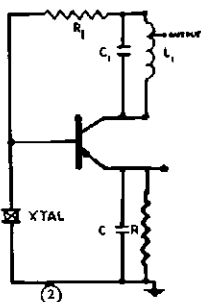


Fig. 2.

An oscillator multiplier circuit voltage fed to the top of the inductor. The inductor L1 is tuned to the desired harmonic output, and the fundamental output is available from the emitter.

● Whether designing small transistorised converters, receivers or transmitters, there is always the problem of a suitable oscillator. The circuit must have good stability and yet be simple. It would also be advantageous if the circuit could be modified to become an oscillator multiplier stage. Such a circuit is described herewith.

DESIGN

A further advantage of this circuit is the simplicity of design. All that is required is the d.c. current gain of the transistor.

The emitter is designed (Fig. 1) to be at a potential of approximately $-V/2$ volts and the emitter current is determined by the power required out, the frequency of operation, and the transistor used. It is often important to remember the last two factors mentioned, for the cut-off frequency (and frequency at which the gain is unity) of a drift type structure transistor, is very dependant upon the biasing conditions. As an example, Fig. 3 shows a plot of cut-off frequency against bias conditions for a 2N384 operated in the grounded emitter configuration. Voltages ($V/2$) in excess of 4 volts and currents of the order of 1 mA. would be suitable for this transistor.

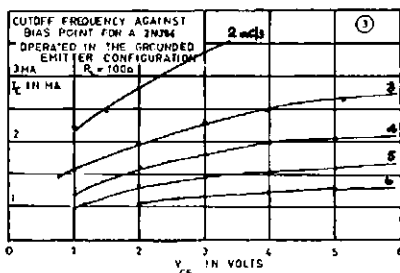


Fig. 3.

In general a supply voltage between -3 to -12 volts (for a p.n.p. transistor) and an emitter current of 1 to 10 mA. are quite satisfactory. In every case the transistor dissipation (P_c) should be checked to see that it is within specifications, at the maximum desired operating temperature.

$$P_c = (V \div 2) \times I_e$$

Having selected a supply voltage and emitter current, R is defined by

$$R = (V \div 2) \times (1 \div I_e)$$

$$\text{and } R = (V \div 2) \times (B \div I_e) = B R$$

Experience has shown that for most transistors, operating with tuned circuits or crystals, with fundamentals in the frequency range 1 to 16 Mc., maximum power out is obtained with the output shunt capacity C about 60 pF. However, any fixed value of condenser between 47 to 120 pF. is usually satisfactory.

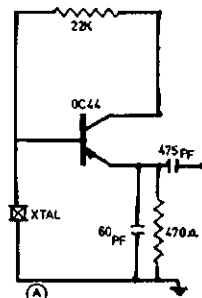


Fig. 4A.

An oscillator for a very low powered transistor transmitter. The collector is fed with -9 volts and the output is taken from the 475 pF. condenser.

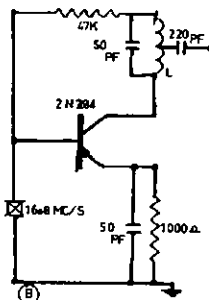


Fig. 4B.

An oscillator multiplier circuit suitable for a 50 Mc. transmitter. The top of the inductor L1 is fed with -9 volts. The coil consists of 4 turns of $1/8$ " diam. $1/2$ " long and wound with 16 gauge s.w.g. The output is taken from the coil tap via the 220 pF. condenser and feeds a 2N384 final or power transistor amplifier. The crystal is 16.8 Mc. for an output frequency of 50.4 Mc.

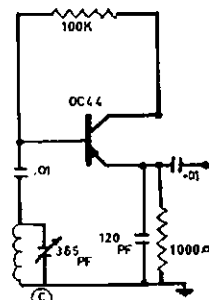


Fig. 4C.

A circuit of an oscillator suitable for building into a signal generator. The OC44 collector is fed with -9 volts and the output is taken via the 0.01 μ F. condenser in the emitter lead. The coil L1 is tuned to the desired band by the 365 pF. variable condenser.

PRACTICAL CIRCUITS

Several oscillators have been designed and used in simple transmitters. Fundamental frequencies have been in the range 3.5 to 6.16 Mc., generating harmonics up to the 5 metre band. Three circuits in one are included in Fig. 4. The first is an oscillator for an OC44 $1/2$ watt low frequency transmitter (this has been increased to a $1/2$ watt by using

(Continued on Page 13)

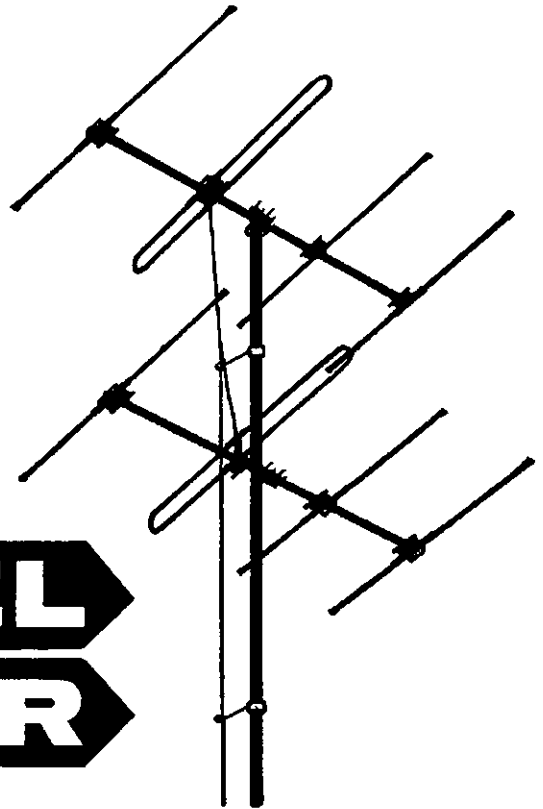
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MODERN RECEIVER FOR THE AMATEUR BANDS*

Design for the Home Constructor, Using the Latest Techniques and Circuitry

PART ONE

J. D. HEYS, G3BDQ

MANY Amateurs, including the writer, have discovered that the older type of communications receiver is at best only just adequate for the reception of s.s.b. signals. The stability, and more especially the diode detectors, of such receivers place their operators at a considerable disadvantage under present operating conditions.

A number of A1 station operators have given their receivers "face lifts" by building into them crystal lattice filters, stabilised power supplies, product detectors and new front ends. The results so obtained are often very satisfactory but usually the changes represent a compromise, and of course the re-sale value of such extensively modified receivers falls alarmingly.

To obtain a really modern and effective receiver it is necessary to pay £100 and more, and few younger members of the Amateur fraternity can afford such equipment.

A few years ago the writer designed and built a receiver for the h.f. bands which incorporated many sophisticated devices and circuits. It performed beautifully but was an enormous piece of machinery, with 18 valves and almost as many quartz crystals!

Realising that the design and constructional techniques were probably beyond the scope of most Amateur constructors no details were ever written up for publication, and attention was directed towards the development of a first class but much simpler receiver. Ideas and suitable circuits were freely adapted from contemporary designs, such as the Drake 2B, and crystallised eventually into a 9-valve receiver, tuning five Amateur bands, using easily obtainable components and not needing expensive or elaborate test gear to line it up.

DESIGN FEATURES

Essentially the receiver is a double superhet. on the 3.5, 7, 14 and 21 Mc. bands, with a crystal-controlled first oscillator and a first i.f. tunable over 1495 to 2005 Kc. On Top Band it behaves as a normal single conversion superhet. with an i.f. of 460 Kc. A feature which may alarm some of the traditionalists is the fact that no r.f. amplifier stage is used.

In v.h.f. receivers the r.f. stage is fundamental to the satisfactory working of the equipment, but a close examination of the figures for mixer and aerial noise on the Amateur h.f. bands up to 28 Mc. reveals that in terms of

signal-to-noise ratios an r.f. stage is unnecessary through this frequency spectrum.

The pundits may then say that an r.f. stage will give some measure of selectivity to the receiver. It will, but only in terms of tens or hundreds of kilocycles depending upon the frequency, which can be achieved by other means ahead of the mixer.

Many communications receivers suffer from severe cross-modulation effects when extra strong signals are encountered, and even the AR88 is prone to this fault. In most cases of cross-modulation the r.f. stage or stages are to blame. The hotter the r.f. stage the more likely it is that you will hear your local b.c. station beneath old local G9ZZ's emanations. The well known Racal receiver does not use an r.f. amplifier, and most Amateurs would give a good deal to lay hands upon one of these fine pieces of commercial gear.

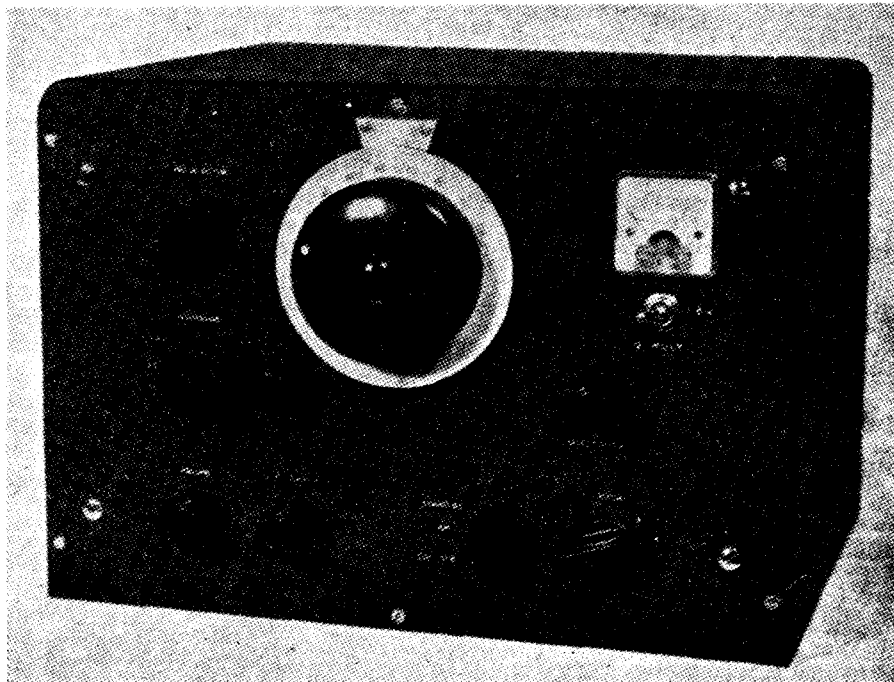
Of course when no r.f. stage is used every care must be taken to reduce mixer noise, for the first stage of a receiver ultimately determines its final noise figure.

● Over the years, we have published a number of designs for Amateur band receivers, and modifications for existing commercial types, all of which were contemporary with the time. Here is the latest constructional design for a specialised receiver for the Amateur bands, based on modern circuits and techniques, which will be within the scope of any Amateur experienced in careful constructional work. Our contributor, well known for his articles on sound practical equipment, himself designs and builds all his own gear under strictly Amateur workshop conditions—that is to say, without many of the facilities often available to the "professional Amateur". Hence, the receiver discussed here—which will be of great interest to many readers, whether or not they decide to build it for themselves—can be tackled with confidence in the final result being entirely satisfactory.

—Editor, "The Short Wave Magazine."

This has been done by using the 6CW4 Nuvistor triode, which was designed for low-noise r.f. amplifier and mixer service at v.h.f. Some measure of front-end selectivity is provided by a tunable bandpass filter with switched coils. On Top Band this is not needed and can be switched out of circuit.

Mixer stages have little gain, so this can be made up in the two 460 Kc. i.f. amplifier stages. Here advantage has been taken of the Mullard frame-grid pentodes type EF183. By using two i.f. transformers between the EF183 valves,



General appearance and front panel layout of the G3BDQ Amateur Band Receiver, which is a constructional design embodying modern circuitry and techniques. Block diagram (Fig. 1) shows circuit sequence and by adopting unit construction a neat and space-saving layout is achieved.

* Reprinted from "The Short Wave Magazine," June, 1962.

back-to-back and very loosely top coupled, the overall selectivity is improved and is in the region of 2.8 Kc. at 6 db. down. A Q-Multiplier can be switched in and with its help selectivity may be sharpened and made variable down to a bandpass of 500 c/s., which should be pretty adequate for most c.w. applications. The added complications entailed in providing a "notch" position were not considered worthwhile, for in the writer's experience, by the time the "notch" in the passband is correctly positioned the offending QRM has changed in frequency or gone completely.

When receiving s.s.b. or c.w. a product detector is brought into circuit. The R.C.A. beam-deflection valve type 7360 is available in this country and it performs admirably as a product detector or balanced mixer, for which purpose it was originally designed. Having used conventional twin-triode product detectors it must be said that the 7360 is far superior, and in addition gives an audio gain of about seven times. This valve also performs as its own b.f.o. in a cathode tap circuit and in this way helps to pay for its higher cost.

For a.m. reception the writer prefers carrier detection, and one half of a 12AU7 twin-triode functions as an infinite-impedance detector which has very little damping effect upon the last i.f. transformer. The other half of this 12AU7 is wired as a diode to provide a negative a.v.c. voltage for the i.f. amplifiers.

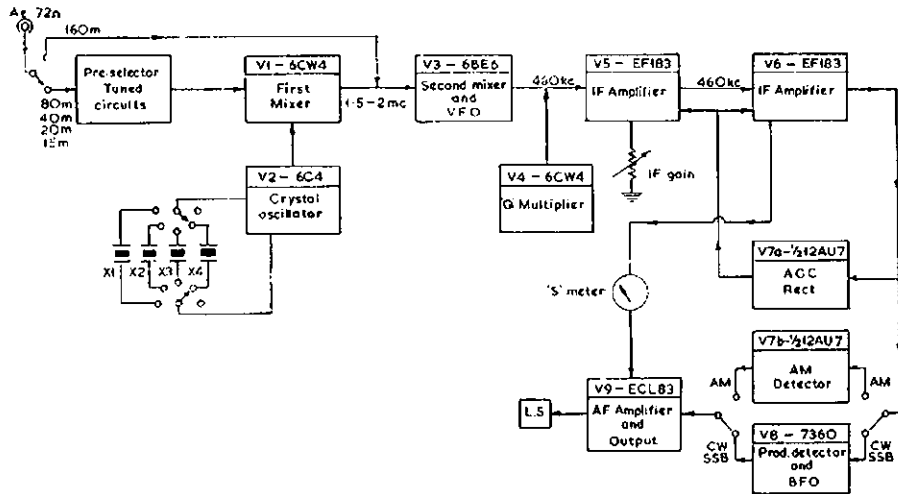
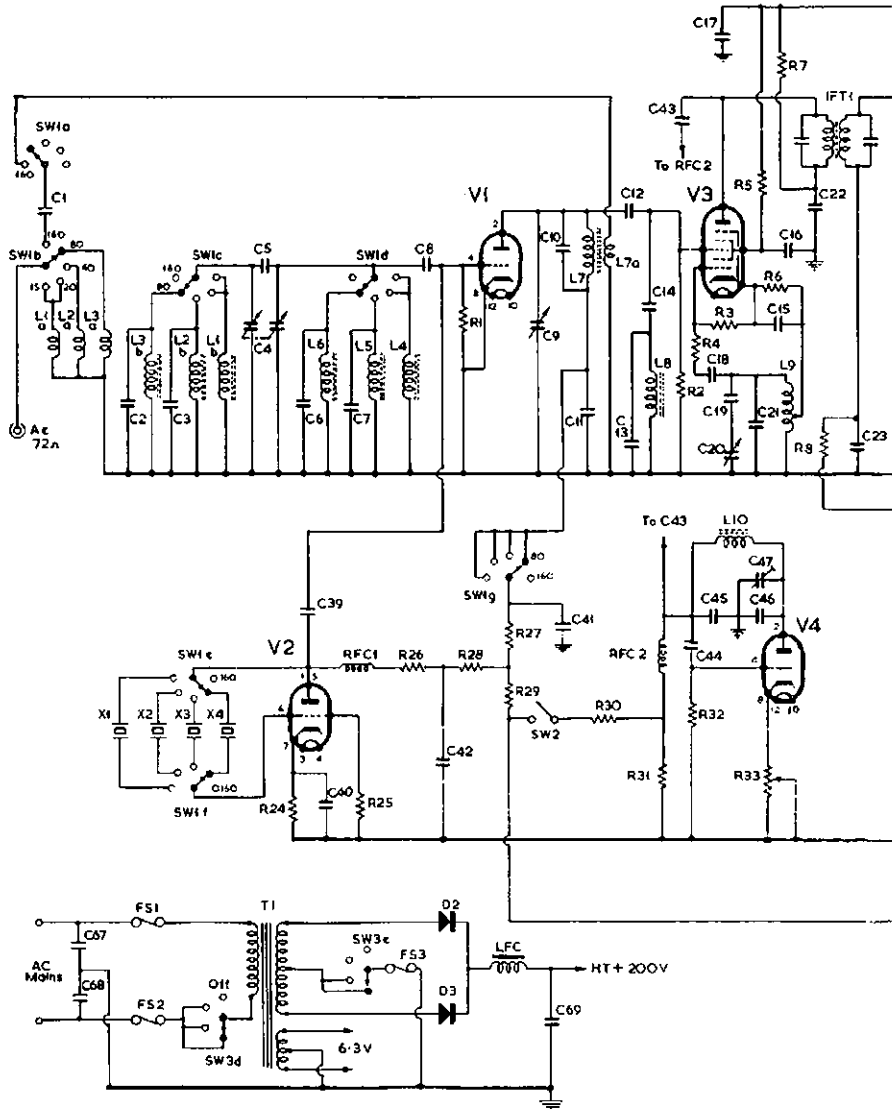


Fig. 1.—Block diagram of the Amateur Band Receiver designed by G3BDQ and fully described in the article. In line with the modern trend, no actual r.f. stage is used, front-end selectivity being achieved by tunable band-pass circuits, coupled straight into the mixer—in this case a Nuvistor 6CW4, chosen for its special suitability and low-noise characteristic; the same type is used for the Q Multiplier stage, where the requirement is similar. Full provision is made for a.m., s.s.b. and c.w. reception, the performance is of a very high order, and a neat and compact layout shape has been achieved on the constructional side.

FIG. 2 VALUES

- C1, C40, C42 — 0.0015 μ F. tubular ceramic.
- C2, C3, C6, C7 — 39 pF. silver mica.
- C4 — 50 plus 50 pF. variable.
- C5 — 2.2 pF. ceramic.
- C8, C9, C18, C47 — 100 pF. variable.
- C10, C66 — 100 pF. silver mica.
- C11, C15, C16, C22, C23, C25, C31, C32, C56 — 0.01 μ F. disc ceramic.
- C12, C43 — 15 pF. silver mica.
- C13, C59 — 680 pF. silver mica.
- C14 — 0.005 μ F. disc ceramic.
- C17, C26, C27, C28, C34, C35, C38, C41, C48, C62 — 0.1 μ F. paper.
- C19 — 580 pF. silver mica.
- C20 — 170 pF. variable.
- C21 — 139 pF. silver mica.
- C24, C52, C53, C63 — 0.005 μ F. paper.
- C29, C57 — 0.5 μ F. paper.
- C30, C39 — 4.7 pF. ceramic.
- C33, C60 — 0.05 μ F. paper.
- C36 — 0.2 μ F. paper.
- C37 — 120 pF. silver mica.
- C44 — 500 pF. silver mica.
- C45 — 0.0027 μ F. silver mica.
- C46 — 750 pF. silver mica.
- C49 — 25 μ F. elect., 25v. wkg.
- C50 — 0.001 μ F. disc ceramic.
- C51 — 10 μ F. elect., 12v. wkg.
- C54, C55 — 270 pF. silver mica.
- C58 — 330 pF. silver mica.
- C61, C64 — 22 pF. silver mica.
- C65 — 20 pF. variable.
- C67, C68 — 0.0018 μ F. disc ceramic, 1200v. wkg.
- C69 — 64 μ F. elect., 350v. wkg.
- R1, R8, R17, R25, R53 — 47,000 ohms.
- R2, R9, R52, R54 — 100,000 ohms.
- R3 — 150,000 ohms.
- R4 — 10 ohms.
- R5 — 250,000 ohms.
- R6, R55 — 330 ohms.
- R10, R33 — 10,000 ohms wire-wound pot.
- R11 — 1,500 ohms.

(Continued next page, last column)



An ECL83 triode-pentode completes the receiver valve line-up, and provision is made for either headphone or speaker reception. The S meter operates continuously and the circuit enables a forward reading 1 mA. meter movement to be used. Another advantage of this particular circuit is that turning down the gain controls does not pin the meter needle against its stop. Meter readings decrease in sympathy with the i.f. gain control setting.

Power supplies are built into the receiver and a pair of silicon power diode rectifiers help to keep down the heat and occupy very little space. No voltage stabilisation was found necessary. The Drake 2B receiver has no voltage stabilised supplies and anyone who has used one of these fine receivers will confirm that there is virtually no drift after a few minutes' warm-up period. The whole question of voltage stabilisation has been over-emphasised for many years, and it really dates back to the time when Amateurs endeavoured to run multi-stage transmitters from a single power pack. Experiments with the oscillator used in the receiver described here have shown that a 100% variation

in h.t. voltage only changes its frequency by 200 c/s. Such a change in line voltage need hardly be expected!

THE FRONT-END UNIT

Work began on this section before the complete receiver design had been finalised. It is constructed on a small sub-chassis which mounts upon the main receiver chassis and can be thoroughly tested before it is installed.

Looking at Figs. 1 and 2, V1 operates as a conventional triode mixer with grid injection from V2, the crystal oscillator, which is a 6C4. Four switched crystals are used in a Pierce arrangement which does not call for any tuned circuits. The crystal frequencies may be either higher or lower than the mixer signal frequencies. By having them 1.5 Mc. lower a cheaper set of crystals can be obtained, but this is at the expense of some unwanted spurious beats or "birdies" within the tuning ranges. A better system is to have the crystals 2 Mc. higher in frequency than the lower band edges—however, this means that on all ranges other than Top Band the h.f. end of the tuning

scale corresponds to the l.f. end of the band.

The two possible sets of crystal frequencies are shown in the table herewith:

Band	L.F. Crystals	H.F. Crystals
3.5 Mc.	2 Mc.	5.5 Mc.
7.0 Mc.	5.5 Mc.	9.0 Mc.
14.0 Mc.	12.5 Mc.	16.0 Mc.
21.0 Mc.	19.5 Mc.	23.0 Mc.

If ten metres is to be considered, four additional crystals will be needed for full coverage of that band. Overtone operation of crystals was tried, but found to be unsatisfactory. There was considerable pulling between the mixer and the overtone oscillators, and when on 21 Mc. tuning the pre-selector circuits to this frequency pulled the overtone circuit out of oscillation.

The 6CW4 valve must never have more than 70 volts on its anode, and it will operate satisfactorily down to 25 volts. V2 is also run at low h.t. voltage (about 30 volts) for very little injection is required at the grid of V1.

C9 tunes the anode circuit of the mixer and its spindle is brought out to the front panel for peaking purposes. L8 and C13 make up a flatly tuned circuit centred on the mid-i.f. frequency, around 1750 Kc.

Care must be taken when constructing the pre-selection tuned circuits. The two groups of coils are kept away

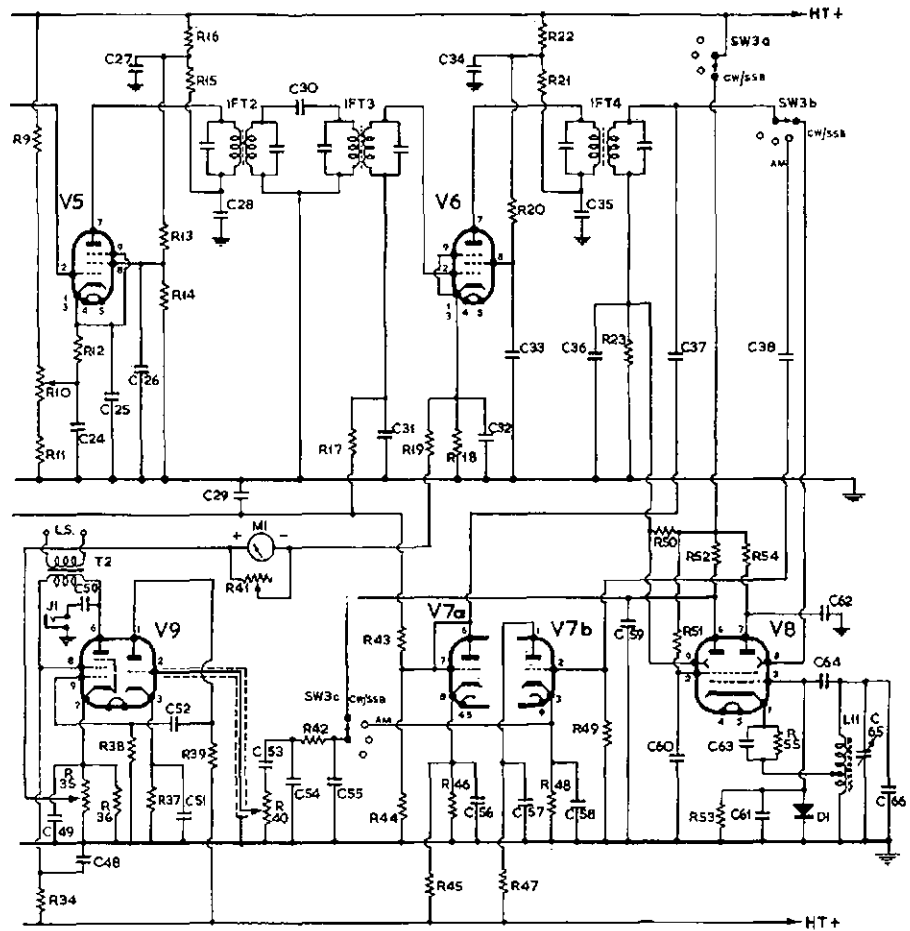


FIG. 2 VALUES (Continued)

- R12, R18 — 100 ohms.
- R13 — 22,000 ohms.
- R14, R48 — 82,000 ohms.
- R15, R21 — 1,000 ohms.
- R16, R22 — 4,700 ohms, 2 watts.
- R19 — 47 ohms.
- R20 — 39,000 ohms.
- R23 — 18,000ohms.
- R24 — 390 ohms.
- R26 — 10,000 ohms.
- R27 — 22,000 ohms, 2 watts.
- R28 — 100,000 ohms, 1 watt.
- R29 — 15,000 ohms, 2 watts.
- R31 — 7,500 ohms.
- R32 — 2 megohms.
- R34 — 1,600 ohms, 10 watts.
- R35 — 500 ohms wire-wound pot.
- R36 — 3,000 ohms.
- R37 — 620 ohms.
- R38 — 220,000 ohms.
- R39 — 33,000 ohms, 1 watt.
- R40 — 1 megohm carbon track pot.
- R41 — 2,500 ohms wire-wound pot.
- R42 — 56,000 ohms.
- R43, R44, R49 — 1 megohm.
- R45 — 390,000 ohms.
- R46 — 3,300 ohms.
- R47 — 33,000 ohms.
- R50 — 120,000 ohms.
- R51 — 68,000 ohms.
- RFC1, RFC2 — 2.5 mH.
- IFT's — Standard 460 Kc. IF transformers.
- M1 — S meter, 1 mA. movement.
- LFC — 20 Hy. 75 mA. choke.
- T1 — Transformer, 250-0-250v. at 60 mA., 6.3v. twice at 3a.
- T2 — Output transformer, 5,000 ohms to 2.5 ohms load.
- J1 — Phone jack.
- SW1 — 7-pole, 5-way ceramic switch.
- SW2 — On/off toggle switch.
- SW3 — 5-pole, 4-way miniature ceramic.
- D1 — OA79.
- D2, D3 — Silicon power diodes, 800 p.i.v. at 450 mA.
- V1, V4 — 6CW4 Nuvistor.
- V2 — 6C4.
- V3 — 6BE6.
- V5, V6 — EF183, see text.
- V7 — 12AU7.
- V8 — 7360.
- V9 — ECL83.
- X1, X2, X3, X4 — Oscillator crystals, see text.

Fig. 2.—Circuit complete of the 9-valve double-conversion 15-160 mx Amateur Band Receiver discussed in the article by G3BDQ. On the h.f. bands, the front-end is crystal controlled—see black diagram Fig. 1—while on Top Band, the circuit becomes single-conversion to 460 Kc., which is the 2nd i.f. on all other bands. The components used are standard catalogue items throughout, and full advantage is taken of recent new valves, such as the 6CW4, the 7360 and the EF183. Base connections of the types used in this receiver are shown separately; it should be noted that the special sub-miniature sockets required for the 6CW4s are obtainable from suppliers of the valve.



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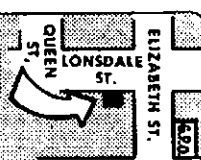
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from each other and the only coupling between them must be via C5. When correctly adjusted by means of their dust cores each pair of coils should tune to identical frequencies at the same setting of the two-gang variable capacitor C4. The 14 Mc. and 21 Mc. bands are both covered with the same coils. The pre-selector tuning control C4 should give a sharp peak to received signals and it will require re-adjustment when tuning over the 80 metre band. On 14 Mc., C4 will be practically at full mesh and on 21 Mc. it will be set near minimum capacitance.

Any receiver tuning the range 1.5 Mc. to 2 Mc. can be used as an i.f. strip for test purposes; the receiver aerial terminal is coupled to the output side of C12.

THE VARIABLE CONDENSER

A receiver stands or falls upon the stability of its oscillators, and the home constructor must give every care to the achievement of real stability. Good quality components should be used throughout, and special regard has to be paid to those making up the tuned circuit.

V3 is a 6BE6 mixer and oscillator. It is not usual practice in communication receivers to combine both functions within one valve, but the circuit given here, which is a version of the mixer-oscillator in the Drake, performs excellently. The oscillator is arranged to tune from 1955 Kc. to 2065 Kc.; this requires a variable capacitor swing in C20 of about 120 pF. when using the coil and silver mica capacitor (C21) specified; a well-made double bearing 170 + 170 pF. variable capacitor was found to be suitable, with C19 in series with one of its sections to limit the frequency swing; the other section of C20 is unused.

Suitable 1" diameter coil formers in polystyrene are obtainable from a well known chain of chemists shops, in which they are sold as—pill containers. A calibrated receiver covering the variable oscillator frequency range should be used to check oscillator performance.

All the components in the oscillator section, with the exception of R3, are mounted above chassis, under the variable capacitor, inside an L-shaped screen.

Contrary to normal practice the V3 screen dropper R5 has the rather high value of 250,000 ohms. The oscillator thus runs at very low voltage and is far less susceptible to valve heating and voltage variation. Experimentally increasing the screen voltage of V3 was found to degrade the signal-noise figure of the receiver. When satisfied that the oscillator tunes the correct frequencies the coil should be liberally doped with polystyrene cement to set its inductance and reduce vibration effects.

THE Q MULTIPLIER

All the valve Q multiplier circuits studied by the writer incorporate the 12AX7 twin-triode—so it was decided to break new ground and use a 6CW4 Nuvistor. It may appear strange to adopt a low-noise v.h.f. triode for a 460 Kc. regenerative circuit, but the chief attraction was the small physical size of the 6CW4. The whole unit can be made up on a small sub-chassis to

fit conveniently beneath the S meter. To obtain the full advantages of a Q multiplier the coil must have the highest possible Q, or goodness. This necessitates Litz wire windings on a ferrite pot core and such coils are best obtained from a component manufacturer. (See table of values.)

Resistors R30 and R31 were chosen to maintain the anode voltage of V4 at a very low value, actually between 5 and 5.5 volts. At this voltage the 6CW4 just slides into oscillation at the far end of the track of R33, the variable cathode resistor, which functions as a selectivity control. It may be noted that the i.f. coupling capacitor C43 has a value of only 15 pF.; other circuits examined seem to use at least 0.001 μ F. in this position, which would heavily damp and thereby de-tune the anode circuit of V3. High capacity is not needed for proper Q multiplier action.

C47 is a pre-set frequency control which enables the Q multiplier to be centred on the i.f. passband.

HIGH GAIN I.F. STRIP

V5 and V6 are very high gain valves with a mutual conductance of 12.5 mA. per volt, and if instability or positive feedback are to be avoided they must be operated at the voltages recommended by the manufacturer.

Layout is important. Sensible in-line valve and transformer placing must be adopted and r.f. leads should be kept short.

Small brass shim screens were soldered across the valveholders to isolate the grid from the anode wiring. Before this was done both stages tended to take off when the i.f. gain control R10 was at maximum.

A.v.c. is applied to both valve control grids but only V5 is connected to the i.f. gain control circuit. The use of four tuned circuits between the i.f.

RECEIVER COIL DATA

L1b, L4—14 turns 24 g. enamel, at 30 t.p.i. on 7/16" diam. dust core former, to tune 21 and 14 Mc.

L1a—2 turns insulated wire on earthy end of L1b.

L2b, L5—26½ turns 24 g. enamel, at 30 t.p.i., on 7/16" diam. dust core former, to tune 7 Mc.

L2a—2 turns as for L1a.

L3b, L6—50 turns 32 g. enamel, silk, close wound on 7/16" diam. dust core former, to tune 3.7 Mc.

L3a—3 turns insulated wire on earthy end of L3b.

L7, L7a—Bifilar wound coils: Primary (L7a) 11 turns 26 g. enamel, between lower turns of L7, which has 75 turns 32 g. enamel, silk, scramble wound on 7/16" diam. dust core former, to tune 1.5 to 2 Mc.

L8—30 turns 32 g. enamel, silk, close wound on 7/16" diam. dust core former.

L9—Approx. 24 μ H., 41 turns 22 g. enamel, close wound on 1" diam. polystyrene former; tap 30 turns down the coil.

L10—Pot wound high-Q coil 120-150 μ H. (Osmor or Electronics).

L11—Standard 460 Kc. b.f.o. coil, or can be made from any small LW aerial coil by removing some turns.

stages enhances selectivity and brings the total number of tuned circuits at 460 Kc. up to eight.

Should the constructor wish to use somewhat cheaper valves for V5 and V6, types EF80 (which have the same pin connections as the EF183) may be used, but of course with a considerable reduction in i.f. gain.

(To be concluded)



A Colpitts Transistor Oscillator

(Continued from Page 7)

a 2N1499A oscillator driving a 2N1496), and the second an oscillator for a low power 5 metre transmitter. The last circuit is employed in a simple signal generator.

As a guide to the transistor required, the grounded base cut-off frequency should be not less than double the frequency of the crystal or primary tuned circuit used.

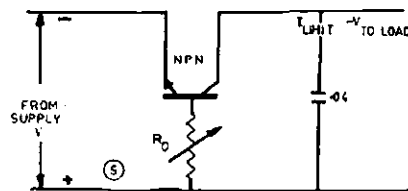


Fig. 5.

A simple current limiting circuit. R0 varies the limiting current. The limiting current is given by the equation:

$$I \text{ limit equals } BV \text{ divided by } R_0.$$

In concluding, I would like to add a word of warning to those who would endeavour to build a simple transistor transmitter. When detuning the final, excessive currents in this stage can occur, "blowing" the transistor. To prevent this a current limiting element should be incorporated; one such circuit being given in Fig. 5. (A p.n.p. transistor can be used if the limiter is inserted in the positive lead.)

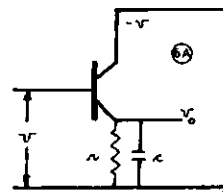


Fig. 6A.—A simple emitter follower.

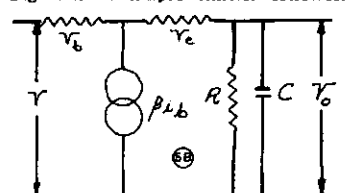


Fig. 6B.—The equivalent circuit of the simple emitter follower.

The transistor is biased into saturation, such that when the nominated limiting current is exceeded the "pass" transistor comes out of saturation and appears as a high impedance. Care must be taken to ensure the dissipation of the "pass" transistor is not exceeded when it is limiting.

THE INVERTED "V" ANTENNA

BUD POUNSETT,* VK2AQJ

At long last the inverted V form of dipole antenna has gained some degree of popularity in Australia. In New Zealand, this antenna has found favour among many Amateurs over a considerable period, particularly for use on the eighty metre band. In New Zealand, the new operator must "serve his time" on 80 metres before graduating to the higher frequencies. Here in Australia, many of us have never transmitted in this band, due largely to the inability to instal such a long piece of wire in the back yard.

With the deterioration of conditions on the higher frequency bands, many of us are turning our thoughts 80 metres and wishing we had just a little more space. Even if your block is 136 feet long, where are you going to put the guys for the masts? Maybe in your neighbour's yard, but certainly not out in the street. If this sounds like your problem, this installation may be just the one for you. Even for the man with plenty of antenna space, this antenna has something to offer. Look at these points:—

1. Only one mast is required.
2. The radiator(s) also guys the mast.
3. Requires less yard length.
4. Not a compromise but a resonant antenna.
5. Fed with 50 ohm coaxial cable.
6. Easily adjusted to minimum s.w.r.

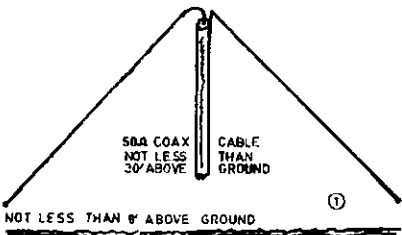


Fig. 1.—Elevation view of inverted V aerial, fed by 50 ohm co-ax. cable of any length. Note that the ends of the aerial must be not less than eight feet above the ground.

This antenna is just a simple dipole fed in the centre with 50 ohm co-ax. cable, supported at the centre and sloping down to the ends. The overall length of the wire is a little shorter than a normal horizontal half-wave and the feed point impedance is very close to 50 ohms. For those who use commercial transmitters with a fixed 50 ohm output, this is very convenient.

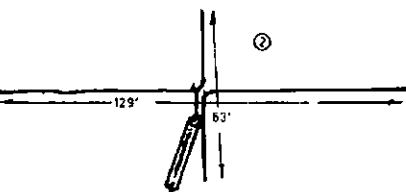


Fig. 2.—Plan of two inverted V aeriels for 80 and 40 metres. One leg of each aerial is joined and connected to the co-ax. cable, thus giving two aeriels at right angles to each other.

The inverted V is a one-band affair, but the usual installation has two inverted Vees at right angles to one another, parallel connected, and fed with the same feeder. One is cut for 40 metres, while the other is resonant in the 80 metre band. This gives four wires spaced 90° from one another from the top of the mast to some convenient anchor points, usually fence posts. These wires also double as guys for the mast, making a very neat installation.

The height of the mast is not critical, anything from 30 feet on up will work well. The angle of slope can be that which is most convenient but keep the antenna ends out of reach of the children. There are a lot of r.f. volts here when you are transmitting. It is recommended that the ends be at least eight feet above ground. It is not absolutely essential to keep the antenna running in a straight line, the buildings, trees and so forth, may not allow this, but keep it as straight as possible.

You can figure how to insulate the feed point and anchor the antenna wires and co-ax. feeder yourself, but make sure to waterproof the end of the coaxial cable and secure the feeder to the centre insulator or mast to take the weight from the connections.

When you have your inverted V antenna in the air and ready to radiate, measure the s.w.r. at both ends of the

band. If you have made the antenna purposely long, you will get a lower s.w.r. at the low frequency end. A suggested length to start with on 80 metres is 138 feet. By shortening the antenna at both ends by the same amount and checking the s.w.r., a ratio of 1:1 will be obtained at the chosen frequency with considerable ease. Do not cut the wire until you are satisfied with the s.w.r. readings. Loosely twist the wire back along the antenna until you get the s.w.r. down. You will be surprised how quickly you can do this job.

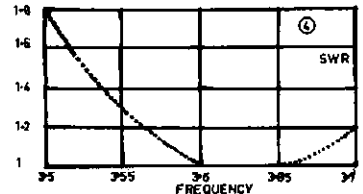


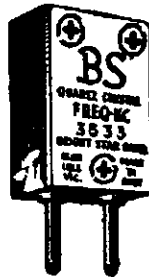
Fig. 4.—S.w.r. of an inverted V aerial at 80 metres. At 40 metres the s.w.r. is about 1:1 from 7 to 7.1 Mc., rising to about 1.1 at 7.15 Mc.

This is by no means a new idea. I wish to thank those various sideband operators who tried this radiator before I did and gave me the benefit of their experience. This article was prompted by the interest shown by many Amateurs during ragchews on 40 and 80 metres.

Figs. 1, 2 and 4 will give the picture. The figures given in the plan view are those of my own installation and will vary with each system, but are shown as a guide. To get optimum results, an s.w.r. indicator is very necessary. ●

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A GRID DIPPER FOR V.H.F.

A. C. RECHNER,* VK5ZCR

To keep cost down it was decided to use a "magic eye" tuning indicator and, because of its large display area and small size, type EM85 was chosen.

This indicator has a 9-pin Noval base and measures 2 3/8" long by 3/4" diameter. The EM85 has better sensitivity than a 500 μ A. meter, only slightly less display area, and very much lower time constant. They cost about 12/-.

With a view to eliminating spurious dips in grid current, no r.f. chokes and/or by-pass capacitors are connected to the tuned circuit. This approach was quite successful and no abrupt dips in grid current are evident. On some ranges there may be a slight variation from one end of the tuning range to the other.

A 25 x 25 pF. Eddystone capacitor is used and with an RL18, no trouble is found in obtaining adequate grid current down to 320 Mc.

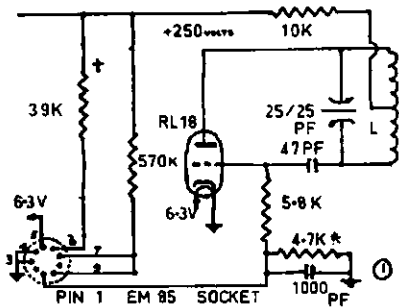


Fig. 1.—Schematic Diagram.

* Adjust $\pm 50\%$ for required shadow angle.
 † Adjust $\pm 50\%$ for required brilliance.

With even more careful layout this could probably be extended to 350 Mc.

The instrument is built in a small aluminium case measuring 1 1/2" x 1 1/2" x 5 1/2". The author feels that small physical size is important in permitting access to compact gear.

The EM85 socket is mounted on a small aluminium bracket taking care to see that the display area is visible through the window on the case (this window should measure 3/8" x 1").

The coil socket is a ceramic octal type. An 8-pin socket was chosen because it permits paralleling two or more pins to reduce lead inductance on the highest range.

Wiring is straight forward, the RL18 is soldered directly into the circuit, a hot clean iron will ensure that the tube does not crack during this operation. A heat sink may be used.

Short lead length is essential for good v.h.f. performance and the layout illustrated is recommended. The gang should be connected to the coil socket with strips of shim brass and two or three of the socket lugs may be paralleled for each side of the tuned circuit.

No attempt is made to supply coil winding data. A better approach is to

build the loop for the highest frequency range and then set the g.d.o. to the lowest frequency on this range. A simple tuned circuit made up of a 3-30 pF. trimmer and 3 or 4 turns on a 3/4" former should be tuned in the proximity of the g.d.o. until a dip in grid current is shown.

Then the next hairpin for the g.d.o. can be made and its dimensions adjusted so that a dip is obtained from the simple tuned circuit with the g.d.o. adjusted at or near the highest frequency on this second range.

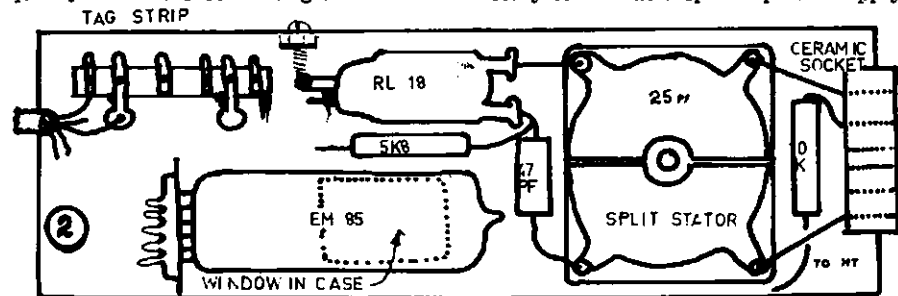


Fig. 2.—Suggested layout of the g.d.o. It is very important that short heavy leads connect from the variable condenser to the octal socket, if good performance at v.h.f. is needed.

This technique can be repeated for subsequent lower ranges and with care there will be no missed portions in the frequency spectrum, and yet no undue overlap between coils.

Loops are used for the two highest ranges, then conventional coils for the lower ranges.

The loop for the highest range is illustrated (Fig. 3A) and in the circuit shown should give response down to 320 Mc.

A cheap and effective method of making coils is also shown in Fig. 3B.

The sockets are old octal valve sockets. The coil formers can be made from 1/4" or 3/8" polystyrene rod, with one end filed down to fit the hole in the spigot. (The author used wooden dowel with no apparent ill effects.)

The covers are transparent perspex pill containers which may be purchased from Selby's or any other large suppliers of chemical requisites. Ask for "8 drachm" plastic containers. They

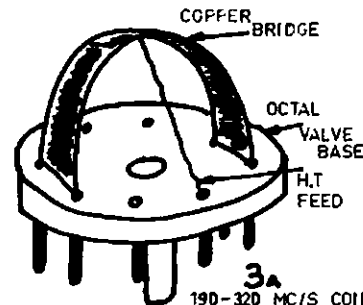


Fig. 3A.—Diagrammatic presentation of the v.h.f. g.d.o. coil. Best v.h.f. performance should result if the copper bridge is built in the form of an inverted "U". By so doing, pick-up will be increased and the inductance will be less as the sides of the "U" are brought closer together.

cost about 5/- a dozen and measure about 1" x 2 1/2".

No cover is used on the loop for the highest range.

The tuning knob is an ordinary type numbered 0 to 100 around half the circumference. This is used in conjunction with a graph to read the frequency. If you could handle the small lettering it may be possible to calibrate the instrument direct.

As measuring instruments are usually not in continuous use, it seems unnecessary to include a special power supply.

My grid dipper can be plugged into the converter power supply.

Further thought revealed that if the 10K resistor was connected straight to the plate of the RL18, the oscillator could be used to check crystals for activity, although this has not been tried, and may prejudice v.h.f. performance.

Constructional information is not given in detail, as many variations are permissible to suit individual cases (no pun intended). It would probably be in order to use another tube type, say a 955.

However, to get good performance above 200 Mc. the lead lengths should not exceed those shown in Fig. 2.

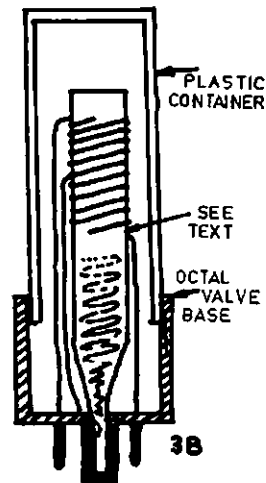


Fig. 3B.—The low frequency coil units are wound upon a dowel of wood or plastic, see text. A small plastic container protects the coils from damage and avoids the possibility of connecting with live h.t. circuits.



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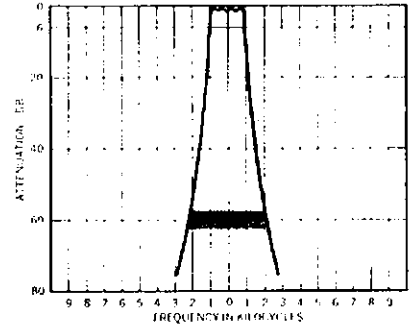
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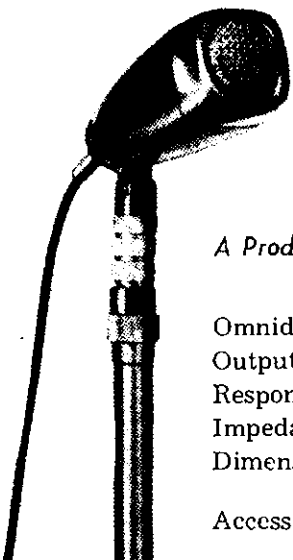
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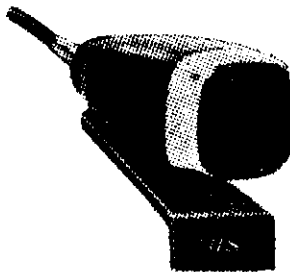
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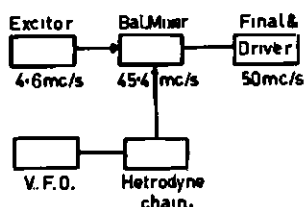
A V.H.F. SIDEBAND RIG

I. F. BERWICK,* VK3ALZ

THERE is ample literature available to enable anyone to build a sideband exciter at h.f. (say 9 Mc.). However, heterodyning such a signal to a v.h.f. band does present certain problems. Very little information has been printed on this latter subject. This article is an attempt to add a little to the store of information. Whilst a complete rig is described, the article is intended as an illustration of various problems which can arise and methods of tackling them.

The complete device, including regulated supplies runs to 38 tubes. Other VKs are getting on 50 Mc. s.b. with half as many tubes, so don't assume mine is the only method.

Complete Unit.



The main problems of v.h.f. sideband are:—

- (1) Generation of spurious frequencies.
- (2) Stability of the oscillators.
- (3) Linearity of the sideband amplifiers.
- (4) Acceptable audio response.

STABILITY

We shall deal with this first. It is generally agreed that for a s.b. signal to remain resolved it should stay within ± 30 cycles of the mean frequency for an extended period. At 50 Mc. this means a stability of 60 cycles or 50,000,000 or slightly greater than one part per million. Not too difficult by today's standards. However, if v.f.o. operation is desired it means that heterodyne v.f.o. methods must be employed. You cannot meet this order of stability if you have to multiply the v.f.o. frequency a dozen or more times.

I used a Franklin oscillator which appears to be about the best circuit available. A properly built Clapp circuit does appear to be very good also. VK3ZLC uses this circuit with excellent stability.

Mechanical stability should of course be good. A good scheme used by VK3ASG is to remove the oscillator components of a 4-6 Mc. Command transmitter and mount them on a die cast chassis. In this way a first class v.f.o. can be had with little effort or cost.

It is essential to operate the crystal oscillators in the heterodyne chain so that they achieve the stability of which a good crystal oscillator is capable.

In order to assist in maintaining stability it is good practice to run the oscillator, its buffers and most of the heterodyning stages continuously. In my case I run all stages up to the 50 Mc. balanced mixer all the time.

In order to make netting easy a slow v.f.o. tuning rate is highly desirable, either mechanical or electrical methods can be used to achieve this.

If the v.f.o. dial is accurately calibrated, it can double as frequency meter for the band. But it is desirable to have a band-edge marker crystal as the calibration of even the best v.f.o.'s. does tend to drift off with the passage of time. I use a 5.5555 Mc. crystal multiplied nine times.

SPURIOUS FREQUENCIES

Since we are inexorably tied to heterodyning processes, both in the v.f.o. and in the transfer of the s.b. signal from h.f. to v.h.f., it is inevitable that we will run up against a number of unwanted frequencies where two or, more likely, three different oscillators are used, the number of unwanted

frequencies generated can be quite considerable. Some of these may fall adjacent to the desired channel and be amplified and radiated as spurious and illegal signals, either inside or outside the Amateur band.

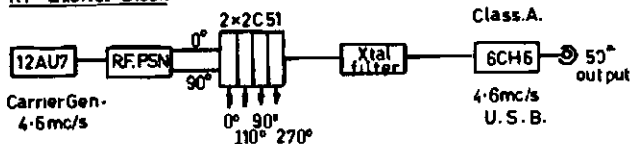
The problem can best be illustrated by my own particular case.

S.B. Exciter	V.F.O.	Harmonio	Overtone Crystal
4600	4100		6200 { elimin- ated
9200	8200	2nd	12400
13800	12300	3rd	18600
higher freqs.	16400	4th	24800
very weak	20500	5th	31000
	24600	6th	37200
	28700	7th	43400
	32800	8th	49600
	36900	9th	55800
	41000	10th	
	45100	11th	

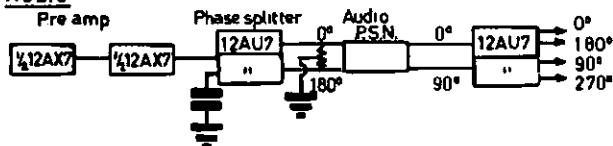
The wanted combination is 4600 and $2 \times (4100 + 18600) = 50,000$ kc.

TRANSMITTER BLOCK DIAGRAMS

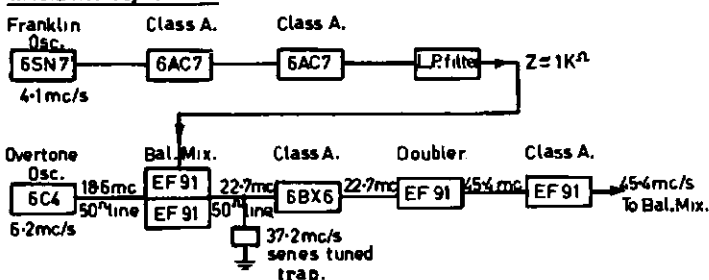
RF Excitor Block



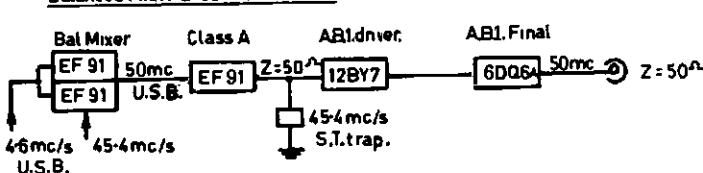
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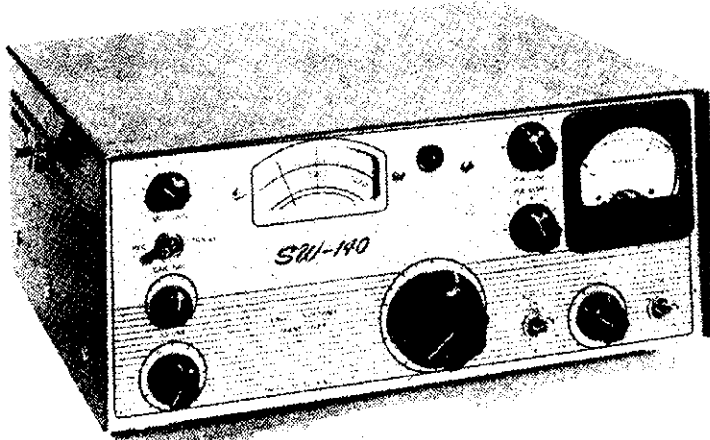
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SW-140	7.0 „ 7.15 Mc.	Lower
SW-120	14.2 „ 14.35 Mc.	Upper
SW-115	21.25 „ 21.45 Mc.	Upper

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- ★ Main Tuning control is firm and smooth, with 16:1 tuning ratio. Calibrated in 2 Kc. increments.
- ★ Transceiver produces approximately 25 watts carrier output on a.m. by simply adjusting the Carrier Balance control. Receives a.m. signals very satisfactorily.
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- ★ **Power Supply requirements:**
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80v. d.c., negative bias, at 6 mA., receive and transmit.
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GREAT CIRCLE BEARINGS FOR AIMING AN ANTENNA

T. W. BARNES,* VK2ABI

AN Amateur interested in communications with a point a considerable distance away on the earth's surface, if he were using a frequency such as 3.5, 7, or 14 Mc., might consider a fixed directional antenna preferable to a moveable antenna.

His aim would then be to erect the masts required in accurately determined relationship one to the other and to the path of transmission. This could not be done with certainty unless he first determined for his position the bearing of the receiving station.

This little article will show how this can be done, easily and without formal use of spherical trigonometry. In addition, the bearing having been determined, it will also be possible to say what other places are on the same path of transmission. It is a fact that a protractor and a map will very often give a result which is quite inaccurate if for no other reason than that a transmission path often appears as a curved line.

A great circle path of transmission is one which passes about the earth on its largest diameter; stations at the geographic poles have an indefinitely large number of great circle paths between them as have any other two points (poles) at opposite ends of a largest diameter. Other points on the earth's surface have only one great circle path between them, or two, in opposite directions, if the antenna is designed with a high front-to-back ratio. Each of these paths would, in general, have a different value.

We are all familiar with the system by which a spot on the earth's surface is located by the intersection of two circles, one a (circle) meridian of longitude and the other a circle of latitude. This system permits us to say, for example, that a spot is so many degrees east or west of Greenwich and so many degrees north or south of the equator.

A good globe map of the world presents this information angle true, but is often inconvenient to use for our purpose.

Sheet maps are projections of one kind or another by which information from the surface of the globe is cast on to a plain sheet of paper.

There are many kinds of projection; an atlas may show several, one more suited to present the equatorial regions, one the polar regions, and another giving a truer presentation of area and so on.

One projection, the stereographic projection, has the property of presenting data from a spherical surface, angle true, so that by the proper procedure bearings can be taken from a map presented in this projection.

Charts called stereographic nets can be obtained† on which circles of longitude and latitude are appropriately

plotted. Fig. 1 is a reproduction of such a net 7.8 inches in diameter. On it the poles and the equator can be seen; on it all points in the same hemisphere can be plotted and any two points can be plotted angle true, although the bearing between them may not be immediately apparent. Such a chart is often called a Wulff's net.

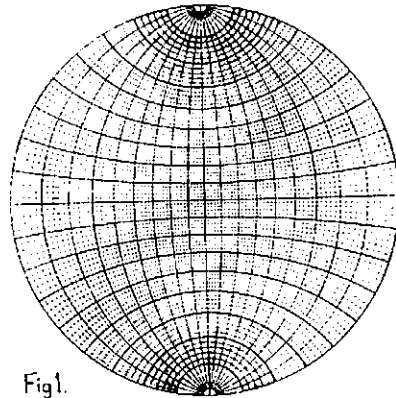


Fig. 1.

On this particular net, circles of longitude and circles of latitude are plotted in general, every two degrees, and over most of its area it can be read to approximately one degree.

Counting along the equator ninety degrees from either end brings the eye to the centre of the chart.

If the chart is rotated about a drawing pin through this point the effect is as though the circles of longitude (great circles) in particular were rotated about the earth on an axis through this point at right angles to the paper. To avoid damage to the net, it is a good idea to stick a small piece of adhesive plaster to the back of it at this point.

An Amateur living in Sydney, 151 degrees east of Greenwich, can imagine that the earth is divided into two hemispheres, one containing all points west to 29° longitude west of Greenwich, and the other all points east to 29° west of Greenwich. Inspection will show that Bristol England and Johannesburg Transvaal are in the first category, and Winnipeg Canada, Val Praiso Chile, and Invercargill New Zealand are in the second.

In the procedure to be described, we shall plot the difference in longitude

between the points of interest as well as their latitude north or south of the equator.

If the target point is in the hemisphere west of Sydney (or Melbourne, etc.), the difference in longitude is the sum or difference of the longitudes, depending on whether it is west or east of the Greenwich meridian. However, if the target point is east of Sydney the difference is either the difference of the longitudes or 360° minus the sum of the longitudes, depending on whether the target is west or east of 180° of longitude; examples are contained in Table 1.

In determining the bearing, the following steps are taken for all points in the hemisphere west of Sydney; Bristol will be used as an example.

(1) A piece of tracing paper larger in diameter than the net is centred on top of the net on the pin through it and held stationary. The lines of the net must be plainly visible through the tracing paper.

Starting at the right hand side of the equator, count clockwise 34 degrees of latitude around the periphery and make a point on the tracing paper for Sydney. (See Fig. 2.)

Along the equator from the right count west 153 degrees of longitude and then clockwise 51 degrees of latitude. Mark this point Bristol.

Make a mark at the south pole of the net.

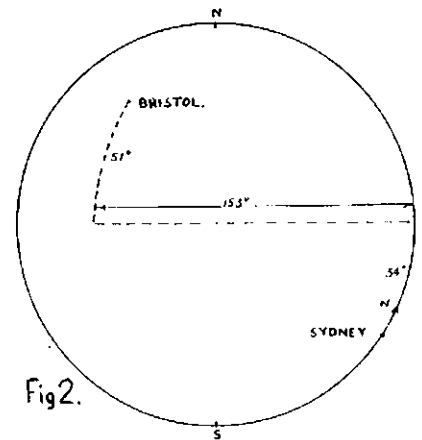


Fig. 2.

	Longitude	Latitude	Diff. Longitude	G.C. Bearing
Sydney, Australia	151°E	34°S	—	—
Bristol, England	2°W	51°N	153°(W)	N 40°W
Johannesburg, Transvaal	28°E	26°S	123°(W)	{N 130°W }W 40°S
Invercargill, New Zealand	169°E	46°S	18°(E)	{N 137°E }E 47°S
Winnipeg, Canada	97°W	50°N	112°(E)	N 48°E
Val Praiso, Chile	71°W	33°S	138°(E)	{N 145°E }E 55°S

Table 1.

* Lot 81, Cabbagetree Lane, Fairymeadow, N.S.W.

† These nets can be obtained from the Institute of Physics and Inquiry in Sydney might be successful. In Melbourne advice might be sought at the Department of Metallurgy of the Royal Melbourne Technical College.

It should be noted that an anticlockwise movement around the net from Sydney now represents a movement to the true north.

(2) Rotate the tracing paper clockwise until the point Sydney lies above the south pole of the net. The point on the periphery above the north pole of the net is the opposite pole to Sydney (29° W, 34° N). Mark this point. The great circles on the net all pass through these points and Bristol and all other points in the hemisphere will be found on one of the great circles, perhaps by estimation.

(3) Trace in the great circle for Bristol and then count the number of degrees of longitude between the right hand end of the equator and this circle

(40 degrees) and label the interval; see Fig. 3.

(4) Rotate the tracing paper anticlockwise until the south pole mark coincides with the south pole of the net. The great circle between Sydney and Bristol is now seen to make a direction 40 degrees west of north at Sydney; see Fig. 4.

Fig. 5 illustrates these steps for Val Prais, representing points in the eastern hemisphere.

At step 4 in the procedure, the latitude and longitude of a number of points on the great circle of bearing may be taken from the net and transferred to a map. A smooth curve through these will show the transmission path and the places on it as it passes across the world.

By obvious adaptation, Amateurs who have rotary beams may construct a stereographic map of the west and east hemispheres so that the beam can be aimed with greater knowledge. The job is made simpler by the observation that like aircraft, radio waves are only secondarily concerned with coastlines and particularly with the borders of states. Cities and towns may therefore appear only as points on the earth divorced from country and coastline.

This method can be applied by adaptation, when the transmitter is at any other place; it is not applicable to Sydney alone.

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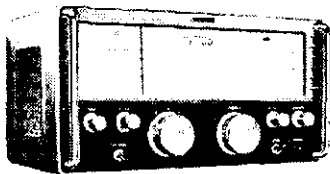
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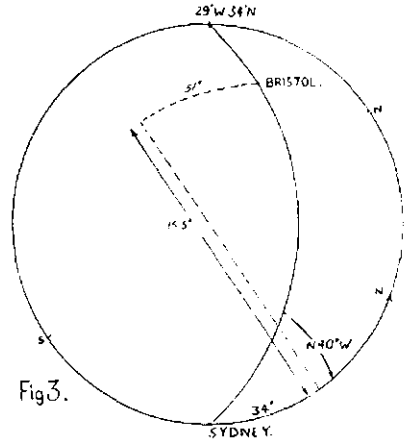


Fig. 3.

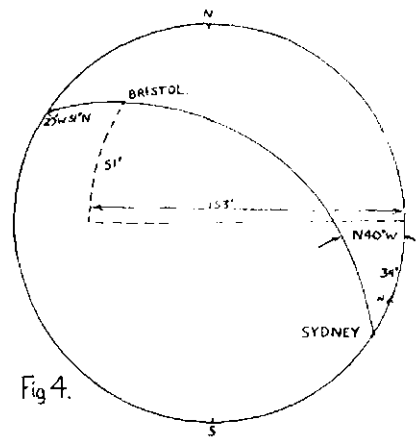


Fig. 4.

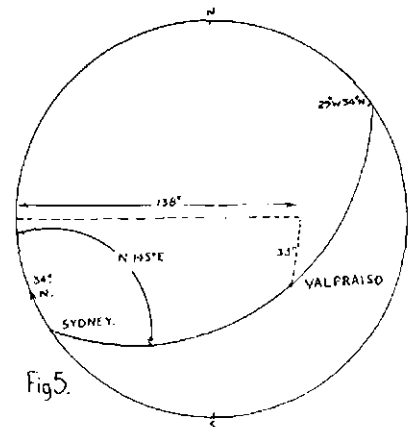


Fig. 5.

THE C.D.O.

REV. BRO. D. KINSELLA,* VK2AXK

The C.D.O. is a Collector Dip Oscillator, but I don't suppose that the Amateur will change his ways, hence it will no doubt still be called a G.D.O. (Transistorised?).

A grid dip oscillator is an extremely useful item to have around the shack, and in this version, having its own self-contained power supply, it is an even more useful device for all the tasks that can be done with it. Particularly as it has no power cables attached, hence can be used on top of a tower, if required—of course getting it up there is an entirely different problem.

The C.D.O. is very easy to construct and an hour's soldering should see the unit almost completed. An OC44 transistor has proved useful up to 21 Mc. and the OC170 up to v.h.f., but other equivalent types could be used. The current amplifier can use any suitable transistor, but the OC70 is possibly as good as any, and also the least expensive.

Layout is not critical, but the circuitry associated with the LC circuit should have heavy direct wiring with very short leads if operation at v.h.f. is required.

One possible problem is the polarity of the diode, plus the fact that some diodes may be better at v.h.f. than other units. In this regard some experimenting could prove of assistance. If the meter does not read, then reverse the polarity of the diode, simple, but effective.

To conserve batteries, it is suggested that S1 be a push button type, thus unless pressed no power is applied. Hence if the unit is used near an operating transmitter, then no damage will result to the transistor. When used as an absorption wavemeter only the LC circuit, diode and meter are used.

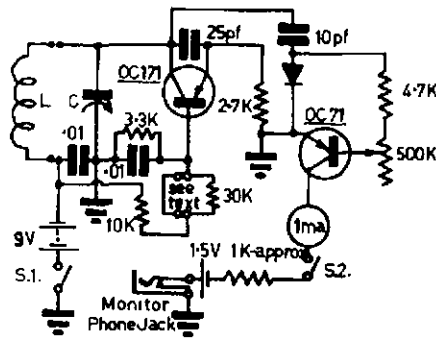
To keep the unit compact a midget style movement should be used for the milliammeter. This need not be a calibrated type as its function is to indicate the dip in response, hence a scale is not needed.

It will be noted that no details have been given for the coils nor the associated tuning condenser. This has been done because each builder will no doubt wish to use the components he has on hand. However, if starting from scratch, then it is suggested that an Eddystone variable capacitor be used as these units are very compact and are effective at v.h.f. Some condensers are erratic at v.h.f., as evidenced in the C.D.O. by the varying collector current as the unit is swung over the tuning range.

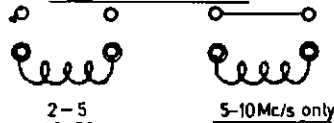
The fact that the coil requires not tapping is an added advantage, and the newer style "Willis" air wound inductances can be used with success. The correct combination can be found by reference to May "A.R." Data Sheet. The ranges suggested for the C.D.O. are: 2-5 Mc., 5-10 Mc., 10-20 Mc., and

20-50 Mc. Reference to the circuit diagram will show that R1 is altered on the 5-10 Mc. range, being only 10K ohms; on the other ranges it is 40K ohms.

If a coil former with a four-pin base is used, then the switching of R1 can be done automatically by bridging out the rest of the resistor. Some formers are available with a moulded shell and if the air wound "Willis" inductances are used, these can be fitted inside the moulded shell, thereby giving maximum safety from accidental shorts when working upon live units and using the C.D.O. as an absorption wavemeter.



COIL BASE DETAILS.



- S.1. A push button switch.
- S.2. Close for Monitor or Wavemeter operation.

Many readers will no doubt think that they cannot calibrate this unit. This is not so. A C.D.O. is a small low powered oscillator, thus its signal can be heard upon any receiver. In addition it is quite correct to calibrate the unit every half megacycle, closer calibration not being required, as the unit is not intended to be a precision source of signals.

To proceed with the calibration allow your receiver to warm up and then plug in coil 1, say the 2-5 Mc. range. Set the receiver at 2 Mc., then adjust the C.D.O. until a heterodyne beat is heard in the receiver, which of course has its b.f.o. turned on. Then set the receiver at 2.5, 3, 3.5, 4, 4.5 and 5 Mc., repeating the same procedure at each step. By so doing a calibration curve or chart can be made for the C.D.O. However, care should be taken that image signals are not used for calibration marks. In addition it will be noted that as the higher frequencies are approached the dial markings will become closer together, this of course will only happen when the tuning condenser used has semi-circular plates.

The C.D.O. is a most versatile piece of gear and the reader is referred to past issues of "A.R." which have detailed how the unit can be used. In particular, the Anniversary issue of 1958 has a most interesting article. Regrettably this issue is out of print, thus you will have to borrow a copy from a friend.

This circuit is not original, but has been based upon that which appeared in the A.R.R.L. Handbook, but since modified to use components available in Australia.

As a suggestion, why not re-build this unit into your existing g.d.o. case? If you do this then you will have a complete coil kit, tuning condenser, etc., already available and can then use the power supply from the old unit as a bias source.

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JAMBOREE-ON-THE-AIR

OCTOBER 20-22, 1962

Notifications of participation are being received from Scout Groups in increasing numbers. It is pleasing to note many new call signs and Group names on the list who have not taken part before. The main enquiry from these is what to do when they go on the air during the event.

The answer is simple. "Call CQ-Jamboree, or answer CQ-Jamboree calls." Give the details of the Group you represent (or let the Scouts in your shack give them) and collect them from the station you contact. One or two Scouts per contact, can exchange names and ideas with those at the other station. Endeavour to contact as many other stations as possible in the time available.

It is not necessary to restrict contacts with Amateurs who also represent Scout Groups. Some who are ignorant of what is going on may appreciate all the details. Please make sure the log sheets are compiled and are returned immediately after the event.

Further information may be obtained from the following Amateurs who are helping with the co-ordination. For Central and North Eastern Victoria, VK3AUL, Arthur Lock, Smoko. North Western: VK3ZK, Jim Stevens, Beverford. Central Western: VK3AKW, Bill Kinsella, Lubeck. Gippsland: VK3TH, Gordon Morrison, Yinnar. Geelong area: VK3ABT, Jim Barber, Anakie. Melbourne: VK3ARL, Lin Brown, 53 Alwyn St., Mitcham (Tel. WU 3422), and VK3WC, Ewan Cameron, 59 Sydney St., Sunshine (Tel. 311-1673). Some of these stations will be on the air each Thursday evening on 80 metres.

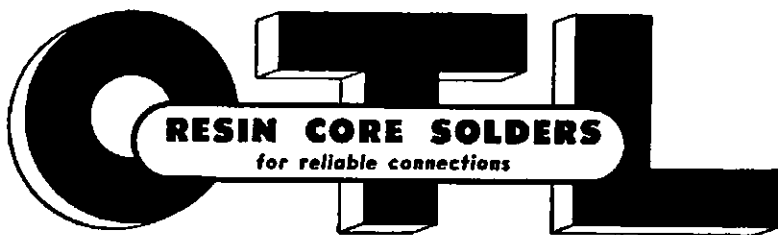
Wishing you all a happy time during the event this year.

—VK3AGD, John Woodburn,
Branch Organiser,
Boy Scouts' Assoc., Vic.



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448.148 Kc.	457.407 Kc.	462.963 Kc.	468.519 Kc.	Includes sales tax and one dual crystal socket.
450.000 Kc.	Kc.	Kc.	470.370 Kc.	

455.000 Kc. Crystals, Type FT-241, £2/0/0 each, includes sales tax and crystal socket.

HC6/U 100 Kc. Marker Crystals, £4/16/0 each, includes sales tax and crystal socket.

FX-1 Type Crystals, 0.001% accuracy: 1,000 Kc., £5/15/6; 3,500 Kc., £4/6/6

FA-5 Type Crystals, 0.01% accuracy: 1,500 Kc., £4/17/6; 7,000 Kc., £5/8/0
14,000 Kc., £6/8/3; 21,000 Kc., £5/8/0

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Sub Editor: BUD POUNSETT, VK2AQJ,
6 Alice Street, Queanbeyan, N.S.W.

ADDRESS CORRESPONDENCE FOR THIS PAGE DIRECT TO THE SUB EDITOR

CRYSTAL FILTERS

From the pen of Arie Bles, who contributed the interesting balanced modulator last month, we have some practical suggestions on what to put after the balanced modulator.

Arie writes: The number of Australian Amateurs using phasing method s.s.b. excites certainly indicates that the elsewhere very popular FT241A crystals, ranging from 380 Kc. to 520 Kc. in 1400 and 1850 cycle steps, have never been readily available in this country. They certainly offer an easier and better way to obtain a stable s.s.b. signal than most phasing circuits, where phasing balance, carrier and sideband suppression have frequently to be adjusted.

For those who can procure a few FT241A crystals, maximum crystal economy is important. My experience with half and full lattice arrangements has indicated that little can be gained with the full lattice circuits, using twice the number of crystals. A simple half lattice with good quality i.f. transformers can produce a reasonably good filter, however, if four crystals are available, it is certainly better to use them as two half lattice filters in tandem, preferably with an amplifier tube in between. A.l.c. can be applied to the amplifier to great advantage. It is not necessary to have perfectly matched crystals as strictly required in a full lattice circuit.

Another suggestion is to use a stable self-controlled oscillator circuit for the carrier source. This saves a crystal, that would need to be slightly higher or lower in frequency than the filter crystals. This self-excited osc. facilitates the easy adjustment of the oscillator frequency to the proper point of the slope of the filter shape curve. This gives better carrier and sideband suppression.

FT241A crystals of the two digit number series differ approximately 1850 cycles between

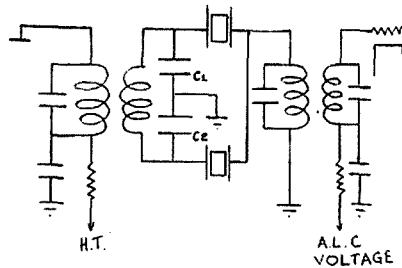


Fig. 1.—Half Lattice Crystal Filter.

channels and provide a filter of 2,500 to 3,000 cycles bandwidth, just right for voice transmission.

Referring to Fig. 1, C1 and C2 are equal in value to 1%, twice the capacitance of that originally used in the i.f. transformer. Adjust the i.f. transformer primaries and secondaries to the mid-frequency of the filter and forget them.

In building a crystal filter in the 400 to 500 Kc. range, be confident of easily achieving an entirely acceptable passband with a good shape factor and limited ripple, regardless of pictures Nos. 4 to 6 on page 8 of the August '62 "A.R." or VK3QL's comments on the crystal filters in the correspondence of last month's "A.R." issue. With two half lattice filter sections, isolated by an amplifier stage, the overall shape factor is at least as good as that of a standard mechanical filter, will be bulkier but costs shillings instead of pounds if one shops around for components. FT241A crystals may be regarded as obsolete by 3QL, but hermetically sealed special crystals are really not a necessity on the lower frequencies. High frequency crystal filter requirements is an entirely different story.

For those who may require a set of crystals, Arie has a limited number available at 10/- per set of four crystals. These are matched to plus or minus 10 cycles and at the price are way below cost. Send your request to Mr. Arie Bles, 33 Plateau Road, Springwood, N.S.W.

RECEIVER A.G.C.

The most satisfactory form of automatic gain control in a sideband rx is that obtained from the audio section preceding the volume control. The VK2AQJ BC348 uses a rather complex circuit employing two triodes and three diodes (12AU7, two 6AL5s). This a.g.c. circuit appears in the A.R.R.L. Sideband Handbook (2nd edition) and worked extremely well. With all the tubes involved, it should work well too!

Ron VK3AHJ uses the circuit shown in Fig. 2, and reports that though very simple, works very well also. The circuit requires little or no explanation, the only special requirement being a diode with a high back resistance.

In my own case, I found that when the audio derived a.g.c. was first connected to the a.g.c. line, the attack time was very slow. After investigation, this was found to be due to the

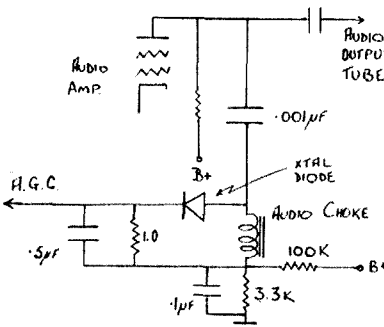


Fig. 2.—S.s.b. A.g.c. System.

time constant of the a.g.c. line. 0.01 µF. capacitors and r.f. chokes were substituted for the 0.1 µF. capacitors and 100K resistors used as a.g.c. filters. This proved very effective and now round tables with signals from S5 to S9 plus are all the same level.

FREQUENCY STABILITY REQUIREMENTS

Wing Commander Colin Harvey, of the R.A.A.F., stationed at Singapore, and presently signing VS1AU, sent along this interesting treatise:

Ever read the documents of the Ninth Plenary Session of the International Radio Consultative Committee? Neither had I till in the line of duty, it was necessary to be aware what new recommendations were made at Los Angeles in 1959.

The old Atlantic City regulations of 1947 have been varied by C.C.I.R. in some important aspects. One in particular, of vital interest to the Amateur Service is that of frequency allocation in the h.f. band, because failure to be realistic here must result in increased pressure on Amateur band allocations.

C.C.I.R. formulate the standards used to establish "the present state of the art" and hence the basis for discussion at the I.T.U. and like conferences. For instance, it is recognised officially that "the bandwidth occupied by a transmission should comprise 99% of the total mean power, and that ½% of the power should be equally above and below the limits determined by the 99% distribution." The effect of spurious emissions is excluded, as these are supposed to be 40 db. below the fundamental and in any case, not to exceed 50 milliwatts at the antenna.

Now, "the frequency band assigned to a station" is provided on the basis of "necessary" bandwidth PLUS twice the absolute value of the frequency tolerance! The words in quotation marks have particular and specific meanings, but for the present purpose the normal interpretation is satisfactory.

It is C.C.I.R.'s intention to have improved (reduced) frequency tolerances achieved within three years (from 1959), i.e.:

Frequency and Service	Cycles per Mc.	
	Old	New
1.8-4.4 Mc. (less than 200w.)	100	100
Mobiles	200	200
4-29.7 Mc. (less than 500w.)	50	50
Mobiles	200	200
29.7-100 Mc. (less than 200w.)	200	50
100-470 Mc. (less than 50w.)	100	50

Tighter tolerances are required of other types of transmitter, but the above table tends to indicate what C.C.I.R. consider to be the present state of the art in certain fields.

W.I.A. D.X.C.C.

Listed below are the highest twelve members in each section. New members and those whose totals have been amended will also be shown.

PHONE

Call	Cer. C'tnt- No. ries	Call	Cer. C'tnt- No. ries
VK5AB ..	45 275	VK6KW ..	4 206
VK6RU ..	2 269	VK3ATN ..	26 204
VK3AHO ..	51 255	VK4HR ..	12 192
VK6MK ..	43 252	VK4RW ..	23 184
VK4FJ ..	21 236	VK3GB ..	50 183
VK3WL ..	14 211	VK5WO ..	59 178

Amendment:
VK4DO .. 20 159

C.W.

Call	Cer. C'tnt- No. ries	Call	Cer. C'tnt- No. ries
VK3KB ..	10 304	VK6RU ..	18 229
VK3CX ..	26 288	VK3BZ ..	6 222
VK2QL ..	5 279	VK4HR ..	8 216
VK4FJ ..	29 270	VK3XU ..	48 213
VK3NC ..	19 261	VK7LZ ..	17 212
VK3FH ..	15 226	VK3YL ..	39 211

Amendments:
VK3YD .. 27 203 VK3ARX .. 66 188
VK4DO .. 20 197 VK3JF .. 70 153
VK3RJ .. 42 188

OPEN

Call	Cer. C'tnt- No. ries	Call	Cer. C'tnt- No. ries
VK2ACX ..	6 300	VK2AGH ..	83 262
VK6RU ..	8 281	VK3HG ..	3 251
VK4FJ ..	32 276	VK4HR ..	7 233
VK3NC ..	77 265	VK3BZ ..	4 231
VK3AHO ..	76 259	VK3JA ..	43 229
VK6MK ..	74 256	VK3WL ..	45 225

Amendment:
VK4DO .. 15 212
New Member:
VK5WO .. 87 214

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S W L

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Sub Editor: ROBERT YOUNG, WIA-L3076,
14 Alverna Grove, Brighton, Victoria

ADDRESS CORRESPONDENCE FOR THIS PAGE DIRECT TO THE SUB EDITOR

VICTORIA

Last general meeting of the Group we had an attendance of 15 members. Due to the Secretary and Vice-President being absent, the annual elections for office-bearers will not be held until the Sept. meeting.

Wondering how you all went in the R.D. Contest, I myself, operated for most of the Contest but tossed it in at about 4.30 Sunday morning and started again around 11.30 a.m.

The project for the construction night is a 6 mx converter and it is moving along very well. Circuits and general information about it will be available on the construction night in September.

Maurie L3055 and family went over to VK7 land a few months ago and it seems they have decided to stay over there for good. He took his S29 rx over with him recently, but due to very rough handling by the airways, received it in a somewhat battered mess, with values out of their sockets and a smashed main tuning drive, etc.

The visit for the month of Sept. was well attended by a dozen odd members. We all were shown how GTV9 operates from A to Z and also Radio 3AK. We saw the swimming pool and a few YLs, but not in the pool!

RADIO MAIL

The mail received this month is from the following: Mac Hilliard, Colin Walker, Darrell Coggins, Ian Thomas, John Kennedy, Noel Harrison and Tom Kennedy.

Mac L3074 has been fairly active and reports that his 20 mx beam is still working very well except the rotary shaft to the motor requires a little tightening. The rx in use at the moment is an AR88 which is on loan and will be going back to the owner very shortly. Conditions on 21 and 28 Mc. have been very poor, in fact 28 Mc. was found to be dead.

On 1st Sept. at 5.15 p.m. there was a very nice opening on 20 mx to Europe over the long path for a short time. Conditions at night however are slowly on the improve. QSL cards to hand this month are K0WGN and SVIAR.

Colin Walker, who is a hospital patient in VK5 land, decided to liven the place up a bit with some music, but as it turned out Colin's b.c. rx interfered with another patient's rx, which turned out to be an AR88. So since then Col's ideas have been turned to Ham Radio. He is now doing a correspondence course in Radio Technology so that an A.O.C.P. ticket can be obtained in the near future. In the meantime he is a member of the VK5 S.w.I. Group and also has a new rx—a Lafayette HE30. Quite a few DX stations have been picked up with only 40 odd feet of shielded wire hanging out of the window.

Stations heard on 20 mx include KL7NE, KB8EZ, WA9GXO (at Seattle World Fair), VR5AR, VE7BDR, XEIII, XEIRVS, VSIAO, VS8EQ, J20PN in contact with KL7BJW, KX-6BU. Occasionally some DX is heard on 40 mx, but due to electrical interference from the hospital's equipment, very little is heard on that band. A total of 19 zones and somewhere in the vicinity of 300 DX stations have been heard to date. Colin even took part in the R.D. Contest and heard 191 stations, but it seems he logged both stations' RST numbers, which is not permissible.

Darrell L5041 is still using an AR8 rx and has recently erected a single wire centre fed half wave antenna 20 ft. high. During the Sept. school holidays, Darrell will be travelling to VK7 land, but unfortunately will not be able to do any s.w.l'ing.

Graham L5048 borrowed a 3BZ rx from 5KC for the R.D. Contest and has also been hearing a few Ws on 14 Mc. The new 160 mx band seems to be very interesting. Don 3AKN says that he has worked 30 stations with 14 watts. Reception in the city seems to be worse than that in the country due to interference from t.v. line oscillator harmonics and broadcast set oscillator radiation.

Ian L3065 has not been very active of late. Ian had a ball during the R.D. Contest—he listened for 18 hours and massed a good score. The DX total is gradually improving with a few cards coming in at odd times. A total of 131 cards have been sent out for the year and has received 23 returns.

John L3106 has done little listening over the past eight months. About two months ago John got all his equipment working but the radio bug still had little enthusiasm. An attempt was

made at the R.D. Contest but the points obtained was not very impressive. The current activities have been limited to overseas b.c. listening and a little on 14 Mc.

John is in urgent need of a circuit of a converter, preferably not to elaborate in design, to tune 3-7 Mc., using octal or fairly common tubes. Hope someone can help.

Noel L3101 unfortunately has not been very active due to recuperating from his recent illness. However a few new countries have been logged during the month. Stations heard on 20 mx: VR2KI, W6HLH, W6QMI, KH6DUE, W5DXM, K5THB, KL7DPE, ZL1FH, VE7BBG, KG6RC, VE8RG, VR4CB, K9EWL, K9UEI, 9M2CP, VQ2IE, ZEZJA, EA3JE. 160 mx: VK-3RZ, 3AKR, 3AMC.

Tom L3112 is wondering if anyone can assist him with a loan or a sale of the original handbook for the AR8 communications rx. His AR8 is out of operation since receiving it from a radio shop who undertook repairs and installed a noise limiter to Tom's requirements, but alas it won't work at all. Hence the reason

for the handbook. As a listener, Tom has recently turned to making experimental recordings from the t.v. as conditions for s.w.l. have been very poor of late. For recording, he is using the mike on top of the t.v. set with very good results except for a slight echo effect which he believes is the excepted thing these days. 73, Robert L3076.

DX LADDER FOR OCTOBER

	Countries	Zns.	S.s.d.	W
	Conf. Hrd.	Conf.	Conf. Hrd.	Stat.
E. Trebilcock	277	282	40	— 50
D. Grantley	101	249	27	14 90 34
A. Wescott	84	159	31	33 92 —
M. Hilliard	69	209	33	9 107 11
M. Cox	53	217	27	17 128 15
C. Abernethy	42	82	26	— — 13
N. Harrison	38	92	27	— — 28
P. Drew	33	180	19	7 93 4
P. Fields	26	133	—	— — —
I. Thomas	25	134	18	7 88 11
D. Jenkins	10	141	7	— — —
H. Burger	6	185	5	1 19 —

R.S.G.B. 7 Mc. DX CONTEST

Duration: The two sections of the Contest will take place in each case between 0600 G.M.T. on the Saturday and 2400 G.M.T. on the Sunday as follows:

Phone: October 27-28, 1962. C.w.: November 3-4, 1962.

Eligible Entrants: The Contest is open to licensed Amateurs in all parts of the world.

Contest Exchanges: An exchange of RST (or RS) reports followed by a three-figure serial number starting with 001 for the first contact and increasing by one for each successive contact and for each separate section (for example, 58002, etc.) must be made before points can be claimed.

Operators: Only the entrant will be permitted to operate his station for the duration of the Contest.

Entries must (a) be clearly typed or written on one side only of foolscap paper; (b) log sheets must be ruled in columns headed (in this order): "Date/Time (G.M.T.)," "call sign of station worked," "my report on his signals and serial number sent," "his report on my signals and serial number received," "band," "leave blank," "bonus points," "points claimed"; (c) be addressed to the Contests Committee, Radio Society of Great Britain, New Ruskin House, Little Russell St., London, W.C.1, England, the name of the contest being clearly shown on the top left hand corner of the envelope which must be postmarked not later than November 19, 1962.

Scoring: Overseas stations may only claim points for contacts with British Isles stations (G, GB, GC, GD, GI, GM and GW).

Overseas Stations: Each completed contact with a British Isles station will score five points. In addition, a bonus of 50 points may be claimed for the first contact with each British Isles country—numeral prefix, i.e. G2, G3, G4, G5, G6, G8, GB, GC2, GC3, GC4, GC5, GC6, GC8, GD2, GD3, GD4, GD5, GD6, GD8, GI2, GI3, GI4, GI5, G16, G18, GM2, GM3, GM4, GM5, GM6, GM8, GW2, GW3, GW4, GW5, GW6, GW8. A further 50 bonus points will be scored for each additional ten stations worked in each of the above categories.

Awards: Certificates of merit will be awarded to the overall leaders and runners-up in each section and the leading station in each of the other five British Isles country-prefix zones. Certificates will also be awarded to the leading station in each overseas country, VE, VK, W/K, ZL and ZS call areas counting separately.

SAMPLE COVER SHEET

R.S.G.B. 7 Mc. DX Cont., '62. Claim. Score.....

Section Call Sign.....

Name

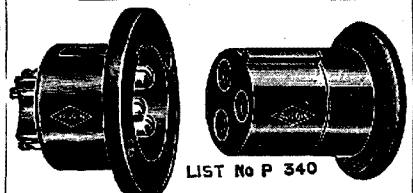
Address

Transmitter..... Power Input.....watts

Receiver..... Aerial(s).....

DECLARATION: I declare that this station was operated strictly in accordance with the rules and spirit of the Contest and I agree that the decision of the Council of the R.S.G.B. shall be final in all cases of dispute. I certify that the maximum input to the final stage of the transmitter waswatts.

Date Signed



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Sub Editor: BILL ROPER, VK3ARZ,
Lot 59, Orchard Street, Mount Waverley, Victoria
ADDRESS CORRESPONDENCE FOR THIS PAGE DIRECT TO THE SUB EDITOR

As is usual at this time of the year, activity on the various v.h.f. bands throughout Australia has been quite low. No doubt the winter weather will be blamed for this (it would be nice to kid ourselves that everybody is taking the opportunity to build equipment for the so-called DX season), but I am sure that a lot of the absences are because DX openings, etc., are not plentiful during the winter months.

This would seem to be a strange attitude for Amateurs to take. Almost anybody running one watt to the proverbial piece of wet string can work DX galore during the summer months. On the other hand, to snare that weak, QSB ridden DX signal in the middle of winter requires experienced, patient operating and efficient equipment.

It is a far greater thrill to work DX under these conditions, and more worthy of the Amateur spirit, than having armchair contacts with the same fellow with the assistance of mighty temperature inversions, sporadic E, etc.

Also, and this is worthy of serious thought, we are always pleased that there is somebody "out in the bush" to provide the other end of the summer DX contacts (this applies mainly to two metres and above), but what happens to these chaps during winter?

They are not able to have cross-town ragchews like the Amateurs in the "big smoke," but spend many, many hours looking for a contact. If the apathetic attitude of Melbourne 2 mx Amateurs to working country stations during winter is any indication, then these country fellows have a very lean and discouraging time.

Are you guilty of this practice? Just think what would happen to summer DX if the country fellows gave the game away completely.

Our VK4 scribe, who has adopted the non-de-plume of Brutus, will be unable to carry on his good work because of pressure of business, BUT nobody seems willing to take over his job. My wife (a native of VK4) stoutly assures me that no true-blue Queenslander would let his State down. How about it you members of 6 mx DX paradise? 73, 3ARZ.

NEW SOUTH WALES

The warm weather has at last started to return to VK2 as will the activity. Judging by the pars from the other States, winter has much the same effect although there has been some good openings on 6 and 2 mx.

General: The V.h.f. Group meeting was held on the 7th Sept. where the lecture was on Antennae, methods of feed, and how to make them really work. This particularly interesting lecture was delivered by Alex Rech, of the M.W.S. and D.B.

Roger 2ZRH is interested in teeing up 2 mx skeds for the coming summer season. He will be running 150w, and using four seven-element yagis. Anyone interested could either contact Roger or myself.

50 Mc.: The only opening recorded since July occurred on 4th Sept., when VK4s were worked and some ZLs heard.

144 Mc.: The August fox hunt was won by 2ZCF with 2FM and 2ZTM second and third. The fox, 2AWZ, was hidden at Bantry Bay in a new subdivision at the bottom of a zig-zag road. Band activity is only moderate generally.

1296 Mc.: Dick 2ZCF and Bill 2ZAC are again experimenting on this band. Longest QSO was one way from Blaxland with Dick mobile to Bill's home QTH at Marwee, a distance of 30 miles. Bill was running 25w, input to a 2C39 tripler p.a. with 32 element phased array. Both using the converter out of the Jones Handbook. Dick's home tx uses a 6/40 driving a 2C39 tripler p.a. 73, 2ZLB.

VICTORIA

As there were no more Pacific high altitude bomb blasts (test) no more super DX was experienced on 15th July to prove that it was due either to the bomb or just Mother Nature. We have been experiencing our regular batches of winter inversion from Gippsland out to 150 miles approx. Usually these occur every seven days (7-day cycle) and re-occur weekly for three to four times (nights). Last month (Aug.) it was Thursday evenings, four in all. One Thursday evening it was so good to Melbourne on 2 mx I had a two-way QSO with Alan 3ZCJ mobile along Geelong Road into West Footscray, signals R4-5, S3 to S9 (yes, S9!). Friday night, 31st Aug., was a good night. Also, the best I have ever seen Ch. 6 at Bal-

arat t.v. However I did not work any two mx DX.

It may be of interest that there are currently some satellites just outside the v.h.f. Ham bands: Explorer 7, 19.991 Mc.; Transit 4A, 150 and 54 Mc.; Transit 4B, 150 and 54 Mc.; Traac, 54 Mc.; Cosmo II., 20.005 Mc.; Cosmos V., 20.064 Mc.; Vostok III. was on 20.006, 19.995, and 143.625 Mc.; Vostok IV. was on 19.990, 19.995, and 143.625 Mc. 73, 3ZCG.

QUEENSLAND

50 Mc.: This band has been very dead as far as DX break-throughs, but VK5s were heard one Sunday. It also has been rather quiet as far as local activity goes, and a lot of local stations who have been making with big talk about what they are going to build, have started construction, thereby astounding the cynics. Ron 4ZBZ, who has been working in Toowoomba during recent weeks, has had no trouble in working from his mobile to mobile stations in Brisbane (Toowoomba is 80 miles west of Brisbane). Old timer of 6 mx who has been heard on again after a lengthy absence is Ross 4ZAT, who transmits from idyllic Bribie Island.

144 Mc.: A reasonable activity on this band, if you listen at the right time! Brian 4RX works 4ZWB at Dalby every Sunday evening at 1930 hrs. Don't know how he does it, but he does.

The August tx hunt was magnificent although the attendance wasn't. As the usual tx has slowly been getting sicker, Royce 4ZRH loaned his own tx and a petrol driven generator. A new antenna was used with the hidden tx, it is a turnstile made by Victor 4ZBT.

The V.h.f. Group meeting for the month discussed the design of a v.h.f. base station for six and two metres, capable of being run from emergency supplies and compact enough to be transported from point to point with the minimum of effort. 73, "Brutus."

SOUTH AUSTRALIA

50 Mc.: This band has been showing its usual activity recently. Newcomers include: Glen 5ZEE, Clive 5PE, and a 6 mx man from way back Pete 5FM. Pete lives in the Adelaide Hills and is putting a very strong signal down into the plains. Bob 5ZEQ is a new licensee who has been heard on 288 Mc., and hopes to be on 50 Mc. soon.

Newly married gentlemen, John 5ZZ and Rod 5ZAA are back on the air from their new QTHs. (Rod, unhappily, lives about 100 yards from your conductor's QTH!) Graham 5ZAP is also set up at his new location.

The 50 Mc. band has been very kind to us in respect of DX over this winter season. July was an excellent month with all States and ZL being worked. August was also quite good, with the Interstate opening on the week-end of R.D. Contest proving a boon to contestants.

Geoff Farmer (son of 5GF) has now received his call sign, 5ZGF. We hope to hear more of Geoff now that he is licensed.

144 Mc.: With our main 2 mx stalwart, Mick 5ZDR still working up in the donga, this band has been very quiet and seems to be used mainly for cross-band contacts. Keith 5ZMK reports working Herb 3NN (180 miles) on odd evenings, but no regular skeds are kept.

288 Mc.: This band has shown a renewal of activity recently. Graham 5ZAD now has stabilised gear on this band, running an 832A on 289.6 Mc. With John 5ZDZ, this makes at least two stabilised a.m. stations on 288 Mc. Another 288 Mc. signal of note, however, is that of George 5ZEX/T who has a t.v. signal on this band. George is using a Vidicon camera tube and the system is compatible with conventional 625 line receivers. The video p.a. is a QQE06/40 and an omnidirectional aerial is used. Good signals have been received 10 miles away. As yet there is no sound transmission, but this is in the making.

General News: Don't forget the Mt. Gambier V.h.f. Group Field Day over the holiday week-end in early October (see Aug. "A.R." for dope).

Doug 5KK has a new aerial system, a 13 el. 24 ft. yagi on 144 and a 9 el. 30 ft. yagi on 50—all this 70 ft. high. Barry 5BQ is understood to be negotiating for a tower and we hope that this will let us hear even more of this keen v.h.f. operator. Keith 5ZMK and Brian 5ZBR are practising code and hope to sit 500R for the exam. Garry 5ZK is building a

new mobile rx and will continue his mobile activity when this is completed. 73, 5ZCR.

TASMANIA

144 Mc.: The main news for this band concerns an attempted North-South contact between David 7ZAI and Danny 7ZDM at Kelso, and Bob 7ZAL who was portable on Mt. Wellington. Very poor weather conditions forced Bob to return early in the day, but further attempts will be made. Bob is working on new gear for portable work including a petrol motor driven generator to keep his batteries topped up. He has spurred your scribe into frantic activity finishing beams, rx's, etc., so that I can assist from my half-way location.

David 7ZAI has been beaming south from Kelso each night at 1930 hrs. with a yagi and towards VK3 at 2030 hrs. using a 35 ft. dish aimed for tropospheric forward scatter into the Dandenongs, and I understand that he has heard some Melbourne stations.

Wilf 7ZAQ and Rog 7ZAO have their new 120w. rig on the air and they are putting a better than ever signal into my QTH. We could do with more of these high power stations and I understand that, besides my own a 150w. job, running well below ratings, is on the drawing board.

A 2 mx link is being organised for the forthcoming Jamboree-on-the-Air. This should help make the Jamboree a success. 73, Nevil Fisher.

PAPUA

August was a most disappointing month in VK9. No signals were heard on 50 Mc. from any source. All stations are now back on 50 Mc. after the false start on 52 Mc., but if you can't hear any DX it is not possible to work any. TE scatter signals on 49 Mc. were heard at good strength on several occasions with the beam heading N.N.E.

A visitor to the Territory during the month was John VK1ZJB, who called into Moresby to say hello. He had hoped to bring a small v.h.f. tx with him but decided, unfortunately, that it weighed too much to bring up on the plane from south. 9AU will be visiting the Territory of New Guinea in a few weeks but also lacks a rig of suitable size to pack in the suitcase.

A word of warning! 9ZBV is now equipped with 100w. on 50 Mc. and is delightfully anticipating blowing out speaker cones of unwary VK operators during the coming DX season. 73, 9AU.

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Sub Editor: ALAN SHAWSMITH, VK4SS, (Phone 4-6526-7 a.m.-4 p.m.)

35 Whynot St., West End, Brisbane, Qld.

ADDRESS CORRESPONDENCE FOR THIS PAGE DIRECT TO THE SUB EDITOR

Let me introduce the column with an observation, or two, on conditions. Each month the mail to hand shows rather a wide divergence of opinion as to the state of the bands. This is to be expected, somewhat, as we cannot always listen at the optimum times. This often leads to a rather poor or under-par assessment of the state of things. There are, too, those who always cry poor, but still send in a pretty good list of DX worked.

Geographical position too, of course, plays a very important part. Those situated in the lower latitudes, say from VK2 around to VK5, have a definite advantage in working signals on that well-worn path, i.e. the L.R. to Europe, which takes in South America, on the way. The East Coast, from VK2 north, might have a DX advantage to the N.E. quadrant, and perhaps also to Europe on the S.R., but it is necessary to listen at the right times to work these circuits to advantage. Then there are those who, unavoidably have poor location, with high noise levels, etc., also there are antennae that do not receive as well as they might.

However, it would be safe to say that the bands overall are poorish at the best of times; they are nowhere near as good as in years past.

NOTES AND NEWS

VR3L/VR1 is currently operating from Canton Is., but for how long is not known.

Alan VR4CV, late of Moniara B.S.I., should be in Sydney by the time this reaches you. Where to next, Alan?

Frank VK2QL reports the following info of the three most talked about vagabonding voyagers. Danny in the good ship Yasme is bound for Manikiki. His e.t.a. is approx. 30th Sept.

Gus W4BPD, when last heard of, was trying to commission a boat for the Rodriguez Is. venture. But nothing further is known at the time of writing this.

Dick WOMLY had a mishap to his gear and is now back at his home QTH in the States. The log books were not lost however.

Frank further says that if you still want a QSL for those M1 QSOs, try Ack W4ECI. Activity is expected from PJ5 in a few days. This is Sint Martin—bands 14 and 7 Mc. c.w.

The following is by courtesy of Bev Cavendar, Editor of "Florida DX'er":

CR8AB will be returning to Timor in December.

EA9AZ is planning an expedition to Rio de Oro.

All s.s.b. contacts with WOMLY, Africa, on 14001 Kc. will be accepted for D.X.C.C. award credit up until 0001 G.M.T., Friday, 13/7/62.

Herb VR5AA has a HT-37 and HT-41 for his s.s.b. operations. He works 80 through 15. His stateside QSL Manager is W9ADN. VR5AA will go to ZM7 in a few weeks for a vacation but the Hamming side of it is still tentative. QTH: Box 36, Nakaalofa, Tonga Is.

Kermadecs. ZL4JF will go to work in the Kermadecs with an S-line in two months.

W0FWA is now in the Far East according to XW8AS. Activity is expected on 14270 Kc. s.s.b. as W0FWA/3W8.

St. Brandon Is. VQ8APB, will be active from here during August. Operation is 14 Mc. c.w. and from 1200 to 1800 hrs. G.M.T. daily.

Carl Kunz, KC6ZU, was killed in a plane crash. Efforts are being made to locate his logs.

ZC5DO is a call due to show up in a month's time. Nothing more available on this at the moment. His frequency might be 14330 Kc. xtal controlled.

Manihiki—ZK1BS will operate from this island again during August on 7020 and 7060 Kc.

TA1AH is active week ends on 14280 s.s.b. There is a rumour of coming Indonesian activity using the prefix 8B4.

3A2BZ all bands, c.w./a.m./s.s.b., 14305 Kc. mainly. QSL via W2CTN.

9U5 now counts as two separate countries. (It's like splitting the atom now—Al.) Rwanda and Burundi. There is much activity from this area now on 21 Mc.

Rockall Islands—G3ZJK is planning an expedition to this forbidding spot. Steep cliffs all the way round; landing must be by helicopter. Lots of unexploded shell lying around. The island was used for target practice. (I know life is a challenge, but is this going too far?—Al.)

Trinidad Island DX-pedition is set for Sept. Call will be PYONG.

S. Sandwich Is., VP8XZ, is on 14312 Kc. c.w. Yes, c.w.!

K2QGC/KG6 may go to Rota for a spell soon. More info later.

4W1AA is active around 14070 Kc. Many think he is a foney. He gives his name as Krim, Box 7, Fana, Central Yemen. He is a slow c.w. op.

SUIIM, whose name is Abrihim, says QSL to 7 Roda St., Cairo, Egypt.

Guam has now been added to the A.R.R.L. D.X.C.C. list. For those who have previously submitted a KG6 card, you will receive credit for either Guam or the Mariannas, depending on where the station is located. If you have Guam already credited, then you can submit a QSL for the Mariannas after Nov. 1 for a new one. If you have a QSL from the Mariannas already credited, then you may submit a Guam card. Any QSL dated after Nov. 15, 1945, is acceptable. It is often difficult to know if you have wkd. Guam or Mariannas. However that's your worry. Submit what you think may be right and let the powers decide. The following definitely count for the Mariannas: KG6RA, KG6RB, KG6RC, KG6R is Rota. KG6T is Tinian. KG6S is Saipan.

The latest on TA4RZ is that he has permission to operate but has no license. (Sounds a bit like Paddy's reasoning to me—Al.) His name is Mustafa. He too has the expedition bug it seems as he says that he will soon go to YK, YI and JY land. How soon is not known.

ZS6PC has a new QSL Manager—WA6AFZ.

Did you hear the result of the referendum poll on Malaysia? The vote was a decided yes for the integrating of Singapore, Sarawak, Brunei, North Borneo and Malaya. It is hoped to bring this about in a year. The present prefixes will be deleted when the Federation comes into being. (Whew! How do we keep up with it all?—Al.)

The only note I have on local achievements is that Frank VK2QL has No. 2 W.A.C. QRP Club.

ACTIVITIES

Frank VK2QL has been busy around the house, but managed time to QSO these on 3.5 Mc. c.w.: VR2DK, VR5AA, ZK1BV, ZK1BW. He heard XE1OK. He recd. a good batch of QSLs this month. They were: M1/1IIN, FL9, 601AA, VQ1A, VQ9A, 3A2BW, 1S1FIN, 5A3-TTQ, W1MV/KP6, HK0AB, 5H3HD, VP5M, VP3MC.

Hal VK4DO reports working these: 14 Mc. c.w.: KG6, KH6, W, K, JA, VE, DL7GF, JZ-0ML, KX6AZ, OK3KES, SP3AK, VR2DK, UA-0AJ, UA0BN, UA3KAF, UA4HW, UA9BV, YU-2AKL, 14 Mc. c.w. hrd: AP5CP, AP5SS, D1-5IM, LZ1KBL, OA4CG, SP9TA, UA0S, UA1DZ, UA1WU, UA4KAB, UA6LP, UA8KVD, UA9US, UI8AG, UL7KCF, VR5AR, YO8IA, YU1DY, ZK1BY, 9M2UF. 14 Mc. phone wk'd.: KH6, W, K, VR3L/VR1. 14 Mc. phone hrd.: VR4CV, VR5AI.

Eric BERS-195 sends in these, 80 mx hrd.: SM3OIP/MM, 40 mx hrd.: BY1PK (2030z), DJ2RE, G3NBP, HA8UE, HK7XI, HF1E (1130z), KC6SD, KG6GX, KH6EH, KL7AUG, KR6NG, KX6AZ, LZ1KCO, OA4FM (1200z), OK3AL, PA0POL, VK8UX, VR4CV, SM2BJ, SP5AL/9, UC2KAR, UA3KZO, UA9US, U5OHJ, Y04KAK, XW8AL, YU1DW (1600z), UC2BV, VR5AR (1130z), 9M2FZ, SM5BVP/MM. QSLs recd.: VU2US/AC5, HK7UL, HL9KE, KB6CA, MP-4BDN, OK3KJF (3.5 Mc.), UH8BO, U18KAD, UL7FA, U05AA, VK2VN (1.8 Mc.), VP3MC, VS4RM, ZC41P.

Ken VK3TL, from a new QTH, worked these. 14 Mc. c.w.: G2CKK, DJ5UB, DJ8CC (YL), DL1BO, DL1IA, DL1FF, DL1IW, DL3LB, HA-5FO, OK2OQ, OK3DG, OK3SK, ON4WI. 7 Mc. c.w.: FK8AH. 14 Mc. phone: VR3L/VR1 (Br. Phoenix), VR5AA. QSLs recd.: VS6EP, UA9OC, SM3BBA, UC2KAG, DJ1BJ, KM6CE, MP4BBW, DL1QT, U05AA, U05PK, G5VM, G3, GD6UW, GM3LYI, GM3ITN, G4OI, HB1ZT/FL (Leichenstein), W1MV/KP6, UA1KD (F.L.), KS-46F (Serrana Bank), CE3RC, G2GM, G2VV, G6CJ, UF8AU, UA1CE, UA3NB, PA0FM, VR-2AB, DJ7CZ, XZ2BB.

Peter L6021 reports fair conditions on bands 80 through 15. DX hrd.: 20 a.m.: XE1HK, VK-0JM, VK0BB, ZE7JR, IISM, G3GDC, G12CM. 15 mx c.w.: VS1KP, KR6NAA. 15 mx a.m.: HS7IW, HB9MX, G2FSP, VK9DJ, ZE7JR, VQ-

8AM. 5R8AA, 9M2FS. 40 mx a.m.: XW8AL (1538 G.M.T.). 40 mx s.s.b.: VP6WR, KL7BGZ, KH6RRI, W4UAH/KL7, KL7BWW, KM6BI (0907), KB6CL (0827), JA1GDR, ZK1AA. 40 mx c.w.: UA9KAO, KL7AUG, JA6BPN, OZ-5EH, VP9AK, UB5LA, JA3BDO, UA4KKC, OK-3AL, VR1D, W4VCA/KH6, JA4AWX, DU6TY, UA0LL, JA2C0M, VS1FJ, KG6GX, JA1ALU, SM5CBC/Q9S, UC2OM, Y06AW, YU5AAG, SW4FQT, WN4EBE, Y09CN, UA4IB, SM2JJI, SM7ADQ, UA6FT, SP7AAK, UA4SO, LZ1KBL, UA6KED, 80 mx s.s.b.: VR5AR.

Arie Bles gives a thumb nail on conditions. He says that the L.P. to Europe still holds but less consistently than a month previous. The short path comes in about 1300z for a couple of hours. This is for 14 Mc. On 7 Mc. a few s.s.b. Europeans get through about 0600z for a while. VK2AIR managed a QSO at this time on a QRP transceiver. Arie also says that the 21 Mc. band is now N.G. for Europe.

Darrell L5041 breaks the ice with a few good ones hrd. on 14 Mc. s.s.b.: KX6DC, KL-7SBD, WALCY/KM6, KX6AA, KR6DF, JZ0PN, ZE7JR, HL9KO, KR6DR, KJ6CB, VS1AU and many others. On 160 mx he reports that ZL3OK has the best sig.

ADDRESSES

VU2US/AC5—Eric BERS-195 recd. this QSL directly from VU2BK. If you are wanting one also, try your luck.

9K2BC—Box 908, Kuwait.

VP2LO—QSL via W6NJU.

LA7JF—Hans Aarhus, Box 46, Bryn, Norway.

LX1DW—Jim Schmit, 72 Rue Fr. Bock, Röllingergrund, Luxembourg.

YA1IO—QSL via DL6YI.

KP4AQ—Oswaldo Garcia, 592 Hostos-Baldrick, Hato Rey, Puerto Rico.

HC2IU—Henry, Box 5200, Guayaquil, Ecuador.

KP4VB—QSL via W7ZAS.

9U5PC—Box 18, Ruhengeri, Rwanda.

9U5DS—Box 14, Usumbura, Burundi.

9U5BB—Box 14, Usumbura, Burundi.

9U5DM—Box 1, Usumbura, Burundi.

9U5BH—Box 81, Astrida, Rwanda.

9U5XX—Box 490, Usumbura, Burundi.

9U5CB—Box 1122, Usumbura, Burundi.

VR3L/VR1—QSL via WA6MAZ.

TA4RZ—Mustafa, QSL via K4WIS.

HK0AT—Victor, on San Andreas Is. QSL via W9WHM.

VP2KJ—Nemis Is. QSL via W4SSU.

VF8AQ—QSL via G3FAG.

HE6AF—Fritz. QSL via K2FLS.

H18XAG—Bert. QSL via K4BMS.

LX3QF—QSL via ON4QX.

MP4QBB—Qatar. QSL via K4TLL.

VS6AE—Hong Kong. QSL via W6DIX.

VQ1FU—P.O. Box 84, Zanzibar.

SUMMARY

Let me close this with a very short word on the DX Rat Race, and its relation to Amateuism.

It is not unusual, now, for the top bracket DX men to send a four dollar or so telegram to a rare prefix requesting a QSO on sked. Is this buying a QSO?

The vagabonding triplets, Danny, Dick and Gus, are doing more for the top DX boys and commercialism than for anyone else. They also make the working of a new country like shooting' ducks at rest—no sport!

Award Hunting, which is a more social and admirable pastime, than prefix-hunting, unfortunately, has its pitfalls, too. I am informed from American sources that the practice of some clubs or persons offering certificates that require very little ability to obtain, do so for the real reason of making a fast buck.

Is this Amateuism? You decide. It is a trend that, to say the least, will do the Ham game more harm than good.

73, Al, VK4SS.

**WORLD AMATEUR CALL SIGNS**

The Federal Treasurer of the W.I.A. has for sale as usual at £1 post paid, recent back numbers of "Call Book Magazine". Copies available at the moment list American Amateurs only, but the "foreign" edition, listing all Amateurs in the world except Americans, may be available by the time "A.R." goes to press. Apply to the Federal Treasurer, W.I.A., Bob Boase, VK3NI, 50 Cardigan St., Carlton, Vic.

Correspondence

Any opinion expressed under this heading is the individual opinion of the writer and does not necessarily coincide with that of the publishers.

PREDICTION CHARTS

Editor "A.R.," Dear Sir,

You announced in the September issue that publication of Ionospheric Prediction Charts would be discontinued, due apparently to lack of interest.

This is not surprising. The use of the excellent data supplied by the Government Ionospheric Prediction Service is very time consuming. While it is a relatively easy matter to plot out a graph of the predicted optimum frequencies over a day between two fixed stations (although, we believe, the I.P.S. use a computer, and we found it took an hour or so to work out the predictions between each capital city and VK2AHM for the R.D. Contest), a difference in location of a few hundred miles or so at either end of the path makes a significant difference. Therefore, for a country the size of Australia, even if we had a chart for each capital city, these would not be much help to country Hams. Further, as the path depends on conditions at both ends, the number of charts required becomes impracticable.

The use in predictions of such terms as "Eastern Australia" or "Western U.S.A.," coupled with the day-to-day variations in the ionosphere, and difference in station surroundings and aerial systems has made the use of any charts published so far almost valueless for Hams.

However, we feel that somehow we Hams are missing a lot by not using this service. Firstly, it must help us to make more interesting DX contacts—it has been possible on some occasions to say that a certain band should be unexpectedly wide open to a certain place, to turn the beam that way, and to make contacts on an otherwise dead band (to everyone's surprise). Secondly, and much more importantly, the use of predictions, or even the continuous comparison of them with actual conditions, must finally give us all a better understanding of the ionosphere and its continual variations. It is a major factor in communications that we will always have with us, and we have no control over it (bombs apparently notwithstanding); so the more we know about it, the better. For our own purposes, we need only consider the published charts of Maximum Usable Frequency; any considerations of the physics involved may come later.

It is difficult to know the best way to present a chart, so that it is quickly readable and easily applied. And, as we mentioned earlier, any one chart that includes the effects at both ends of any circuit makes its use very limited.

We have prepared our own charts in the form of a circular graph. The hours of the day, commencing at 0000 G.M.T., are marked out along the radii, and the direction of the radii correspond to the direction of the signals. Maximum Usable Frequency contours are then drawn in from the U type Predictions furnished by the I.P.S. These charts show only when bands are open in certain directions at our end. We had hoped to evaluate them after several months, but owing to an enforced period of inactivity this is not possible.

If any DX men are interested enough and are prepared to spend enough time on the air with reasonable gear to try them out we will undertake to supply similar charts, or better still, supply instruction for their manufacture from U type Predictions to those who can get their hands on the Predictions.

—J. McL. Vale, VK5NQ.

—L. H. Vale, VK5NO.

E.D. CONTEST

Editor "A.R.," Dear Sir,

I would like to suggest a change in the rules of our Remembrance Day Contest to allow Limited license operators to participate. These changes are as follows:—

"Z" call holders to be allowed to contact other "Z" calls in the same State—only 1 contact per band, to score 1 point per contact—if a "Z" licensee can work Interstate the usual bonus points can be claimed. All v.h.f. bands allotted to "Z" call holders to be allowed, but no cross band, i.e. 144 to 50 Mc., etc., allowed.

Limited license holders cannot work unlimited licensees and vice versa in the same State, but can contact for points any Interstate station using v.h.f. allocated to the "Z" class operator.

Since the R.D. Contest is open to any Amateur whether a member of W.I.A. or not, I consider that the v.h.f. man who probably has graduated from associate member to full member by virtue of passing and receiving his call should be allowed to enter his station and submit a log as well as non members of W.I.A. and I am very much in favour of the Institute granting a privilege such as this.

Perhaps the increase of valid logs will help some States and work against others, but I am sure the alteration would be for the good of our hobby and the rules would not have to be changed very much to cope with my idea.

Remember a log means an operator—an operator means another Amateur taking part, therefore, the more operators the greater the success that we desire the Remembrance Day to be.

—L. S. Cotton, VK5LG,
M.W.I.A., W.A.C.

MODULATORS

Editor "A.R.," Dear Sir,

I was rather interested to see that the article on Zero Bias Class B operation of 807 style tubes was again featured in "A.R." for Sept. '62.

This particular mode of operation goes just about as close as one can hope to go in getting "something for nothing."

There are, of course, several snags which are rarely discussed in the articles. My main objection to the continuous reprinting of the articles concerned lies in the description of the "modernised" speech amplifier stages. The use of 0.1 μ F. coupling capacitors and 50 μ F. cathode by-passes may be desirable in an amplifier designed to reproduce the sodden thumpings of a set of bongo drums, however, for use in a modern Amateur phone station the circuit described would be almost fatal. Investigation of the reference reveals that the speech amplifier gain is, in fact, higher at 50 c.p.s. than at 1,000 c.p.s.

A beginner attempting to use this circuit as the basis of his modulator would almost certainly come to grief with problems of hum pick-up and an unnecessarily broad signal.

Admittedly some reference is made briefly to the use of more suitable coupling and by-passing components, but no attempt was made to indicate the values which should be used.

When these factors are discussed with others over the air it becomes pretty clear that the principles are not generally known. If they are vaguely known, then certainly they are not understood.

At a later date, if sufficient interest is evident, I will discuss these factors to some extent. In the meantime any operator building a modulator based on this design should use the following components as a starting point:—

Coupling capacitors, 0.001 μ F. (plastic), grid and plate resistors, 100K, cathode by-passes, 0.001 μ F. (ceramic), shunting capacitors from each plate to ground (not shown in the circuits), 0.001 μ F.

It should be noted that the grid stopper R1 (Fig. 1, page 7, Sept. "A.R.") is connected to the wrong side of the grid resistor. The correct position is between the microphone load resistor and the grid of the first pre-amp. Capacitor C1 remains connected from grid to ground.

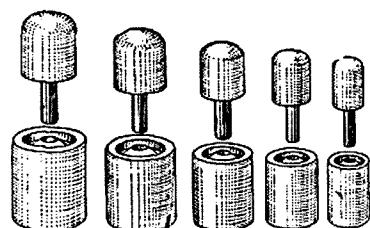
The low pass filter so formed keeps r.f. out of the speech amplifier low level circuits.

Time spent incorporating these features into your modulator will be rewarded by the production of good clean audio which is a delight to copy under normal conditions, easier to copy under adverse conditions and which at the same time enables others to work on adjacent channels without difficulty, providing the other factors are satisfied. But that's a different story!

—M. Riley, VK2ARZ.

[Readers will no doubt look forward to the forthcoming technical article as promised by Mr. Riley. The coupling and by-pass cathode capacitors will affect the low frequency response. A broad signal is caused by the higher frequencies.—Editor.]

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FEDERAL AND DIVISIONAL MONTHLY NEWS REPORTS

(SEND CORRESPONDENCE DIRECT TO DIVISIONAL REPORTER NAMED AT PARA. END)

FEDERAL QSL BUREAU

The address of the QSL Bureau for KR6 is P.O. Box 37, Kadena, Okinawa.

Cards from Bill Hempel, VK3AHO, for his operation at YJ1RH and FW8BH are in the course of distribution.

All and sundry are again reminded of the changed QTH of the W.I.A. QSL Bureau to P.O. Box 41, Box Hill, E.11, Vic., Aust. New address labels are in the course of being printed and will be ready for distribution in the near future.

A small number of QSLs for Gus W4BPD's operation at VQ9AA have been received from Ack W4ECI.

John Garrett, W5LAK and 5A5TA, who is currently signing MP4QBB from Qatar, expects to be at the latter location until 30th Sept. John is endeavouring to fit in short periods of operation from Muscat and Trucial Oman after leaving Qatar. All QSLs go via K4TJL.

—Ray Jones, VK3RJ, Manager.

NEW SOUTH WALES

HUNTER BRANCH

There was a departure from the usual technical lecture at the August meeting when ten members, five associates and five visitors were treated to a most enjoyable film night presented by Phil 2ANG. Phil is to be complimented on his skill as a movie maker, as is Kev 2ZKW, for it was from the studios of the two gentlemen that the majority of the films came. These were in colour and covered travel and festival topics. It is impossible to give our two members credit for the latter part of the programme, however, for these concerned some of the foolhardy exploits of the now fallen movie idols and, after watching the antics displayed, it is a wonder that they did not fall before. I am quite sure I speak for all those present when I say a jolly good night was had by all.

Local news this month is abbreviated to offset the decimation practiced on these notes in the past few months. It is with regret that I have to report the illness of Lionel 2CS who was admitted to hospital early in the month. The last report received indicated that Lionel was making a rapid recovery and it is hoped that by the time these notes appear, he will be returned to his customary robust health.

Many of the local boys have had the 'flu, but all now seem to be recovered and some, at least, are back on the air. Gordon 2ZSC has taken up temporary residence at the lakeside abode of Bill 2XT and is enjoying the smoke laden air of Coal Point between the other activities of Command re-building and fishing for the elusive tailor. By the time Gordon has completed the Sutherland conversion on a Command set its interior appearance bears no resemblance to the original. However its performance is greatly improved. Bill 2ZL treated the Hon. Sec. and his family to a trip through the wilds of Phenyle Bay (out on the aerial farm) by locomotive during the holiday adding some more to the smoke hazard. Bill has at last solved his noise problem. He has found that loco smoke from the Phenyle Bay Railway is fouling the insulators on the high voltage lines and causing arc over. Remedy, import antracite from South Wales. Intending suppliers please note.

Jim 2AHT is still working the DX and to even greater effect now that the new rx has arrived. You may recall that Jim became the proud owner of a brand new Collins recently. Well, in the tradition of having the latest of the best, he has just exchanged it for the improved model. Oh lucky, Jim!

Harry 2AFA is at present in the electronic doldrums but he has proved that 160 metre gear does not cause t.v.i. so there is hope that one day soon he may be on this band. That is, of course, if he does not appear on 2 mx first. There is some very startling news about 2 mx and a heavily disguised lakeside resident who has noise trouble even though he has an antenna farm and smoky insulators, but I am not permitted to divulge his name or location at the present. It is certain that he will be on 144 very soon, maybe on his interior t.v. antenna.

The only local caller to be dead zero beat with 2AWX on Mondays continues to be Les 2RJ. Les puts this down to "normal precautions". It is hoped that others in the group take careful note and do the same as my rx is very sharp.

In my continued campaign against duck-talkers, here is some more ammunition. Silly sideband is not used by astronauts from the Soviet Union when working base and its use by British aircraft is to be curtailed, according to latest reports. Doppler shift apparently does some very strange things to narrow band rx's even to putting the signal into another channel! Now we know why Bill 2XT doesn't use s.s.b. on his last journeys to the lake.

Apparently there are some readers of this column other than our own small circle of friends. Tony tells me that he received some very interesting information on the 6AR8 valve mentioned last month, even before the "A.R." arrived. Many thanks to Chris 3AXU.

It is a pity that the Editor's pencil deleted the historical note about Ron 2ANJ in last month's issue, but this will serve to let you know that the fame of your famous relation did not go unnoticed. I wonder how he would have appreciated 2 mx gear.

Mac 2ZMO is now in the process of modifying some more 522 sets for t.v.i. free use on 2. As Mac is the local expert on this piece of equipment, it would pay you to visit his QTH and see what really can be done with the 522. Raymond Terrace is quite handy and Mac would appreciate a visit from any of the boys. Did you know Mac uses NBN mast as a slave antenna? Ask him for details.

As Bill 2XT is to be departing in an oriental direction very shortly, it is suggested that those members contemplating visiting his home on the customary fourth Wednesday, check with Bill at the next meeting which will be held at the Newcastle University College at 8 p.m. on Friday, 12th October, 1962. If you are an irregular attender why not make a resolve to be present on that night. You are assured of an interesting time and here is your chance to meet personally the voice from that last local contact. 73, 2AKX.

BLUE MOUNTAINS SECTION

The July meeting was held at the usual venue and after the usual formalities, Wal 2MZ gave a description of his latest 2 mx mobile/portable transceiver, and according to his figures the rx compares very favourably with the home rx. The whole transceiver was built for low power drain with efficiency and for the use with the bush fire net. The general layout and circuit are available from Wal as well as his able assistance for those building same.

The August meeting was well attended also and heard Arie Bless give a lecture on s.s.b. and was told in a manner that anyone could understand. His description was around a filter rig and a general outline and circuit was described, portion of which will appear in "A.R." Going by the questions and interest, the Blue Mountains Section will end up all "quackers". Arie has offered his assistance to those interested and can be contacted by phone or through Alec 2EX. Arie's KWM2 provided much interest.

With the warmer weather coming, the Section should become more active. Don 2ART is moving back into his shack and should be on 2 mx soon. Sid 2AVK has been heard bashing the blokes' ears as usual. Alec 2EX is busy with DX and Keith 2AVK and Dave 2NK have been having regular contacts. I believe Bill 2HZ was heard one night quacking away on sideband per Arie. A newcomer to the mountains is Trevor 2TM, from Woy Woy, and is residing at Hazelbrook. On completion of his rx he will be active on 80, etc.

SILENT KEY

It is with deep regret that we record the passing of—

VK5TZ—A. A. (Bert) Sinfield.

VK5UZ—H. E. E. (Hec.) Brock.

Bob 2CT was having a moan the other night about a "bung" from the Advisory Committee regarding excessive hum on his carrier. By all reports the Committee have got the calls mixed up. The funny part about it is that Bob was assisting someone else with hum problems. Noel is going up to Cairns for his holidays at the end of November and hopes to have a call to take with him. Also Noel and yours truly are mobbing to VK3 over eight hour week-ends to see some of the boys down under. The R.D. Contest seemed more orderly this year and by all accounts was well supported by the Section. Jack 2ADF is busy preparing for his annual holidays and will have some gear to fit the new heap by the end of October. Al 2ZFB is back on 2 mx with audio sensitive enough to hear the front gate shut.

The club xtals were all handed out at the August meeting which should increase the club activity on the 2 mx net frequency.

Coming events are our Annual Field Day at Lawson (the date to be finalised) and the Scout Jamboree-on-the-Air. 73, 2ADA.

BOORAGUI HIGH SCHOOL RADIO CLUB

The results we obtained on open day during Education Week can only be described as disappointing. Despite the fact that we were on all day we only made two and a half contacts, and those on 40 metres. The half contact was with 3AYL and it is hoped that some of the girls from that club will read these notes and try again.

With conditions at lunch times at an all time low just now, we are curtailing our activities until 80 improves when it is hoped there will be a good chance of hearing 2ATZ on that band.

On the constructional front there is continued activity and the latest scheme is concerned with "kit sets" for club projects. Members are now able to purchase as a kit all the parts for any of the approved projects in the syllabus. As this is done by co-operative buying, members are receiving a substantial benefit and are now able to afford more parts per term. Many thanks to 2LM for the generous gift of books for the library. 73, 2ATZ.

VICTORIA

GENERAL MEETING

Due to school holidays the general meeting was held a week early. Approximately 30 members were present to hear Jack 3VZ describe "The Monster". For the benefit of the uninitiated, this monster is a device for receiving s.s.b. The fact that it will also receive a.m. and c.w. is purely co-incidental. It is built round a couple of Command receivers and a bank of crystal locked converters giving, in all, quadruple conversion. At present it provides bandswitching from 80 mx through to 2 mx. 160 mx will be incorporated in the near future. We expect Jack will do an article for "A.R." on this equipment, so keep a watch. It is really something to see.

Business was kept to an absolute minimum, leaving plenty of time for those present to wander round and ragchew. This idea appears to meet the wishes of members. When I left the party was still in full swing, so possibly continued to a very late hour.

Now out with your diaries and note the following events:

14th October—Transmitter Hunt. Note there will only be a fixed tx for this date.

3rd and 4th November.—State Convention at Ballarat. Wives, families, etc., welcome.

30th November.—Annual Dinner at Bamboo Room, Chevron Hotel.

Full details will be on 3WI broadcasts.

COUNCIL MEETING

Council meeting for September had fewer matters to consider than for many months, in fact the meeting closed at 10.30. The major item was the W.I.C.E.N. exercise scheduled for 22nd and 23rd September. The overall plan

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looks good and a few minor details only have to be settled. It is hoped a full report will be available next month.

The financial position was reviewed, and thanks to the influx of new members, the position is pretty good. Council feels confident that thoughts can be directed towards improving the services to members. The library is to come in for attention, and it is hoped to replace the magazines from which various people have "borrowed" pages.

We have a few more complaints to air. These are against those who use the sink as a workbench and those who leave the tx room in such a mess. Such actions are most disheartening to those doing renovations to the premises. Council has no desire to veto the use of the rooms by individuals or groups, but must consider the fact that the property belongs to members as a whole and if found necessary, will have to take steps to protect it.

Steps are being taken to include c.w. facilities in 3WI transmissions. Peter Dettman has offered to construct an electronic keyer. Thanks Peter. And that's about it.

Last month 5PS had some nice things to say about the Like-New Mixer. When I first read the original article I didn't believe it, but decided to give it a go. The results were staggering. I used it for a couple of months before sending the magazine on to the Editor. Has anybody tried it in v.h.f. converters? If so, I'd like to know the results. Also, will 5PS send us details of how he built it into his crystal set—or did somebody do it for him?

NORTH EASTERN ZONE

Honest apologies for not having submitted copy for the past two months; have been off air since mid-June and only recently managed to get my rx performing. Nobody has sent me any letters containing potential copy for these notes and each should hold his head in shame for not pulling his weight towards wresting the Kinnear Trophy from its present holders.

3AAQ is building a very nice tx with mod. and all power supplies in the same case. His e.h.t. employs 8 x OA214s in bridge configuration, by the way. The elimination of 866s and associated fl. transformer certainly reduces the size. Neville has decided to stay at 50 watts with one 807, but has left adequate space for a second 807. He is scheduled to go to a hill top to become a big shot t.v. tx attendant which also means he will leave this zone.

The other week 3IG panted in to the r.f. factory with about 10 seconds to go to the start of night shift. Between gasps we gleaned that he had just worked a W0 on 80 mx phone. Bruce reports that he has spray-painted all of his units in hammer-tone using pressure pack canister and being happy with the result. He confidentially recommends the method to all. He is one of those few prepared to assist with W.I.C.E.N. and has been told of the possibility of having to stoke up at 0400 hrs. during the simulated emergency run. I

offered to be message writer, but he will do nicely with another private secretary.

3ACK completed his electronic organ a couple of weeks ago and is quite happy. 3ACD has been putting his four el. triband beam to good use of late, working Gs, EAs, and Is on 20 mx. The commercial rotator gears did not last very long in his case. This most likely due to wind whipping beam about and the fact that the brake was inadequate for the task. 3AYD had several reports of warbyness in his c.w. notes. Investigation disclosed heater cathode leakage in the v.f.o. After installing a regulator tube in the h.t., the pressure was reduced and the leak was stopped. Now he gets T9 reports. He worked a YV on 20 mx phone last month; that makes 16 countries in 12 months with 33 per cent. confirmation. Has plans to construct a 10 watt portable for W.I.C.E.N.

3AHO has returned from his DX-pedition but has two gripes. The Yanks and their nuclear blasts, and about the airline which mislaid a bagful of exotic seashells. Eight of the Shepparton stations have consented to have Scouts for Jamboree-on-the-Air in October. The zone hook-ups of late have been brief and generally orderly. Last hook-up, mention was made re sacking this correspondent for inertia. I trust I have redeemed myself. 73, 3ASY.

MIDLAND ZONE

The activities of zone members for the month of August have been varied and it's pleasing to note that the increase in activity and members is steadily increasing. Early in the month conditions were variable on all bands and in Castlemaine particularly we have been plagued with power line QRM. So severe in fact, operating has been impossible on all bands at times.

The zone general meeting was held at the QTH of Peter 3APJ, who acted as host for the zone. Those in attendance were 3ZIK, 3SV, 3ND, 3AIM, 3KU, 3APJ, 3AHA, 3FO, 3ZLJ, Ian Williams, Roger Butler, Bill Taylor, Jnr., and apologies were received from John Jobson, 3ACN, 3FY, 3ZAW, 3KO.

Col 3FO was the star of the evening, having provided the Ham fraternity with a prospective operator with the new harmonic. Congrats to Col and XYL.

Zone hook-ups are on the improve, thanks to the efforts of Jim 3SV. As for myself, I have not yet appeared on 80, but don't give up hope. I will however be leaving for VK4 land on 31st, returning on 1st October, and by that time be fully equipped on 80 mx. We have moved our zone hook-ups (80 mx) to 8 p.m. each Monday. Last hook-up on 27/8/62 netted 3SV, 3FO, 3WI (3APJ), 3AHA, 3OR, 3ZK, 3SU (3ZIK). Bendigo members are still conspicuous by their absence. I hope to have some interesting news and views on my return. 73, 3ND.

EASTERN ZONE

We have several s.w.l.'s and up-and-coming Hams in the zone at the moment. Bob Stewart, of Moe, spends most evenings monitoring the 144 Mc. band, and he has received all the zone 2 mx stations and heard Melbourne sigs.

Jack 3AJK, of Moe, has now established himself back on the air, firstly 80 mx, and heard carrying out checks with David 3DY. Jack then built a 20 mx cubical quad and his first overseas QSO was with VR4CB. Since then he has been quite active on 20 mx, working a few countries. However, the band is at a low ebb at the moment.

Quite a few of the Zone members participated in the R.D. Contest. Les Dale is well on his way home now, from U.S.A. to Morwell, after a teacher exchange mission. Graham 3QZ is also on his way back home from his tour to England and Europe. Bill 3AMH had an enjoyable holiday in VK4, working portable/mobile on his way up and back, using the 20, 40 and 80 mx bands.

David 3DY now has his s.s.b. equipment working on full power, after a lot of teething troubles. If zone members have any interesting news, please do not hesitate in dropping me a line, before the end of the month, so I can let the rest of the zone know about it. 73, 3ZCG.

WESTERN ZONE

Main details of our Convention, which is to be held in Murtoa on Sunday, 28th October, are as follows: Meet at the Lake about midday. There are nice surroundings here for a picnic lunch for those interested, or a hotel lunch can be arranged by letting either Vic 3AEQ or me know. Our Annual Meeting is to follow lunch. Afternoon will be taken up with transmitter hunt, scramble and ragchews.

The evening meal will have the same arrangements as midday meal. We will then have some films and Chas 3IB will show slides taken during his stay in the Gilbert Islands.

Weather permitting, at least two members expect to attend per light aircraft. This should be very interesting as mobile gear will be installed in them.

This will be a good get-together, so will be very pleased to welcome all visitors. Accommodation will be readily available. 73, 3AKW.

QUEENSLAND

TOWNSVILLE AND DISTRICT

Well ere this appears in print we will have a fair idea of which State was the winner of the R.D. Contest. Even though my score is very small, the main thing is that I did submit a log. Whereas there are many who fail to do so each year with the result their State misses out. That is what happened to VK4 last year. If we are lucky this year I hope it is not because we are the Contest Committee for the next three years.

It was pleasing to see in last "A.R." that Claude 4UX received top points for Qld. in Section D on the National Field Day Contest. Together with getting the "Ode" printed! Life will become unbearable till I see the results of the R.D. Contest. Hope you other chaps in our Sunshine State did him over.

Tribute is paid to all Amateurs in their good operating technique during the period. Also it was mentioned by a few stations and the question asked, "Why are the ZL boys not asked to participate in same under a special section?" Seeing that the 25th April, Anzac, is held by both countries. We enter their Contests. How about it?

Intrigued the other day on 7 Mc. to hear two near-northern boys nattering. Seems one heard a chap call "CQ AA" and was asking the other one what it meant. Bright answer: "It must be a official call as AA is generally reserved for their use." Nearly broke in and said they were wrong as it was "Alcoholic Anon." It was the All Asian Contest.

By the way, will watch the next few notes from a certain scribe to see if the two PanSys made it again this year in QSO in R.D. Contest.

Visitors to the north included Ken 2ST. He met many of the boys and degassed tubes are everywhere. Attended the local meeting and met those at whose shack he missed out. Can verify the poor conditions we are having locally and the noise level. Believe he heard a tape of the noise level at one shack.

Local meeting decided not to have a T.v.i. Committee. Apparently we will be in a saturated area and let sleeping dogs lie. Although a few years ago a couple of the clew-up boys offered their services when it was first mooted. 73, 4RW.

SOUTH COAST ZONE

More activity from VK4s was apparent during the R.D. Contest. At least three, maybe four, logs should appear from this area. From observations during the Contest and QSOs after the event, operating procedure was very much improved on that of last year, and the Contest was thoroughly enjoyed.

Have heard that a new W Amateur is settling in this area and will be coming on the air. Hope to meet up personally with him soon. Congratulations to all who have a hand in the working of producing "QTC." Hope the good work continues. 73, 4WS.

W.I.A., QUEENSLAND DIVISION

Wide Bay and Burnett Branch, in conjunction with Central Q'land Branch and Bundaberg Radio Club

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Deposit: Hotel £1, Motel £2, per person.

CAIRNS AREA

The R.D. Contest has gone again for another 12 months. For the first time for many years there will be another log submitted besides my own from the Cairns area. Very pleased to hear Roy 4AX running up a respectable number of contacts on 7 Mc. Keep up the good work, Roy, and keep the rust out of the rig.

Have had an influx of southern visitors, the latest in town was 2ST, who apparently did not have time to look us up, but my spies reported that you were in town, Stan, and we were on the lookout for you. Les 4XJ also paid the north a flying visit, followed you as far as Mareeba, Les, but never a word from you since then. Even me old mate from Townsville, Bob 4MF, called in to see me, but unfortunately Bob couldn't stay long.

If you work 14 Mc. c.w. you must have come across Esmond 4GZ. Don't look for him on any other band because you won't find him, that is all he works. He tells me that he is building a new rx, 50 cycle bandwidth, stabilised osc., automatic CQ answerer, etc. Esmond reckons that he is building it like a battleship, because once he has it finished it will have to stay put because he won't be able to shift it. You can always borrow 4MH's crane. Ted reckons that it will lift 50 ton!

You never know what the Hams get up to. Conditions between here and Innisfail have prevented Bob and myself from having our usual evening rag now, so what does he go and do just to keep his hand in—starts a class of 16 pupils. What are you trying to do, Bob, put us all off the air; remember the QRM. All joking aside Bob, good on you, keep up the good work. I wish you and your class every success. Have you introduced them to Amateur Radio yet? I am sure that they will find the magazine of great interest. Free advert—how's that, Ed?

VK5 (P.S.) please note. Received my yearly notice from the P.M.C. to pay my usual £1 at the local post office the other day. 73, 4ZW.

SOUTH AUSTRALIA

The monthly general meeting of the VK5 Division, the Division that never looks for trouble, but always manages to get its share, was held this month to a capacity house, standing room only, and very little of that, and took the form of a display of members' gear. It appeared at first that although we were going to have a capacity house, we were not going to have much to display for their entertainment, but as usual, at the last moment, the display table filled up and a very representative display was presented.

Due to the late arrival of the exhibits, the opportunity was taken by the canny Chairman, John 5JC, to carry on with the business section of the meeting, and for once the full attendance listened with bated breath to the administrative side of their hobby. The Chairman, in a few well chosen words, made reference to the unfortunate passing of Bert Sinfield (5TZ) this month, and all present stood in silence for a minute in respect to his memory.

Opportunity was then taken to introduce the new Minute Secretary, Geoff 5ZCQ, who read the minutes of the last meeting in a manner that suggests the VK5 Division has at last picked a winner. Very little business, either Federal or Divisional, came up for discussion, although a letter from VK2 referring to their Youth Scheme was read to members and discussed, and the appointment of Warwick 5PS as Custodian of the Instruments was announced to all present, with a suitable fanfare and the firing of a twenty-gun salute. Incidentally, this new appointment means that I now hold about five positions in the Division, and my suggestion that possibly I could shove a broom up my cardigan and sweep the floors as I dashed around, met with a decidedly cool reception.

The display of members' gear then took place with a suitable explanation and description by the member concerned, and the following winners were then announced for the various sections. As a means of padding these notes, and also as a pat on their back, the following received the blue sash of victory, plus the prize that went with it. Associate members' section, Frank Forgie, for an i.f. strip. The h.f. section came up as a joint 1st prize to Al 5MF and Cyril 5DY for some excellent s.s.b. equipment. V.h.f. section, Cor. 5ZKC, for a 50 Mc. rx, and this same gentleman walked off with the test gear section with a grid dip osc. When the cheering and jeering had died down, the Chairman thanked all of the members who had displayed gear, thus helping to make the

night such a success, and closed the meeting at the somewhat early hour of 10.30 p.m.

In closing the write-up of this meeting, I cannot refrain from mentioning that the number of youthful members of the audience seemed greater than usual, and this is something to be proud of, because there has been something of a tendency lately to stress the fact that the W.I.A. is only for the older person and lacks youthful attendances and its attendant enthusiasm. As I glanced around the audience at the meeting, and noticed this increase of youth attendance and interest, I could not help but feel that all the interest and hard work which the "Old Fogies" of the Division put into their various duties, unheralded and unsung, is at last reaping its just reward. One thing I forgot to mention is that Brian 5CA has resigned from the Council, and Geoff 5ZCQ has taken his place, but Brian never got very far away, he was immediately co-opted back on the Council to continue the running of the Divisional journal, a job he has conducted with signal success since its inception. I also forgot to mention that a suggestion was received from Bill 5WW as to whether in their search for a new club room, the Poultry Fanciers' Hall in Hanson Street, had been inspected as a possible meeting place. I don't know whether Bill had his tongue in his cheek when he made this suggestion, but it struck me forcibly that the Poultry Fanciers' Hall and s.s.b. would go together!! Sorry Comps 5EF, but I could not miss the chance. The ball is on your side of the net!

Noticed among the audience at the meeting Col. Walker and his charming young lady friend, Miss Smith. Col. is an associate member and Miss Smith is extremely interested in the hobby. We extend a hearty welcome to Miss Smith and hope that one day her cheery voice will grace the ether from her own station. Don't I say the nicest things? Don Pansy is another of my names!

Was talking to Rob 5RG (ex-9RO) at the meeting and he commented on the fact of his not knowing half of those present, although once he knew almost everybody at a meeting; 'twas ever thus. Was also talking to John 5AN and was surprised to know that he was once a 3AJE, to say nothing of 5AS at Darwin, and G2KUI in the Old Country. I don't hold the Old Country, or Darwin against him, but a VK3—well, that's a horse of another colour!

Incidentally, I notice that the VK3 scribe has of late been getting more and more personal in my direction. He had better be careful, the Editor is a personal friend of mine (I think) and a word from me in his delicate pink ear could mean that he would have his job of scribe taken away from him at short notice, say twenty years perhaps. So be warned, ye besmircher of my character, Pansy has influence in higher quarters, even if he has not yet descended to giving away old chassis, or growing ferrite cores among the chrisanth—crisanthis — krithan — krythanthem — sweet peas!

Rex 5DO has announced that he will be relinquishing the position of VK5 Treasurer in the near future, and went at great lengths to explain to me that his recent purchase of a brand new Wolseley motor car had not influenced him in any way. Apparently my system of budgeting is no longer the secret that I thought it was, he told me that his creditors were also mystified just like mine. I might still get him to make a statement yet!

Worked Ron 3RN in the R.D. Contest, and he continued his insults toward me. After we had exchanged numbers, he said, "Ask Warwick if he has received my letter yet." When I said, "This is Warwick, I have received your letter," he went off into hysterics and said, "I did not recognise your voice, you poor old man!" I was quite prepared for Pincott to bob up and join in the general hilarity, but fortunately for my bruised feelings, he was missing.

Jim 5JK has almost finished the new rig, and it looks a beauty too. He lifted the veil of secrecy the other night for about thirty seconds to enable me to catch a quick look at it. Heard it on the air the other Saturday night too, and also recognised his dulcet tones immediately. You beaut.

Joe 5RC has departed for pastures anew, none other than Woomeera. I have been led to believe that he has already formed a new tribe among the natives, to be known as the Mac-Nulla-Nullas, although I can discount the added rumour that at all their meetings they open proceedings with the singing of "My boomerang won't come back!" Even the bagpipes wouldn't stand for that.

The Admiral (5ZAH) threw a couple of quick glares at me during the meeting. I checked up as to why this was occurring, and he somewhat tersely accused me of talking him into buying a "silent" crystal at the last buy and sell night. He further told me that he huffed

and puffed at the crystal but it continued to remain silent, and as a last resource he took it to pieces and found that the reason why it was "silent" was because it was missing. He is bringing along a 22 rifle to the next buy and sell, but refused to say why.

I notice in a copy of the English "Electronics Weekly" a statement to the effect that it has been reported that an Australian Radio Amateur has built a 27 ft. high aerial by soldering 65 empty beer cans together and mounting them on a clothes line post. The comment was that it was just another example of how an unlimited supply of raw material can be put to practical use in electronics!

Despite rumours to the contrary, Tubby 5NO and his son and heir Jeff 5NQ have not yet, at the moment of writing, left Elizabeth for their new QTH at Gawler. The new house has been in the "last fortnight" stage for some time, and at the moment no hope is in sight. Both gentlemen have been somewhat boasting of the fact that their shack is already built and the gear moved in, giving the impression that they did this marvel of building all off their own initiative. I hate to be the one to put their weights up, but a little birdie told me that the Board of Management put her foot down with a firm hand and refused to allow even a teeny-weeny bit of radio gear in the new house.

The R.D. Contest has come and gone, and everybody had their usual good time, judging by the bedlam that broke loose on the bands as zero hours came up. I missed out on 21 Mc. this year, this band has always been my happy hunting ground on R.D. day because it is a bit quieter up there. However, when I listened on several occasions to that band it was as dead as a doornail. I was a little unhappy about this because for the last three or four years the highlight of the Contest for me was to work my namesake Alan 4PS and note his evident embarrassment as he called me "Pansy." See you next year Alan!

Hughie 5BC was the centre of the Berri social activity this month (Sept.) when his daughter Margot was married to Dale Wilson, 5VV, technician at b.c. station 5AU (may I be forgiven for that heresy). Nice work OM, I am told that you made quite an impressive figure.

Two VK5 chappies were in the middle of chit-chatting on the 7 Mc. band as R.D. zero hour came up. They both commented on the peculiar conditions on the band as the QRM came up in waves and waves, and it finally hit them as to the cause. In view of their highly technical and theoretical reasons given on the air for the sudden rise of QRM, listened to by hundreds of ears with intense amusement, they probably wish now that they had been on c.w.!

My spy in VK2 reports that Cec. 5BZ has ventured into that territory recently, Broken Hill no less, and he also reports that Cec. appeared to be having the time of his life in that city. When questioned by our reporter concerning the veracity of the report, Cec. confirmed the truth, and said that he could recommend a visit to Broken Hill to anybody. He elaborated on the matter by saying that he had been so busy lately that he felt the need of the trip to recuperate, and slow down. For a man of millions and retired at that, this was considered by our reporter as the understatement of the year.

Frank 5MZ, he who is addicted to breaking of legs or arms at the slightest provocation, is having trouble with his Volkswagon attracting all the dogs in the neighbourhood, and I have seen a photo to prove it. Frank looked real cross in the photo and I can't say I blame him. Oh that such wickedness could be.

Heard Rex 5DO and Basil 3ABJ in their usual Sunday morning sked on 7 Mc., and Rex was blowing his trumpet as to how good he was at fixing electric shavers. He was rash enough to say that if anybody wanted a shaver fixed up, to send it to him and all would be well. Understand he has bought up a goodly supply of bandages and blood plasma, to be used during testing of the shavers. How brave can one be?

Carl 5SS and associate member Jack Parkin decided to run a couple of power points at Carl's QTH for the t.v., etc. Having completed the mammoth piece of construction work, on went the main switch, but no t.v. Mammoth piece of construction dismantled and rewired, main switch on, still no t.v. Scratching of heads, plus removal of splinters from fingers, and then Carl's XYL walked over to the t.v. set and switched it on, and all was well. Chuckles of fiend-gee from XYL, reddening of two embryo electricians' faces, and a sad lowering of the curtain on the whole episode!

Have heard nothing of the escapee from Norfolk Island, Arch 5XK, although that statement is not strictly true. I did hear him on 7 Mc., going likety-split on c.w. during the

R.D. Contest, and I gathered he was upholding the honour of the Division in no small manner. My observations on the noted lunchtime net on 7 Mc. leads me to believe that Pete 3FM, Alan 5ZC and Bert 5BD are preparing for a mass onslaught on to 6 mx. I also would hazard a guess that 6 mx will be well aware of their onslaught, judging by their remarks to each other.

In view of the fact that I am now the Custodian of the Divisional Instruments, a very high sounding title, even if I say so myself, I suppose that I should enumerate the various instruments in my custody. An audio osc., an r.f. osc., Bendix frequency meter, Oscilloscope, valve checker, and a Type 3 Mark II. for use in the convalescence room. One or two other bits and pieces will be available when located (take the hint, mugs), but there is one rule that must be strictly observed, ring before calling for the instruments, because the instrument that you want may be out on loan. Also, if you ring before you call, it will give me a chance to don my Custodian uniform and greet you with 300 blasts on the Custodian trumpet. If you are greeted at the door by a vision of radiant loveliness, that will be my XYL, but don't be scared, she usually warns before she strikes—I think—Ooch!!

Stuart 5MS made a mighty effort for VK5 in the R.D. Contest. He did not intend to stay on for the 24 hours, but by midnight the bug had bitten and he finished with something like 460 contacts. It was a change to hear him on a.m. for the period of the Contest.

Claude 5CH is at the moment of writing on holidays and has been heard at times on 40 and 80 mx. Holidays with Claude usually means a new load of disposal gear will arrive at any time now!

Leo 5GJ can be definitely written off for Amateur activity. It is even being suggested that he must have used some of his Radio gear

OBITUARY

VK5 reports this month, with sincere regret, of the sudden passing of two of its members.

A. A. (BERT) SINFIELD, VK5TZ

On the 1st August, Andrew Albert (Bert) Sinfield, VK5TZ. Originally VK2TZ, and ex R.A.A.F., Bert was employed with the Mullard Company in Adelaide, and had not been in the best of health for some time. It was only in the last few months that he had become again interested in Amateur Radio and was only recently appointed to the committee which was handling the finding of a new meeting place for the Division. Bert was liked and respected by all who came in contact with him, and his sudden passing is a loss to Amateur Radio and the Division in general.

Our deepest sympathy is extended to his sorrowing wife, Enid, and his two children.

H. E. E. (HEC.) BROCK, VK5UZ

On 19th August, Hector Edward Earl (Hec.) Brock, VK5UZ. Hec. was one of the few remaining real old-timers, being one of the original members of the Division when it was first formed. He was re-licensed in 1952, and although never really active on the air, was a constant visitor to Divisional meetings and always kept abreast of Radio Amateur practice. His many interests included photography, hi-fi, and gemmology, the latter being his speciality, having lectured frequently on the subject at the University.

To his sorrowing wife, Melva, we extend our sincere and deepest sympathy.

said, "Guess who," and she said, "The man with the squeaky voice." Confound it, I can't take a trick.

Tom 5TL, with his usual efficiency and desire to keep up with modern practice (that should make me sweet with him), is tinkering with becoming transistorised in the somewhat distant future, depending upon time, money and inclination. By the way, Tom and his fellow tonsil ticklers recently journeyed to our fair city from Renmark, and sang with great gusto in the Adelaide Eisteddfod, so much so that the adjudicator had no hesitation in awarding them the blue ribbon, to wit, first prize. In an endeavour to be quite fair, Tom candidly admits that he is finding difficulty in deciding whether it was "because of" or "in spite of" his efforts!

I cannot put the notes to bed before commenting on the suggestion made by the VK3 scribe that my speedo never reads more than 25 miles per hour. For his information, and also to show just what a dare-devil I am, when it reads 25 m.p.h. it is on the second time round. Whoooooosh. 73, de 5PS (PanSy to you).

ELIZABETH AMATEUR RADIO CLUB

At the annual general meeting, held in August, the following new office-bearers were elected: President, 5FE; Sec., George Downing; Treas., 5WV; Committee members, 5ZMK and 5ZBR. 5FY continues to act as Awards Manager, 5NQ is representative to W.I.A., and will also handle the QSL Bureau, 5NO remains Public Relations Officer and Editor of "Info." Reports were received from the retiring office-bearers and many complimentary remarks passed on their services.

5FY has been doing a splendid job as Awards Manager, in addition to other duties, and is very proud of his quick "turn round" time in issuing "Elizabethan Awards". Generally he is able to post the award within a week or so of receiving an application. However, in view of the importance of the authenticity of this most valued parchment, it is sometimes necessary to delay the issuance until more complete checks are made. This can take two or three weeks. We understand there was one case in which, for various reasons, the issue was made only after two months of most diligent enquiries involving (we gather) the co-operation of Interpol and the F.B.I.!!

5LZ, the club station, was demonstrated at the Elizabeth North School Fete on 25th August by 5FY and 5DY, with co-operation from many of the local stations. Work is still in full swing on the 53 Mc. mobile equipment for W.I.C.E.N. use. A round-up of W.I.C.E.N. members was held on 10th Aug. on 3628 Kc.

Immediately before the club meeting on 1st Sept., a demonstration of the W.I.C.E.N. net on 3629 Kc. was given to Mr. R. Nichols, the Deputy Commissioner for Civil Defence in S.A. In the lecture that followed, Mr. Nichols explained briefly the sort of conditions likely to be present in an emergency and some of the organisation involved, and then went on to describe the particular job for which trained Amateur operators would be suitable.

Because of an enlarged programme of activities, the club will now hold two meetings per month, on the first and third Saturdays. On Oct. 6 5ZMA will describe a piece of transistorised equipment that includes various types of transistor circuits; and on Oct. 20, Mr. Clements, of Texas Instruments, will talk on the practical application of various types of transistors.

All members were pleased to hear that we made top score in the 1962 National Field Day, but more than a little worried at the closeness of the victory over the Moorabbin lot. 73, 5NO.

for his "goggle-box," and therefore cannot come on. Just think of it, he even has a tower laying in his back yard waiting to become vertical. Tut-tut, and a couple of Toots.

Garry 5ZGR is at the moment re-building his 6 mx tx and Dale 5ZER is poised waiting for the next opening on that band. He is talking of erecting a 100 ft. tower, but enough, or the v.h.f. correspondent will be after me!

Erg 5KU is recovering from some feeder trouble, bit big for feeders isn't he? Oh, sorry, it should be feedline trouble. However, in his usual capable and energetic manner, this was soon disposed of, and everything in the garden is now lovely. Get it? Everything in the garden is now lovely. All right, all right, I thought it was clever. His XYL still holds the Mount Gambier title for sponge cake making, although at the last meeting of the gang, Stuart produced a sponge cake which showed distinct promise. Col 5CJ, apart from keeping the lunch-time skeeds on 7 Mc., is spending a fair amount of his time and activity on 80 mx and sporting an 80 mx half wave antenna at that. Is still giving his famous "white ant trick" every time a sponge cake bobs up at the meeting. Two this time, what a feast!

I have heard it said that one gets the truth from children without any frills, and this was amply demonstrated the other night when I rang our worthy President, John 5JC, and was answered by his daughter Judith. Her Dad was busy, so she asked could he call me back, and who was speaking, I said, "The most handsome, athletic, modest devil-may-care member of the VK5 Division. Now who is it?" Without any trace of hesitation, she said, "Oh it's you, Mr. Parsons." See what I mean? I can't help being what I am! Although, on thinking back, the last time I spoke to her I

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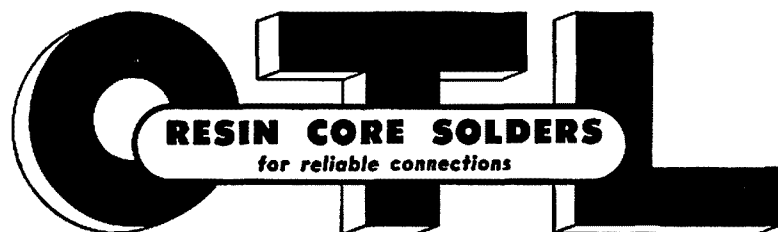
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WESTERN AUSTRALIA

Good heavens! I have just realised that people in other States read other people's mail! It was with some surprise, and may I say pleasure, that I observed in Sept. "A.R." that the scribe for the South Australian Division, whom other VK6s inform me is known as "any other name would smell as sweet as" or something, congratulated this State on the re-appearance of notes in "A.R." Thank you, Sir, for your words of worldly or heavenly wisdom, as the case may be. The only trouble is, things never pansies out as one expects! Why, one of my readers wished me luck last week. It's just occurred to me—what do I need luck for, in writing notes?

Oh well, let's see how my spy ring is working this month. Issued a couple more cloaks this month. Daggers are in short supply at the moment (needed for the satellite situation), so was only able to get two old bent ones. This is probably just as well, because I find that we have an ex-VK6 being smuggled back into the country by the R.A.A.F. Ted

VS6EC, late of Bentley, will be returning in February 1963. Hope to see you then, Ted.

Of course, this is unfortunate really, because Ted will miss the Games. Eh! In November! What! No. No! The Commonwealth Games, not Dames! Anyway, it's apparent that some other Amateurs won't be missing out. I have word that Don VQ5DB expects to be in Perth from October for the da-er-games.

And he's not the only one. Do hear tell that Bill ZET7R contemplating a trip overland from Perth to Sydney after the Games. Hurry on there, please, camels take a long time to fill up. Move along to the next tap, please sir, regular water at this one, super at the next! Talking about means of transport, believe Cole 6CS has acquired himself a Rolls Royce. Special tankers are already doing a shuttle service to keep it going. Incidentally, anybody seen that famous ad. for Rolls Royce? Under the heading of horsepower, it says, "Adequate." Half your luck, Cole. In fact, I have half your luck—I've got the Rolls part of it. Rolls down one hill and can hardly get up the next! Cole lives at Bunbury and what a pleasant spot it is.

Les 6WL has just moved into a new QTH in that area, at Carey Park to be precise, and, although he has bits of antenna hanging down at each end for 80, appears to be getting out OK and has even worked people on s.s.b. Trust you are settling in OK Les in new QTH. Ghastly business, what? Movin' and all that. One of Les' customers since moving has been Skipper 6WS. Did you notice the announcement in the West Australia that Skipper and his XYL celebrated their Diamond Jubilee recently? God bless and congrats to you both. Skipper hasn't had his licence long, of course, only about 28 years. Mmmm? Well, seeing Skipper is 88 now—see what I mean. He is totally blind but still operates his rig. As a life member of the W.A. Division and also the Subiaco Radio Society, guess you are like the 1846 brand and "Still Going Strong." All the best to our G.O.M.

While we're down the southern end of the State, have heard that Herb 6XO was observed to be proceeding homewards, giving odd clackety-clack sounds as he passed. This noise was due to a "do-it-yourself" type cubical quad kit. Anyway, Herb managed to get all the bits tied together and got it in the air in time for the R.D. Contest. Really works, too. Now this just shows you; ya gotta have an objective to work towards. Like the R.D. Contest. Why, even Charlie 6XG erected a new 80 mx half wave aerial for the big day. Word has it that the "X" group entertained friends during the Contest with "light" refreshments. Now, don't tell me there weren't some 807s that lost their plate caps in the process!

S.s.b. seems to be catching on fast, now. 6GR, 6CN, 6KJ all active, 6JG at Bunbury experimenting but not active due to pressure of work. This apparently goes for 6TL and 6SG.

Up north to Geraldton, where they only have two brands of weather. When its not raining, its real beaut.—and it doesn't rain that often! Brian 6VV is performing miracles by driving an 813 linear with an 1852, or a 6AC7 whichever you prefer! Works on 80, 40, 20 mx. The exciter uses FT241A crystals, centered on 475 Kc. Four crystals and your in business, says

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Brian. Sounds like the basis for an article in "A.R." too, Brian! All this s.s.b.! Have heard a whisper that John 6JO knows something about 4E27s in a ZL linear circuit, so let's get with it man! Another Geraldtonian (now there's a word!), Noel 6MF, did some very effective work with his 50w. rig on 7 and 14 Mc. during the R.D. Contest, even though salt air and water had got into the tuning boxes on the triband. What did I say about the weather! Of course, Noel is no going to be happy with a mere 50w.—4/125A on 80 through to 10 at 150w., thank you very much—and Brian 6VV only 200 yards away! Interesting situation, what! If you think that 4/125As are a rare animal in these parts, you're wrong because Charlie 6TC also has one, see! Now, Charlie is in the same general direction as Jim 6JH, known locally as the "low power king." Jim runs a mere 28 watts. Haven't you got a 4/125A in your little bottom drawer Jim?

Now hear this! Anybody interested in 2 mx fox hunts—at Geraldton! They have a fox up there but no hounds. Sounds like a worthy week-end project for our v.h.f. stalwarts. Come to sunny Geraldton and hunt the fox!

Out towards the east we go to Merridin, and we find Frank 6QO, having got his exams out of the way, now considering whether he should put a sig out or not. Get with it, Frank, work off some of the exam frustrations. Incidentally, reports on staff movements show that an ex-Z1 is resident in Merridin, but has not been active for some years. What's his address somebody and we'll send him an application for membership!

Bob 8RE having trouble with antennae at Merridin, not only his own, but all the t.v. antennae as well. Says anything the Ham puts up is puny beside the forest of t.v. towers. Oh! Well, Bob, just think what a choice of towers you'll have when a regional goes in there.

In closing, a spy reports that Tom ZS1AI, a blind Amateur in South Africa, is always on the look out for VKs on 21 Mc., at 1630 W.A.S.T., so there's some DX for you to watch out for. 73, 6LS.

TASMANIA

The R.D. Contest is over for this year and what can we say for our efforts? Many VK7 stations took part, that is clear, but, speaking with knowledge of the south only, it would appear that no major scores were turned in. Conditions too down south did not favour multi band operation, virtually only 80 and 40 mx being available to us.

Pat 7GV has a modulator in action, and he is finding that 80 mx can be lots of fun on phone. Ted 7EB has his 122 set functioning with ample modulation now and hopes to have reconstructed main tx in going order very shortly. Speaking personally, I now have a v.f.o. in operation, so 7ZZ will now be found on frequencies other than the crystal frequencies hitherto used. It has been good to hear Bill 7YY and Keith 7RX come up on 80 mx for first class ragchews in the recent past. We hope there will be more of it, chaps. Bill 7YY expects to be off to Port Davey again shortly after the New Year, taking all his family with him this time. He expects to stay down there for about a month.

Remember the Jamboree-of-the-Air on the week-end of 20th and 21st October. Your help will be greatly appreciated, both as regards providing your station for use by a Scout Troop and also by remembering that local contacts can better be carried on a band which will not cause interference to stations working Interstate or beyond. This exercise is a golden opportunity for publicity, let us make the publicity only of the good variety.

Charlie 7KS has replaced Brian 7ZBE on the club room fund raising committee, and we confidently expect Charlie to contribute his usual energetic share towards the work to be done.

David 7ZAI and Danny 7ZDM have spent several weeks in Northern Tasmania at the direction of their employer. David has been active on 2 mx while up there, and we look forward to a run-down of his success when he returns among us.

Len 7LE provided another lecture at the close of the Sept. general meeting, showing, if proof be needed, his great versatility in original research. This lecture dealt with spasmodic reception from weak signals and the causes of such sudden increases in signal strength. We enjoyed your address, Len, and hope that your example will stimulate others. 73, 7ZZ.

NORTH WESTERN ZONE

Well chaps, here it is, my first effort as zone correspondent. I'm sure everyone concerned will join me in congratulating Max for his fine effort during his term of office.

The last general meeting was strictly informal and I'm sure, enjoyed by all. Pity, though, that the prizes for the voice contest were not enforced. We enjoyed the talk by George 7XL and were pleased to welcome Frank from Burnie and Ray from Devonport. Frank was a keen v.h.f. man in Holland, having worked some seven countries.

Dennis 7DR has recently moved into his new home and is eyeing his neighbour's t.v. antenna with some concern. Looks like another convert to s.s.b.! David 7MS is "selling out" his old rig and is after another. Hope the pumpkins do well, David. It was pleasing to see Terry 7TT do so well in the Field Day Contest, and hear of the high scores of Ken 7AI and David 7MS in the R.D. Contest. Looks as though the northern boys carried the State again. Hope to have my call sign by next time. 73, Harry.

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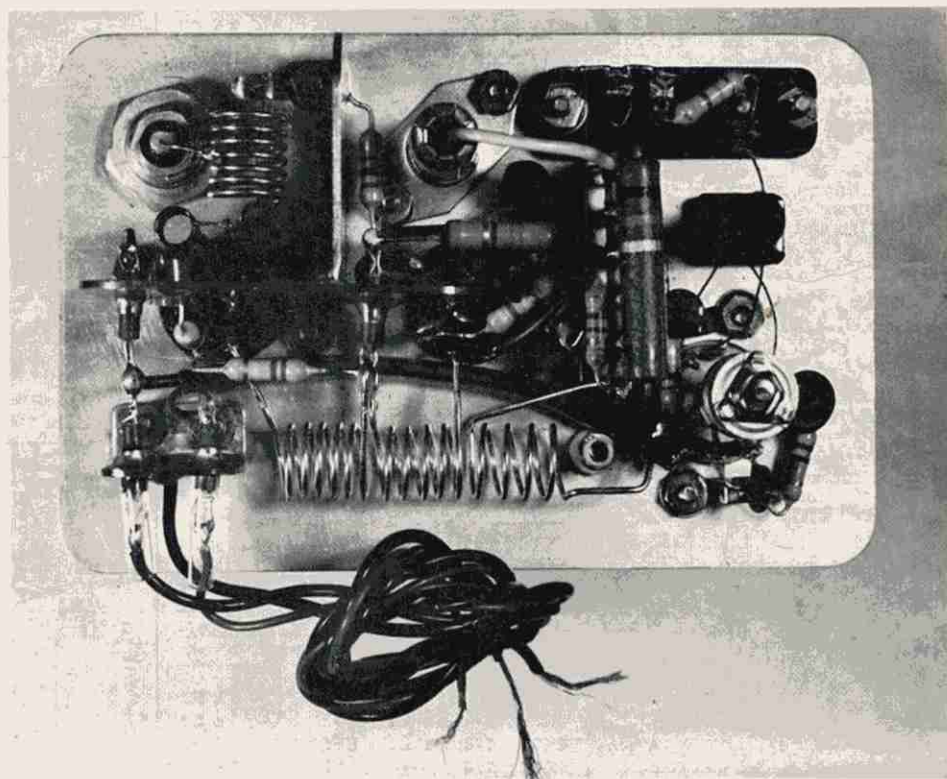
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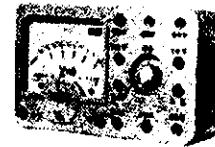
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NOVEMBER 1962

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OUR COVER

★
The under-chassis view of the
Simplified High-Performance Two-
Metre Converter, the technical article
of which commences on page 2.

FEDERAL COMMENT

★

YOUTH RADIO CLUBS

In recent years, membership of the Divisions of the Institute has grown at a lower rate than the overall growth of licensees in the Commonwealth. Several Divisions, but notably the New South Wales Division, has always possessed a good number of associate members to swell their total membership. This has not occurred by accident, but by a continuing process of encouraging new blood into W.I.A. affairs.

It has been the policy of the Institute for a number of years to form clubs in appropriate centres—say in Police Boys' Clubs and the Boy Scouts' Organisation—to create interest in Amateur Radio among the youth of the nation. At the Convention in Perth earlier this year, the New South Wales Division put forward detailed plans for the formation of radio clubs in schools, particularly high schools. The plan suggested taking the young enthusiasts through a series of proficiency tests with merit certificates awarded at each stage of their advancement in Amateur Radio.

Federal Council agreed that this plan should be implemented in all Divisions at the earliest possible time, and to this end, the N.S.W. Division has since supplied the full details to each Division for their use. The highest praise must be given to the N.S.W. Division for their great effort which has already been discussed with and accepted by the Education Department in their State. There are already a number of such radio clubs functioning in New South Wales, under the Division's guidance, and even at this early stage in their development, are achieving outstanding results.

The technological advantages of such a nation-wide plan are obvious and should on this account alone receive the fullest co-operation of Government authorities; but perhaps a less obvious advantage is the sociological aspect of the scheme. The promotion of a healthy interest in a worthwhile hobby such as Amateur Radio must eventually have some effect to lower a growing delinquency rate, and in this sense, receive even greater support from everyone interested in the future welfare of our younger generation.

It is therefore with the strongest possible motives that we urge every Division to put this scheme into operation immediately—there are many organisations available apart from high schools who would no doubt welcome such a plan—and promote activity by the formation of special groups if necessary to handle the programme. In the meantime, the Federal Executive is already pursuing this matter and you will hear more of this in the ensuing months. The culmination of a united effort by Divisions will not only be to assist the nation in a technological and sociological way but to indirectly help the W.I.A. in the resulting membership increase.

FEDERAL EXECUTIVE, W.I.A.

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Simplified High-Performance Two-Metre Converter

W. M. RICE,* VK3ABP

THIS converter has been developed in several respects from that described by the VK2 V.h.f. Group some years ago in "Radio, Television and Hobbies" and usually referred to (in VK3 anyway) as the "R. & H. Converter". However, with apologies to its originators, I feel it has been improved a good deal by re-design along the following lines:—

- (1) Smaller chassis (3¼" x 5" minimum).
- (2) Much simpler shielding layout.
- (3) No "hot" feedthroughs or components above chassis.
- (4) 6ES8 r.f. stage in series cascode (saves h.t. current).
- (5) Oscillator inductively coupled into mixer circuit.

The circuit of the converter is shown in Fig. 1. Apart from the inductive coupling, other points are the use of neutralising on the r.f. stage grounded cathode section (as in the original converter), but being a series cascode circuit the adjustment of neutralisation is rather different.

The inductive feedback type of overtone oscillator is retained, although I have heard of quite a few constructors having trouble here with the original circuit and changing it to the "Robert Dollar" type. Please yourself on this point, but the original circuit has functioned perfectly in at least half a dozen converters with which I am acquainted.

CONSTRUCTIONAL DETAILS

Much of the layout of the converter will be apparent from the under chassis photograph (Fig. 2), while the side view (Fig. 3) shows the top chassis arrangement. An aluminium chassis is satisfactory, as no soldering to it is necessary.

The layout is not very critical apart from r.f. and mixer socket orientation and placement of some of the by-passes. The mixer socket is right in the centre of the chassis, while the r.f. stage is on the longitudinal centre line and about 1½" centre to centre spacing from the mixer. A shield 1½" deep (ordinary tin-plate is quite satisfactory) runs across the centre of the r.f. socket and ends at the centre spigot of the mixer socket. It is soldered to the centre spigots of both sockets and suitably notched so that its edge butts against the chassis surface.

Solder lug under the socket mounting nuts (or brackets bent out from the shield edge) provide earthing for the shield at both sides of the r.f. socket and one side of the mixer socket. Slots cut in the shield accommodate pins 4 and 9 of the r.f. socket and pin 4 of the mixer socket, these pin contacts being soldered to the shield.

A feedthrough capacitor close to the outer side of the r.f. socket takes heater voltage through to pin 5 on the r.f. socket, while a ¼" hole in the shield permits L3 (inside a spaghetti sleeve) to pass through from pin 6 to pin 3.

* 84 Maldstone St., Altona, W.18, Victoria.

• Here is a unit to suit the Amateur who needs a converter. The article and photos will assist to make construction simple.

Another shield at right angles to the first helps to enclose the aerial coil L1, and just to the right of the shield junction (in the photograph) are the two feedthroughs (one above the other) which anchor the "earthy" ends of L4 and L5; the L5 feedthrough being nearer the chassis.

Placement of other parts is "according to taste" providing that pin 6 of the oscillator socket is conveniently handy

throughs should not obstruct access with a tuning wand to the end of the interstage coils L4 and L5. Clearance should be allowed around the chassis edges to fit the whole unit into a shallow box—1¼" is suggested as a suitable depth, as this will then just clear the Philips trimmer, which is the item projecting farthest beneath the chassis.

ALIGNMENT

If the coils are all wound exactly to the specifications of Table 1 the converter should perform reasonably well with only two adjustments. The 3-30 pF. trimmer is set to the third overtone (as evidenced by a drop in h.t. current and a rise in noise output from the i.f.

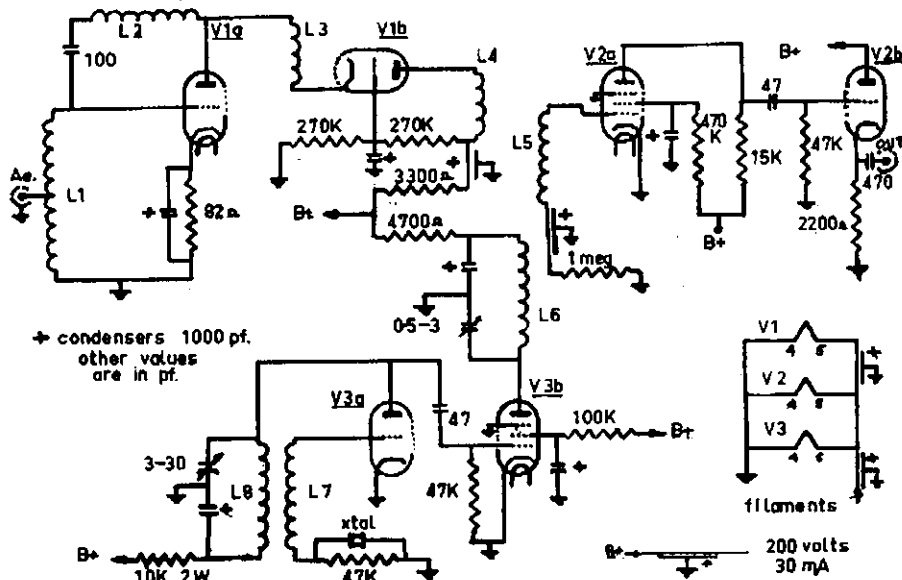


Fig. 1.—Circuit of the Two-Metre Converter.

V1, 6ES8, cascode r.f.; V2, 6BL8, mixer-cathode follower; V3, 6BL8, osc. multiplier.

to the end of the multiplier output coil L6. The 0.5-3 pF. ceramic trimmer must also be close to pin 6.

A six-lug tag strip runs across the chassis between oscillator and mixer sockets, a free lug at the oscillator end providing a tie point for the h.t. end of L6, which should be by-passed back to pin 7 or 8 and thence to earth via a solder lug under the socket mounting nut.

The screen by-pass on V3 goes to a lug under the adjacent mounting nut. All other by-passes connect either to the appropriate socket centre or the tin shields, using the shortest possible leads.

The 3-30 pF. Philips trimmer (oscillator plate circuit) has its spindle soldered to the centre spigot of the oscillator socket (which is of course earthed).

One final point, not too well observed in the unit photographed, is that the bracket carrying the lower input feed-

receiver) and the ceramic trimmer is then peaked for maximum noise output, i.e. maximum oscillator injection at the required frequency.

The recommended i.f. is anywhere from 2 Mc. up to perhaps 20 or so (depending on the receiver used to tune it). The converter illustrated (and several others) uses a 7890 Kc. crystal (a popular disposals frequency) which on the sixth harmonic of its third overtone comes out at a shade over 142 Mc., converting 144 to 148 Mc. to an i.f. of just under 2 to 6 Mc. Alternative crystals for other i.f.s. are listed in Table 2.

More refined alignment checks may be carried out once a 2 metre signal has been located. Use a tuning wand (one end iron slug, other end brass) to establish whether L1, L4 or L5 need a reduction or increase in inductance to peak the signal. L1 will be found very broad, but some experimenting with the aerial tapping point may be worth

while, although only a noise generator will show it usually! L4 and L5 are each fairly sharp and should be stagger tuned slightly to preserve somewhere near constant gain at least from 144 to 145.5 or 146 Mc. L3 is very broad indeed and should need no adjustment.

The neutralising coil L2 will only need adjustment if you are after the best possible noise figure. Some improvement may be possible here by adjustment on a weak 2 metre signal, but a noise generator is really the only satisfactory device to ensure optimum results.

about the best attainable with present day valve techniques. With a "bit of fiddling" it is possible to obtain a 3 db. noise figure from this converter.

It is possible that when the r.f. stage noise figure has been optimised, the mixer noise may become the limiting factor. This seems to vary quite considerably from one 6BL8 to another, but can in any case be reduced by reducing the screen voltage, i.e. increasing the screen dropping resistor. The original VK2 converter used a 100K resistor here—this is in most cases too low. The 470K shown is a good compromise but may be increased to several megohms providing the attendant loss of gain can be tolerated.

Finally, if you have access to a good signal generator with low leakage and an accurate attenuator, you will probably find that still more external attenuation is needed to reduce the signal to an inaudible level. (A shielded room would also be required.—Ed.) On a good converter, one-tenth of a microvolt modulated 30% should be quite a good signal. One hundredth of a microvolt is detectable on this converter. Who could want better? ●

COIL SPECIFICATIONS

Coil	Function	Details
L1	Aerial	7 turns $\frac{3}{8}$ " diam., $\frac{1}{4}$ " long, 18 s.w.g. tinned. Tap 4 turns from earth end.
L2	Neutralising	12 turns $3/16$ " diam. 28 s.w.g. enamel, close-wound.
L3	Peaking	10 turns $\frac{1}{4}$ " diam., 28 s.w.g. enamel, close-wound.
L4	R.f. plate	6 turns $\frac{3}{8}$ " diam., $\frac{3}{8}$ " long, 18 s.w.g. tinned.
L5	Mixer grid	5 turns $\frac{3}{8}$ " diam., $\frac{3}{8}$ " long, 18 s.w.g. tinned.
L6	Multiplier plate	4 turns $\frac{3}{8}$ " diam., $\frac{1}{4}$ " long, 18 s.w.g. tinned.
L7	Osc. grid	8 turns $5/16$ " diam., 30 s.w.g. enamel, close-wound.
L8	Osc. plate	16 turns, $5/16$ " dia., 30 s.w.g. enamel, close-wound, spaced $1/16$ " from L7 on same former, with plate and grid at opposite ends.

Note: L4, L5 and L6 are mounted end to end on the same axis with about $1/16$ " spacing between adjacent ends.

Table 1.

PERFORMANCE

Several of these converters have been built and checked out on good quality test equipment. Without any adjustments at all apart from the oscillator trimmers noise figures as low as 5 db. have been measured. (Noise figure is the ratio of the noise output of the device under test to the noise output of an identical but perfect device at the same temperature).

As far as 2 metre converters are concerned anything under about 8 db. is acceptable, 4 to 5 db. good, 2 db.

CRYSTAL FREQUENCIES FOR VARIOUS INTERMEDIATE FREQUENCIES

I.F. for	Crystal Frequency	
	Using 3rd Overtone	Using 3rd Overtone
144 Mc.	$\times 6$	$\times 7$
2 Mc.	7889 Kc.	6762 Kc.
3 Mc.	7833 Kc.	6714 Kc.
4 Mc.	7777 Kc.	6666 Kc.
5 Mc.	7722 Kc.	6619 Kc.
6 Mc.	7666 Kc.	6571 Kc.
7 Mc.	7611 Kc.	6524 Kc.
8 Mc.	7555 Kc.	6476 Kc.
10 Mc.	7444 Kc.	6381 Kc.
12 Mc.	7333 Kc.	6286 Kc.
14 Mc.	7222 Kc.	6190 Kc.
16 Mc.	7111 Kc.	6095 Kc.

Table 2.

COPY DATES

Readers and Correspondents are reminded that with the approaching Xmas holidays, the following dates will apply to the December 1962 and January 1963 editions of "Amateur Radio."

All matter for inclusion, including Hamads, must be received by these dates:

December "A.R.," by 8/11/62

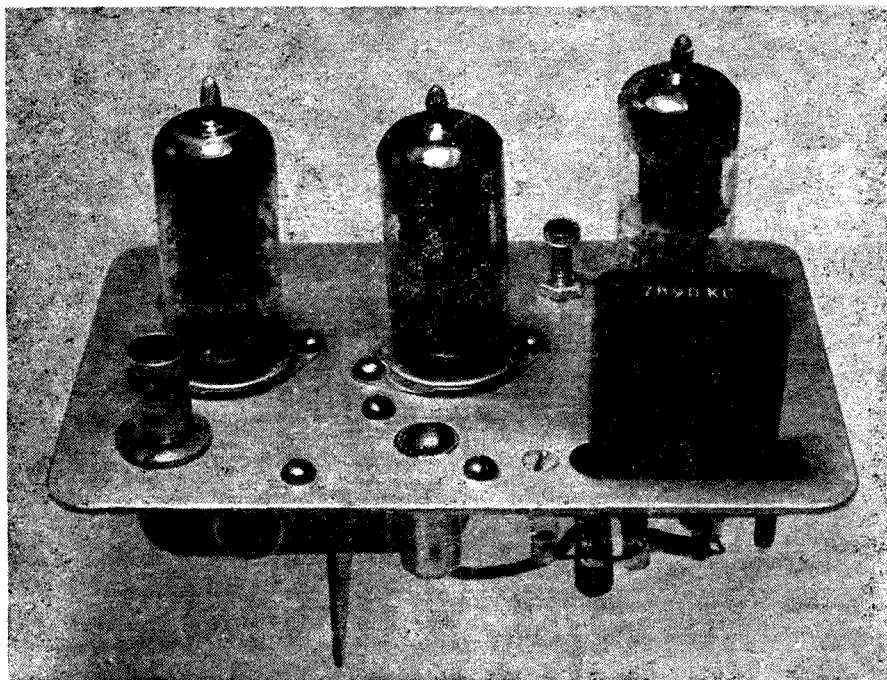
January "A.R.," by 1/12/62

Late matters will appear in February "A.R.," which will be distributed a little later in that month.

OBITUARY

T. ARTICLE

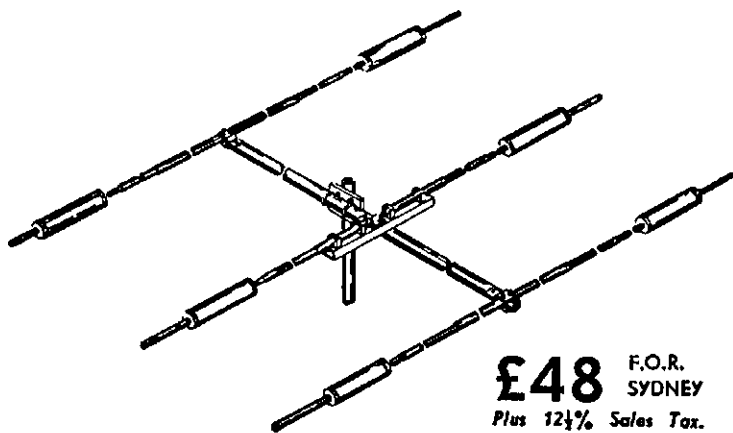
T. Article, a contemporary of Marconi, was well known throughout the Amateur world. His many contributions gave every Amateur that step towards progress. Tech, as he was known, was a prominent contributor to "A.R.," and all readers will join with the Publications Committee in regretting his passing, and hope that all Amateurs will contribute to his last offering.



Top view of the Two-Metre Converter. The under-chassis view is shown on the front cover.

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One of the nice things about transistors is that they take so little power—easily furnished by a few flashlight cells (it says here). There are two fallacies in this pleasant theory: (1) You never have any flashlight cells when you get the urge to try a transistor circuit; or (2) you have some, but they're dead. A few of both experiences prompted the construction of the low-voltage d.c. supply shown in the photographs. Its output voltage is adjustable up to 18 volts, depending on the current demanded of it. The maximum current at 18 volts is about 30 mA., but at some lower voltages the current can be as high as one-half ampere.

THE CIRCUIT

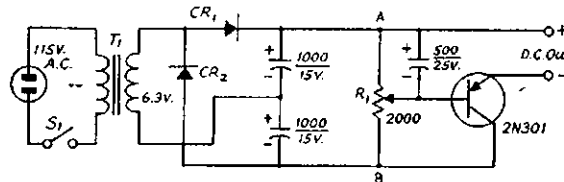
The electronic filter circuit used by Joe Galeskie in his "Imp-TR"† appeared to answer the problem of how to get adequate hum filtering. This circuit also suggested the possibility of getting continuously-adjustable d.c. output voltage, by installing a potentiometer for setting the base bias of the filter transistor.

To save the trouble of rewinding a transformer to give some desired output voltage, a 6.3 volt filament transformer was used, along with a voltage-doubling full-wave rectifier. This on the theory that a nominal 12 volt supply would take care of nearly all requirements, since 12 volts is standard for car electrical systems.

The parts were first haywired together on the bench to see how the circuit would work. It met expectations, so the version shown was built up. The box is 5¼" x 2½" x 3". Every-

thing is insulated from it, so either side of the output circuit can be grounded.

The only part of the circuit that required any special attention was the potentiometer, R1. A few measurements showed that the d.c. output voltage stayed more constant with load changes as the total resistance of R1 was made smaller. However, reducing the value of R1 also decreased the effectiveness of the electronic filter, no doubt because the RC product in the base circuit should have been kept constant. Unfortunately, getting some additional hundreds of microfarads at a 25 volt rating would have run into undesirable bulk. A value of 2,000 ohms for R1 was finally settled upon as a suitable compromise.



RATINGS

The supply wasn't intended to be a replacement for a storage battery, but all of the components used do have rather ample ratings, as compared with what might be taken continuously from flashlight cells. Theoretically, the d.c. output current should be limited to no more than 350 mA. or so, to keep within the ratings of the 1.2 amp. filament transformer. However, the transformer doesn't get particularly hot at this load. The actual limitations on output power are tolerable ripple voltage and transistor heating.

The ripple-voltage limitation applies at the higher d.c. output voltages, as shown by the two upper curves in Fig. 2. A figure of 10 millivolts r.m.s. was chosen as a tolerable ripple, more

Fig. 1—Circuit of the Low-Voltage Power Supply. Capacitances are in μF ., capacitors are electrolytic. Resistance is in ohms.

CR1, CR2—Silicon, 750 mA., 50 volts or more inverse peak (1N538, etc.).
R1—2,000 ohm pot., linear taper.
S1—S.p.s.t. slide switch.
T1—Filament transformer, 6.3 volt 1.2 amp.

Incidentally, the transistor is not a d.c. regulator per se. The circuit does resemble the series-type regulator, but there is no stable fixed voltage to serve as a reference. Nevertheless, there is a species of d.c. regulation—enough so that the output voltage is held considerably more constant than the d.c. input voltage (between points A and B) with changes in load current. With a fixed setting of R1 in the middle range, the voltage drop is of the order of 20 per cent., from zero output current to a load of around 300 mA. At light loads (up to perhaps 50 mA.) such as would be representative of most transistor circuits, the drop is under 5 per cent.—hardly noticeable. The d.c. could easily be regulated by using a Zener diode as a reference, but at the expense of the voltage-adjustment feature.

or less arbitrarily. It represents just detectable hum in a pair of headphones connected across the supply output terminals (with low ambient noise and a headset having reasonably good low-frequency response). This is probably a rather severe test; we haven't yet heard a trace of hum in actual use of the supply on transistor equipment. The 18-mV. curve can be taken as an "absolute" maximum, because at higher current the hum increases rapidly; the electronic filter begins to lose control above this level.

Transistor heating is the limiting factor at low output voltages. Here the collector-emitter voltage is highest, leading to maximum collector dissipation. The 2N301 is rated for a flange temperature of 80°C. A series of tests

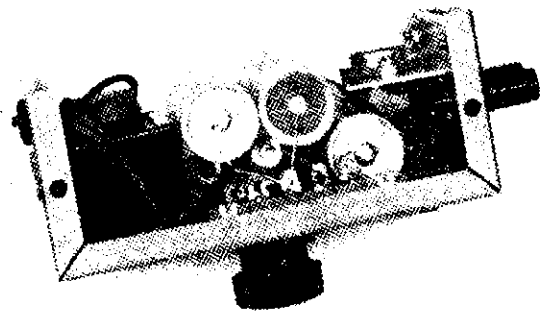
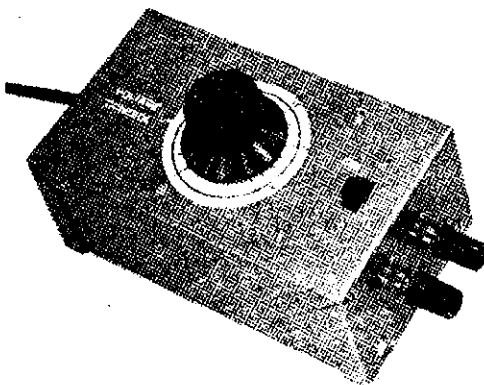
(Continued on Page 8)

* Reprinted from "QST," June 1962.

† Galeskie, "The 'Imp-TR,'" "QST," Dec. 1961.

Left: This compact unit is a battery substitute for use with transistor circuits. Output voltage is adjustable up to slightly more than 18 volts. The calibration scale shown is in terms of no-load voltage.

Right: All circuit wiring is between tie points on two strips, one mounted as shown and the other in the corresponding position on the far side of the box. The two diode rectifiers can be seen below the two filter capacitors in the centre; these capacitors are the 1,000 μF . electrolytics in the voltage doubler. The filter capacitor for the transistor base is at the right. The transistor is mounted on an aluminium shelf measuring 2½ x 1½ inches, with a half-inch mounting lip bent upwards. Insulating washers are used to bolt the shelf to the side of case, since the collector is not insulated from the shelf. The binding posts are similarly insulated.



CRYSTAL CONTROLLED TRANSMITTER

R. K. GRAHAM,* VK6ZDS

FOR 576 Mc.

It has been observed that literature on equipment for the 576 Mc. band is very limited. To the author's knowledge only two articles have ever appeared in Australian publications^{1,2} and apart from occasional items in the V.h.f. Notes in "A.R.," this appears to be the entire published material.

A publication by Mullard³ has been found to be extremely useful and is worthy of careful study.

The equipment referred to in References 1 and 2 is of the unstabilised variety. It was with equipment of this type that activity here first started. As it was felt that some contribution to the art should be made, the transmitter to be described was designed and built.

CONSTRUCTION

The 5763 osc./tripler, 5763 tripler and the 832A tripler are mounted along the back of an 18" x 12" x 3" aluminium chassis. The plate circuit of the 832A is above chassis level and is co-ax coupled to the 3/20 grid, which is below chassis level.

The two 3/20s are mounted along the front of the chassis, the tripler being mounted vertically and the p.a. horizontally, and both are partially sunk below the chassis and mounting plate respectively.

It is to be noted that the coupling from the plate of the 832A to the 3/20 tripler is critical and all coupling and tuning adjustments show some inter-

lechers are silver plated, inductively tuned and features plate pin connectors which exhibit an extreme degree of flexibility. They are made from the copper strips in a 250v. three-pin socket. The long straight piece is removed and the doubly curved portion is joined to the lecher lines with a suitable strap for added mechanical strength.

It is important that the pin connectors have good heat transfer properties (no brass please), minimise mechanical shock transferred to the tube, and do not introduce serious discontinuities in the lines. Also the residual capacitance across the tube plate pins must be low.

SHIELDING

This is essential for best efficiency. Radiation from the lechers is very high at this frequency. Shielding of the 3/20 plate-p.a. grid resulted in a 10% increase in grid current which was already 1.5 mA., and shielding of the p.a. tank showed a definite increase in antenna feeder current.

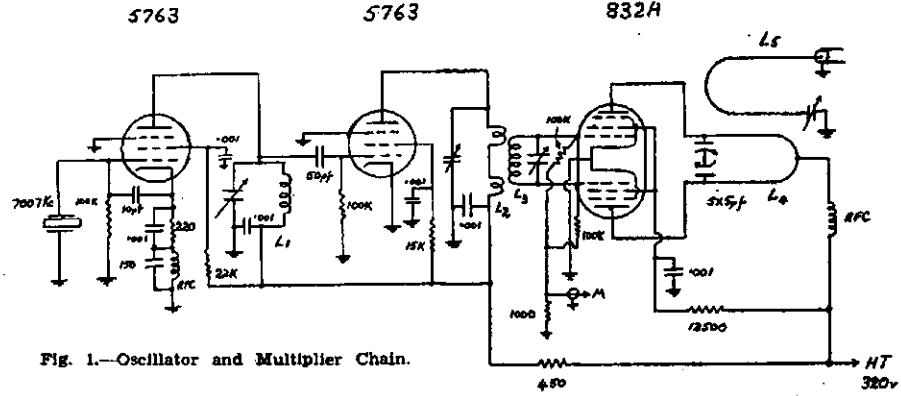


Fig. 1.—Oscillator and Multiplier Chain.

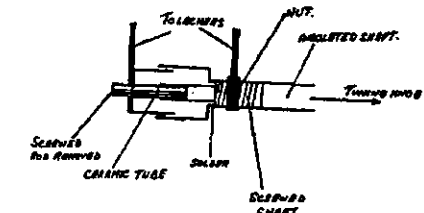


Fig. 3.—Modified Philips 3-30 Trimmer. (Internal plates not shown.)

TUBES

Final: The QQE03/20 is the logical choice. It is readily available and the price reasonable. Also the plate efficiency is about 40%, drive (and losses) is reasonable, about 5w.; and the output capacitance is relatively low at 1.6 pF. Another tube which appears very good is the 2C39A. Construction wise, it is rather more difficult to use, but a considerably higher input can be run and the cost is slightly less than the 3/20.

P.A. Driver: It is almost essentially necessary that this tube be a tripler stage as there are few tubes which would be effective doublers to this frequency and have a reasonable plate efficiency.

Again the 3/20 was chosen. The tube curves indicated that it would just provide the required drive to the p.a., with an input of about 20w.

The other multipliers are conventional and call for no comment except possibly the 832A. A QQE03/12 was originally tried in this position but only two-thirds of the required drive could be obtained in the grid circuit of the 3/20. The 3/12 was replaced with an 832A and ample drive results.

Thus the line-up became a 5763 osc./tripler, 5763 tripler, 832A tripler co-ax. coupled to QQE03/20 tripler, and an QQE03/20 p.a. The multiplication factor is 81.

action. The spacing of the 3/20 tripler lechers to the grid coil of the p.a. is critical for optimum performance.

The 3-30 pF. Philips trimmer used on the 3/20 tripler plate and grid circuits has been modified to approximate to a balanced condenser and this also enables a shaft to be fitted for external tuning (see Fig. 3).

An unmodified trimmer, mounted horizontally across the lechers, showed a marked decrease in circuit efficiency.

The grid circuit of the p.a. is made from heavy sheet copper and is series tuned at each grid. The final tank

It was not found possible to dip the final and tuning was indicated by r.f. meters. Without shielding it is virtually impossible to use this method as radiation and body effects makes the readings unreliable.

The shielding makes air cooling essential if the ambient temperature is at all high. If ambient is about 20°C., it is considered that thirty minutes of continuous running without blowing is about maximum, longer than this and

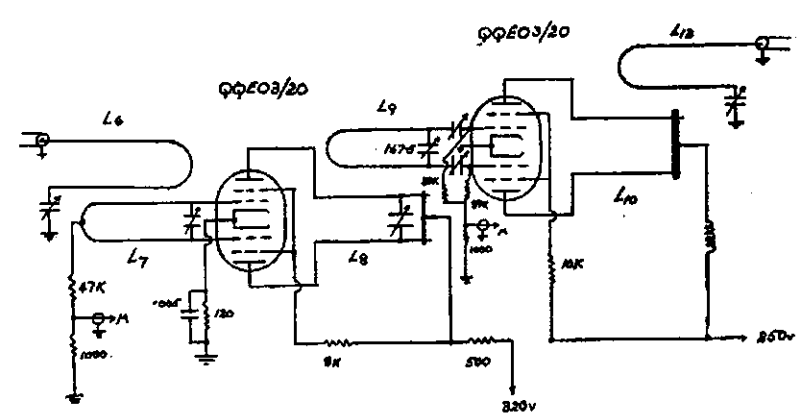


Fig. 2.—Tripler and Final.

Filament Chokes are used on the QQE3/20s. All unmarked variables, Philips 3-30 pF.

* 40 Hensman Street, South Perth, W.A.

components start becoming excessively hot. A large heavy chassis helps in dissipating the heat.

GENERAL COMMENTS

A good absorption wave meter is essential. Those used here were first calibrated by Wally VK6ZAA using unstabilised gear and lechers, then when this transmitter was proved to be on frequency, it became the master standard. A process of working backwards, but at u.h.f. especially, finding the band can be a major headache if no calibrated measuring equipment is available.

Another problem is the abundance of high powered harmonics which abound. The 3/20 "tripler" gives out sufficient second harmonic—384 Mc.—to drive the p.a. grid to 0.4 mA. grid current even when the plate of the 3/20 tripler is tuned to 576 Mc. The p.a. final, tuned to 384 Mc., showed a 12% dip in final plate current. Who said that push-pull triplers did not double? In the course of adjustments to the 3/12 mentioned previously, it was accidentally made to double and drove the 3/20 tripler grid to 1.5 mA. grid current.

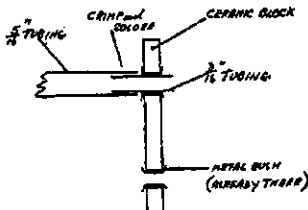


Fig. 4.—Lecher Mounting Details.

All power leads, meter leads and filament leads are run in shielded cable. The push-pull finals are not by-passed.

The end support for the lechers is ceramic block. The ones used here are from the 522 receiver tuning condenser. The c. to c. spacing of the bushed holes is the same as the c. to c. spacing of the plate pins of the 3/20s (see Fig. 4).

Frequency stability is a problem with this order of multiplication used here. The initial drift is relatively high and even after a suitable warm-up period the b.f.o. note is poor. If c.w. and narrow band i.f. strips were being used, careful consideration would have to be given to the selection of the oscillator.

POWER SUPPLIES

With an exciter chain of the size and power of the one described, the h.t. current drain is high and due consideration must be given to high current transformers and not to overloaded receiver-type transformers.

Care should be taken that the filament voltage is correct.

Actual running conditions of the original were as follows:—

5763 Osc./Tripler, 5763 Tripler

Plate voltage 295 volts
Screen voltage 240 volts
Total plate & screen current, 40 mA.
Drive to tripler, 1 mA. through 100K.

832A Tripler

Plate voltage 320 volts
Screen voltage 250 volts
Total plate & screen current, 75 mA.
Drive 2.8 mA. through 47K resistor and a 120 ohm cathode resistor.

The exciter power supply drain, 203 mA. with a h.t. voltage of 320 volts.

QQE03/20 Final

Plate voltage 250 volts
Total plate & screen current, 80 mA.
Drive up to 2.2 mA. through effectively 19.5K resistor is available.

All measurements made with an AVO Model 8 Multimeter.

EFFICIENCY

No calibrated power measuring instruments were available for direct measurements. However, by a series of empirical tests, it would appear that the output of the p.a. is of the order suggested by the manufacturers' data, i.e. about 40% (about 8 watts).

COIL DATA

- L1—23 turns of 20 s.w.g. on a $\frac{3}{8}$ " former with slug.
- L2—6 turns of 14 s.w.g., $\frac{3}{4}$ " diam. (3 turns either side of a 1" space).
- L3—4 turns of 14 s.w.g., 1" diam. (coupled into L2), ends of coil spread to meet the socket pins, condenser mounted across the socket pins.
- L4—Hairpin loop, 5" long of $\frac{1}{8}$ " copper tube spaced 1" c. to c. Condenser $1\frac{1}{2}$ " from plate pins.
- L5—Hairpin loop, $3\frac{1}{4}$ " long of 18 s.w.g., 1" c. to c., spaced about $\frac{3}{8}$ " above L4.
- L6—Hairpin loop, $2\frac{1}{2}$ " long of 18 s.w.g., 1" c. to c., spaced $\frac{1}{4}$ " above L7.
- L7—Hairpin loop, $2\frac{1}{2}$ " long, of $\frac{1}{8}$ " copper tubing, $\frac{3}{4}$ " c. to c., ends spread to meet the socket pins, condenser across the pins.
- L8—Lechers. $1\frac{3}{4}$ " effective length of 5/16" copper tubing, spaced 9/16" c. to c. Condenser $\frac{1}{2}$ " from the short (plate clips are an extra $\frac{1}{2}$ ").
- L9—Hairpin loop, $2\frac{1}{2}$ " long, $\frac{1}{2}$ " c. to c., made of copper sheet $\frac{3}{8}$ " wide and 1/32" thick.
- L10—Lechers. 3" long of 5/16" tubing, 9/16" c. to c. Effective length $1\frac{1}{4}$ ", plate connectors are power socket connectors, an extra $\frac{1}{2}$ " (see text). Sliding short of $\frac{3}{8}$ " wide copper strip and a suitable screw adjustment for tuning.
- L11—Hairpin loop, $1\frac{1}{2}$ " long of 12 s.w.g., $\frac{3}{8}$ " c. to c.

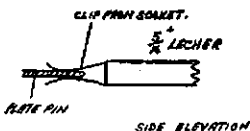


Fig. 5.—P.A. Pin Connector Details.

CONCLUSION

It is appreciated that few Amateurs build gear exactly as described in the literature. Every one introduces some modifications and thus the art progresses (?).

This article is one idea for a 576 Mc. transmitter. No apology is tendered for the use of high powered tubes throughout. If any sort of work is to be done after the transmitter is built, propagation checks, antenna tests, etc., a reliable r.f. source is essential. As the transmitter becomes bigger the reliability of the equipment must increase or one is going to spend all the

experimenting time patching up the transmitter, so build conservatively.

The antenna used here is a 13 element long yagi designed by the author from graphs in the V.h.f. Handbook.

The modulator is a pair of 807s in modified 2JU circuitry.

It is hoped to carry out some experiments with a high powered final. The tubes available here are micropups, 15E, 2C39A and a coaxial tube R.C.A. 6884. This latter tube will take the maximum Amateur input power and requires little drive.

The author would be grateful for any correspondence on high powered finals for 576 Mc. or on 576 Mc. generally. ●

REFERENCES

1. "Amateur Radio," 1948.
2. "Radio and Hobbies," August 1951.
3. Data and Application Notes for QQE03/20 and QQE06/40. Mullard, May 1958.

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ROSS HULL MEMORIAL V.H.F. CONTEST, 1962-63

The Federal Contest Committee of the Wireless Institute of Australia invites all Australian and Overseas Amateurs and Short Wave Listeners to participate in this annual contest which is held to perpetuate the memory of the late Ross Hull whose interest in v.h.f. did much to advance the art.

A handsome Perpetual Trophy is awarded annually for competition between members of the W.I.A. in Australia and its Territories inscribed with the name and life work of the man whom it honours. The name of the winning member of the W.I.A. each year is also inscribed on the Trophy. In addition, this member will receive a suitably inscribed, framed photograph of the Trophy.

Objects: Amateurs in each VK Call Area will endeavour to contact Amateurs in other Australian Call Areas and Overseas.

Date of Contest: 15th December, 1962, to 13th January, 1963.

Duration: From 0001 hours E.A.S.T. (1401 hours G.M.T.) on 15/12/62 and 14/12/62 respectively, to 2359 hours (1359 G.M.T.) on 13/1/63.

RULES

1. There shall be three main sections to the Contest:

- (a) Transmitting, Open, 50 Mc. and higher.
- (b) Transmitting, Phone, 50 Mc. and higher.
- (c) Receiving, Open, all bands, 50 Mc. and higher.

2. All Australian and Overseas Amateurs may enter for the Contest whether their stations are fixed, portable or mobile.

3. All Amateur v.h.f. bands may be used, but no cross-band operating is permitted.

4. Amateurs may enter for any one of the transmitting sections. All contacts must be consecutively numbered in the one number sequence to facilitate checking.

5. Only one contact per band per station is allowed each calendar day.

6. Only one licensed Amateur is permitted to operate any one station under the owner's call sign. Should two or more operate any particular station, each will be considered a contestant and must submit a separate log under his own call sign.

7. Entrants must operate within the terms of their licences.

8. **Cyphers:** Before points may be claimed for a contact, serial numbers must be exchanged and acknowledged. The serial number of 5 or 6 figures will be made up of the RS (telephony) or RST (c.w.) report plus three figures commencing from 001 for the first contact and will increase in value by one for each successive contact. If any contestant reaches 999 he will start again with 001.

9. **Entries** must be set out as shown in the example, using only one side of the paper. Entries must be postmarked not later than one month after the Contest (i.e. not later than 13/2/62) and addressed to the **Federal Contest Committee, W.I.A., Box 638J, G.P.O., Brisbane, Queensland.**

10. **Scoring** for all sections will be based on the attached table. Contestants will have to agree between themselves as to the distance between their stations. Such distances must be shown in their log entry in the column usually used for remarks or bonus points.

11. **Logs:** All logs shall be set out as in the example and in addition will carry a front sheet showing the following information:

Name Call Sign
Address Section
..... Claimed Score

Declaration: I hereby certify that I have operated in accordance with the Rules and Spirit of the Contest.

Signed
Date

Note: Entries on the front sheet must be clearly shown in block letters.

12. The right is reserved to disqualify any entrant who, during the Contest, has not observed the regulations or who has consistently departed from the accepted code of operating ethics.

13. The ruling of the Federal Contest Committee of the W.I.A. will be final. No dispute will be entered into.

14. **Awards:** Certificates will be awarded to the winners of each section in each VK and Overseas Call Area. The VK contestant who returns the highest score in the transmitting sections and who is a financial member of the W.I.A. will hold the Trophy until the next Ross Hull Contest is decided, and in addition will receive an appropriately inscribed photograph of the Trophy.

GENERAL

A new method of scoring has been evolved from suggestions made by the majority of VK Divisions. Comments on the operation of this new method will be appreciated by the F.C.C. It is suggested that contestants obtain a large scale map of Australia and of their State and mark on these maps the radial distances from their location in accordance with the scoring table.

RECEIVING SECTION

1. Short Wave Listeners in Australia and Overseas may enter for the Contest, but no transmitting station may enter.

2. Contest times and logging of stations on each band are as for the transmitting sections.

3. To count for points, logs will take the same form as for transmitting sections but will omit the serial number received. Logs must show the call sign of the station heard (not the station worked), the serial number sent by it, and the call sign of the station being worked.

Scoring will be on the same basis as for transmitting stations. It is not sufficient to log a station calling CQ.

4. A station heard may be logged only once per calendar day on each band for scoring purposes, but additional reports will be of value to the F.C.C.

5. **Awards:** Certificates will be awarded to the highest scorer in each VK and Overseas Call Area.

SCORING TABLE

Distances Between Stations	50 Mc.	144 Mc.	288 Mc.	576 Mc.	Higher
	Up to 10 miles	1	1	1	1
Over 10 and up to 25 miles	1	1	1	2	10
Over 25 and up to 50 miles	1	1	2	10	30
Over 50 and up to 100 miles	4	2	6	20	60
Over 100 and up to 200 miles	10	4	10	30	80
Over 200 and up to 300 miles	20	10	16	40	
Over 300 and up to 500 miles	10	16	30		
Over 500 and up to 1,000 miles ..	2	30	40		
Over 1,000 and up to 5,000 miles ..	10	40			
Greater than 5,000 miles ..	20	50			

EXAMPLE OF TRANSMITTING LOG

Date/Time	Band	Emission	Call Sign	RST/NR. Sent	RST/NR. Rcvd.	Distance	Points Claim.	Blank

NOTE.—State whether Time is E.A.S.T. or G.M.T.

EXAMPLE OF RECEIVING LOG

Date/Time	Band	Station Heard	RST/NR. Sent	Station Called	Points Claim.	Blank

NOTE.—State whether Time is E.A.S.T. or G.M.T.

INTERNATIONAL AMATEUR RADIO STATION 4U1ITU INAUGURATED*

The radio station of the world's first International Amateur Radio Club (I.A.R.C.) was inaugurated at I.T.U. headquarters at 11.30 a.m. on Sunday, 10th June.

Following the inauguration ceremony, the station began to operate at 12 noon for a continuous 24-hour period. The first call was made by the Secretary-General, Mr. Gerald C. Gross, on c.w. The first contact was made with DL4VK, and contacts with Radio Amateurs throughout the world continued during the day and night—more than 1,300 in all.

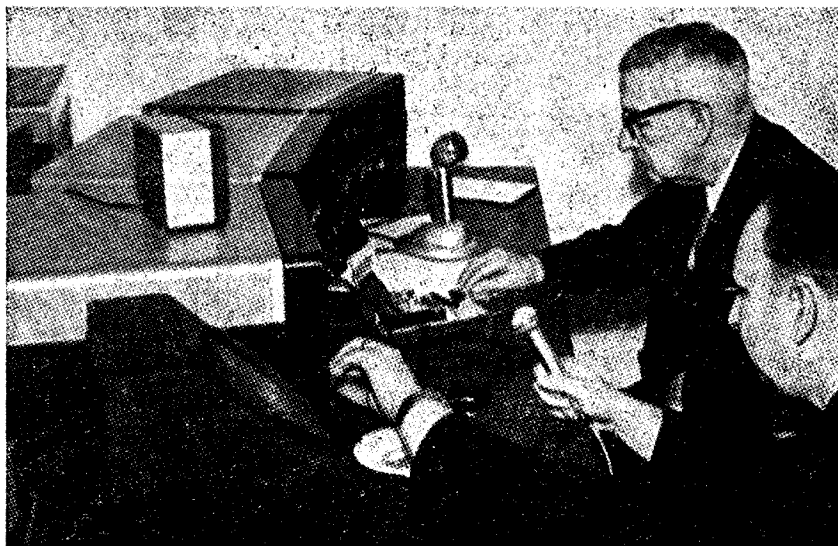
The International Amateur Radio Club, which has also been founded at I.T.U. headquarters, is the first international venture of its kind. Its aims are to further international friendship and understanding through Amateur Radio, to co-operate with all Radio Amateur associations throughout the world, to promote the proper use of the frequency bands allocated to the Radio Amateur Service, and to provide the organisation for managing and operating the new transmitting and receiving station.

The station has been installed on the top floor of the I.T.U.'s new building

and, in agreement with the United Nations and the Swiss P.T.T. Administration, it has been assigned the call sign of 4U1ITU. It is to be operated under the supervision of a committee appointed by the members of the Club, and all Radio Amateurs holding an

Amateur Radio Licence will be welcome to operate on it in accordance with the station rules.

The President of the Club is Mr. John H. Gayer, Vice-Chairman of the I.T.U.'s International Frequency Registration Board (I.F.R.B.).



* Reprinted from "Telecommunication Journal," July, 1962.

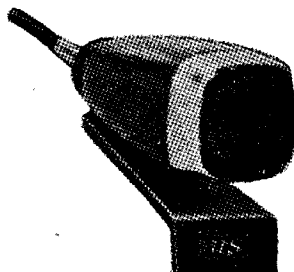


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S.S.B. POWER MEASUREMENT

I. MACMILLAN,* VK3CS

AT the Federal Convention an item was put up by the VK5 Division concerning the Institute approaching the Department regarding the adoption of the British Post Office method of measuring the power of an s.s.b. transmitter.

As there was a considerable difference of opinion among delegates concerning this motion, it was decided that the matter be referred to Divisional technical personnel for reports, before action should be taken.

It is felt that members generally should be aware what the British P.O. method is, and to understand how it works.

The general principle is that the peak output of an s.s.b. transmitter running at the legal limit should be the same as the peak output of an a.m. transmitter running at the legal limit, which seems to be a fair principle.

If an a.m. transmitter is unmodulated (c.w.) and the d.c. input is adjusted to 150 watts, the output voltage, relatively measured on an oscilloscope (envelope pattern) as the height of the pattern on the screen, will have a certain value, which may be represented by, say, one inch of deflection on the screen.

If the transmitter is now 100% modulated, the modulation peaks (as now shown by the envelope pattern on the c.r.o. screen) will reach twice the voltage that the carrier did, so that the total deflection is now two inches.

Now, if the peak voltage is twice the carrier voltage, the peak envelope power (p.e.p.) will be four times the carrier power, because the transmitter is assumed to run into a constant impedance load, and $W = E^2 \div R$.

* W.I.A. Federal Publicity Officer.

From this it can be seen that an a.m. transmitter, 100% modulated, has a p.e.p. of 600 watts if it runs 150 watts unmodulated.

An s.s.b. transmitter can run a "carrier" (single unmodulated frequency) in two ways—either by deliberately injecting carrier from the balanced modulator(s), or by injecting a pure sinusoidal tone into the audio section. In the latter case, because only one sideband is generated, only a single r.f. frequency is generated, and the same effect is produced as when the true carrier is injected, although the r.f. is, of course, the audio frequency displaced from the carrier frequency.

Whatever the method of deriving it, this "carrier" is applied to the p.a. of the s.s.b. transmitter, and having adjusted the d.c. input of the stage to 150 watts, the relative output voltage is measured on the c.r.o., as previously described.

The deflection may be recorded, for example, by means of a grease pencil on the screen, and, by measurement with a rule, further marks are made on the screen corresponding to double the deflection.

If, now, the "carrier" is removed, and speech applied to the transmitter, the peak deflection shall not exceed the second pair of marks, that is, twice the deflection produced by the "carrier". Under this condition the p.e.p. will not exceed 600 watts; the same as a comparable a.m. transmitter. Although this is input power, a class B stage running a high level signal approaches the efficiency of a class C stage, so outputs will be comparable.

Several points are worth making. One is that the frequency distribution of the signal has no effect on the method, because the c.r.o. measures the

sum of all the signal voltage vectors present, it being only possible to have one voltage at a point at any instant, and it is, of course, this sum voltage that determines the power.

Most s.s.b. stations already have c.r.o. monitors, and if not, should have, as no other instrument will show whether linearity is being maintained, so that a necessity of having a c.r.o. should be no hardship. In view of the simplicity of a monitor 'scope, and the vast array of suitable components available in disposals, a 'scope might present a lesser outlay than a meter having a specified time constant, as required by another proposed method, and would certainly be a greater asset to the station.

Regulations specifying methods of s.s.b. power measurement are necessary to ensure uniformity of interpretation, but their formulation will have to be approached with some care, to avoid anomalies as a low powered portable station having to be equipped with a c.r.o., which might be a considerable inconvenience; but at the same time giving an operator an unambiguous method of s.s.b. power measurement when his transmitter is capable of the legal limit.

Possibly the answer would be to specify that the c.r.o. method of power measurement need only be applied to transmitters having p.a. valves exceeding a certain rated anode dissipation.

The difficulties can be overcome—the important point is that here is the only unambiguous method of s.s.b. power measurement that has been so far propounded. It is up to the members, through their Divisions to decide whether this is the specifications they want, and then it is up to F.E. to take the matter further.

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FK8, YJ1, FW8, VR2 DX-PEDITION 1962

BY BILL HEMPEL, VK3AHO

ON Wednesday, 30th May, 1962, I left from Sydney for New Caledonia, the first leg of a great adventure. Just two hours from Sydney I stepped from the giant DC8 jet into a tropical warmth which was a direct contrast to the winter's morning of Sydney.

I was met at Tontouta Airport by Raoul FK8AU, Felix FK8AC, Daniel FK8AY (Raoul's son), Louis FK8AX, John FK8AE and Archille FK8AS. Landing formalities were quickly taken care of and I was soon on my way by car to Noumea, some 30 miles away.

Although I had a little trouble with my schoolboy French, the understanding of the people soon enabled me to make myself understood.

Next day I collected the KWM2 and accessories, which had been sent air freight to me at Noumea by Cal W4ANE. Felix FK8AC did a marvellous job handling all the customs formalities on the equipment.

June 1, I set up the KWM2 in Raoul's shack, which was only five minutes' walk from my hotel. I used my Matchbox and Micromatch to load Raoul's window and vertical. I operated from FK8AU for one week and gave many Amateurs their first two-way s.s.b. QSO with FK8.

On June 7, I packed the equipment and next morning I boarded a DC4 for Vila in the New Hebrides. Pleasant surprise to find both English and French spoken. I applied for a licence and was given the call YJ1RH. I set up the KWM2 in my hotel bedroom, looking out over the beautiful Port of Vila. Temperature was average, 88°F., a little warmer than New Caledonia.

I put up two window antennae at right angles to each other, one was 90 feet out over the water. I once again used the Micromatch and Matchbox to load the KWM2 on all bands. Although I made W.A.C., conditions were very poor and only 800 QSOs for the week.

June 15, I returned to New Caledonia and operated again from FK8AU on s.s.b., also operated from the shacks of FK8AC and FK8AX on s.s.b. I also had the opportunity to test the 12v. transistor supply with the KWM2.

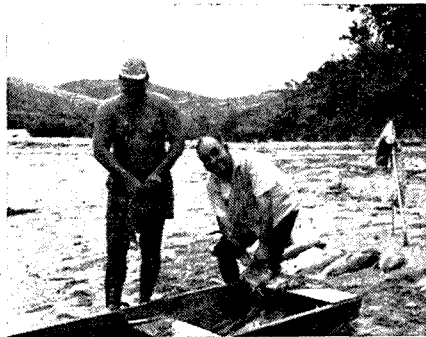
June 24, I departed from New Caledonia by DC4 and six hours later we came in over Wallis Island, a volcanic island of 62 square miles, surrounded by a coral reef. As the DC4 touched down on the grass strip, built by the Americans in 1942, I caught a glimpse of the hundreds of native people who had come from all parts of the island to greet the monthly plane. On stepping from the plane all passengers were presented with a beautiful flower lae and I felt I was indeed welcome to this island paradise, so remote from our modern way of living.

I was on my own now, no Amateurs to meet me here. I supervised the unloading of my precious boxes from the aircraft into an old utility, soon I was on my way to Mata Utu over a seven mile road built by the Americans

during World War II. Mata Utu is the administration centre for Wallis, but apart from the Governor's residence, the King's two storey home, and cathedral, Mata Utu is just like any other native village on the island.

The population of Wallis is approximately 6,000 French Polynesian natives who speak a little French and their own language, which is a native dialect. The main foods, which I also ate, are yams, cassava, bananas, arrowroot, paw paw and fish. Education is provided by the missionaries, which is subsidised by the French Government.

July 29, 1961, Wallis and Futuna were granted the status of Independent Overseas Territory of the French Republic.



Archille FK8AS (left) and Raoul FK8AU (right) with the ones that did not get away.

The natives are very expert at weaving and making of tapa. Tapa is a bark cloth, decorated with geometric designs and is widely known for its artistic craftsmanship. Cargo vessels call at Mata Utu about every two months and T.A.I. have a monthly air service. The money used is the Pacific Franc. 100 F. C.F.P. = \$1.00, or 200 F. C.F.P. = £1 Australian.

June 25, I called on the Governor and presented my credentials. He authorised my operation with the call sign FW8BH, the Governor then left me in the care of the Post Master who took good care of me from then on. I set up my shack in a disused toilet at the rear of the Post Office. My antenna was a multiband dipole fed with RG58U. 110 volt power was available for three hours daily.

Toward the end of my stay, I was able to put up another antenna at the engine and battery room, about 200 yards from the Post Office. I used the KWM2 from the battery room with a 12v. transistor supply, although band conditions were poor after 0800 G.M.T. when the 110 volt supply was shut down.

My first QSO from FW8BH was on July 15 with VK5AB who had been waiting seven hours on the 20 metre band for me to show up. From then on the band went wild, the S meter on the KWM2 stayed at 20 over 9 for the whole of the American phone band.

QSOs were slow the first day, but gradually I thinned them down. When I started c.w. operation, the QRM started all over again. I used the external v.f.o. unit in conjunction with the KWM2.

On the evening of 9th July, I was all set to work a lot of VK and ZL friends on 40 and 80 metres. I was using the transistor power supply and at 0900 G.M.T. I was in QSO on 80 metres with Jock ZL2GX. In the middle of a transmission a sharp crack in the receiver, like lightning, followed by a brilliant flash in the northern sky terminated all communications on 80 and 40 for the night. The H bomb had been fired.

I walked to the door. It was now as light as day. I could see natives running to the Chapel and everyone appeared to be very frightened. In the north a white band of light extended over Wallis to the south, terminating in a fiery red glow. After 10 minutes, the red glow extended to the north and the whole sky gradually changed to a pale pink. The bright glow lasted about 10 minutes and it was possible to see as if the sun was shining.

After 20 minutes, I returned to the KWM2. 80 and 40 metres were completely dead. I loaded up on 20 metres and continued working Ws until 1.30 a.m. local time, when the band went dead.

Next morning WVVH were sending a normal 5 on 15 Mc., but conditions were very poor from then till my last day—11th July. Total number of QSOs were 1,800 on s.s.b. and c.w. on 80, 40, 20 and 15 metres.

QSLs for Ws to W4ANE and others to VK3AHO.

July 11 all equipment was packed and addressed back to Cal W4ANE.

At 0630 G.M.T., just on dusk, the DC4 rose slowly off the grass strip and I reluctantly said farewell to a tropical paradise where equality, liberty and fraternity really exist.

July 12 I met FK8AU again and went by car with Raoul and his family for five days to a coffee plantation on the north coast of New Caledonia.

July 18, I said farewell to the FK8 boys who had given me such a royal welcome that I have already made a firm resolution that I will return to FK8 and FW8.

I boarded the DC8 jet for Fiji where I stayed with Joe VR2EB in Suva and met VR2DI, VR2BC, VR2BJ, VR2AP, VR2BZ, and at Nadi VR2DS, VR2DQ and VR2EH.

From Nadi Airport I operated the Collins S line with the call sign of VR2DS. Conditions were very unstable.

July 26 once again I packed and boarded the giant Boeing 707 jet on my last leg home. The great adventure was over, with over 3,000 QSOs from four countries.

My thanks to all who assisted and especially to Cal W4ANE who sponsored the whole expedition.

* Kyvalley, via Tongala, Vic.

DX

VP4, OA4, BV, ZM7, 7G1, FP, AC5, MP4, ZC6, TY2

Sub Editor: ALAN SHAWSMITH, VK4SS, (Phone 4-6526-7 a.m.-4 p.m.)
35 Whynot St., West End, Brisbane, Qld.

ADDRESS CORRESPONDENCE FOR THIS PAGE DIRECT TO THE SUB EDITOR

During the equinox period the bands are usually active and this year has been no exception. 80 through 15 has produced DX this last few weeks. On 3.5 Mc., Ws, Js, UA and various Oceania prefixes have been audible each night—also an odd European. 40 mx is good, all night through, with signals from all over, however the Europeans are not easy to QSO. 20 mx is also good at night, especially around 1400z. 15 mx has been open during the daylight hours to West and South America, with odd Js and UA at fair strength.

NEWS AND NOTES

CR8AC is working VKs on 14048 kc. at 1100 hrs. G.M.T.; name is Seco. QTH is Dile, Timor. VE8JJ is Zone 1, for those who want W.A.Z. 14 Mc. c.w., 0700 hrs. G.M.T.

ZC5FF is active on 14 and 7 Mc. c.w. He says he is on 7006 each night at 1200z.

VS4RS is still going strong, and is usually on 14 Mc. c.w. at 1000z.

KS6AN is in Pago Pago. QSL via K5SEK. If conditions are right, several good prefixes can be heard on 7 Mc. around 1830z, viz EI-7JA, ZE3JO, 5A2TS, CT3AD, Gs, etc.

Rockall Island trip by K4TWF and ex-5N2AMS has been called off.

Muscat: MP4QBB will be active from Muscat during the first part of Oct., as MP4MAO. K4TJL has received the MP4QBB logs.

Louis ex-TT8AC will depart for a one-year tour at FB8ZZ. This will be followed by a two-year tour in 5R8 land.

VS9AAC departed Aden and is now back in the U.K. as G3MOJ.

San Marino: DJ1ZG/M1 will be on again during the CQ DX phone contest. DL9PF laments that he will not be able to go along on this one.

Kermadecs: ZL4JF goes to the Kermadecs in mid November using the call ZLIABZ. QSLs to ZL2CG.

Marcus Island, last week of October, through first week of November, by KA2JL and party who operated there previously.

Mariana Islands: KG6SH and KG6SL are to start operating from Saipan shortly.

British North Borneo: ZC5BU, mainly on 14 Mc. a.m. phone with some 14 Mc. c.w., according to 9M2MC.

Cocos Keeling: Any day now, VK9LA on all bands c.w. and s.s.b., using a new HT37 recently ordered from Australia.

ZP5CN's new manager is K4RSM.

TA3AT: Al Hix, W8PQQ, has been receiving QSLs for TA3AT, however Al states he is NOT QSL manager for this station.

Gus W4BPD plans to spend several days at both Rwanda and Burundi. Then Gus plans to go via truck to VQ2, then ZD8, then ZE8JJ, then ZS6IF and ZS6ANE and with ZS6ANE on to ZD9, Gough Is., and then to a brand new one, Bouvet Is. The list goes on and on until the real rare juicy ones, but we had better stop here for the present.

9U5AS (Rwanda) on 14085 and 14005, 2000-2400z, 21 Mc. c.w., also W4DQS 9U5DM on 21240-245 kc. almost daily.

SL3ZO writes: EA9AZ has no intention of going to Rio de Oro. VP8XZ is a pirate, XW-8AS, Clay, returned home, but XW8AT took over his rig.

Ex-EA6AZ was operated by K1QA/J6, 381 Cottonwood, Vacaville, California. "CQ" indicates that the s.s.b. logs from EA9AZ are also in his possession.

W0MLY plans a trip to Anguilla in December.

Approved by A.R.R.L. as new D.X.C.C. countries, as announced by Dick WILKE, "QST" Managing Editor and D.X.C.C. committee member, at Southwest Division Convention:—

1. Kuria Muria Islands (British) in Arabian Sea, off S.W. coast of Oman.
2. San Felix Island or San Ambrosio Island (Chilean), about 550 miles off W. Central coast of Chile.
3. Agalega Islands (British) in Indian Ocean E.N.E. of Malagasy Republic.

Agalega: Harvey VQ9HB operated for three days. Instead of signing VQ8BFA as had been expected, he signed VQ9HB/MM, thus causing no small amount of confusion.

Nepal: W6TRK has been on 14230 kc. s.s.b. running 1 kw., signing 9N5TO.

VP8GQ and VP8EG, QSLs go via G3PAG, J. J. Davies, 139 The Fairway, Leigh-on-Sea, Essex, England.

W2CTN is also handling cards for the following: KV4CI/AP5 (no good for D.X.C.C.), JZ0AR, JZ0ML, ZD2KHK/NC, LX3KP and 3A2BZ.

By courtesy of Bob Murphy, K6CQM, North California DXer, we have the following:

Turkey: TA1AH active week-ends on 14280 kc. s.s.b.

Jordan/Iraq: G5KW has been active from YI and JY on 14310 s.s.b. around 0500-0700 hrs. G.M.T., but has not been heard in the States as far as is known. He is worked frequently by MP4BBW and some of the other Europeans.

Qatar: MP4QBB (W5LAK, ex-5A5TA) is QRV on 14020 or 14085 at 1900 hrs. G.M.T.

Indonesia: There is rumour of an Indonesian active with an 8B4 prefix.

Ascension Island: John Packer, ZD8JP, is back again and surprised the DX gang to appear on 14303 s.s.b.

Turkey: Mustafa TA2RZ continues to be workable on 20 c.w. (14043). He is on most days from 2300-0230 hrs. G.M.T.

Cameroons: Regarding Cameroons TJ8, we think that it should be a new country as there have been substantial territorial changes made with the absorption of the old British Cameroons. Old FE8 should join the deleted countries.

Brian VK5AB says, "I have a licence for Willis Is., viz. VK4WE. I am negotiating for the M.V. 'Malita' and they are prepared to go at a cost of £100 per day. If this cost can be met, then it could be on, after the Monsoon Season. I have also received permission to operate at Dili Portuguese Timor, and have also been granted a visa for when I need it to go there. Also, I have accommodation on Christmas Island (Indian Ocean), which is the hard part of that place, plus permission of course, to operate. The first stage of planning is over. If the 'Malita' deal falls through, I will endeavour to go out in June, on the relief boat, and operate for 36 hours on Willis. The second stage is now to organise equipment, etc." (Good luck with the whole show Brian, OB.)

Bill VK3AHO has now attended to most of the QSL chores, pertaining to his YJ and FW adventures. I gather from Bill's letter that he still has itchy feet. If new horizons are calling then good luck, OB.

Guam Island has been added to the D.X.C.C. list in addition to the Mariana Is., Tinian, Saipan, Rota, Pagan, Anataban will be acceptable for Marianas credit from 1945.

ACTIVITIES

Hal VK4DO says the bands are still poor for this time of year. He lists these, 14 Mc. c.w. wkd.: K, KH6, W, VE, CR8AC, CP5EZ, DJ1FN, DJ3KR, DL7GF, FK8AS, FO8AA, HA-5UD, HK3RQ, HK1QJ, HP1IE, I1CFY, KX6BC, OA4CG, OK1US, OK3IT, SPIAGE, UA0EW, UA0OM, UA0ZK, UA3CT, UA9PF, VR4CV, VS1FJ, VS6EM, YO2BB, YU2AKL, YU3HY, YV5AE, 5B4TC. 14 Mc. phone wkd.: W, K, KH6, VE7, OA4BS. 14 Mc. c.w. hrd.: AP5JA, DL6XT, KC6BD, LZ1KBL, OE3WD, OH5OS, OK1NK, OK3AL, OK3UI, PZ1AM, T1ZCAH, UA0AW, UA0KJA, UA0UU, UA1DZ, UA4KED, UO5PK, UP2KAF, UDEUD, VS6EC, YV5AE, ZK1BY. 21 Mc. c.w. wkd.: W, KH6, DJ3KR, UL7FA. 21 Mc. c.w. hrd.: DJ4DN, DL7CS, KR6NG, KR6NRA, UA2KAW, VS9MB. 21 Mc. phone wkd.: UL7FA.

Al VK4SS worked this month, 80 mx c.w.: JA6AK. 7 Mc.: ZE3JO, DJ2RE, ZC5FF, G2BCV, UA0FF, 5A2TS, VR4CV, KX6BC, and on 20 mx: CR8AC, 9U5ZZ, JT1KAA, VP8PJ, VE8JJ, KG6RE (Rota?), ZK1BY, EA8DO, KC6BK, all c.w., and mostly around 1200 and 1830z.

Frank VK2QL wkd. on 3.5 Mc.: VE3EK, W2PEO, W2TKG, W7JC, W8AK, W8NBK, ZM-6AB. 7 Mc.: OX3BZ, KX6AJ, GC2FMV, ZC-5FF. 7 Mc. hrd.: BY1PK, HM5BF. 14 Mc. wkd.: JTIAG, UL7CH, CT3AV, KC6BK, KJ-6BZ, AP5SS, KR8AG, CP5EZ, 9U5ZZ, CR8AG.

On 160 mx the first VK-W QSOs have been recorded. VK3AZZ wkd. W2FYT. W3GQF also heard VK3AZZ, but the band faded before the QSO could be completed. VK3AKR wkd. W1BB and W2GQR, and heard W3GQF. The time of these QSOs was 2000z approx.

ZL3RB says that many Ws call on 1810 and 1815 kc. for five minutes, and then listen for five minutes. They call on the hour, listen, and call again ten minutes later. From ZL land, G and Europe is possible for a short period at dusk around the equinox period. This 160 mx DX information was supplied by Don VK3AKN, who has worked some 37 stations, including most VK and ZL areas, with QRP rig. On 3.5 Mc. Don worked ZK-1BW, VR5AA, W8AK, ZL2BAN. Please send any 160 mx info to Don. He is on 3.5 most week-end nights.

Neil VK3HG breaks the ice with the following worked: 1.8 Mc. c.w.: W1EEN, W2FYT, W3MBF. 3.5 Mc. c.w.: K2FC, W2RND, W2TKQ. 7 Mc. c.w.: SM3CAE, SM5CCE. 7 Mc. s.s.b.: G8PO, G3AOO, G3DO, G13CDF, G2PU, GW-3EHN, JA2BAY, JA1INJ, JA1CFN, JA2BTV. 7 Mc. c.w. on long path, W3MSK. (Nice work on 160 mx, OM.)

Alan VK3AZD reports activity from Zone 19, by UA0IE in Magadan in N.E. Siberia. Time for the QSO around 1830z, on 14 Mc. c.w. Magadan is right at the head of the Sea of Okhotsk.

ADDRESSES

VR3O—Via WA6MAZ, CR8AC—Seco Capitanía, Dili, Timor.

9U5ZZ—Via W4ECI, JT1KAA—Name is Sampil, QTH JT13, Ulan Blator.

KS6AN—Via K5SEK, EA8DO—Box 215, Teneriffe, CO3NR—Box 6996, Cuba.

ZC5FF—Via VS1FF or G3KOJ, ZK1BY—Via W8EWS, KC6BK—Stan, QSL to KG6 Bureau.

9U5JH—Roy; Burundi. QSL via W4YWX, 9U5CB—P.O. Box 1122, Usumbura, Burundi.

4W1AA—Box 7, Sana, Yemen, 6W8DE—Box 3033, Dakar, 6O1ND—Box 397, Madagasco.

CP5EZ—Via W2CTN, or Box 930, Cochabamba; VR3L/VR1—Canton, Brit. Phoenix. Via WA6-MAZ.

DJ1ZG/M—Walter. QSL via DL9PF, ZL4JF—QSL via ZL2GK with three I.R.C's, ZK1BS—QSL via W7ZAS.

W4ECI—QSL manager for Gus W4BPD, QTH 1181 Shades Cres., Birmingham 5, Alabama, U.S.A.

FO8AG—QSL K9ECE, 9U5XX—QSL Box 408, Usumbura, LX3JE—QSL via DJ2JE.

EL5A—QSL to W2CTN, H18XAC—QSL HBMSN, KL7DBG/KS6—QSL to Detachment A, JTF/8, A.P.O. 953, San Francisco.

VK8NK—Box 31, Alice Springs, ZK1AR—Via K4LRA, 5B4TC—New prefix. Via R.S.G.B.

SUMMARY

WWV and WWVH supply Ionospheric Predictions on c.w. on Freq. 2.5, 5, 10, 15, 20 and 25 Mc. at 9.4, 19.5, 39.4 and 49.5 mins. past the hour. New forecasts are issued at 0500, 1200, 1700 and 2300 hrs. G.M.T. They are for circuits from W via the Atlantic and North Pacific. It's worth a listen at least.

A particular thanks to Bev. Cavendar and Bob Murphy, Editors of DX-ers, who supply a considerable amount of material for this column. My thanks also to the local helpers who take the time to drop me a line or two of relevant info. This month they are Bill VK3AHO, Brian VK5AB, Hal VK4DO, Frank VK2QL, Don VK3AKN, Neil VK3HG and Alan VK3AZD. 73, VK4SS.

The New Issue of 1962-63

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SIDE BAND

(Continued from Page 14)

the Swan s.s.b. transceiver can be used as a fixed station, it is primarily designed as a mobile equipment, in that it is a single band affair, available in four models covering 80, 40, 20 and 15 metres. The idea being to choose the band that will best suit your needs for mobile operation and to install that particular model. 130 watts p.e.p. input to a 6DQ5 tube in the final amplifier puts out a signal that sounds more like a couple of tubes instead of just one. The rx sensitivity is less than 1 microvolt, while both on transmit and receive a nominal 3 kc. bandwidth is achieved with a high frequency crystal lattice filter. Being a transceiver, the transmitted frequency is exactly the same as that received, this means that one can tune into a net or single station and be automatically zeroed-in without looking at the dial.

Hallcrafters SX115. Now let us turn to a couple of receivers to round off this day dream (if you are as poor as me) and look into an SX115. This is Hallcrafters' top Amateur receiver and has everything that a modern day rx should have. It is compact, Amateur-band only plus WWV in nine 500 kc. segments, crystal controlled front-end, a high order of mechanical and electrical stability and selectivity variable in five steps from 500 to 5,000 cycles. The sensitivity is less than 1 microvolt on a.m. and less than 1/2 microvolt on s.s.b. or c.w. In keeping with modern practice, silicon diodes are used in the power supply section. A direct reading linear dial is used with 1 kc. read out.

Drake 2B. The Drake 2B has upheld the high reputation gained by its predecessors, the 1A and 2A. This rx has many features found only in rx's costing about twice the price. The mechanical stability is amazing, heavy bumps not shifting the frequency at all, not that one would subject this little (12" w. x 7" h. x 9" d.) receiver to heavy bumps. The first conversion oscillator is crystal controlled and the variable first i.f. is 3.5 to 4.1 Mc., giving 800 kc. coverage at each of 12 band switch positions. Five Amateur bands are covered and seven other ranges in the 3.5 to 30 Mc. are available using accessory crystals. Selectivity is variable in three steps, 500 cycles, 2.1 kc. and 3.6 kc., and the sensitivity is less than 1/2 microvolt for 10 db. signal to noise ratio. An interesting feature is the use of "pass band" tuning. This enables the operator to tune the 50 kc. third i.f. pass band above or below the fixed b.f.o. frequency. This can assist in eliminating adjacent channel interference.

Some eyebrows may be raised at the lack of mention of the Collins name. This was

intentional because this Company is just now putting some new equipment on the market including some v.h.f. transconverters and when more information is at hand I will bring you the story.

OMISSION

You will remember in last month's notes, that mention was made of crystals being available from Arle Bles for use in low frequency lattice filters. I omitted to include the frequency range of these crystals which was between 380 and 440 kc. Arle was inundated with requests for these sets of crystals and

has now none left. However, a lot of Amateurs were expecting crystals around 455 kc. and were disappointed with what they received. This is entirely my own fault and I must apologise to Arle for any criticism which he has received and to those Amateurs who were upset with the frequencies of their crystals. For those who may not now wish to use these lower frequency crystals, I urge you to return them to Arle or pass them on to another Amateur who can make use of them. These crystals are far too valuable to have left lying on a shelf or in a drawer, not being usefully employed.

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R.S.G.B. 21-28 Mc. Phone Contest

Duration: The contest will start at 0700 G.M.T. on Saturday, December 1, and end at 1800 G.M.T. on Sunday, December 2, 1962.

Eligible Entrants: The contest is open to licensed Amateurs in all parts of the world.

Contacts may be made using any telephony system for which the entrant is licensed. Only one contact on each band may be made with a specific station. Duplicate contacts must be logged and clearly marked as duplicates without claim for points.

Contest Exchanges: An exchange of RS reports followed by a three-figure serial number starting with 001 for the first contact and increasing by one for each successive contact must be made before points can be claimed.

Entries must (a) be clearly typed or written on one side only of foolscap paper; (b) log sheets must be ruled in columns, headed (in this order): "Date/Time (G.M.T.)", "Call Sign of Station Worked", "My report on his signals and serial number sent", "His report on my signals and serial number received", "Band", "Leave Blank", "Bonus Points", "Points Claimed"; (c) be addressed to the Contest Committee, Radio Society of Great Britain, New Ruskin House, Little Russell St., London, W.C.1, England, the name of the contest being clearly shown on the top left hand corner of the envelope which must be post-marked not later than Dec. 17, 1962.

Scoring: Overseas stations may only claim points for contacts with British Isles Stations (G, GB, GC, GD, GI, GM, and GW). Each completed contact with a British Isles station will score five points. In addition, a bonus of 50 points may be claimed for the first contact with each British Isles country-numeral prefix on each band. A further 50 bonus points will be scored for each additional ten stations worked in each of the above categories of band.

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VHF

50 - 144 - 288 - 576 - 1296 Mc.

Sub Editor: BILL ROPER, VK3ARZ,
Lot 59, Orchard Street, Mount Waverley, Victoria
ADDRESS CORRESPONDENCE FOR THIS PAGE DIRECT TO THE SUB EDITOR

NEW SOUTH WALES

50 Mc.: No Interstate break-throughs but quite a lot of sideband activity, both single and double, with 2ZAU, 2ZQX, and 2ZVL active. It will be interesting to see the advantages of s.s.b. and d.s.b. when the band opens.

144 Mc.: 2WH at Forbes was worked from Sydney for the first time since last new year, on Sunday, 7th Oct. Signals were peaking 5 and 8 both ways over a path of 190 miles. I understand several stations in Bathurst will be also coming on later in the new year and the coming season should prove interesting.

Dave 2AWZ is running a QQE06/40 mobile, both on 7 Mc. and 2 mx and hopes to clean up at all the Conventions. He is using only one extra battery but has not been seen pushing the car. Roger 2ZRH now has d.s.b. with a 4X150 final going very nicely and has skeds to try and work 3ZCG on 2 mx during the summer. Charlie 2NP has had a 522 left on his doorstep. Rumour has it that he intends using it mobile on a long lead.

Not to be outdone by the several stations using sideband, several stations have been heard using multiple carriers quadruple sidebands. They usually only get one station at a time to reply. New Canberra station heard in Sydney is Doug 1DG on approx. 144.02 Mc. Equipment details as yet unknown.

The last V.h.f. Group meeting on 5th Oct. was particularly interesting as well known sidebander Arie Bles, ex-PA0, gave a lecture on "Filter" type s.s.b. The meeting was not well attended so many people missed out.

In response to my previous item asking for intrastate information, the only reply I received was from well known s.w.l. Chas. Abernathy who is very active on 6 and 2 mx and heard all ZL districts during the past 6 mx season. As I have leave of absence for two months, Phil 2ZBX will be the new scribe.

Flash: 2ASZ now has found a new 6 mx converter which he is going to mount in a 6 ft. P.M.G. rack. It has four r.f. stages using 58's and it even works.—73, 2ZLE.

VICTORIA

Eastern Zone.—Very little news re v.h.f. bands this month from the Eastern Zone, because of band DX conditions, I only worked into Melbourne once, also local activity was low, and some of the boys either lost or had their aeriels damaged.

John VRIG at Ocean Island is building up 6 mx equipment and he hopes to be active during Nov. this year on approx. 52.9 Mc., running a QQE06/40 around 60-100 watts, with a good site back to Australia. He is also active on 14 Mc. Skeds are being arranged. 73, 3ZCG.

QUEENSLAND

Six metres in Brisbane is just relaxing along with not much spectacular activity. George 4ZGD is back in town after a long stay in the north of the State. He has at last decided to transmit from his QTH instead of his car. New stations on 6 mx are Jim 4ZIF, who uses 30w. and a dipole antenna; and Peter 4ZCS, who gets out magnificently using a 8 el. yagi.

Back in Brisbane after a holiday in the southern States is John 4ZAG and XVL Marie. John's safe return can possibly be attributed to the fact that he didn't cross many VK3 bridges.

Sept.'s hidden tx hunt was organised by Royce 4ZRH and v.h.f. associate Carlo, who was not able to attend because his wife June had just radiated another harmonic; congrats. Carlo and June. The tx hunt was well attended, seven cars taking part.

V.h.f. Group meeting for Sept. was well attended, but poorly organised. Its one redeeming feature was the showing of colour slides taken at the Scouts' Easter venture at which v.h.f. types provided communications as a means of checking the arrival of various Scout patrols through miscellaneous check points. It is hoped that next year's communications will be as good as this year's.

Visitor to Brisbane is Dale 4ZDG, from Ayr, who visited last V.h.f. Group meeting.

Interesting mutterings heard on the air around Brisbane recently involve the obtaining of small bits of pipe necessary for Amateurs to get going on 2400 Mc. It is hoped that cubical quad enthusiasts building for this band will make some other type of antenna.

Have heard over the grapevine that there has not been much activity on 6 mx in Cairns lately but someone still calls CQ forlornly on 51.4 Mc. or thereabouts, so tune higher up the band sometime and you may discover the lost tribe.

WESTERN AUSTRALIA

Sept. Meeting: 38 members and visitors attended. Bert 6ZDF and Lance 9LA were voted into the Group. The major portion of the evening was devoted to an auction of members' gear. Dennis 6AW acted as auctioneer, and all gear sold earned the Group 10 per cent. of the purchase price.

Cocos Is. Beacon: By the time this goes to print the equipment for the beacon will be on its way. The tx and keyer are completed, the converter and power supply are almost ready. Any reports on the beacon's operation will be greatly received by this Group.

Pathfinder Trial.—Several members of the Group assisted the V.A. Car Club by providing radio links between controls and the results team. Four base stations and 11 mobile units operated to cover the course. The frequency used was 48.88 Mc., which was allocated to the Car Club by the P.M.G. for this exercise. Valuable experience was gained by all in operation techniques and mobility in transporting radio equipment and setting up in unusual places. Those who took part were 6ZV, 6ZCS, 6ZDM (the organisers); 6ZDK, 6ZQ, 6ZAG, 6DI, 6ZDX, 6ZDW, 6MM, 6ZBK, 6ZCF, 6ZDT, 6LK, 6ZDS, 6ZAY, 6ZBT, and 6ZDN.

60 Mc.: Barry 6ZCF, Hank 6RR and Bert 6ZDF are new stations on this band. Activity is on the increase. Reports of new gear either built or being built shows promise of maximum activity when the DX season opens.

144 Mc.: More stations are now operating on this band and some good contacts have been reported. The by-word now is, "See you on 2."

576 Mc.: Charlie 6LK and Rod 6ZDS have gear operating on this frequency. Although two-way contacts have been held, they mainly operate cross-band.

Bill 6ZDC has taken a position in Kalgoorlie approx. 320 miles east of Perth. He will have both 6 and 2 mx gear running by Xmas and hopes to work east and west from there. The lesser distance from VK3 could prove a winner for Bill; best of DX.

To All States East of VK6! Our beams are being pointed eastward!! We check all signals from that direction. Turn your beams our way. Who knows? You could contact the first VK6 this DX season! 73, 6ZDM.

TASMANIA

The last v.h.f. meeting was well attended and several important subjects were discussed, including the official frequency. After much debate, 144.10 Mc. was decided on for a calling frequency and 145.0 Mc. for mobiles. The folly of this decision will be realised as time goes by.

David 7ZAI and Danny 7ZDM have returned from the north of the State but unfortunately they did not have much time for DX hunting. They worked most of the Launceston stations and 7DK at Poatina, using at one stage a converter, AR7, BC433 set-up.

144 Mc.: Skeds are being kept between 7ZEE at Oakelands and 7LZ and possibly some others in Launceston. No signals have been heard to date but success is assured if we persevere. Frequencies used are 7ZEE 144.324 and 7LZ 144.67 Mc., and the northern stations transmit for five minutes at 1930 and listen for five minutes, then transmit again at 1740 each Saturday night.

News was received rather late to co-operate fully with some VK5 chaps who had a field day on Mt. Difficult on the week-end of the 8th, but I hope to be able to co-ordinate efforts for the next one. Some four or five antennae are being obtained from VK2 for various field day enthusiasts and should help matters in this regard.

50 Mc.: Nothing spectacular has been reported for this band except the amazing amount of r.f. a certain Ned is getting from his QB3/300 tx which is under test. David 7ZAY is experimenting with a Command exciter and is hoping for good stability. 73, 7ZEE/T.

PAPUA

After an absence of signals for three months, Sept. brought an opening to JA. On 25th, weak JA signals were heard on 50 Mc. from 2015 to 2200 hrs., JA1FEN and JA6NK being worked by 9AU. TE scatter signals on 49.8 Mc. were heard on several days during the month. On 16th very weak audio was heard from Channel 2 t.v. during the afternoon and at 1940 a weak carrier was heard on 50 Mc. bearing south. No other openings were observed during the month.

Jim 9AS at Wewak, T.N.G., is now conducting tests on 50.240 Mc. from 1630-1700 and 1900-2000 hrs. daily, running tone, but so far he has not been heard in Moresby. 9GK, in Moresby, now has a tx for 144 Mc. and is expected to be heard in the near future.

October has brought the advent of the one-eyed monster closer to this location. A test transmission from TNQ7 Townsville was received 59 at 1645 hrs. 1st Oct., and on 2nd Oct. (the day of writing these notes), the test transmission was 59 from 1130 to close-down at 1500 and again from 1600-1700. A t.v. rx was hastily borrowed and an excellent quality picture was received at 9AU's QTH from 1400-1500 today, very little snow and a better picture than your scribe has received on many occasions in Sydney.

How about some 144 Mc. skeds from you northern VK4 chaps on 144? Drop us a line to Box 216, Port Moresby, if you are interested. The antenna on Ch. 7, by the way, is only a 5 el. yagi up about 20 ft. 73, 9AU.



Correspondence

Any opinion expressed under this heading is the individual opinion of the writer and does not necessarily coincide with that of the publishers.

ANY TAPES OF V.H.F. SIGNALS?

Editor "A.R.," Dear Sir,

We in VK5 are keen to make a tape recording of notable v.h.f. achievements over the past five or six years (including the last sunspot maxima). This tape would be similar to a recording made by Ed Tilton that has been heard in Australia recently.

Whilst a good deal of very interesting material has been offered by several leading v.h.f. men, it is felt that some less active Amateurs, or s.w.l.'s., may have tapes of interesting v.h.f. signals.

The signals in which we are interested are: 50 Mc. DX including JAs, ZLs, or any signals originating overseas, including commercial v.h.f. or t.v. signals, also 144 Mc. and long haul signals, Oscar I, or II, in particular. Is there any record of the VK2-ZL 2 metre contacts?

In short, if you have, or know of anyone who has, recordings of any interesting v.h.f. signals, please contact the undersigned.

—Al Rechner, VK5ZCR.



ERRATA

In the article "Matters Mobile," in the August issue, the earth has been omitted on the cathode of the detector diode in Fig. 3.

The author of "A V.h.f. Sideband Rig," which appeared in the October, 1962, issue draws attention to a couple of errors in the schematic of the 50 Mc. sideband tx. The pi output tank of the second 6AC7 v.f.o. chain should have a 1000 pF. coupling condenser, not a 14 pF. as shown. Also the pi coupling capacitor for the 50 Mc. final is 500 pF., not 50 pF. as shown.

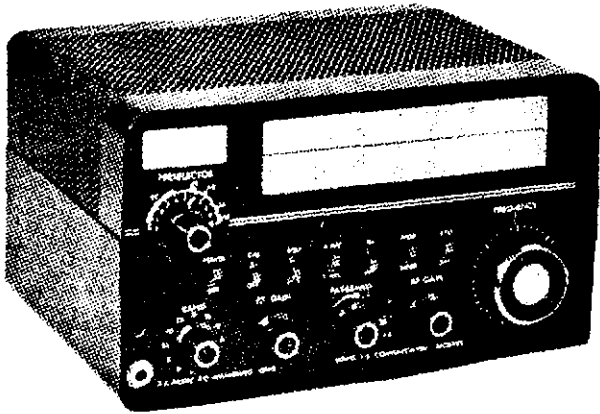
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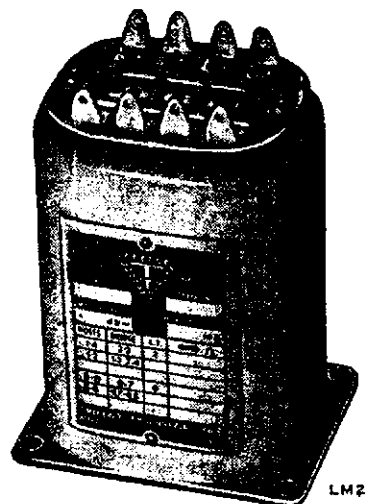
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FEDERAL AND DIVISIONAL MONTHLY NEWS REPORTS

(SEND CORRESPONDENCE DIRECT TO DIVISIONAL REPORTER NAMED AT PARA. END)

FEDERAL

80 AND 160 METRES FOR BROADCASTS

VK5 Division has requested consideration be given to the use of 80 and 160 metres for Sunday Broadcasts and call-backs, and it was decided to hold the matter until a survey of frequencies used by the Divisions can be compiled.

FEDERAL CONTEST CO-ORDINATOR

VK3ABV, Tom Straughair, has been appointed Federal Contest Co-ordinator, an F.E. position designed to maintain closer contact between the F.C.C. and Federal Executive, in the interests of more accurate records, speedier award issuing, and smoother organisation, some features of which have been sadly lacking in past years.

CONTEST CERTIFICATES

Lists of members due certificates for various contests over the past two or three years have been prepared, and most certificates will be forwarded shortly.

New certificates for some awards will shortly go to press and after considerable study of a large range of potential designs, the new R.D. certificates are now in the hands of the printer.

MEMBERSHIP CERTIFICATES

A new professional looking certificate design has almost been decided on, and new style certificates will be available on top grade paper before long.

80 METRE BELAY OF Z CALLS

The VK3 Midland Zone has requested that permission be sought for the relay of Z call transmissions on 80 metres during Zone hook-ups.

F.E. considers that this facility should be available to all Divisions, if at all, and the Department has been written to regarding the matter.

FEDERAL CONVENTION ITEM

A VK7 agenda item concerning the use of 10 metres by Z calls, and which was omitted from the Convention agenda, has been circulated to all Divisions for decision.

SPACE COMMUNICATIONS

A conference on space communications is planned for Geneva in October next year and the I.A.R.U. has reminded member-societies, of which the W.I.A. is one, of the importance of liaison with Government authorities to ensure that Amateur interests are protected. The I.T.U. Conference and the R.F.A.R.C. have proved valuable experience for the W.I.A. in this direction.

OVERSEAS NEWS ITEMS

Belgium Amateurs are now permitted to use s.s.b.

Some G Amateurs are now permitted to employ narrow band picture transmissions in the bands 80 metres and up.

The Swedish Amateur Society is planning 500 watt beacons on 145 Mc. and 432.5 Mc. between 1500 and 2400 G.M.T. daily.

The W.I.A. has voted in favour of the admission of the Radio Sport Federation of the U.S.S.R. to the I.A.R.U., but has added comment regarding their issuance of call lists, and observance of gentlemen's agreement sub-bands.

A list of Amateur Society fees showing El Salvador to be the highest (\$24) and Spain the lowest (.42c). We seem to be in the middle, listed as \$5. El Salvador, incidentally, has the smallest number of members—25.

FEDERAL QSL BUREAU

Eric Trebilcock, BERS195, the Victorian Division Inward QSL Manager, will be in Western Australia from Nov. 1 until Dec. 14 next. During his absence the duties will be performed by his predecessor, Noel Storck, VK3ZO, and the Bureau will operate from the rooms at 478 Victoria Pde., East Melbourne.

Alan Reid, VK3AHR, presently in U.S.A., visited Golden, W8EWS late in September. Alan then pressed on to Seattle, Wash.

The Okinawa Radio Club announces the new Okinawa Award. Qualifications for the award by VK stations consists of confirmed contacts with five KR8 stations. Certified list together with your own card should be sent to Awards Manager, P.O. Box 37, Kadena, Okinawa. There is no charge for the award.

Please note the address change for the following A.R.R.L. QSL Bureau: VE8 QSL Bureau, George T. Kondo, VE8RX, Dept. of Transport, P.O. Box 65, Fort Smith, N.W.T., Canada.

Membership in the QRP Club (U.S.A.) is growing apace. Upwards of 320 members have been enrolled in approx. 13 months. Membership qualification is the use of 100 watts maximum, or less, at all times. VK members to date are: VKs 2QL, 3NC, 4SS, 7SM, 4CK and 3RJ. Full information may be obtained from any of these stations or from the Secretary W6CIS.

—Ray Jones, VK3RJ, Manager.

NEW SOUTH WALES

HUNTER BRANCH

At the Sept. meeting we saw the best roll-up of members, associates and visitors that the Branch has had for some time. This was encouragement to Barry 2ZAH and his team of helpers who travelled from Sydney to lecture on the latest developments in v.h.f. Barry claimed he was not a good lecturer, but he certainly performed a wonderful job. As well as a most interesting discourse, samples of each piece of equipment described were passed around. And, as if to demonstrate his faith in the honesty and integrity of the Hunter Branch boys, all the crystals were left in the gear! Trusting lads from Sydney! Thirty-eight in the audience almost filled the lecture room.

After the technical bit a disposals sale was held with Gordon 2ZSG as magsman and with me holding the cash. I really cannot understand the President allowing this. However, after some Arabian type bargaining, most of the goods on hand were sold and those among our ranks who are known by the complimentary term of scavengers finished off the 866s with no caps and the like for some paltry sum. It is reported that the said scavengers returned to their homes and worked far into the night to get their threepence worth. Others of course were already working far into the night preparing gear for the Field Day and working out diets so that it would be possible to consume as much as practicable on the night of the Dinner, while others still were doing all sorts of tasks in preparation for the annual event.

The Dinner, held at the Esplanade Hotel, was, I feel, a most successful evening. Those to speak were Stuart 2AYF, Pearce 2APQ and Max 2MP in that order. A very enjoyable night was had by the sixty who attended although Dennis must have enjoyed himself most, for it was he who smoked the most cigars. Some of our more adventurous members adjourned, after the Dinner, to the Cassandra, a British destroyer visiting the port. They were saluted as they went aboard and then thrown off. Such hilarious goings on have not been seen for some time in our fair city.

The weather for the Field Day was perfect. A great number of cars equipped for tx hunting turned up to do battle and fendish were the plans of those hiding the elusive r.f. generators. One false trail was followed by the 2 mx boys for some time which finally resolved itself as a superregenerator in a competitor's car. In the 7 meg. hunt a cleverly disguised dummy tx fooled at least one competitor and caused Sherwood to almost fall into the creek. And that included as well the electric shaver

he was using as a microphone. In the scramble, a duel developed between Bill 2XT and Dave 2AWZ. They finished with Dave first and Bill second. It was not till later, when we saw Dave's tail lights glow on transmit that it was found he had been using 100w. in the boot of the Morris Minor! Les 2RJ found the first 2 mx fox and second in was 2ZCF.

The afternoon 2 mx hunt was the subject of television coverage and a cameraman from NBN was there to film the fun and games. This was won by John 2ZAB with 2ZDN 2nd. All the cars were paraded before the all-seeing eye but despite a good effort on the part of the reporter, very poor coverage was given of the event on the t.v. and even then it was a week after the event, despite promises to the contrary. This was hardly the publicity we had expected.

Dave 2AWZ and Bill 2XT were the only competitors to find the 7 meg. rig and they arrived in that order. Some really first class home-built gear was on display and after considerable thought the committee awarded the prize to Ken 2ANU, our Morse merchant from Muswellbrook. The day ended with the usual free for all disposals sale with ridiculous bidders securing all the bargains. The big sound from 2NX, Tony 2ZCT won the lucky number so I am told.

As for general news this month, things are quite poor. Shannon Bill 2ZL finished off his latest loco only to have it leave the rails in a sensational manner. Harry 2AFA found that he had so much gear in the shack that he couldn't get on the bench so he sold half of it, the gear, I mean. Lionel 2CS is back on deck again and looking quite fit. Les Payne has the only blue fluorescence magic eye in the area—caused by doing some strange short circuit on cathode and grid and, I almost forgot, at least three of our associates have decided at last to do some work towards their ticket. I won't mention who they are at this present, but time will tell—and it just may too.

The Monday night re-broadcast of 2WT's news is still being conducted by 2AWX and the chaps running the broadcast are delighted to receive call-backs. If you are in the shack around 1900 Mondays, listen for 2AWX on about 3573 and if possible give them a call.

Next meeting of the Branch will be held in the usual place, University College, Tighes Hill, at 8 p.m. on Friday, 9th November. Listen to 2WI or 2AWX for details of the lecturer for the evening. I do not expect there will be any social gathering this month, but check up at the monthly general meeting on this. 73, 2AKX.

SOUTH WESTERN ZONE

The 10th Annual Convention of the South Western Zone of the W.I.A. was held over the holiday week-end, 29th and 30th Sept., at Gundagal. Those present representing the Division were Harold 2AAH, Bill 2AGF (also his XYL and two daughters). It was pleasing to have quite a number of Amateurs present from other Zones, as well as the South West.

The Convention opened on Saturday morning at the Gundagal C.W.A. rooms, where registrations and rag chewing were held over cups of tea provided by the XYLs. During the afternoon, visits were made to the beauty spots of the surrounding district, terminating at the Dog-on-the-Tucker Box, where a delicious afternoon tea was provided free by the Chamber of Commerce, for members. The evening activities commenced with the Convention Dinner, which was chaired by Bill 2AHV, sixty-six adults and twelve harmonics attended the dinner, during which the Shire President, Cr. Crowe, officially opened the Convention. The toast of the W.I.A. was proposed by Ross 2FN and was acknowledged by Harold 2AAH, who then gave an interesting address on activities of the W.I.A.

Sunday morning saw the field events under way. The 2 mx hidden tx hunt was won by associate Doug Manneke, of Wagga, with Bruce 2ZGX second. Next was the 2 mx fox hunt, and this was won in record time by Tim 2ZTM with Eddy IVP second. The all-band scramble was won by Harold 2AAH, with Col 2ASF a close second. The most efficient h.f. mobile equipment was won by Harold 2AAH, with Eddy IVP taking the prize in the v.h.f. section. The ladies' blind-fold tx hunt was won by Joyce, XYL of 2ACO. The girls' event was won by Lorraine, harmonic of 2ACO, and

SILENT KEY

It is with deep regret that we record the passing of:—

VK2LH—T. G. (Doc.) Hewitt.
VK6AP—Alf Pittard.

the boys' by Peter, harmonic of 2AHV. Competitions for the ladies during the day were won by Joyce, XYL of 2ACO, and Barbara, XYL of 2DU. The prize for the lady travelling the furthest distance went to Jean, XYL of 2ASF, and the prize for the lucky number went to Mrs. Mills, mother of 2ZTM.

A barbecue lunch helped to create a picnic atmosphere which continued throughout the day. The disposals sale in the afternoon was well attended and cars left more heavily laden than when they arrived. A word of thanks was given by the Zone Officer, Bill 2AHV, to all who had helped make the Convention such a success, particularly Dave 2DE and Joyce, his XYL.

BLUE MOUNTAINS SECTION

The monthly meeting of Sept. was held at Lawson on the third Friday night, 17 members were disappointed when Les 2ZBJ was unable to give his lecture due to a business trip. Anyway, Les will be along for the next meeting and it will be transistorised equipment including 2 mx as before. The evening was still as late as usual, somehow there is always plenty to rag chew about. Supper these days seems to be on the up and up, probably our club is the difference between a profit or loss for Sid's 2AVK business.

The Bush Fire exercise proved very successful. Bill 2HZ and Dick 2RM acted as base stations, whilst 2MZ, 2AVN, 2ASZ, 2NK and 2ABK as mobile stations. The operation was on 2 mx and the coverage was very good with the mobiles maintaining contact all the time. While on mobiles, another civil defence exercise is coming up similar to the previous one at Katoomba, so keep those mobiles going, fellows.

Warick 2ZMS is still busy with study and exams, etc., although not on the air I understand he is a good listener. Best of luck Warick and hope to hear you soon. Also

hear that Warick has been giving Jack Watts a hand with his A.O.C.P.

Two new calls will be issued to club members soon, viz Jack Ferris and Noel Walker, both are ready to go on 2 mx. Congrats, chaps, it's been a long road but I am sure you will agree it was worth it. I notice Bob 2ASZ has a new heap to support his 40 mx whip, etc. looks a bit of all right.

Our next Field Day will be held at Lawson Swimming Pool on 28th October and should be equally as successful as previous years; all are most welcome.

My spies tell me that Bob 2ASZ represented the Section at Newcastle over the long week-end, but as yet have not heard any reports. Yours truly and Noel Walker journeyed to VK3 land the same week-end and the only troubles were with equipment upon arrival, otherwise an enjoyable run. We met some of the boys at Gundagai on the way back and by all accounts their Convention was a big success. Frank 2ACQ wants to know where Trevor 2TM has been; where are you, Trev? Haven't heard you yet. Derick Boyd and Sid 2AVK are hot on the job with the School Radio Clubs in the area, so it shouldn't be long before everything is organised. 73, 2ADA.

BOORAGUL HIGH SCHOOL RADIO CLUB

This possibly may be the last time that notes from this club appear under a separate heading as youth radio club activities in general are to be reported from now on by Ken 1LS. This we think is a good thing and can only assist in furthering the motives of the school clubs scheme. Our club is now at its largest since formation and we now have over 24 regular members. Radio questions are to appear in the yearly Science exams as an alternative to another question and this year, for the first time, we have had our photograph taken as an official school group.

The tx is back on the air and we are following the new "Operator's Certificate" scheme, so please give us a call if you hear CQ from Booragul. The members now handle all the internal and external p.a. at the school and are responsible entirely for the tape transcription service and general recording. Another of the boys has been selected for an electrical apprenticeship among competition from 34 other candidates. Thank you Mr. Editor for tolerance with our notes. 73, 2ATZ.

VICTORIA

About 25 members were present at the Oct. meeting to hear Jim Godding, VK3ZGG, tell of his experiences in W land and to have a look at his radio souvenirs. Jim illustrated his talk with a number of slides showing scenes in his itinerary. The most amazing thing about his visit to U.S.A. was the number of VK3s he met whilst there. Thanks for an interesting evening Jim.

There was very little general business, and although Ron 3RN tried hard to start a debate, it died prematurely. Still, as he said, he made his point. Just watch him next R.D. Contest.

Amongst the large number of new members this month was one, Rex Moncur, VK3OB. Although Rex has had a ticket for quite a while, Ham Radio has had to take a back seat until studies were over. Come to think of it, Phyl Moncur has not been seen at a meeting for years. What about it Phyl?

When I left the meeting, there was still quite a gathering around Jim's display of equipment. Hope he got it all home safely.

COUNCIL MEETING

October Council meeting had only one absentee, although two members present should by rights have been home and tucked in their cots. One good thing about having invalids in attendance was the fact that only urgent matters were dealt with, thus making an early night of it.

Summarising the evening, Eric Trebilcock is going Interstate for a few weeks, therefore the QSL Bureau will operate from 478 Victoria Parade from 1st Nov. until 14th Dec. Noel Storch will be in charge. At the suggestion of Moorabbin Club, arrangements will be made for the State Field Day Trophy to be inscribed with the winner's name each year. The poor condition of the typewriter and duplicator at 3WI was discussed. After reviewing the cost of repairs Council decided to replace both units.

Field Day rules were reviewed. Anomalies in the present rules have been drawn to Council's attention by several people. Council is taking this matter up through the proper channels.

Only four names were submitted for membership this month, the lowest for a long

time. These names will be submitted to next general meeting for approval. The meeting closed at 10.15 p.m.

GENERAL

The most important event for the month was the W.I.C.E.N. Exercise. As is now well known, for the purpose of this Exercise, the Institute set up a communications network to cover the Shell two-day car trial. 3WI operated as Control, using 80 mx, 2 mx a.m. and 2 mx f.m. There was also a 6 mx link from 3ALZ to 3WI, piping in 80 mx signals. This proved most useful as often 80 mx reception was impossible at 3WI. In the early stages, procedure was pretty rough—to say the least of it, but after a couple of hours, things showed a big improvement. Although I do not know the exact number participating in this Exercise, it was only a small percentage of members.

Those who volunteered for W.I.C.E.N., but whose services were not used this time will appreciate that for an exercise of this type only a limited number can be used. Although it is wrong to single out any persons for praise in a job like this, my vote goes to the coffee makers, followed very closely by a vote for the cooks.

Whilst those of us who participated feel the results were very good, we know we had many faults, and realise there is room for much improvement. For this reason we are getting as many participants as possible to an informal meeting to critically review the event so we can do better next time.

By now, zone secretaries should have their new maps showing zone boundaries. It is possible that cases will arise where there is some doubt as to which zone a member belongs. In this event Council will be the arbitrator. There has been one minor alteration. The border between the North Eastern and Eastern Zones has been shifted to bring Arthur 3AUL into the North Eastern Zone. This was easier than shifting Arthur!

Pray tell me, does the VK5 scribe have a persecution complex? As though I would needle him—much. His wife won't let him play with the VK4 boys, but I warn him here and now, the VK3 boys can play rougher. As for his warning, well I have friends in high places, too. Not only do I list the editor amongst my personal friends, but also the whole committee, plus members of F.E. and the VK3 Council. Before leaving the matter (for this month), had a visit from an old friend from VK5 last week. Said friend, brought a recent newspaper cutting about snakes in Adelaide. Bet that bruises SPS's feelings.

Sorry to have to report that Bill 3TX is on the sick list. He has had a heart attack and will be confined to bed for a while. We all wish him a speedy and complete recovery.

W.I.C.E.N. MEETING

An informal meeting of those who participated in the recent exercise has been held.

W.I.A., VICTORIAN DIVISION

STATE CONVENTION

will be held at

BALLARAT

during the week-end of

SATURDAY, 3rd NOV., and

SUNDAY, 4th NOV., 1962

Sunday, 4th November, meeting points—

10.00 a.m.—BTV6 Studios, Walker St.

10.30 a.m.—VK3HW's QTH, Walker St., both located under the three white towers on the hill, Ballarat North.

11.30 a.m.—White Swan Reservoir Reserve.

Proceed out Humphrey St., North, turn left at "White Swan" sign post—drive to large "White Swan" on left. W.I.A. signs all the way.

Bring the family and Picnic lunch. Hot water and barbecue facilities available. 80 and 2 mx Hunts, Carphone, a.m. and s.s.b. events, Competitions, Novelties, all with good prizes. Don't miss it!

OBITUARY

DE. T. G. HEWITT, VK2LH

"Doc" or Tom Hewitt, as he was known to his many Ham friends over 30 years, was in all respects the living example of the great St. Luke in thought, word and action, and to know him was to love him. "This is Luke—my beloved physician" and as such he will be sorely missed throughout the North Coast of N.S.W.

Pre-war he was well known throughout the world with an outstanding signal from his rotary beam as VK4TH Cairns, and post-war as VK2LH Lismore. Over the past few years his activities were gradually curtailed to the 80 mx band on s.s.b., largely as a result of his failing health and the exigencies of his calling.

His interests were many and varied and his versatility was such that apart from his skill as a surgeon and physician, he could weld or "turn" with the best of them.

His grasp of the technicalities of automobiles, photography, cabinet making, boat building and radio was truly staggering and how he found the time and energy to absorb this knowledge as well as keeping abreast of the latest in medical practise placed him in a sphere apart. The physical and moral courage displayed over the past couple of years, whilst in the grip of the final stages of his fatal illness, are well worthy of the approbation of all and he must always be remembered by all who were privileged to know him as "that great and good man."

On behalf of his many friends in Ham Radio, it can be said that his wisdom and kindness will be sorely missed and his friendship never replaced.

May his key never be silent in that Grand Lodge Above.

So passes a perfect gentleman, a wonderful friend and a True Ham.

To his wife and family, our deepest sympathy for their irreparable loss.

A. W. FITTARD, VK6AP

It is with sincere regret that the VK6 Division records the passing of VK6AP, Alf Pittard. Alf was very active on all bands 30 years ago and this last 10 years or so has devoted much time to the 20 mx band. For a few years of late, Alf did not enjoy the best of health, although he did attend quite a lot of Institute meetings.

VK6 is the poorer for his passing, and sincere sympathy is extended to his wife and family in their bereavement. Vale Alf.

Approximately 30 attended—including Mr. and Mrs. 3KU. Apologies were received from 3ZEO, 3AKN and 3OM. Unfortunately a couple of operators have not returned their message forms, so exact number of messages handled is not as yet known. Estimates place the total at 1,542, of which nearly 1,000 went through 3WI. Having got the back slapping over, the meeting settled down to the task of strict self criticism. The faults in procedure and equipment were fully discussed. The outcome was that a sub-committee will be formed to analyse the points raised and find ways and means of preventing the same faults happening again.

The whole thing was beautifully summarised by Fred 3YS when he said it was up to us all to clean up our sloppy operating methods, and further, whether we like it or not, use the N.A.T.O. phonetic alphabet.

Two facts have come out of the meeting which are of most interest to those who have volunteered for W.I.C.E.N. There is a definite place in the over-all programme for the Amateurs, and they must have equipment capable of operation from batteries or other emergency power supplies. The a.c. mains are not for W.I.C.E.N. operators.

EASTERN ZONE

Jack 3AJK, of Moe, is now very active on 14 Mc. Since being back on, he has worked over 18 countries. Jack is constructing a 60 ft. tower to hoist his two element quad higher. David 3DY was temporary off the air as he moved QTH in Maffra to 6 Kent Street (on a hill too!). Ross 3ZAQ, of Warragul, was successful in passing Morse, so awaits his new call sign. Ken 3ZNK is also sitting for the next exam. The Zone wishes you a successful pass, Ken. He lost his 32 element aerial during the "blow" in the last week of Sept., and has now a 6 element yagi temporary.

Graham 3QZ returned from a three-months overseas tour during the first week in October. No inter-high school hook-up took place from 3AWL during Sept. owing to exams. October hook-up took place as usual. Several Zone members participated in the Scout Jamboree, namely 3AHE (Traralgon) and 3ZNK, 3BB, 3TH and 3ZDF.

The Zone will hold its second (summer) family field day at Lakes Entrance later in the year. How about more stations joining in the Zone early Sunday morning hook-up? 73, 3ZCG.

MIDLAND ZONE

My activities for the most part of Sept. were confined to my travels to VK2, VK4 and back. The only radio activity were a few DX contacts on 20 mx on the last few days of the month, there was however plenty of activity within the Zone itself, details of which were supplied to me by Jim 3SV.

Zone members participating in Zone activities are 3SV, 3AHA, 3ZK, 3KU, 3ABS, 3ED and 3AQUV (congrats to you Ian on having received your call, and welcome to the Ham fraternity). John 3OR called in with information on disposals. 3OM and 3UI also paid us the courtesy of calling in to the hook-ups.

3OR has offered to supply full dope of circuitry of disposals equipment at his disposal, also 3ED can supply 122 circuit photos, thanks fellows. Who else can offer assistance in this regard? Circuit information on AR7 may be obtained from 3ZIK who, by the way, appears to be the only one active on 2 mx. Don't forget 2 mx hook-ups still take place each Thursday at 8 p.m.

Not much heard from Col 3SO, perhaps the junior op has him occupied. 3FV participated in the W.I.C.E.N. exercise and despite the fact that operating conditions were not ideal, the exercise was a success. Others who participated included 3AHA, 3APJ/3WI, and 3KU. Jack 3VV having a nibble at Zone activities; what about a big bite, Jack?

Anyone wanting to do a frequency check within the Zone should contact me as we have a BC221 frequency meter available. What we do require is a padded transport box for same, any offers? Until such a box is procured special arrangements will have to be made for transport of this instrument as required by members.

Before closing the notes for this month, I would like, on behalf of the members of the Midland Zone to extend our sincere sympathy to R. Giddings and T. Briggs on their recent bereavements. 73, 3ND.

NORTH EASTERN ZONE

3AAQ packed his gear and toted it away a few weeks ago, preparatory to transferring to a t.v. tx site later in October. 3AYD is now limbering up his wrist in preparation for the slow Morse transmissions he will make later in October. Heard him ordering 2½ dozen egg

insulators and hundreds of feet of aerial wire the other day. Actually he is going to build himself a triband quad to supersede the present ZL Special (modified). This move came about from a joint contact he and 3AGG had with the same U.S. station; Allan was umpteen db. down on Bruce's quad signal.

3ALF still suffers from inertia, but I understand he is calling a "working bee" shortly. 3ACD believes he may be causing t.v.i. on 80 mx. He has repaired his rotor gear box. The earlier reported gear stripping was due to mis-alignment. 3AFF getting lots of thrills from 2 mx and his infectious enthusiasm has induced 3AWT and 3ACK to join in the daily net at 12.30 p.m. I note 3AFF advertised for a vidicon tube in Oct. "A.R." I wonder what plans are afoot at Peter's menage? The Melbourne Cup is not the only place wherein dark horses run.

3AUL, 3KU, 3AWT, 3AYD and 3IG took part in the Sept. W.I.C.E.N. exercise. I was with 3AYD on the Saturday evening and noted the fendish look in his eye as he pounced on the five interfering stations and requested them to shift their carriers. As message writer with 3AYD, I was really scratching to keep up with the high speed dictation some of the stations gave out. However, we learnt a lot.

Jamboree-on-the-Air: In the Shepparton area, eight stations have kindly consented to have Scout guests along for this event. By breaking up the event into five periods, we have been able to place 54 Scouts. 3AYD and myself visited the seven local Groups and spoke to boys to give ideas on conversation pieces such as hobbies, badges and local news. We also urged them to tune 40 and 80 mx on their home rx's to atune their ears to poor conditions. The above is offered as suggestions to other Amateurs who have noted that boys become tongue-tied when a mike is placed before them.

All being well, 3ASY should be on the air by mid Oct. His biggest trouble has been the fabrication of cases and chassis to suit. What an expensive range available on the commercial market. He tried out green and copper hammertone pressure packed paint; it's the berries, though a bit expensive.

Zone hook-ups have not been too well attended of late and I have reports that fellows are critical of lack of interest in them. I wonder if the absentees were not so modest (or is it dog-in-the-mangerest?). They could make it more interesting by letting others know what they have been doing. 73, 3ASY.

QUEENSLAND

INTRASTATE CONTEST

The first intrastate contest conducted in VK4 land for ages was held very successfully on the week-end of Sept. 22 and 23. The work put into organising the contest by the Divisional Council was surprisingly rewarded for an estimated 40 to 50 Amateur Stations were on the air in the two periods, six hours on Saturday afternoon and 2½ hours on Sunday morning. The CQ Sunshine State Contest was certainly a good follow-up for all the VK4 boys who came on the air during the R.D. Contest. Council is planning more such intrastate events, but Council members need your suggestions still on how arrangements can be improved. Write to Council yourself.

GENERAL MEETING

The Sept. general meeting on the 28th of the month was held at a rather different venue. At the invitation of Mr. C. A. M. Weller, 4CZ, members gathered at the Tennyson power house to hold both the meeting and to inspect the station, the most modern in VK4. As could be expected, such an attraction drew a good roll-up of 58. The meeting of just 7½ minutes duration accepted the Council recommendation for 17 new members; full: VKs 4NC, 4WB, 4RX, 4LD, 4BL and 4ZGM; associate: H. Kropp, L. T. Sharpley, B. R. Taylor, C. W. Bryant, P. Pik, R. Rubiola, D. Egan, R. Caldwell, W. Harley, W. C. Fall, and J. A. Wyatt.D

In case VK4 members have not been keeping up with the news or bothering to read "QTC," Council wanted to find the feeling on the membership of a possible permanent home for VK4WI. They conducted a referendum but only a little over 20 per cent recorded their preference, so another call had to be made for a more widespread view. By the time you read this, it's possible a decision could have been made, and if this decision is not your wish, then if you did not cast your preference, you only have yourself to blame. When Council calls for opinions in the future, all members should do their best to make a reply.

BABOARA CONVENTION

Oh, didn't Queensland faces blush when they saw a particular advertisement in the last "A.R." There it was that the Wide Bay and Burnett Branch, in conjunction with the Central Qld Branch and the Bundaberg Radio Club, would hold a Convention at BCGara Beach, Bundaberg, on the week-end of Oct. 6 and 7. Now PkSy might think we have a lot of rain in VK4 (some parts anyway), but at this time of the year there's not enough to lay the dust whereas to make a bog is just not possible. Anyhow, about 30 Amateurs managed to decipher this meant BARGARA and from first brief reports, they had a good time in fine weather. The Convention was held at the same time as the Bundaberg Sugar Festival to be an added attraction for Amateurs from more distant parts.

One plea to the organisers though. Those not able to be present would appreciate some advice beforehand as to the approximate times of scrambles so they can make it their business to be around to give competitors the stations they need to build their totals.

PERSONAL JOTTINGS

The VK4WI station manager, Alf 4OL, has been enjoying holidays this past month and dashing hither and yon up and down the coast looking for the big fish. His mobile has been working well, thanks to the plastic protection of a coil by a detergent squeeze pack and he's been talking quite a bit at good strength. Jim 4HZ is another whose mobile has been heard over a fair distance of late. While Alf was away, the new voice at 4WI was Vince 4VJ. It's no wonder he puts out a great signal from a beam at the top of a telegraph pole which appears to be about 60 ft. high.

Up Munduberra way, Fierb 4KM has spent most of his time watching a hotted up one-eyed monster but when transmission ceased one night he managed to race across the bands looking for an American astronaut.

Don 4GF left his t.v. business at the beginning of the month for a trip to ZL land. George 4GG, who visited the country years back, is now waiting the chance for some good long rag chews to talk over the beauty spots. George is one of the more regular contacts of Del 4RJ during week days. Del, by now, should be getting better reception at Burleigh Heads thanks to the efforts of Frank 4FN.

Country members are still trying to play hide and seek with news of what goes on in their areas, despite frequent requests for reports to be written and posted in for use on 4WI and in "A.R." Bulletins of news should be able to inform members of what is going on in all parts of VK4, not just with the Council in Brisbane. If your letter of news reaches me next, then that will be the seventh I've received in six months. Shame, I might have to consider asking PanSy his methods of gathering the comings and doings of VKs to give me a guide. 73, Don.

SOUTH COAST ZONE

Some months ago, the sub-editor or the "Printer's Devil" managed to insert in these notes that quite a linguistic turn was put on by Bill 4WS, whilst wrestling with the installation of a mobile unit. The responsible person must have had, at the time, some prophetic visions, as the happening did not materialise until now. However, it is pleasing to report the sky is again blue on the Gold Coast as the unit is working well (we hope!).

Last month it was reported that an ex-W Amateur had settled on the coast. I had the pleasure of meeting in person Wal Diehl, ex-W3 and .W5 and various other calls. He has a couple of rx's and a few bits and pieces. This may be enough to arouse interest to have him operating again, blow the QRM and also becoming a member.

These notes are being penned from Woody Point at the start of the Sunshine Coast while on the way to the Bargara Convention, and just as they are being read, I feel sure I will be reporting a very successful do as the boys there are very enthusiastic. So far on the way, I have met an old timer and old clobber. Star 4ST, and spent a very pleasant hour with him and am looking forward to another dose as Doris, his XYL, is in Melbourne. 73, 4WS.

TOWNSVILLE AND DISTRICT

At the Burdekin and District monthly meeting the guest speaker was Dr. Carman, senior lecturer in physics at the New University. He gave a discourse on v.h.f. signals on the equatorial path to Japan, etc. The boys certainly enjoyed same and believe he has also asked some of the local boys for a look at their log books for relevant openings to the north and any remarks that may have been noted. So who knows, it may be that we always have that opening and no one monitors it enough to evaluate it.

Other news from these reports that Dale ZDG is in the big smoke leaning to fix the one-eyed monster in two or three easy lessons. 4DU is going to Christmas Island with a VK9 call sign, maybe will get a new one if he breaks through as he has promised the boys a call if conditions are right. Often wondered why one of the local boys always does so good in the R.D. Contest until I braked the car suddenly and cast my eyes over the antenna farm he has—even overflows into his neighbor's yard. I'll defy a bird to get at the garden underneath unless it is the small bat equipped with his sonar beams.

Having missed Bob's (4TK) voice on the air, I find out that he has started a local A.O.C.P. class and has 16 triers, just so that he will have someone to speak to locally as the conditions are so bad. Visitor to the shack was Merv. 4ZMD from out in the far west where all the dust storms originate. Also Bill 4SW was in town, only heard him mobile, too busy sight-seeing to call. Wally 4RU and two Z boys—4ZBE and 4ZDM—have foregone their old jobs and are on the band wagon with regards to t.v. and electronics. Good luck to you all in the new venture.

Here these notes appear, we will be visited by our old friend and first Secretary of the local Club, Ernie 4GE, who has promised to look up all the old gang and see if they can still degass the 807's. What has happened to the city boys, cannot get a call back after the W.I.A. news on a Sunday on 14342. Don't your receivers have a b.f.o. for c.w. to copy my s.s.b.? Would like to hear from some of you on Sundays just as soon as the news finishes.

The local Club had their yearly Picnic last Sunday and up to the present no news of how it went. Never take on shift work—every day is the same. Claude 4UX blew in yesterday; came up for the week-end specials and left Jess at home. How mean can you get? After I had got the rats ready for afternoon tea. 73, 4RW.

SOUTH AUSTRALIA

The monthly general meeting of the VK5 Division for Sept. was held as usual in the clubrooms to a little below average attendance, in fact for the first time of late there was seating for everybody. The guest speaker for the night was Mr. G. Taylor (5ZCQ), who discussed "Civil Defence," and a number of those who stayed home in the mistaken belief that such a subject would have no appeal to them, did not realise just what they would miss. Once again our worthy President, John 5JC, with his usual touch of Solomon wisdom, decided in view of the fact that there would be very little business to transact, to hold the business side of the meeting first and get it quickly out of the way. However, this time his Solomon act fell down badly because the members felt a bit talkative and burred their way through the night until their vocal apparatus gave out, and after George 5RX had distributed the QSL cards, and short "Smoko" was partaken, the stage was set for Geoff to take over.

Speaking personally, and I feel also for quite a number of those present, I did not feel that his subject, "Civil Defence," would have much appeal for me, and that is where the second Solomon act fell down for the night, because I can say without hesitation that his talk will rank with any previous one for commonsense, interest, and a sensible approach to something that all of us should have woke up to long ago. Apparently Geoff was a wake-up to the fact that a fair number of his audience would be lukewarm on his proposed subject, because he tackled it from a semi-humorous angle to begin with, slowly dropping this approach as he went on, finishing with a smashing climax, leaving no doubt in the minds of his now interested and somewhat shocked listeners that his subject was really important. Most of the talk was illustrated by figures on the blackboard with a couple of maps thrown in for good measure. I again say without hesitation that Geoff is to be congratulated for the splendid job he did, this fact being amply demonstrated by the number of intelligent questions asked at his conclusion. The vote of thanks, moved by John 5KX, was enthusiastically received by the members present and should have been a good indication to Geoff as to how well his lecture had been received.

A good batch of visitors were present, and among those noticed were Rupe 7RM (ex-5RM), Bob 5BG, John 5ZGT, who incidentally, is the harmonic of Clem 5GL, bit big for a harmonic I would be the first to admit, and there was also a fine strapping example of a VK4 in Doug 9DT, but in view of the fact that he kept looking sideways at me, I am

forced to the unfortunate conclusion that someone had been blowing down his ear! All in all, a good time was had by all, and the evening closed at the witching hour of 11.15 p.m.

Rupe 7RM, (ex-5RM) was a welcome visitor to the general meeting this month. Everyone who renewed their acquaintance with him commented on how well he is looking, and also how well he is carrying on the battle with Father Time. He looks twenty years younger than he really is; no kidding. Gilbert 5GX was conspicuous by his absence from the meeting, and I believe he has been spending a little time in hospital with some repairs to his foot. Hope all is well now, OM. I missed the twinkle in your eye when I usually say "Good evening, Gil," I mean, "Gilbert!"

Leith 5LG thoroughly enjoyed himself at the meeting, especially during the business section. He brought up the matter of giving the Z boys an opportunity of participating a little easier in the R.D. Contest, and was overjoyed when it created quite a lot of discussion. Not that anyone was against his suggestion, but a number of side issues were brought in and Leith had the time of his life muttering into his beard and glaring at anybody who attempted to introduce the topic of c.w. versus phone into the matter.

Funny how one bumps into little interesting sidelights concerning fellow Amateurs in the most unexpected places. My wife was at the dressmaker's the other day, and arising from nothing, the dressmaker let the cat out of the bag that her sister used to accompany Jim 5JK on the piano. My wife told me of this and immediately I got my nose on the trail and what do you think Jim used to play? The clarinet. What a fox he turned out to be, a Jimmy Dorsey in our midst and hiding his light under the proverbial bushel. Tut-tut, toot-toot and a couple of semi-quavers.

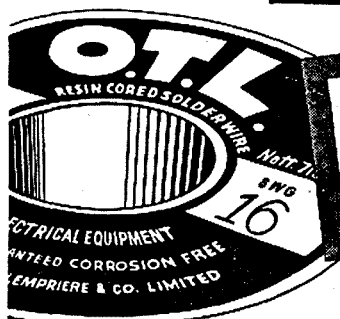
Jack 5LR has been home from work for the past eight weeks battling firstly with some bronchial trouble and then down with the "wog". At the time of writing he is still not the best, but is slowly on the improve. Roy 5DA—"Buck to you—paid Jack a visit and appears to be sparking on all six, or is it eight? Like a lot of us, he has woke up that providing we remember our age, all will be well, even though we do get a reminder now and again.

Last month I referred to the "Like New Mixer Circuit" in the June issue, and it is remarkable how many of the boys at the meeting went out of their way to let me know that they agreed with all I said. Once again may I compliment the "Mag" on the reprint, and may I also ask if they have anything along the lines of an oscillator using a twin triode which could feed into the said mixer. If the Publications Committee desire it, I will forward my request accompanied with the 10000000000 signatures of request!

The position of the official station 5WI has altered somewhat these days. 7 Mc. has been the regular listening band for the session for many, many years, but these days this band is almost out for the session and 3.5 Mc. is giving by far the best results. Which leads me to say that the boys who are handling the various re-broadcasts deserve a pat on the back for the good work they are doing, even if nobody gets round to doing the pat!

Fred 5MA recently spent a few days in the Berri Hospital and was so delighted with the treatment he received that he donated his appendix to the said hospital; hope all is well now, Fred. Quite a gathering at the recent wedding of Hughie's (5BC) daughter Margo to Dale 5VV at Renmark, so much so that someone was prompted to ask is it a Ham Radio gathering? Our congrats to the happy couple, and I feel that I should give my well known

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Telegrams: "Metals," Adel.

WESTERN AUSTRALIA

Well, don't say I didn't tell you! The Water Carnival was held at Moora on Oct. 10, and a great time was had by all Hams who attended. Yes! All three of them. Lance 6LR, complete with 122 set floating around the lake; Ray 6WU, also with a 122 set; and last and foremost, Ian 6CL, with his 150w. home station with alternator attached. Also attached was a 40 mx dipole which served all bands. This didn't stop them working Malaya, Philippines, Japan and Nth. Rhodesia, not to mention numerous VKs; all this on 21 Mc. with locals on 40 mx. V.h.f. gear to hand as well, with experiments being conducted on 2 and 6 mx. Oh! I forgot to mention, there were about 200 cars there with lots of people. But they were all interested in the Water Carnival events being held on Lake Dalaroo at Moora, so we don't count them.

Reminiscences of Katanning's early days a couple of months ago brought nostalgic memories to Alec 6AS, who was in the area in those days. Alec was one of those who drifted away from the place when the big blue started in '39, so he didn't get his ticket until later. Incidentally, Alec has a pretty fair fist on the brass, so there's a possibility we may hear him on the Morse sessions soon. Alec also suggests that Katanning would be a good place to hold a local convention. Now, there's an idea to work on!

Which reminds me, too, all mod. cons. at the Katanning shacks, central heating and so on, and at least one of the "X" group are on the air on 80 mx nightly. However, "The Disease" is getting into some of the local types and Robbie 6XR is pawing over his old junk with view to trading it for new s.s.b. parts. Keep at 'em Robbie, don't accept the first price they quote you; in fact if you did, you might just as well give it away.

There are other sorts of wogs about too, and Frank 6XF is just recovering from a serious attack of golf-on-the-green. This lasted the full term, but he is recovering now and should be well enough soon to push the TR switch and give with the r.f.

Getting the r.f. into the ether is always a problem, of course, particularly when you keep changing your car which has the mobile gear in it. I mean, after all, when your car reaches the stage of needing polishing! Well! It's just gotta go! That's all. But the removal and re-installation of a mobile rig is not so easy, for it requires not only positive thinking, but positive action as well. Eh! Who's all this about? Herb 8XO, is our man and the best of luck to you, Herb.

Tripping about in the car leads me to Clarrie 6XG, who has been "living it up" with frequent trips to Perth. It appears that Clarrie considers that a number of the one-legged bandits in the city should be branded 6XG and start paying a dividend to the new owner, instead of the City Council. This could well be true, for what with supporting parking meters during the day and partaking of rich and exotic Chinese foods followed by the thearta (that's what you and I call theatre) at night, Clarrie will need to strike oil to keep it up. Try installing a country t.v. station, Clarrie, that should pay well.

Whilst on this high falutin' level, our esteemed President, Ron 6KW, who departed on a luxury cruise to Japan and all that jazz, appears to have successfully dodged the naval operations around VK9 and passed onward to JA land. Judging by the Tokyo Tower pictured in the local rag recently, Ron should just about be able to see Carnarvon from the top. Trust both you and XYL are enjoying the trip Ron.

At last Wal 5AG has decided that he has done enough in one section anyway. As from next March, Wal has decided that someone else can help with the job of broadcast officer. Of course, this isn't the only job that Wal does, so he won't be entirely without a job. Incidentally, it is gratifying to know that when this matter was made known through the general meeting, a number of offers were received. Keep it up, chaps, this shows a healthy interest in what the Division and the Institute as a whole is doing for us all.

Have you ever been told a thing can't be done, and then gone ahead and done it? Gives you a kick along doesn't it. What the experts call ego boosting. This happened on the v.h.f. side recently when the V.h.f. Group were responsible for providing radio coverage for the car trials. "You won't get a signal in or out" says the boys in khaki. "We've made a survey, and it won't work," says the steak and kidney people. But it did, and highly successful it was too. Much jubilation amongst the mobileers and fixed stations alike. Troubles? Well, a wire came unsoldered in one set. Congratulations all round. As a matter of

marital advice to Dale at this juncture, "DX before Dishes". Get the message? Hughie 5BC has been away for a few days holiday, but so far my spy cannot give me any information as to the destination.

Tom 5TL, the Mario Lanza of the Murray districts, once again raised his melodious voice in the local Elsteadford, as a member of the Adult Education Choir, and the visiting adjudicator saw fit to award him first prize. The fact that Tom glared a couple of times at the said adjudicator had nothing to do with it, that's how he looks when he hits upper C, or is it Q?

Velled suggestions have been leaking through to me of a gathering of the clan at Crystal Brook on Saturday, 16th Sept. I think I will get in touch with a certain gentleman whom I think would be a certainty to have attended, and I might have a good story to dig up. If I get it, I will certainly pass it on further down in this column, and if I don't get it from him, I will still pass it on, with a little of my well-known imagination thrown in for good measure. That should do the trick!!

The VK5 Divisional general meetings have run a somewhat set course for more years than I care to remember. So many lectures, so many buy and sells, a couple of this and a couple of that, and all in all, the programme organisers, or organiser, is to be complimented on his job. However, it is being felt among the members in increasing numbers that at least a couple of meetings a year should be given to just a get-together sort of a night. Perhaps a little business or so and then throw the meeting over to the audience and let them move around and mix together, have a rag-chew and get to know each other better. I think the idea has a lot to recommend it, especially from the viewpoint of a shy and modest person like myself, who attends the meetings, sits in the corner and never open my mouth, and therefore never get to know anybody. Of course this idea means nothing to a pushing type like Pansy 5PS who as soon as he enters the room starts a couple of arguments, butts in and talks to anybody, shy or otherwise, and seems to think that the meeting has been called solely for his benefit. I wouldn't like to be cast in his mould, but I do think the idea has merit, and apparently so do quite a number of the members, judging by their remarks now and again. By the way, what is the secret of the charm and debonaire attitude of that Pansy? Don't answer that!!

Stuart 5MS now has his s.s.b. tx working on 80 and 40 mx and certainly has a mighty signal on the few times that I have heard him here. Claude 5CH, like Leo 5GJ, is in the land of the missing at the moment of writing, although he has been seen driving along in his automobile at times. All we can say of him is that he looks extremely fit and well. Col 5CJ can still be heard on the lunchtime session on 7 Mc. and occasionally on 80 mx, but is apparently waiting for the summer openings on the v.h.f.s. What am I saying? Heresy!

Talking of the v.h.f.s., and by rights I should not be, being somewhat of a square and a follower of the d.c. bands, I notice that Les Z boys down in the S.E., Garry 5ZGR, Les 5ZLS, and Dale 5ZBR, are much more active these days now that Barry 5ZDI is active at Penola on 6 and 2 mx. This means that they get a good chance to check their gear on a signal that is not local. The S.E. gang have three starters for the Oct. A.O.C.P. exam., and although it will be finished ere these notes are read, we still wish them the best of luck.

With a great deal of chortling and several coarse asides from those present at the general meeting, our President, may his fowls all keel over, read a large QSL card, addressed to me reputedly from the top of VK4, which contained among other libels, a report on my signal. Apparently it was very amusing, judging by the mirth displayed by all, but me-thinks that a certain wild man from Borneo, or should it be Norfolk Island, knew more about it than he should.

Have not heard or seen Les 5AX for some time now, but if this should meet his eye I received a letter from a VK3 who is noted for his generosity toward short wave listeners, who said to tell Les that he should wipe the printer's ink from his hands and also from that s.s.b. stuff, so that the said VK3 can copy him. Apparently I am not alone in my regard for the duck-talk.

Dave 5DS is in the middle of tower erecting, a 30 ft. edition, and is busy resisting the efforts of the Northern Net to talk him into putting a 6 mx antenna right on top. Snow 5NW and Bert 5BB are playing around with 2 mx, but as this is not my province I must say no more, if I do I risk being tackled by the v.h.f. scribe. Ses 5GF has been busy paving around the QTH, but my informant tells me that judging by the time it took him, he has been

paving the streets of Nairne as well. I think he only meant the main street.

Luke 5LL, accompanied by the XYL, is off to VK7 in the near future, about the middle of November, and plans to spend a couple of weeks in the apple isle. He sure gets around. Tom 5TL seen around Adelaide this week and appeared to be favouring a leg. He had a decided limp, and it appears that he stood on a piece of wood which had a nail protruding, and need I say any more?

Dave 5DS and Luke 5LL recently decided to pay a visit to Crystal Brook and meet some of the local boys. The idea was tossed around in the ether, and snowballed to such an extent that quite a large party of the boys, both city and country, descended on Bowman Park, Crystal Brook, and spent a very enjoyable get-together to the mutual satisfaction of all. Among those present were Dave 5DS; Luke 5LL, Pete 5FM, John 5ZZ, Launce ("Pop" to you) 5LD, The Admiral 5ZAH, all from the city; and from the country areas, came Darcy 5RJ from Kadina, Austin 5WO from Laura, Ron 5AP from Port Augusta, Ern 5EN, Brian 5CO, 5EQ and John Zubrinich who is awaiting his call sign, from Port Pirie; Brian 5ZBI from Matland, 5YA from Terowie, and last but not least, 5ZMK from Mallala.

Bert 5BB and Snow 5NW, two of the local boys made all the arrangements for barbecues, hot water, etc., etc., to say nothing of arranging a miniature sports meeting and providing the prizes. Len ex-5VM, who is a printer up that way, printed a tag for all present, about the size of a newspaper, thus making it easy for everybody to know everybody else. "Eunnie" (XYL of Pete) organised a ladies' tour of Bowman Park, pointing out the spots of interest, and giving any explanations of the surrounding highlights. It was unanimously agreed that a splendid time was had by all and the thanks of all present go to the organisers.

I cannot help but wonder just how such a good time can be organised by a few keen followers of Amateur Radio and yet for months and months the VK5 Division has been kicking around the idea of organising a Picnic along the same lines. There must be an answer to this one, but what is it?

Incidentally, my spy told me that "Zuyder Zee" was also among those present at the Picnic, but did not tell me just who that was. At great expense, and at the cost of a couple of headaches, I finally am convinced that he meant Glen 5ZEE. Am I right? If not I give up in severe pain.

Carl 5SS is off for the long week-end (don't ask me what he does with his birds, or I might tell you) to Cowell, and will be portable using Luke's Type 3, Mark II. Wouldn't surprise me if "Skipper's" voice was heard at times.

I usually wait for the "Mag" to reach me, check up on the insults, and then use this last paragraph as a means of retaliation. However, I am over my limit of words already, and with one insult from VK3, two from VK4, a dubious compliment from VK6, and a couple of hints from other quarters to answer, space has caught up with me. I can save them up! 73, de 5PS, PanSy to you.

ELIZABETH AMATEUR RADIO CLUB

At the mid Sept. meeting 5FE gave a lecture on map reading. Clive spoke of the importance of this aspect in any emergency undertaking, and explained the finer points. This was followed by practical exercises. It was surprising how many mistakes and hesitations were made by so many intelligent people in so short a time!

Angus 5DE gave a lecture at the Oct. meeting on transistor application in a piece of commercially made gear. He has been almost totally engaged on working on this equipment for the last year or so, and so his lecture was most authentic, and lead to many questions.

As to the members' doings: 5DY is building a new power supply for his sideband rig. Cyril has been working a lot of DX on 20 using a ground plane antenna. 5PE is in the throes of house shifting. 5DT is now active, using a pair of 80's with 60w. input. 5TM says he is "clowning around" on 6 mx. He finds 1.8 Mc. very lonely. 5QL is still getting his s.s.b. rig to go. 5DI should be on by Xmas - that's old 3BL.

5ZBR and 5ZMK were listening carefully for the Mt. Gambier gang "on location" in the Gramplains, but no results are known. 5ZII has just completed construction of a six el. beam for six, and hopes to have it 40 ft. up in the air soon. He is building a modulator using zero bias 6DQ5s. 5WV gives slow Morse practice to various lads on 6 mx almost every evening. 5DE is to be congratulated on the arrival of a baby daughter. 5FY is undergoing a drastic re-building programme. 5AX mostly mobile. 5NO/5NQ on the air again QRP from Gawler. 73, 5NO.

fact, special congratulations came from the P.M.G. Depart's Radio Branch, complimenting everybody on the high standard of operating and the organisation in general.

After having successfully confused everybody about the date for the 40 mx scramble, when three different dates were quoted in the Bulletin, it was decided to postpone it for one week. Conditions were patchy and consequently the number of contacts not as high as they should have been. Winners to be announced at the Xmas "do".

Something seems to have happened to my spy organisation during this month. I think it's something to do with the fact that I forgot to ask them for a report until it was too late. I shall have to be careful otherwise my network will be blown spy hi! 73, 6LS.

TASMANIA

Alan TMY has sold a considerable part of his property at Cremorne and, at least temporarily, is a man of leisure. You certainly deserve a rest after working so hard for such a long time. Alan: We hope to hear you more often on the bands now, too. Pat 7GV spent a holiday recently in Melbourne, and returned home with an AR7 rx, and many tales of equipment he saw but did not buy, for lack of money, so he says. Jack 7JB is again heard on the bands, particularly 80 mx. Apparently the lure of t.v. has lost some of its grip over Jack, as it has over several other southern members, with the result that excellent round-ups are to be found on 80 mx almost every night.

The club room fund-raising committee added £11/8 to the fund as a result of the function held on 29th Sept. This result was most surprising in view of the rather disappointing number attending the function. However, it is true to say that those at the function thoroughly enjoyed themselves.

John 7JF is in the course of building up a 150w. rig, and I understand that Den 7DK is rather envious of John as a result, and that Den fears that John will reach the D.X.C.C. first.

The Jamboree-on-the-Air was held on 20th and 21st October. Eighteen VK7 stations at least took part. I urge you to forward a copy of your Jamboree log to the Secretary of the Boy Scouts' Association in Hobart so that a full record of participation can be gained. The boys taking part at your station will also receive a participation certificate, and QSL cards will be sent to stations worked by your station.

At the October Divisional meeting, we were very acceptably addressed by Mr. John Greenhill, of the Physics Department of the University on telemetry from balloons. Great interest was shown in the transmitting gear exhibited and many were the envious eyes turned on the mass of transistors to be found therein. The excellence of the address could be gauged by the attention paid by all present to the lecturer.

Michael 7ZAV has recently gained his private pilot's licence flying with the aero club from Cambridge airport. I wonder if we can now expect some albatross v.h.f. activity? Den 7DK is gradually evolving a mobile tx of considerable merit, and his success in designing and building centre loaded whips has been amply demonstrated by his working 2AWZ, also mobile, near Newcastle.

Remember the tx hunt on 11th Nov. Be in it and have fun, as well as making the function all the more worthwhile for the others taking part. Charlie 7KS is in the process of building up a mobile rig, with a 2E2B in the final. Terry 7CT has been playing around with improving the percentage of modulation in his mobile rig and results have been encouraging.

The v.h.f. boys have decided upon a standard calling frequency of 144.1 Mc. and crystals to hit this frequency are being obtained in bulk to cut down the price for same individually.

It is hoped to hold a Ham Fest on the week-end of Saturday, 24th Nov., in the neighbourhood of Campbelltown. This site has been chosen as a compromise, to suit participants from all three zones, so we hope that you will attend, together with your XYL and family and make this venture an outstanding success. Details will be fully set out in the Divisional Bulletin. 73, 7ZZ.

NORTHERN ZONE

For the first time in several years a Zone meeting was held at a place other than a member's home and our Sept. meeting, in our new meeting rooms, proved beyond all doubt that no drop off in attendance will take place through this change.

As yet no chairs have been provided and members arrived carrying seats of all shapes, sizes and styles. One member was noted perched on the window sill and another had to sit on the floor. Evidently one of our office-bearers expected an over flow and left a chair outside the front door. A later check established the fact that it was an unnecessary precaution. There wasn't an overflow—in fact there wasn't even a chair.

After the business of the evening was concluded 7DK gave an interesting lecture on "Remote Control."

The Jamboree-on-the-Air was also discussed and it is hoped that a station will have been established at a camp site.

A monster Field Day is also being considered and this could be a huge success, however more about this later.

It is understood that four associates will be taking the A.O.C.P. examination in January and as all are keen on 144 Mc., increased activity should be evident in the Zone before the next 144 Mc. DX season closes.

The November meeting will be held in the new meeting room, 73 George St., Launceston, on Friday, 9th November. So keep this night free. 73, 7LZ.

NORTH WESTERN ZONE

The meeting on Tuesday night was not well attended, Ulverstone not being represented at all. It was suggested that the meetings could possibly be held in private homes, both to stimulate interest in Ham doings and to reduce expenditure, as our funds are low.

Some concern has been felt at the way in which our Zone, and to some extent the Northern Zone, seems to have been ignored by the Southern Zone. North and North-Western operators experience great difficulty in contacting the South, even during the round-up after the broadcast (when we can hear it). We hear them but cannot contact them! More co-operation in general is needed, the proposed Field Day at Campbelltown may be a step in the right direction.

I hope Dennis 7DR has his house upright again, and Max 7MX has narrowed his bandwidth. Steam your rig up Bob, because I'm looking for you on 144 Mc. 73, 7ZBH.

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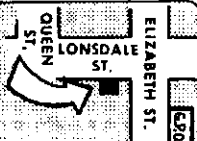
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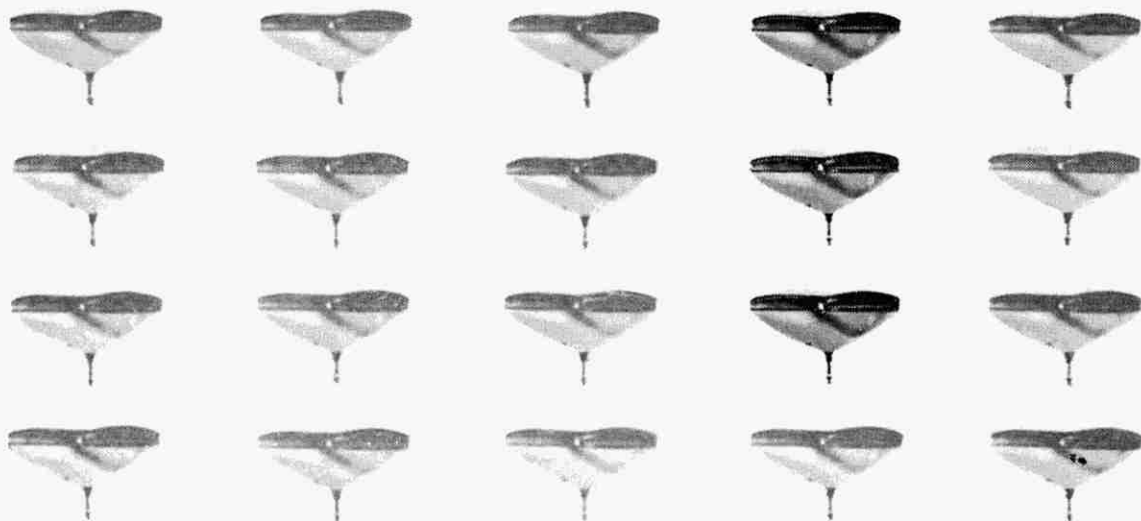


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For additional information concerning these and other Super Radiotron types consult the new picture tube interchangeability wall chart, publication No. TV-3. This AWW chart contains characteristics and replacements for 57 tube types common to the Australian market.

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A M A T E U R R A D I O

DECEMBER 1962



Vol. 30, No. 12

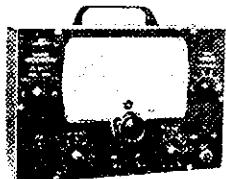
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DECEMBER 1962

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before the 8th of the month preceding publication. Technical articles should preferably be typed, double spaced, on one side of the paper, signed and numbered. All drawings should be large and done in Indian ink.

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OUR COVER

Senior Scouts, Dennis Price, of 8th Footscray, and Terry McGuire, of 2nd Altona, participate in the Jamboree-on-the-Air from VK3AHT's shack at Yarraville, Vic. See page 13 of this issue.



FEDERAL COMMENT

★

SEASONAL GREETINGS

Year after year at this time it is the privilege of the members of the Federal Executive, on behalf of the Federal Council of the Wireless Institute of Australia, to extend to Amateurs everywhere hearty seasonal greetings.

Apart from the fact that December every year ushers in the festive season, it also is the conclusion of a year's work for all of us concerned with looking after the administrative affairs of our Institute. Scattered all over the Commonwealth are a goodly number of Amateurs who not only carry on the work associated with their livelihood, but also find time to conduct their hobby of Amateur Radio, play sport, belong to other organisations and take a part in the administration of the W.I.A. To these people we extend our personal thanks for the work they have done in keeping alive our great hobby.

Christmas also brings holidays to many of us and time is generally found to clean up a lot of those unfinished projects. Warmer weather, longer days and a general feeling of goodwill to all enhances the Amateur spirit of friendliness the world over. And so we wish all Amateurs, wherever they may be at this time, a very Happy Christmas.

ROSS HULL MEMORIAL V.H.F. CONTEST, 1962-63

This is the 13th year of the Ross Hull Memorial V.h.f. Contest which, each year, is held over a period of approximately one month commencing in mid-December and concluding in mid-January. It perpetuates the memory of an Australian Amateur whose brilliant career was abruptly terminated in 1938 when he accidentally came in contact with high voltage associated with an experimental television power supply.

At the time of his untimely passing, Ros Hull was the editor of the American "QST" magazine known to Amateurs throughout the world. His contributions to the v.h.f. field of radio transmission and reception were years ahead of his time and formed the basis for the advancement of the art still further after his passing.

Today we remember him as we devote a month of our spare time to making contacts on the v.h.f. bands, which he envisaged and knew could be done, over distances not possible at that time. Like many Amateurs with ability and tremendous zeal to explore, Ross Hull pioneered the v.h.f. bands when it was considered they would be worthless for other than line-of-sight communication. Today we are reaping the benefits of his early efforts in a field which literally yet is unexplored. It is the Amateurs of today who, by their interest in these frequencies, are finding out more and more of what happens to signals under various temperature and climatic conditions. The Ross Hull Memorial V.h.f. Contest encourages these people to be on the air together at a time of the year most favourable to v.h.f. propagation.

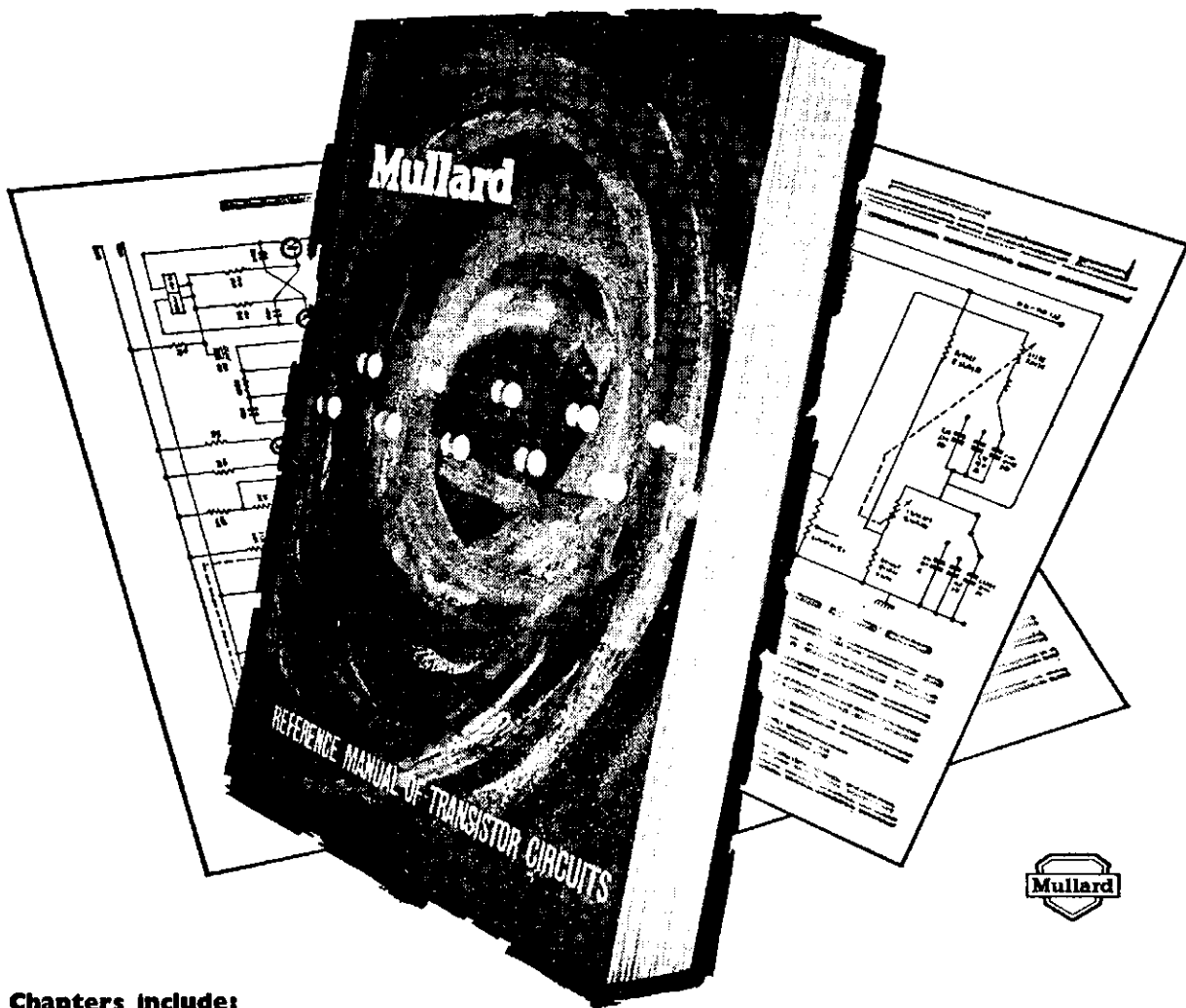
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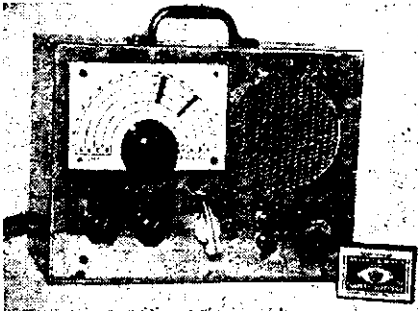
MT110

THE VK7 W.I.A. V.H.F. GROUP 144 Mc. COMMUNICATOR

D. A. THORNE,* VK7ZAI

THE V.h.f. "Communicator" was designed, as a group project, to provide reliable two-way communications on the 144 Mc. band, over short to medium haul paths.

This unit was originally designed for emergency purposes, although they have been put to many uses for which they were not intended, and given reliable results. The original design was described in a "CQ" for October 1957, but after careful scrutiny, the "experts" modified considerably this design to produce a more "Australianised" model.



A design emerged after much head scratching, which has for the last nine months been undergoing the most rigid field tests. To date the best results so far have been a 208-mile contact (R5/S6) from Flinders Island (VK-7ZBE/P) to Mt. Wellington, Southern Tasmania (VK7ZAI/P-VK7ZAL/P), which appeared to be "extended ground wave".

In the field of short-haul working, three units were used by W.I.A. members to provide "ship to shore" communications for the 1961 Royal Hobart Regatta. All units built have been equipped for transmission on 145.0 megacycles, this frequency being selected as the V.h.f. Group emergency and inter-communication channel.

All components, including the cabinet are standard stock items, obtainable in Hobart with difficulty, and elsewhere in Australia with ease.

CIRCUIT DESCRIPTION

The r.f. input to the receiver is capacity coupled to the grounded grid r.f. stage (half 12AT7). This stage is broadly tuned by the LC in the cathode. A small gain is provided by this stage, but the main purpose is of isolation of the detector stage from the aerial, to prevent unwanted radiation and pulling effects caused by aerial changes.

The output of the r.f. stage is capacitively coupled to the detector stage. The super regen. detector (half 12AT7) is of novel design, having high sensitivity, relatively good noise figure, and a smoothly operating quench control which is important in obtaining high sensitivity.

The output of the detector is capacitively coupled to the audio stages (half 6CQ8-6AQ5) which is also used as the modulator on transmit. The switching arrangement is done by a single rotary switch, which is designated on the front panel as the Transmit-Receive switch.

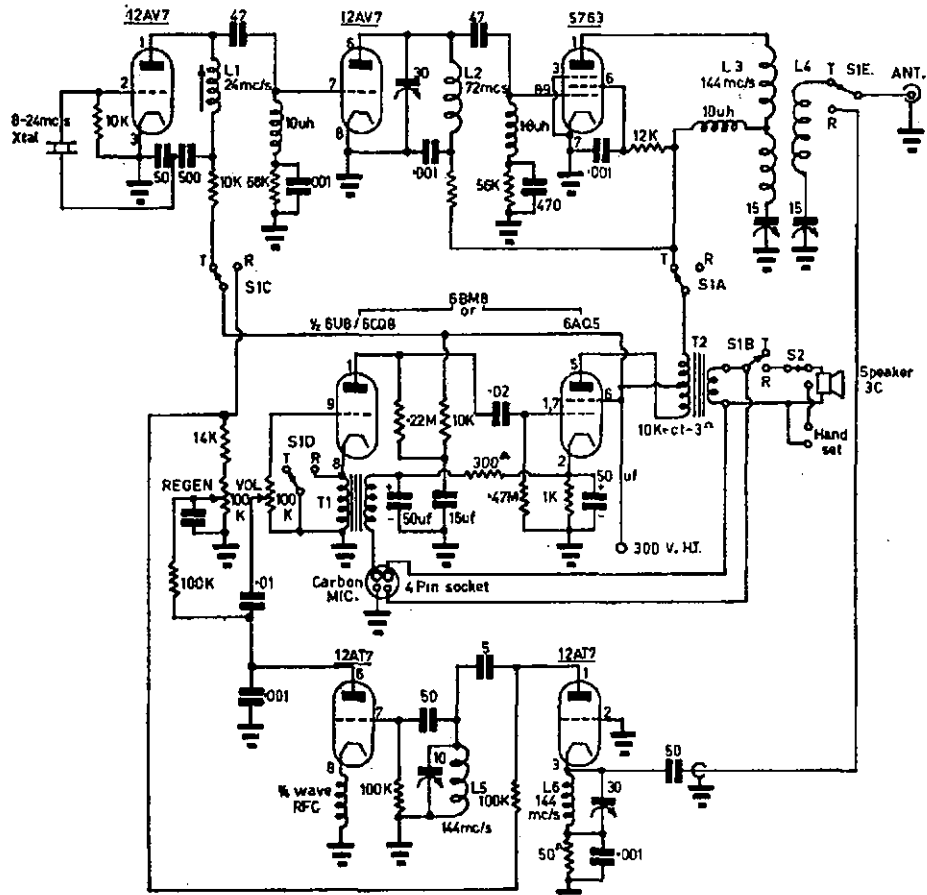
The transmitter consists of either a 8 or 24 Mc. crystal, being excited in a "Robert Dollar" overtone c.c.t. (half 12AV7). The output of the oscillator (24 Mc.) is capacity coupled to the second half of the 12AV7, the anode c.c.t. of which is resonated at 72 Mc.

The 72 Mc. output is capacitively coupled to the 5763 doubler (approx. 1½ mA. drive with a 300 volt supply). The anode c.c.t. of the 5763 is series tuned to 144 Mc., as is the output link, so that various types of aerial can be used with a minimum of trouble with retuning problems.

R.f. outputs of from 2.5 to 3 watts have been obtained with the four units built, this power approx. correct for 100% modulation, a more important factor than trying to increase the r.f. power, with a subsequent deterioration of modulation percentage.

The 12AV7 double triode is used in preference to the 12AT7 because in actual tests the drive available to the 5763 was from ½ to 1 mA. more.

The modulator consists of a carbon mike, feeding into the receiver audio section, by suitable switching arrangement. The modulator is choke coupled



L1—12 turns, ½" diam., slug tuned, No. 22.
L2—4½ turns, ½" diam., ¾" long, No. 16.
L3—4½ turns, ½" diam., ¾" long, tap 2 turns up, No. 16.
L4—1 turn, ½" diam., ½" long, No. 18.

L5—3 turns, ½" diam., ½" long, No. 16.
L6—3 turns, ½" diam., ½" long, No. 16.
T1—Carbon mike transformer.
T2—Rola CY, 10K ohms c.t.
Filaments are wired to suit either 6 or 12 volts.

* 308 Park St., Newtown, Tas.

The Communicator was loaned by B. Eyre, VK7ZBE, and Photographs taken by L. Jensen, VK7LJ.

to the 5763 by means of a centre tapped type C speaker transformer. The impedance match offered by this arrangement is very close to calculated impedance. Modulation is in the order of 100%, actual level being adjusted by varying the distance between the lips and microphone, eliminating the need for a separate modulation control.

The bandwidth of the modulator is approx. 3 kc. (200 c.p.s. to 3 kc.) when a carbon mike is used. Modulation is applied to the plate and screen of the 5763 and to the plate of the 12AV7 tripler stage (72 Mc.). The carbon mike obtains its exciting voltage from a voltage divider network in the cathode of the 6AQ5, so making this unit suitable for operation on either a d.c. or a.c. power supply.

although both a long wire and a wire bed mattress have been used with usable results, which may be necessary in some emergency.

CONSTRUCTION

The Communicator is built to fit a standard instrument case measuring 9" long, 6 $\frac{1}{2}$ " high and 5 $\frac{1}{4}$ " deep. The steel front panel supplied with the case was not used, but a aluminium panel substituted, being easier to work. The new panel measures 9" x 6 $\frac{3}{4}$ ".

Consult the photograph of the front panel to work out the approx. layout. The dial used is a Jabel No. 2, with dial scale assembly drive, cursor, knob and panel, 180°.

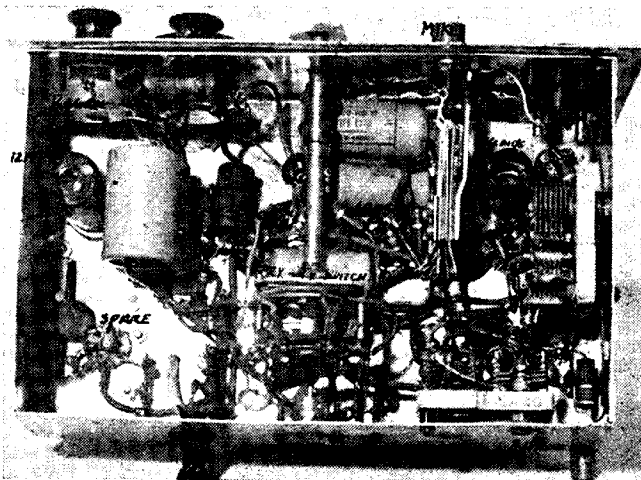
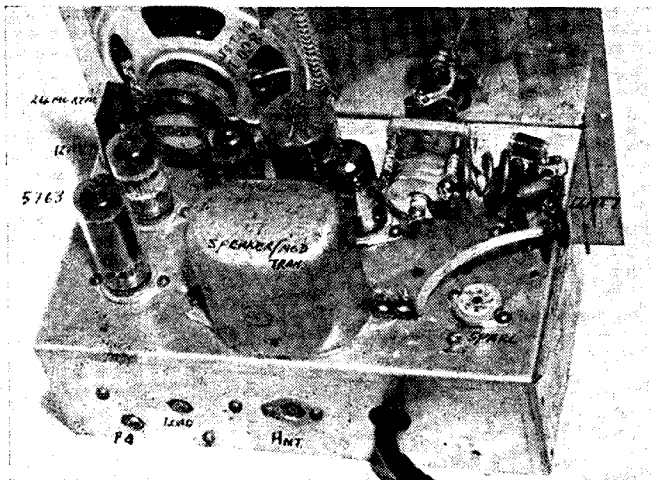
The speaker is a Rola type 3C. The chassis is a stock 8" x 5" x 2 $\frac{1}{4}$ ".

sible to use components which may be on hand.

The microphone/handset connections are brought into the unit through a 4-pin miniature plug and socket on the right hand end of the front panel. The power connection to the unit is via an 8-pin plug, which is mounted on the back of the chassis, the right hand end viewed from the rear. This plug protrudes from the rear of the case.

The aerial connector is on the rear of the chassis, located in the middle. It is a Belling Lee socket type L734/J/AL.

The photos accompanying this article are those of the Mk. 2 model, the differences being a diode tune-up device being included. The meter for this has



A carbon hand mike is normally used, but in cases where privacy is required, a combination hand-set is plugged in and the speaker on-off switch can be put in the desired position.

300 volts at 100 mA. is required for full 3 watts output. Various types of supplies have been used, including transistor, vibrator and mains operated, with no obvious troubles (hash, etc.). The approx. drain of the unit is 3 amps. on 12 volts, and 6 amps. on 6 volts.

The main aerial used with this set is the quarter wave whip, with communications being maintained up to 12 miles over reasonably smooth ground. An eight element yagi was used to make the 208-mile contact mentioned before,

Consult the photograph of the top chassis layout for approx. layout of valve and components. The speaker/modulation transformer used is a Rola C7 10,000 ohm centre tapped. The microphone transformer is a standard carbon mike transformer, the smaller the physical size the better.

The tuning gang is, if possible, ceramic insulated, having two fixed plates and one moving plate. The crystal is an FT243 type, this type being common among Hams, and being the most convenient size to fit in the space available.

To determine the under-chassis layout, consult the photograph, the layout being fairly flexible, so making it pos-

been placed in the position taken up formally by the 4-pin mike/handset socket, connection being made with the double jacks on the Mk. 2 model, in the position formally used for the speaker on/off switch, this facility not included on this model.

The photographed model has yet to have the 8-pin plug for power connection fitted.

The VK7 W.I.A. V.h.f. Group is willing to answer any requests for further information on this unit.

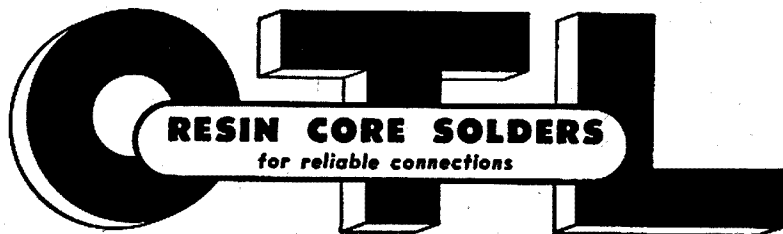


TWO-METRE DX

ZL2HP and some of the other 2 mx operators in Palmerston North will be beaming across the "pond" very frequently again this coming DX season. No doubt stations in other ZL districts will be doing the same. ZL2HP and the gang will also be monitoring six metres for crossband contacts, so it would be appreciated if any of the VK six metre boys (who also have 2 mx gear) could announce occasionally during good openings that they will tune the 144 Mc. band.

Further details may be obtained from Trev. J. Kendrick, ZL2HP, 3 Ascot St., Palmerston North, New Zealand.

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NOTES ON THE BC221*

HERBERT W. GORDON, W1KWB/W1IBY

IN the practical sense, it isn't my wish to explain the operation of the BC221 or LM Frequency Meter since this subject is covered adequately in the calibration book accompanying each instrument and is fully covered in the technical manual TM11-300 issued by the government printing office in U.S.A. Rather, it is my wish to convey information not ordinarily found or otherwise available which will help the user obtain the maximum benefit from the LM series or BC221 type of instrument.

Before detailing what these specifics are, I would like to stress the need for thorough and complete understanding of the basic operating functions of the instrument. As a matter of fact, the operator should be so conversant and so familiar with these functions that he should be able, almost subconsciously, to understand the limitations and order of processes required in using the instrument.

Assuming such a degree of experience and utilising the best possible techniques, it is possible to achieve an order of accuracy with the BC221 amounting to 0.002% or even better. In contrast, the inexperienced, taking a BC221 as he gets it and merely getting it to function, will probably realise errors as great as 0.015%.

DETERMINING INSTRUMENT CONDITION

Before going any deeper into the subject, it is recommended that each BC221 be examined or analysed to determine its degree of condition, and I don't mean mechanical condition as much as I do electro-mechanical condition. Actually this is one instrument where every screw and bolt has to be tight, where every soldered wire has to be right, and where any significant changes in some portions of the circuit simply cannot be tolerated.

To determine whether your BC221 is in good condition, two simple tests are available. However, the first thing to do in checking your BC221 is to remove the nameplate, carefully putting aside the screws and lock washers. Behind the nameplate there should be chalked or crayoned a number. This was put on by the original manufacturer and this number subsequently became the serial number on the nameplate and on the frontispiece of the calibration book.

If your BC221 calibration book number does not match the plate or the number behind the plate, you are in serious difficulty. Many plate changes were employed by disreputable dealers in an effort to sell BC221s. I have noted in examining some thousands of instruments that, at various times, the manufacturer omitted marking his serial number behind the nameplate, so this omission by itself shouldn't be considered too serious.

★ The BC221 (or LM version), a desirable instrument in the shack, can be made more versatile and dependable with the suggested techniques and modifications. A comprehensive summary of all past articles covering this Frequency Meter is also given.

If the book does not match your instrument it is still possible to use the frequency meter and calibrate it with its own harmonic markers and sub-harmonic markers and with the aid of a slide rule, provided that the instrument is otherwise in excellent condition and complete. Such a process of calibration involves a great deal of work and careful concentration to avoid errors and was thoroughly covered in a previous magazine article.¹

CHECKING FOR ACCURACY

To check the frequency meter for accuracy the following procedure may be used. Set the function switch to the "heterodyne oscillator" or "operate" position. Set the range switch to "high". Set the main tuning dial somewhere in the 2,000-2,500 kc. region. A suitable spot would be 2,333.333 or 2,250 kc. Now switch back to the "crystal check" position and observe the resulting beat note heard in the earphones. The note should not exceed 150 cycles.

Another and somewhat more suitable test is to set the frequency meter to any crystal check point in the "high" range. Zero in with the corrector in the prescribed manner. Set the function switch to the "heterodyne" or "operate" position. Do not disturb the corrector setting. Now, move the main tuning dial to the next check point listed in the calibration book. Set the function switch back to the "crystal check" position; a tone will be heard in the phones. Note the main tuning dial reading and tune the dial for an exact zero beat. If the difference in the two dial readings exceeds 1.2 divisions, the calibration is not good.

On the low band this same test should indicate a maximum error not greater than 1.8 dial divisions. If the error is greater than this, your instrument is bad. The smaller the error the better the condition of your instrument.

At this point I would like to inject a third test utilised by the government to determine the quality of a BC221. This test involves a second instrument, preferably a lab. instrument of better quality, but it can be a second BC221, the quality of which is beyond question. The easiest method involves the use of frequency meter type receivers such as the 51J, the R338, R389 or R390 series.

To check a BC221 with these auxiliary devices, there are five specific test points on the low bands. These are: 130 kc., 160 kc., 190 kc., 210 kc. and 240 kc. On the high band there are four reference points tested. These are: 2,100 kc., 2,400 kc., 2,900 kc. and 3,800 kc. The deviations in dial divisions, when checked at any of these specification points against an external standard, should not exceed half dial division as measured with the vernier scale in order to be considered an excellent instrument. In effect, an instrument to be certified for F.C.C. purposes must meet this particular test. Those whose deviations reach one dial division are considered good and those greater than 1½ dial divisions are considered poor.

MAXIMUM FREQUENCY ERROR

Since the principal application of the BC221 is to measure radio frequencies so as to determine edge of band positions in compliance with tolerances imposed by the F.C.C., it follows that the ordinary error found in the BC221 should be both understood and rectified.

The technical manual TM11-300 is the source of the following statistics on possible frequency errors.

Cause	Error
Small shocks (caused by handling and thrust on the dial and panel)	100 c/s.
Action of locking the dial	30 "
Warming up	100 "
Change of load on antenna post	50 "
A drop of 10% in voltage, or of 5°C. in temperature	325 "
Error in calibration	500 "
Error in crystal frequency	250 "

Total Error 1355 c/s.

This represents 0.034% error at 4,000 kc. and is the theoretical maximum. Many of the errors may actually cancel each other rather than be additive. Also the error is less at lower frequencies. For example at 2,000 kc. it is only 985 cycles, and 125 kc. only 180 cycles. The average error that can be expected would be closer to 0.015% than 0.034%.

With these error percentages in mind consider the problems of checking band edges or setting a v.f.o. on the Army M.A.R.S. frequency of 3,289 kc. A maximum error 329 cycles is allowed by M.A.R.S. If the error is the maximum, 0.034%, the deviation can be as great as 1,120.3 cycles. However, as pointed out before, the error is more likely to be in the order of 0.015% presenting the possibility of a deviation 494.25 cycles, still in excess of the maximum permissible error.

IMPROVING ACCURACY

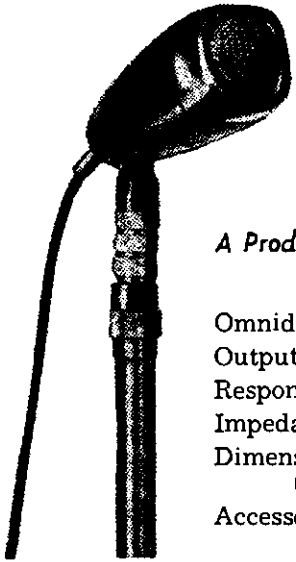
How then may we employ the BC221 as a reliable tool for measuring our frequency? The answer lies in a system known as the additive or subtractive system which recognises that the

* Reprinted from "CQ," August 1962.

1—Dudley, B. "Calibrating a BC221 Frequency Meter," "QST," March 1950, page 40.



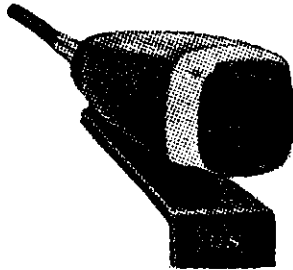
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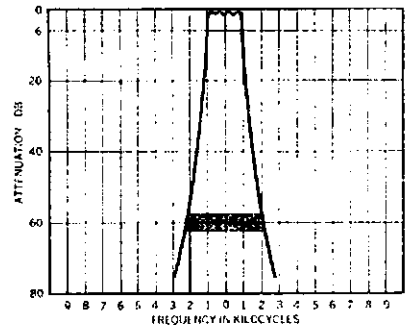
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PRACTICAL IMPROVEMENTS TO THE BC221

Several modifications enhancing the value of the BC221 have appeared in magazines³ over the past decade.

Modulation.—The most important improvement is perhaps the easiest one to accomplish and has to do with using the BC221 as a signal generator. This change is accomplished by merely adding tone modulation to the local variable frequency oscillator and either of two ways can be employed to gain this end.

First, we can add a small audio oscillator transformer wired in as is shown in Fig. 2, the circuit of the BC221AK. This involves a change in the function switch which permits the output of the variable frequency oscillator to be modulated approximately 375 cycles. The function switch in the BC221AK reads "off, warm-up, crystal, operate, modulate, check". In the "off" position, both the A and B battery circuits or power supply are disconnected. In the "warm-up" position 6 volts is connected, through the switch built into the phone jack, to energise the filaments in the three tubes.⁴ The B battery circuit is closed, subsequently, in the "crystal" position, energising all tubes with the exception of the variable frequency oscillator. In the "operate" position, the B voltage is applied to all tubes with the exception of the crystal oscillator portion of the multi-grid mixer.

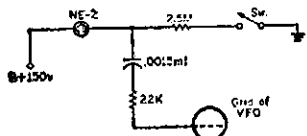


Fig. 3.—A simple relaxation type oscillator developed by DL4VG (W9YUE). Care must be taken to keep the leads short.

The "modulate" position, in addition to converting the audio amplifier circuit to an audio oscillator, the operation switch closes the B voltage circuit for all tubes with the exception of the crystal oscillator, and the plate circuit of the variable frequency oscillator is now connected to the modulator. In the "check" position, the audio amplifier circuit is restored to normal and the B voltage is fed to all tubes. This modification involves the acquisition of a small audio transformer and two resistors in addition to changing the function switch as shown in Fig. 2.

A similar modulating device, but without the complexity of the AK circuit, is one which makes use of a simple NE-2 neon lamp and several other components. This circuit is shown in Fig. 3. In operation, the switch is closed to provide a 400 cycle tone on

3—Pitts, J. E., "Tone Modulating the BC221," "CQ," August 1949, page 14. "Compact Power Supply for the BC221," "CQ," April 1947, page 30. Grayson, K. B., "Surplus," "CQ," April 1959, page 79. Wood, W., "Null Indicator for the BC221," "QST," May 1950, page 66. Carlson, H., "Adding Tone Modulation to the BC221," "QST," May 1948, page 68. Cross, H., "Using the BC221 Frequency Meter at V.h.f.," "QST," January 1950, page 46.

4—This is a safety precaution. The front panel lid cannot be closed if the phone plug is inserted. When the phone plug is removed the A batteries are automatically disconnected, thus preventing accidental discharge.

the carrier of the local variable frequency oscillator.

Null Indicator.—For those readers requiring a simple null indicator or zero beat detector, a 6E5 or 6G5 tuning eye tube, connected as shown in Fig. 4, will provide a positive means for indicating the low frequency beat notes. This device may be constructed externally to the BC221 and connection made through the phone jack if you don't wish to alter the BC221.

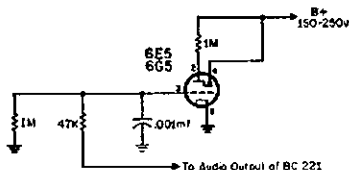


Fig. 4.—An excellent null indicator makes use of a 6E5 or 6G5 "tuning eye" type tube. The circuit, suggested by V6AMW, permits the operator to observe low level signals that are inaudible.

Harmonic Generator.—A most useful addition to the BC221 is the harmonic generator using a 6AK5 miniature tube as shown in Fig. 5. This can be assembled on a small bracket and fastened to the chassis of the original BC221 and should not interfere with the function of the original controls in the slightest.

Harmonics, useful through 300 Mc., will be generated by this device, and for those working with frequencies in the order of 2 and 1½ metres this is a very desirable addition to the original BC221.

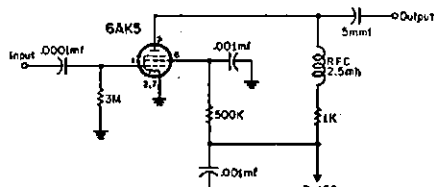


Fig. 5.—A harmonic generator to improve performance in the v.h.f. range may be added to the BC221.

BC221 AS AN AUDIO SOURCE

The BC221 can be used as a source of reasonably good audio frequency sine waves by turning on the low frequency portion of the BC221 and looking for the 10,000 cycle spread between 890 and 1,000 kc. You will find that this takes up over 800 readable divisions

with approximately 12 cycles per division. Therefore, with the meter in "check" position, the resulting beat note will be a reasonably, accurately known audio frequency. To check this, tune in WWV on your receiver and feed the receiver output to the horizontal amplifier of an oscilloscope. With the frequency meter set to 996 kc., the 4 kc. beat note which results should form a perfect circle or an ellipse when fed to the vertical deflection plates of the oscilloscope.

BC221 AS A V.F.O.

The BC221, with the aid of suitable isolation amplifiers and then untuned voltage amplifiers, makes an excellent adjunct to either your sideband transmitter or it may serve directly as a v.f.o.

A typical application would involve taking the output of the BC221 with its precisely known control of frequency and feeding it into a cathode follower and thence into two or more stages of broadly tuned 6CL6 multipliers or voltage amplifiers from which point the output will in all probability be sufficient to directly feed a 2E26 or 5763 or 6146. Thus the BC221 is capable of being a tremendous v.f.o. for a sideband exciter.

More details on this type of application may be found by referring to the "Radio Handbook" published by Editors and Engineers.⁵

Some further information may be gleaned from the previous articles listed below.

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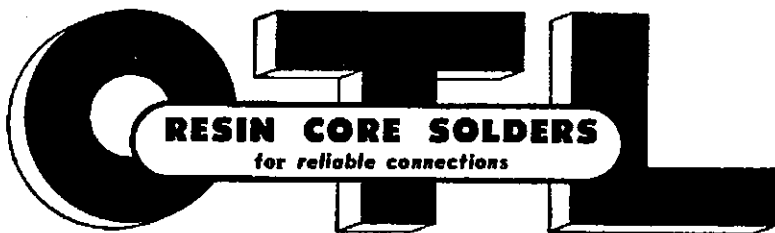


WORLD AMATEUR CALL SIGNS

The Federal Treasurer has for sale as usual at £1 post paid, recent back numbers of "Call Book Magazine". Copies available at the moment list American Amateurs only, but the "foreign" edition, listing all Amateurs in the world except Americans, may be available by the time "A.R." goes to press. Apply to the Federal Treasurer, Bob Boase, VK3NI, 50 Cardigan St., Carlton, Vic.

5—"Radio Handbook," Editors and Engineers, 11th ed., page 445.

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TECHNICAL TOPICS* BY PAT HAWKER, G3VA

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- ☆ Two-Stage Clamping
- ☆ Bridged-T Crystal Filter
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- ☆ Low-Cost Audio Filters
- ☆ "One-Knob" A.m. Transceiver

- ☆ V.h.f. Across Mountains
- ☆ The Simplest Modulator
- ☆ Prototype Construction

THE other day a youngster just becoming interested in Amateur Radio called round and asked if he could see the equipment. As is the way with these things, it was just at a time when a lash-up 1.8 Mc. transmitter was going through a period of drastic modification. The sight which met the youth's astonished gaze looked like something out of the early 'twenties, with trailing wires, twisted connections, meters and extra components resting on the bench, all forming a most glorious hay-wire effort (the home-built gear at G3VA is not exactly constructors' competition material at the best of times, but that day it really excelled itself). Clearly, this was not how he had imagined an Amateur station—and not at all like those tidy and impressive shacks in the magazines.

But after he had departed (disillusioned?), we began to wonder whether there is not a modern tendency among Amateurs to prize too highly the "professional" appearance: the control panel with every hole symmetrical and correctly filled; all control knobs carefully matched; every interconnecting wire cabled up and out-of-sight. Such equipment, of course, has much in its favour, and often represents great skill and forethought on the part of the constructor; but sometimes it may conceal a rather inflexible station which cannot readily be modified to take into account technical developments or a shift of interest on the part of the owner.

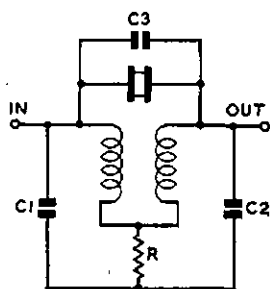


Fig. 1.—Basic bridged-T crystal filter. C1 and C2 are adjusted for maximum response at the series-resonant frequency of the crystal. C3 adjusts the position of the maximum rejection points. In some designs the series resistor R is omitted and the mutual coupling arranged as in an i.f. transformer.

Few experimental designs are likely to work well at first go, and it is only on v.h.f. that results are greatly affected by the actual construction. The production of original prototypes, no matter how rough so long as they do what was intended, can give great satisfaction. All credit to those who afterwards go on and produce a neat and really well-built working model, but we should not consider this the prime aim of the Amateur station, which in

this country was once officially classed as "experimental."

This is certainly not an attack on the careful constructor—far from it. But we feel that many Amateurs are deterred from attempting much home-brew equipment because they know that with limited tools or constructional experience, or lacking the necessary temperament, they will not produce equipment looking like a factory-built job. This, we suggest, is a sad reflection on our sense of priorities and could lead to our failing to enjoy much of the very best in our hobby.

SYMMETRICAL CRYSTAL FILTERS

Most of the professional texts on i.f. crystal filters devote considerable space to the bridged-T type of filter (sometimes called "combined crystal and mutual inductance coupled circuits"). With a single crystal two points of infinite rejection can be placed one each side of the crystal frequency, thus providing a symmetrically shaped response curve roughly similar to that

It was therefore with considerable interest that we noted in the German "Funk-Technik" (No. 6, 2 March, 1962), the use in an Amateur-bands receiver of a variable bandwidth filter which appears to combine both bridged-T and half-lattice techniques, using three 467 kc. crystals.

In the article, it is said that this filter (see Fig. 2)—developed by the Valvo firm (type AP1001/70)—is fairly easy to construct, though some care is needed in the choice of values for C20 and C27. The trimmers compensate for the crystal capacitances and the bandwidth is controlled by C22. Unfortunately, no response curves are included in the article.

Such a filter avoids the problem of staggered crystal frequencies as well as providing variable bandwidth, and we feel sure that members would be interested to learn of the results achieved by anyone experimenting with this type of circuit.

Another unusual feature of this particular German design for a home-built receiver is the inclusion of a built-in two-metre converter.

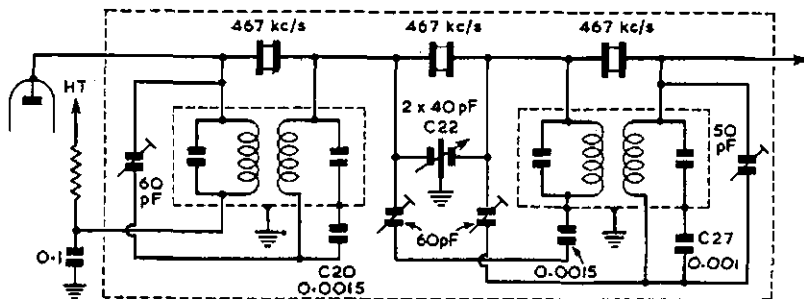


Fig. 2.—Valvo variable bandwidth crystal filter using three 467 kc. crystals. ("Funk-Technik")

of the more familiar two-crystal, half-lattice bandpass filter. The basic circuit is shown in Fig. 1, though some variations can be noted between different authorities.

Although this type of filter was successfully used in some wartime Service receivers (R201 and R206) as a plug-in unit (see a good description in Proc. I.E.E., Vol. 94, Part 3A, 1947), it never seems to have been widely adopted for Amateur receivers.

A possible drawback is that for optimum performance the inductance of the i.f. transformer coils and the mutual coupling have to be specified, and the series resistance (sometimes omitted) also affects results (typical value about 5,000 ohms). Yet clearly a useful filter can be made, quoted performance figures for one of the Service 465 kc. filters being: bandwidth —6 db., 2.5-3 kc.; bandwidth —60 db. (infinity points), 4.5-11 kc.; and better than —40 db. at lobes.

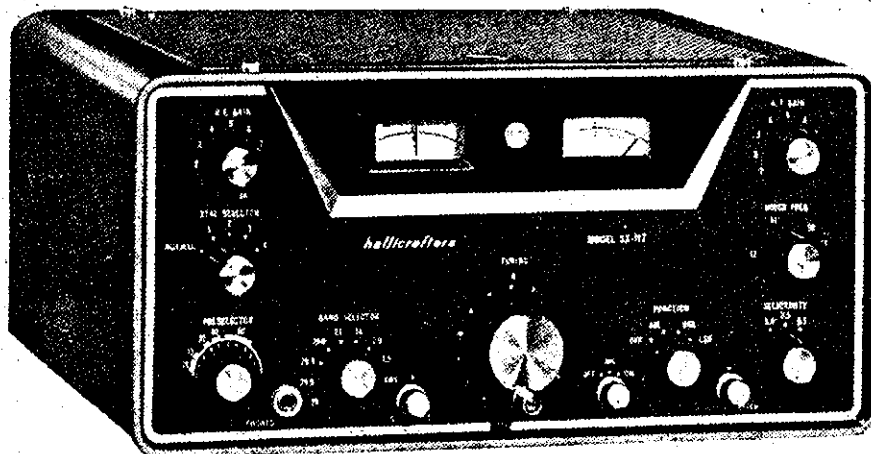
THE SIMPLEST MODULATOR

For those who run c.w. only transmitters, but who feel the urge to make an occasional phone contact without the expense of a high power modulator or a modulation transformer or even any extra h.t. supply, the following idea, though not new, may be of interest.

Almost nine years ago, W6LNN showed ("QST," Sept. 1953) how a very simple 6SL7/6Y6G modulator could be just plugged into the usual keying jack on many transmitters. Now, in "QST" (April 1962), W1PH revises the idea for a 1.8 Mc. rig. Fig. 3 shows the basic details.

When the modulator is inserted in the p.a. cathode lead, it provides principally grid-bias modulation, although there is a small amount of accompanying anode and screen-grid modulation. Almost any p.a.—triodes, tetrodes or pentodes, single-ended or push-pull—

* Reprinted from R.S.G.B. "Bulletin," June, '62.



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The SX117 is a new triple conversion heterodyne type communication receiver with crystal controlled high frequency oscillator on all ranges

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- ★ Spurious responses down 50 db.
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SX-117 is shipped with crystals to cover: 3.5-4.0 Mc., 7.0-7.5 Mc., 14.0-14.5 Mc., 21.0-21.5 Mc., 28.5-29.0 Mc.

Receiver can operate on most frequencies from 3 Mc. to 30 Mc. with use of proper crystals and with accessory unit HA-10 can be extended downward from 3 Mc. to 85 Kc.

A "T" notch is provided to give up to 50 db. attenuation to an unwanted heterodyne or c.w. signal that may appear within the i.f. passband. Sensitivity is less than 1 microvolt on a.m., and less than $\frac{1}{2}$ microvolt on s.s.b./c.w.

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| 6DC6—R.f. Amplifier. | 6EA8—V.f.o. Cathode Follower. | 6AU6—100 Kc. Calibrator. |
| 6EA8—1st Mixer, Cathode Follower. | 6DC6—2nd I.f. Amplifier (1650 Kc.). | 6BE6—Product Detector, B.f.o. |
| 12AT7—Crystal Oscillator. | 6EA8—3rd Mixer, S.b. Switching Oscillator. | 6BN8—A.m. Detector, A.v.c. Amplifier, A.v.c. Rectifier. |
| 6BA6—1st I.f. Amplifier (6-6.5 Mc.). | 6BA6—3rd I.f. Amplifier (50.75 Kc.). | 6GW8—1st Audio Amplifier, Audio Output. |
| 6BE6—2nd Mixer. | | |
| 6EA8—Auxil. Xtal Osc. (not supplied) | | |

Front Panel Controls and Functions: R.F. Gain, Audio Gain, Tuning, Function Selector (Upper/Lower S.S.B., A.M., On/Off Switch), Cal. Reset, Selectivity, Notch Freq., B.F.O., A.N.L./C.A.L., Band Selector, Phone Jack, Preselector.

Rear Chassis: Coax Antenna Connector, Audio Output (3.2 and 500 ohms), Line Fuse, Ground Lug.

Cabinet Size and Weight: 15" wide, 7" high, 13" deep. 18 lbs. net weight, 21 lbs. shipping weight.

Power Supply: 105/125v. 50/60 cycles a.c.

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should respond to this treatment. The efficiency is, of course, a good deal lower than with anode modulation, but it is said that good quality can be obtained since the correct operating conditions are developed almost automatically.

The transmitter is first tuned up as for c.w. and loaded to normal power; the modulator is then plugged in. The

particularly those using transistors. We have an idea that such an accessory would also be pretty useful to constructors. It is a logical extension of the old dodge of putting your finger on the grid and listening to the resulting hum, but with the great advantage that it produces a signal extending well into the r.f. range, so that one need not stop at the detector stage.

Design for Electronics" (Newnes), this can comprise a number of valve-holders, preferably with the heaters pre-wired (but watch out for the odd octal valves which do not use pins 2 and 7 for this purpose); a long tag strip (or one on each side) for locating resistors, fixed capacitors, transistors, etc.; space for rapid mounting of "iron" components, electrolytics, etc., and with plenty of holes available for mounting any other components; either a pre-drilled vertical panel or a series of mounting brackets for variable capacitors, potentiometers, etc.; suitable terminations for power-supply leads, possibly with bus bars running the length of the chassis. One idea is to have p.v.c. wires permanently attached to the pins of the valve-holders with colours corresponding to the usual colour code (brown pin 1, etc.).

For lighter work, and particularly for small transistor units, a very convenient form of construction is described in one of the leaflets issued by the Mullard Educational Service (No. 20, "The Mullard Pegboard Circuit System"), devised to enable experimental and permanent circuits to be quickly and cheaply constructed for demonstration purposes.

The basis of this system is soft pegboard (recognisable by its light colour from the darker, rather brittle type) in conjunction with numbers of cylindrical brass pillars $\frac{3}{8}$ " in length and $\frac{3}{16}$ " in diameter, tapped at both ends with a 6 BA thread (the pillars are cut from standard $\frac{3}{16}$ " brass rod and tapped). These pillars can be just pushed into the pegboard (for what is

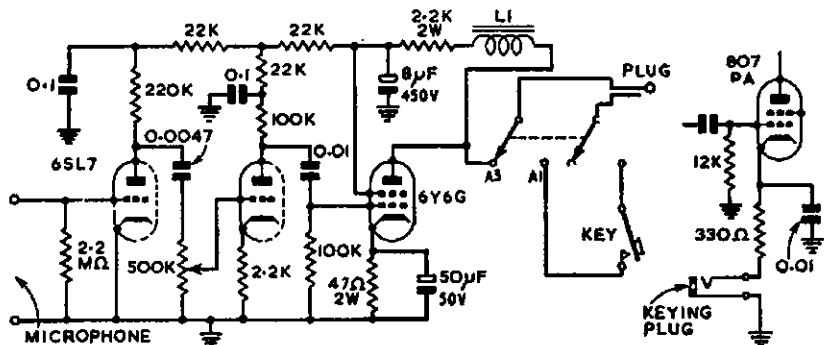


Fig. 3.—W1PH's version of the W6LNN "simplest modulator". LI is a small filter choke of about 15 H. ("QST")

p.a. anode current should then drop to about half the previous reading—and this is the correct condition for phone.

The small filter choke removes the a.f. component from the h.t. supply for the two-stage speech amplifier, in this case a 6SL7. The h.t. supply for the p.a. (from which the h.t. for the modulator is series derived) is about 400-600 volts.

CONDENSED ROTARY DIPOLE FOR 14 Mc.

The rotating dipole can still be a most useful aerial for those who want to radiate signals to all points of the compass without the constructional and adjustment problems of a multi-element beam. But for 14 Mc. it is often difficult to fit a rotating 33 ft. element into the space available.

In "CQ" (March 1962) K2EEE describes the construction of a mini-dipole (Fig. 4) of about 16 ft. overall length, using two 7.5 μ H. loading coils (approximately 11 turns on $2\frac{1}{2}$ " diameter former, 6 t.p.i. using U.S. No. 12 or 14 wire).

Final adjustment is made by two end lengths (each 2 ft. long) of $\frac{5}{8}$ " tubing which slide into the main $\frac{3}{4}$ " tubing. K2EEE's centre hardwood mounting is 28" by 2 $\frac{3}{4}$ " by $\frac{3}{4}$ ", and at the two coil mounts, the ends of the $\frac{3}{4}$ " tubing are flattened and sandwiched between two 6" by 2" polystyrene plates with the coils connected to the inner mounting screws. The dipole need be rotated by only 90°, or even less if necessary.

SIMPLE SIGNAL INJECTOR

More and more service engineers are finding that a simple multivibrator type of generator can be a useful aid for stage-by-stage tests of receivers—

Several designs have appeared using transistors, permitting a small generator to be built to a size and shape approximating that of a fountain pen, with an output probe in place of the nib.

Fig. 5 shows one recent design, from "Radio-Electronics" (March 1962), using small mercury cells to power the transistors; these transistors were type 2N1265/5 in the original, but almost any small-signal type should be reasonably effective.

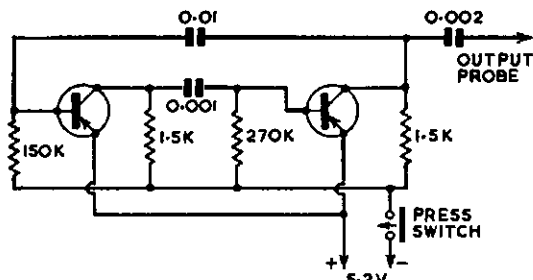


Fig. 5.—Signal injector for servicing and testing, built into unit resembling a ball-point pen. ("Radio-Electronics")

RAPID PROTOTYPE CONSTRUCTION

Those who are interested in trying out new ideas and circuits soon feel the need for methods of speeding up the assembly of prototypes without incurring the expense or drilling of individual chassis.

After the initial ideas have been committed to paper in the form of a circuit or possibly a rough sketch of layout based on available parts, comes the time for the first hook-up. At this stage it can be very useful to have available some partly-wired chassis kept for this purpose.

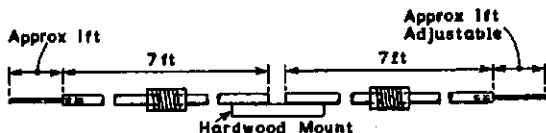
To adapt some of the ideas for a universal experimental chassis put forward in R. H. Garner's "Mechanical

sometimes called "temporary permanent" hook-ups), or firmly attached to it by means of 6 BA nuts with washers or solder tags. These pillars are then used as tag points for mounting light components and wiring, or for attaching heavier parts; if the component mounting holes do not exactly match the pegboard hole spacing, the pillars can usually be sloped a little to accommodate the difference.

Wiring can either be all on the component side or concealed on the opposite side of the board. This general technique is, of course, most suitable for lower frequency circuits where the effect of the brass rods is negligible; for r.f. work it might be advisable to use the rods solely for mounting purposes, possibly in conjunction with conventional tag strips.

More complicated equipment (Mullard mention a square-wave generator as an example) can be made by assembling two layers of pegboard above one another.

Fig. 4.—K2EEE's mini-dipole for 14 Mc., fed with 70 or 80 ohm coax ("CQ")



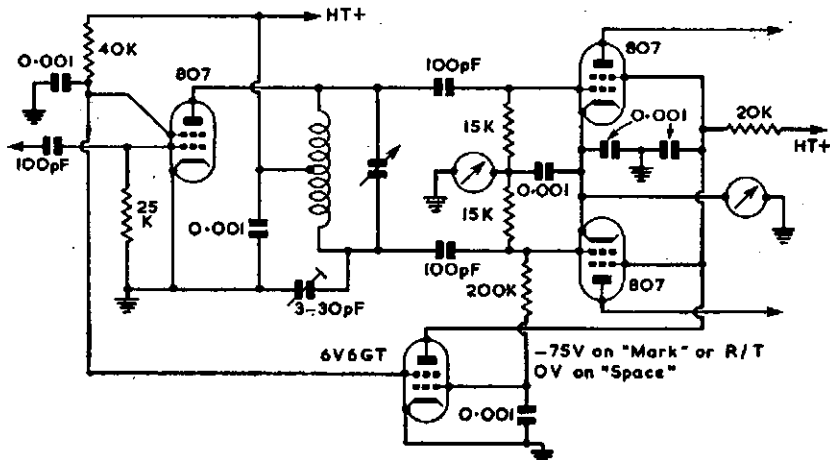


Fig. 6.—VP3MC's two-stage clamp circuit.

TWO-STAGE CLAMPING

The use of screen grid clamping valves with grid current biased p.a. stages has been popular for a number of years with little variation of circuit details. Now, however, VP3MC sends along information on an arrangement which he has been successfully using for some time and which he feels may be useful to others.

This differs from the conventional system in that the clamping action is applied simultaneously to the screen grids of both the buffer and the p.a., resulting in much lower standing current during "key up" ("space") con-

ditions, providing also a useful safeguard during tuning up of the earlier stages or during loss of drive.

"Should a common gridleak resistor be used for the p.a. valves, the blocking bias for the clamp valve would be taken from this resistor, and if the point is at zero r.f. potential the isolating resistor would not be required. Compared with a triode-connected clamp, the improved action on the p.a. is because the screen grid of the clamp valve is at a higher potential during 'space' conditions, but is low enough to effectively clamp the buffer stage."

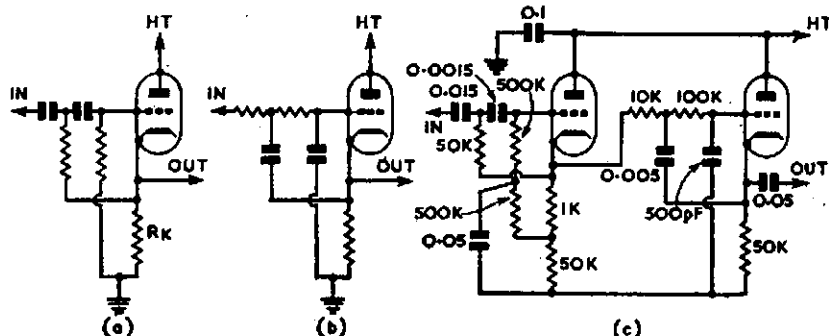


Fig. 7.—A.f. filters without "wound" components: (a) basic high-pass filter; (b) basic low-pass filter; (c) practical design for bandpass filter using cascaded high and low-pass filters. ("Electronics" and "DL-QTC")

ditions (thus incidentally creating less "noise" radiation) and the need for both stages. Fig. 6 shows his circuit, though the scheme could be readily adapted to other transmitters.

VP3MC writes: "The screen grids of the p.a. are fed from the main h.t. via a 20K resistor. The anode of the clamp valve is tied to the screen grids of the p.a., and the screen grid of the clamp valve connected to the screen grid of the buffer. At VP3MC the grids of the p.a. valve are fed via grid-blocking capacitors with individual gridleak resistors of 15K ohms each. The blocking bias for the clamp valve is therefore taken from the grid of only one of the p.a. valves, via a 200K ohms $\frac{1}{2}$ watt resistor connected closely to the p.a. grid lead for the purpose of isolation, so as to counter any unbalancing effect. On c.w. the v.f.o. is keyed, and this two-stage clamp holds both buffer and p.a. down to very low values of

LOW-COST AUDIO FILTERS

There are a number of applications in both receivers and transmitters for low-pass, high-pass and bandpass audio filters which give a "roll-off" of the order of 12 db./octave outside their pass range. Most such filters have

tended to depend upon "wound" components such as toroids and audio chokes. In "Electronics" (April 10, 1959), it was shown that low-cost high-pass (Fig. 7a) and low-pass (Fig. 7b) filters could be constructed using a cathode-follower valve in conjunction with three resistors and two capacitors; two such filters can be cascaded for bandpass characteristics.

The original article gives full design procedure for determining component values, though like almost all filter design this involves a fair amount of mathematics. However, we recently noted in "DL-QTC" (March 1962) a practical example for Amateur telephony; see Fig. 7c. This has a pass-band of about 250-3,000 c/s.

ONE-KNOB A.M. MOBILE TRANSCEIVER

The use of a single v.f.o. for transmission and reception is by now well favoured among s.s.b. enthusiasts. But there is, of course, no reason why the same principle should not be applied to a.m. set-ups. In "DL-QTC" (March 1962) DJ3YN describes a compact 3.5 Mc. "Einknopf" mobile rig which uses an EF80 e.c.o. as a basis for the transmitter mixer-type exciter and also for the receiver local oscillator; transmitter and receiver both being automatically tuned to the same channel. Fig. 8 shows more clearly than words how this is achieved. A simple adaptor, using a single 6U8A, to convert existing equipment to simultaneous transmitter and receiver tuning is described by W6EOT in "QST," May 1962.

IONOSPHERIC FORECASTING

An article in Proc. I.E.E. (March 1962) explains the new method of Ionospheric Forecasting now being used by D.S.I.R. This is based on the identification of "epochs" during which corresponding conditions prevailed in past years, rather than plotting completely new forecast maps as done previously. It has been found that it is usually possible to identify some period within the previous ten years when almost identical radio conditions occurred. One result of this new system, it is said, is a great increase in the accuracy of predictions made several months in advance.

KNIFE-EDGE DIFFRACTION PROPAGATION

V.h.f. enthusiasts will probably tell us that there is nothing new in the idea of getting signals across a mountain range by aiming their beams accu-

(Continued on Page 16)

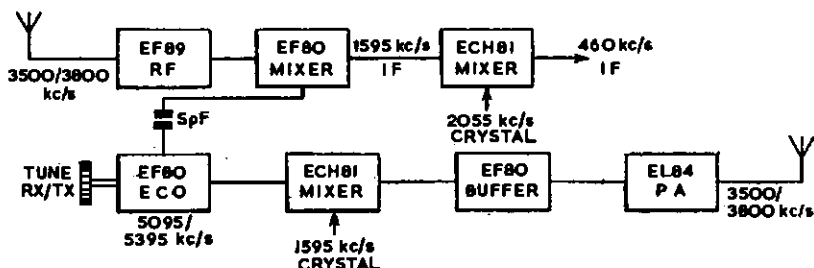


Fig. 8.—Part of the DJ3YN "one-knob" a.m. mobile transceiver showing how receiver and transmitter are tuned automatically to the same channel by the single e.c.o. ("DL-QTC")

Scouts who took part say . . .

"SUCCESS OF JAMBOREE-ON-THE-AIR DUE TO HAMS"

Despite the fewer Amateurs and Scouts who took part in the Fifth Jamboree-on-the-Air, it proved to be one of the most successful. Contacts established were more varied and of a generally higher quality than last year.

The success of the Jamboree was due to the co-operation, goodwill, and enthusiasm of Amateurs everywhere. Many so caught the spirit of the activity that they spent long periods seeking contacts for the Scouts who visited their shacks. There were, unfortunately, the odd instances when Scouts who had arranged to take part did not turn up, but, happily, these were in the minority. Two Victorian Amateurs were instrumental in making the Jamboree run smoothly. They are John Woodburn (VK3AGD) and Lin Brown (VK3ARL), Branch Organiser and State Co-ordinator for Victoria, respectively. Their unflagging enthusiasm, patient attention to detail, and "Scout spirit" was appreciated by all who had dealings with them.

There were sixty-nine Scout Groups in Victoria operating from fifty Amateur Stations during the Jamboree week-end. A notable feature was the increased number operating portable from Scout Halls, and the number of Amateurs and Scouts who took part for the first time.

Approximately 1,000 Scout visitors attended these stations and they all thoroughly enjoyed themselves. They exchanged greetings, arranged for penpals, chaffed each other about their towns and the weather, and generally had great fun.

600 contacts were made, and 450 of these were Group-to-Group. Included in the 600 were 71 DX contacts. These figures are not truly indicative of the results, as more than 50 stations, oper-

ating with Scouts, were monitored during the week-end.

Increased activity Interstate shows the interest which is gradually spreading throughout the Commonwealth. The encouragement given by the Wireless Institute of Australia, in assisting with preparations, publicity, and in a more practical way, by setting up official stations and operating for the benefit of Scouts, was greatly appreciated.

It was stimulating to note that a number of v.h.f. stations took an active part this year. It would contribute considerably to the Jamboree activity if the v.h.f. boys could be persuaded to combine their annual field day with the Jamboree next year, and thoughts on this matter would be appreciated.

One of the most widespread criticisms heard during and after the Jamboree was that it was not well publicised overseas. Here is an opportunity for DX enthusiasts to do a good turn for the Boy Scouts by talking about the Jamboree to their DX contacts during the next twelve months and arranging skeds when Scouts can be present in their shacks.

The earnest and excited activity during the forty-eight hours of the Jamboree is evidence that interest is increasing. Scout leaders have found it instructive, fascinating, and a practical way of bringing home to their Scouts the meaning of the fourth Scout law: "A Scout is a friend to all and a brother to every other Scout, no matter to what country, class or creed the other may belong."

In addition to this, the Jamboree-on-the-Air has other far-reaching possibilities. It may well be a source of future Amateurs and members of the W.I.A. The formation of Youth Radio Clubs, in Scout Groups, similar to those

at present being promoted throughout all Divisions of the W.I.A. would help ensure this.

The Jamboree-on-the-Air was an indubitable success, and the thanks of the Boy Scouts Association are extended to all who helped to make it so.

—L. D. Marmo, "Jamboree-on-the-Air" Publicity Officer, Boys Scouts Association, Victorian Branch.

TECHNICAL ARTICLES

Readers are requested to submit articles for publication in "A.R.," in particular constructional articles, photographs of stations and gear, together with articles suitable for beginners, are required.



Manuscripts should preferably be typewritten but if handwritten please double space the writing. Drawings will be done by "A.R." staff provided that the article is illustrated.



Photographs will be returned if the sender's name and address is shown on the back of each photograph submitted.



Please address all articles to the
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RESULTS OF 1962 REMEMBRANCE DAY CONTEST

Our congratulations this year go to Western Australia for retaining the trophy for the second year in succession. Western Australia had the highest percentage participation. Highest State log average this year goes to South Australia. Inspection of the Total State Points column shows that the Contest was very keenly contested, and for the want of a dozen or so more logs from either Queensland or South Australia, any of three States could have won. It is noteworthy that Queensland, who usually run a poor last in this event ran into second place.

All sections of the Contest were keenly contested with some excellent individual scores being registered. Conditions for this year's Contest were not as good as in previous years, and most of the scoring was done on 80 and 40 metres during the period of night operation. Another interesting sidelight is that use was made of the 160 metre band which has not previously been available. Some operators were able

to avail themselves of bonus points by using the 6 metre band.

On the whole, logs returned were of a fairly high standard, although some listeners' logs still persist in claiming points for stations heard and also for stations called.

The task of the F.C.C. could be made somewhat easier by the adoption of a standard Contest Log Sheet. Regarding the issuing of Certificates, the newly formed F.C.C. is awaiting the supply of Certificates from Federal Executive, and when these are to hand this matter will be attended to promptly.

F.C.C. has received suggestions that the Phone Section of the Contest should be divided into s.s.b. and a.m. Further comments from members regarding this matter would be welcomed.

Once again our congratulations to Western Australia for a splendid win and our hope that some new State may win the trophy next year.

—Federal Contest Committee.

Call	Cont. Pt.	Phone—	Call	Cont. Pt.
VK2AHH	333		VK2AKV	20
2NB	233		2SU	35
2AHT	220		1AB	17
2VJ	202		2ACQ	21
2KJ	151		2IV	18
2ANO	111		2OE	20
2APP	120		2ACD	21
2TO	103		2RU	16
2XT	105		2APQ	22
1AOP	127		1ANR	12
2ALV	128		2WT	16
2AHV	96		2XU	11
1VP	80		2LA	17
2BB	99		2BJ	16
2GT	88		2ADL	11
2HD	82		2ATQ	12
2ARU	96		2AJL	9
2RX	82		2IJ	15
2ARI	53		1PM	17
2AGF	53		1ACA/Log	
2AEB	36		1SB	11
2OD	50		2EY	13
2EL	56		2AAJ	5
2ACZ	55		IDG	11
2AIM	41		2AQR	11
2MW	35		2AIA	7
2CU	49		2CS	5
2ATX	37		2SI	8
1RS	26		2GV	9
2ZF	21		2CF	12
1ACA/Log			1TM	6
1KM	41		2ACQ/P	6
2OH	36		2AKL	6
2AHA	27		2AWX	5
2ADE	21		2AAH	6

DETAILS OF STATE SCORES

	Total State Score	Aver. Top Logs	Licen-sees	Log Entry	Per-cent-age	State Log Aver.	Total State Points
New South Wales	17,854	782	1,377	104	7.5	171.6	2,130
Victoria	17,476	673	1,342	92	6.8	189.9	1,871
Queensland	14,466	645	449	87	19.3	166.0	3,447
South Australia	16,162	943	520	78	15.0	207.0	3,367
Western Australia	10,646	627	297	87	29.2	122.4	3,746
Tasmania	5,910	540	156	45	28.8	131.3	2,245

VK2YY—Check Log.
VK2ACI—Ineligible Log.

VICTORIA

Top Six Logs—

VK3ALZ	813	points
3AZZ	703	"
3ADW	646	"
3DF	645	"
3AIT	633	"
3RV	600	"

Open—

Call	Cont. Pt.	Call	Cont. Pt.
VK3ALZ	282	VK3XB	101
3AXK	222	3QP	104
3APJ	187	3KB	71
3HG	110	3YS	22
3KC	128	3ASC	21
3AST	83		

Phone—

Call	Cont. Pt.	Call	Cont. Pt.
VK3AZZ	282	VK3AYD	44
3ADW	244	3IC	45
3DF	218	3HL	31
3AIT	227	3NX	40
3RV	133	3GX	33
3ARD	228	3AFU	38
3NN	174	3ACN	33
3ABP	184	3ATS	23
3AHA	185	3XE	24
3ACI	149	3AHG	17
3ATN	101	3AXU	25
3LW	130	3PP	16
3DQ	123	3AAT	25
3AWT	127	3AWF	18
3QV	120	3ZU	17
3ARJ	104	3YA	21
3WB	111	3AFP	22
3AUL	103	3OVP/Log	
3AZM	114	3UM	7
3VZ	89	3ACD	12
3OM	106	3ALD	17
3AFJ	112	3ABT	15
3AXT	105	3ABL	12
3YQ	78	3AJJ	11
3SK	73	3ACS	11
3FW	48	3ALU	19
3SM	89	3IE	8
3XY	76	3AAD	17
3ASW	80	3RN	11
3DU	80	3XK	11
3AZR	88	3PW	11
3OY	40	3AD	6
3ZS	60	3AGD	7
3HE	37	3ZK	8
3AFF	45	3AWW	6

VK3ZR—Check Log.

STATE TROPHY

Western Australia .. 3,746 points

Highest State Log Average

South Australia .. 207 points

Highest Individual Score

VK5MS .. 1,286 points

Award Winners

Open—

VK2AHH—R. J. Whyte	1,218	pts.
3ALZ—I. F. Berwick	813	"
4DP—D. M. Portley	734	"
5JN—J. M. Brammer	624	"
6RU—J. E. Rumble	889	"
7SM—S. G. Moore	614	"

Phone—

VK2AHH—N. A. Hanson	902	pts.
3AZZ—R. J. Gray	703	"
4RH—A. L. Hoey	756	"
3MS—M. S. Millock	1,286	"
6MK—H. T. Mulder	775	"
7MS—D. M. Slowan	735	"

C.w.—

VK2APK—D. F. Kiesewetter	416	pts.
3RJ—R. E. Jones	293	"
4XW—G. Harmer	315	"
5MY—H. M. Roberts	400	"
6SM—M. H. Shaw	289	"
7LJ—L. R. Jensen	167	"

Receiving—

L2211—R. C. Abernathy	888	pts.
L3065—I. D. Thomas	986	"
—C. T. Taylor	959	"
L5015—W. J. Clayton	833	"
L6021—P. Drew	815	"
—G. C. Johnston	748	"

NEW SOUTH WALES

Top Six Logs—

VK2AHH	1218	points
2AHH	902	"
2BO	296	829
2FE	279	640
2VN	172	526
2SG	180	514
2DO	168	358
2HO	152	343
2RA	123	298

Open—

Call	Cont. Pt.	Call	Cont. Pt.
VK2AHH	447	VK2FN	100
2BO	296	2HC	93
2FE	279	2ARZ	97
2VN	172	2AQJ	76
2SG	180	2CK	60
2DO	168	2HZ	28
2HO	152	2AUC	35
2RA	123	2AAB	21

C.w.—

Call	Cont. Pt.	Call	Cont. Pt.
VK2APK	131	VK2OY	30
2QL	148	2JM	26
2EO	132	2ZO	18
2NS	90	2IC	9
2AKB	77	2ZC	18
2DA	91	2AOW	21
2YB	89	2EG	15
2PQ	74	2AXK	13
1SG	48	2DI	11
2GW	25	2OT	7

C.w.—

Call	Cont. Pt.	Call	Cont. Pt.
VK3RJ	135 293	VK3KS	35 88
3AKN	94 292	SAND	48 84
5IB	122 292	3ZC	48 80
3ZA	97 209	3DG	11 14
3ARX	64 180	3YU	6 10
3JI	52 138	3JO	7 8

QUEENSLAND

Top Six Logs—

VK4RH	758 points
4DP	734
4UX	704
4QJ	605
4RZ	538
4LT	534

Open—

Call	Cont. Pt.	Call	Cont. Pt.
VK4DP	287 734	VK4SN	22 75
4ZB	87 323	4CN	14 53
4DO	105 240	4QW	25 43
4JR	21 84	4GH	13 18

Phone—

Call	Cont. Pt.	Call	Cont. Pt.
VK4RH	282 758	VK4LW	44 100
4UX	282 704	4LE	43 93
4QJ	249 605	4NG	24 82
4RZ	213 538	4YJ	43 80
4LT	203 534	4HZ	53 76
4TM	187 490	4AF	24 74
4PS	120 412	4NP	18 68
4BQ	132 395	4NS	27 68
4CP	139 371	4ZAZ	14 67
4VB	143 352	4VJ	20 65
4NB	129 349	4CZ	21 65
4OR	102 348	4PF	27 57
4HC	71 306	4LE	24 53
4LJ	114 294	4ZWB	9 52
4EZ	78 273	4HA	12 45
4WW	77 250	4RX	16 35
4EJ	103 238	4LA	20 35
4ZR	90 221	4PJ	10 30
4MF	94 217	4FN	19 30
4EB	72 207	4GG	21 28
4WS	98 197	4ZM	6 27
4FY	57 181	4AQ	8 24
4UW	80 186	4CI	14 24
4WO	48 184	4FJ	7 23
4ZZ	72 158	4ZW	8 22
4PU	58 148	4HD	7 19
4CW	57 144	4RW	8 19
4BB	70 144	4PR	6 17
4RL	48 138	4OL	14 17
4RO	67 132	4WD	5 8
4KO	49 126	4GS	6 7
4OV	50 110	4LN	7 7
4SL	32 102	4ZP	6 6

C.w.—

Call	Cont. Pt.	Call	Cont. Pt.
VK4XW	131 315	VK4SS	16 59
4VR	97 232	4JB	13 49
4OJ	114 248	4SD	19 46
4DU	98 220	4JF	30 46
4CK	76 167	4WY	9 37
4HH	50 141	4AW	8 16
4XP	51 120		

SOUTH AUSTRALIA

Top Six Logs—

VK5MS	1286 points
5ZK	1158
5KK	1157
5FT	757
5UA	677
5JN	624

Open—

Call	Cont. Pt.	Call	Cont. Pt.
VK5JN	250 624	VK5ZC	67 153
5TC	216 550	8UX	62 117
5CV	111 378	5AG	22 79
5EU	131 367	5KI	39 57
5QR	135 317	5RK	12 54
5WO	80 230	5HM	16 47

C.w.—

Call	Cont. Pt.	Call	Cont. Pt.
VK5MY	161 400	VK5EJ	52 107
5XK	134 363	5OR	41 81
5LD	124 323	5TL	29 60
5JT	82 200	5RX	12 46
5ZF	84 200	5KU	14 42
5PY	80 194	5FM	5 7

Phone—

Call	Cont. Pt.	Call	Cont. Pt.
VK5MS	457 1288	VK5WN	37 102
5ZK	421 1158	5SJ	67 97
5KK	422 1137	5CH	30 92
5FT	263 757	5IB	31 91
5UA	283 677	5LC	35 70
5DJ	272 574	5SS	37 57
5JR	199 508	5CJ	35 56
5US	117 358	5WV	20 53
5DF	131 342	5OK	21 51
5EF	123 314	5UA/Log	
5TM	116 290	5UZ	18 44
5WC/Log		5PM	31 44
5QX	114 273	5IQ	11 39
5AX	111 249	5OB	13 38
5HA	138 230	5YC	10 35
5TJ	83 222	5OZ	25 34
5ZB	69 190	5LN	24 33
5HW	45 168	5ZQ	24 31
5GW	89 161	5CO	7 28
5IM	51 147	5DO	10 27
5MT	64 143	5JG	14 24
5AQ	50 127	5WV	13 20
5UF	49 123	5XU/P	6 17
5XM	61 123	5KS	7 15
5KC	57 121	5PS	10 13
5GX	31 113	5EI	7 12
5WX	42 111	5YA	6 10
5LL	61 104	5OV	7 9

WESTERN AUSTRALIA

Top Six Logs—

VK6RU	889 points
6MK	775
6KW	717
6XR	521
6PH	451
6RY	413

Open—

Call	Cont. Pt.	Call	Cont. Pt.
VK6RU	368 889	VK6JK	20 45
6RH	193 451	6EZ	19 41
6BE	72 154	6VK	12 28
6HK	21 49		

Phone—

Call	Cont. Pt.	Call	Cont. Pt.
VK6MK	301 775	VK6RW	40 80
6KW	292 717	6RG	29 75
6XR	209 521	6TB	32 75
6RY	172 413	6DC	31 71
6AR	152 394	6AB	27 64
6XO	160 382	6BO	29 64
6RX	142 311	6TR	24 60
6MF	106 249	6MM	23 49
6RE	102 231	6GD	20 48
6CW	98 222	6KN	22 48
6QL	86 220	6DI	22 45
6JO	78 175	6SJ	17 41
6TH	80 171	6KH	16 37
6LR	71 168	6AW	13 28
6CN	64 143	6GR	14 28
6RH	57 137	6MR	11 24
6XG	60 136	6HS	10 23
6JS	58 131	6LM	11 23
6CR	56 128	6GB	9 22
6ZZ	50 126	6RO	7 21
6YL	57 122	6MB	7 21
6AV	43 121	6MO	7 19
6DX	48 114	6AG	7 18
6CA	45 102	6TY	9 18
6CL	42 101	6LS	6 18
6BU	42 98	6LK	7 15
6GH	40 96	6TX	6 15
6CJ	43 96	6EB	11 15
6KJ	35 84	6WI	6 13
6CP	32 82	6VF	8 13
6LF	33 82		

C.w.—

Call	Cont. Pt.	Call	Cont. Pt.
VK6SM	122 289	VK6JA	9 21
6AS	60 141	6WT/Log	
6RS	54 113	6KX	7 20
6ZO	46 103	6DF	6 18
6WT	32 76	6UF	7 17
6VR	30 75	6CE	8 14
6TS/P	16 45	6MY	7 12
6BA	21 42	6AJ	7 11
6WG	10 24	6GM	7 10
6AS/Log		6RK	6 9
6GA	7 23		

TASMANIA

Top Six Logs—

VK7MS	735 points
7AI	690
7SM	614
7JF	449
7SF	428
7KH	331

Open—

Call	Cont. Pt.	Call	Cont. Pt.
VK7SM	212 614	VK7JG	20 43
7ZZ	123 301	7WI	10 28
7KS	100 249	7WI/Log	
7DS	44 72	7AL	6 16
7YL	15 47		

Phone—

Call	Cont. Pt.	Call	Cont. Pt.
VK7MS	275 735	VK7JO	24 35
7AI	222 690	7RX	14 32
7JF	189 449	7EB	17 32
7SF	168 428	7AB	17 30
7KH	128 331	7DR/Log	
7XL	114 259	7JP	10 21
7IL	115 221	7DR	10 19
7CT	77 147	7JD	9 18
7TT	37 87	7AX	7 17
7BQ	28 62	7BT	6 14
7MX	28 62	7DK	9 14
7FJ	20 58	7DA	6 13
7FH	15 35	7RM	6 12
7MY	16 35	7CF	7 8

C.w.—

Call	Cont. Pt.	Call	Cont. Pt.
VK7LJ	68 167	VK7CH	20 58
7KA	52 130	7BJ	30 58
7RY	42 91	7EC	17 45
7AG	27 69	7RK	12 33
7MZ	30 68	7WA	7 14

VK7ZW—Disqualified Log.

PAPUA/NEW GUINEA AND TERRITORIES

Call	Cont. Pt.	Call	Cont. Pt.
VK9DJ	138 386	VK9LA	20 67

ANTARCTICA

Call	Cont. Pt.	Call	Cont. Pt.
VK0JM	10 60	VK0DW	9 54

RECEIVING SECTION

New South Wales—

WIA-L2211-R. C. Abernethy	888 points
L2033-D. Shephard	638
H. St. John	429
L2262-R. Oats	303
L2250-L. Miller	228
B. McPherson	227
R. Bowden	225
L2259-P. Vernon	222
L2001-B. Smyth	180
L2229-L. O'Shea	154
L2233-R. Erwin	105
L2064-A. Mullen	61
L2222-K. Rowe	31

Victoria—

WIA-L3065-I. D. Thomas	988 points
L3076-Q. Young	609
L3127-R. Gething	447
L3074-J. M. Hillard	421
L2022/VK3-D. M. Grantley	414
L3117-K. Reynolds	370
L3101-N. G. Harrison	333
L3042-E. W. Trebblecock	323
L3106-J. Kennedy	281
L3008-I. R. Woodman	212
L3089-J. Jobson	179
G. Hunt	174
L3093-C. Cook	46

Queensland—

WIA-L4021-H. N. Thompson	959 points
T. A. Lane	453
W. F. Summers	388
L4019-M. G. Hannah	273
G. W. Fox	98
G. Milner	64
L4010-G. V. Franks	43

South Australia—

WIA-L5015-W. J. Clayson	833 points
L5041-D. J. Coggins	620
J. Lodge	505
C. R. Walker	454
L5048-G. J. Whiteside	243
Miss O. J. Martin	25

Western Australia—

TECHNICAL TOPICS

(Continued from Page 12)

ately at a sharp ridge. That this technique has now been recognised and adopted by our commercial colleagues is made clear in "Electronics" (April 6, 1962). An article describes how 1855 Mc. signals from a 15 watt transmitter with a 10 ft. dish (parabolic) aerial sent signals over a 454 miles path across a range of mountains by aiming the aerial at an intervening ridge (3,789 ft. high), the signals being diffracted down the other side. It is forecast that ranges of 1,000 miles could be achieved using this type of scatter.

While on the subject of parabolic dish aerials, already being used by Amateurs for moon-bounce and radio astronomy, it is worth noting that the

Russians are reported to have constructed 20 metre dishes for cloud observation radar using reinforced concrete plated with zinc at a cost "some hundreds of times less than for a conventional metal structure." Better scout round the nearest building site for a spare concrete mixer.

FOLLOW-UPS

Another application of Nuvistors is highlighted in R.C.A. "Ham Tips" (Spring 1962). This is for low power miniaturised v.h.f. transmitters for mobile or fixed-station use. The high anode dissipation rating for their small size, their suitability for use up to 400 Mc., their rugged construction are all points in their favour. The article, by W2OKO, gives constructional details of a 144 Mc. transmitter with a pair of

7587 Nuvistor tetrodes in the p.a. for inputs up to $7\frac{1}{2}$ watts, and two 7586 triodes in the earlier stages. The whole r.f. section sits comfortably on a 5" x 7" piece of copper or brass. In the May "QST" W1YDS describes a simple and compact 420 Mc. super-regen. transceiver using a 6CW4 Nuvistor plus two a.f. transistors.

We have several times commented on the controversy still raging in professional as well as Amateur circles on the relative merits and demerits of the various a.m. and sideband modes. Latest shot is the argument that suppressed carrier has severe limitations for use in high speed aircraft because of Doppler shift (even a 20 c/s. error can upset data links and selective calling systems). So watch your speed on s.s.b. mobile!



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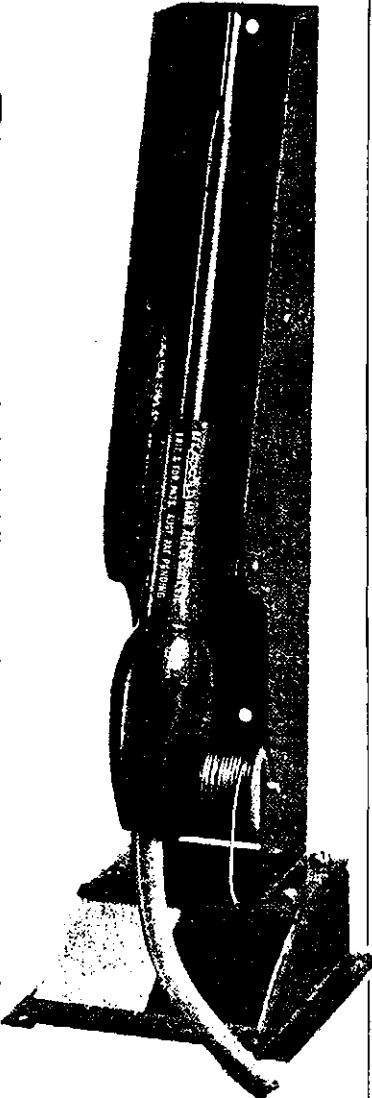
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VICTORIA

The annual election meeting of the VK3 S.w.l. Group took place in Sept. with 17 members in attendance. The general meeting moved along rather smartly and when closed it was time to elect office-bearers for the following twelve months, which resulted as follows: President, Bob Young; Vice-President, Noel Harrison; Secretary, Ian Woodman; Assistant Secretary, Craig Cook; Publicity Officer, Mac Hilliard; S.w.l. Notes Sub-Editor, Bob Young.

Maurie L3055 has recently returned from VK7 from his rather long holiday. It seems I was misinformed when it was stated in a past issue of "A.R." that he was moving over there for good. Goes to show you can't believe everything you hear. However, after getting everything in order at his QTH, the dust was blown out of the H.R.O. and when connected to the antenna it came to life, after wiring up a filter network for the product detector Maurice was in business again on the DX bands.

Yours truly is still playing around with 2 mx (receiving, that is). Heard a VK2RJ at 5 and 9, but unfortunately he was stationary mobile on Mt. Dandenong—some DX.

RADIO MAIL

I wish to thank the following for their mail: Chas. Abernethy, Colin Walker, Eric Trebilcock, Ross Erwin, Don Grantley, David Thomas, Tom Kennedy, and last but not least, Lew Sharpley, a new member from VK4.

Chas. L2211 has not been very active of late due to his son using the shack, and now that Chas. is back in the shack the rare DX is now being caught up. At present Chas. is preparing for the 50 Mc. season, and hopes to have the gear ready for the openings which he hopes are plentiful. A few improvements have been made to simplify operations on the 144 and 50 Mc. bands.

Colin L5056 has not been doing a great deal of listening this month due to the fact that he is studying for the A.O.C.P., which he hopes to sit for in Oct. or January. Needless to say, the rx has had little use. However, a few new Zones have been recorded during the month—they are Finland, Germany, Franz Jozef Land, Mexico, Fiji Island, Canada and Hong Kong.

Eric L3042 to date (9/10/62) has mailed 1264 reports and has received QSLs from 100 countries, 35 zones; also during 1962 126 countries and 38 zones have been heard. Eric is hoping that five or more members of the VK3 Group sent in entries for the VK-ZL Contest as his offer for prizes still stands. Also another offer from Eric. He has a chance to take three other VK3 s.w.l.'s on a week-end visit to a well known world DX Amateur located on a farm near a country town 150 miles from Melbourne. Visit will be in early 1963. If interested, contact Eric for further particulars.

Lew L4020 dropped me a few lines of his activities on the s.w. front. The rx he is using is a Zenith, feed with a 20 mx Hirtz antenna running E. and W. While recently looking through the s.w.l. notes, Lew thought he would like to be included in them and wants to send more information of his activities. (By all means do so, OM.) Lew is a new member of the W.I.A., VK4 Division, which has recently got under way and I am wondering if there are any more interested listeners that would like to see their name in print?

Ross L2233/P in VK3 at the School of Signals, Balcombe, on 3rd Oct. was listening to a station called Honolulu Radio. The freq. was approx. 8.96 Mc., the broadcast was in English and the station was giving data on the weather and temperature. The times heard were 2020 to 2025 and 2035 to 2040 E.A.S.T. Any available information concerning this station would be greatly appreciated. Ross is using a National T36T rx with a long wire antenna, 15 ft. high facing S.W. and N.E.

Don L2022 is finding things fairly quiet at his QTH, but managed to cross into VK3 for a few hours during the R.D. Contest and received a total of 414 points. Don also entered the VK-ZL Contest and hopes to receive a good score. Conditions up there are really good and with the gear working 100 per cent, and getting more time to operate, DX totals will be moving up the ladder.

David L2235, while reading Sept. s.w.l. notes, thought a letter from VK2 would not go astray (not by a long shot, David, the more the

merrier). Unfortunately listening has been placed in the background due to studies for the Intermediate being more important, but a chance arises to listen occasionally on 40 mx. The equipment being used at the moment is a four-tube d.w. rx, which is the only one working right now; a six-tube English com. rx and a 13-tube QSer under construction. The antennae are a 20 mx Window and a five element 2x mx beam. As yet there is no proper radio shack, but when a spare room is available, operating will take place from there. David has held a s.w.l. number for about nine months and has heard three countries (unconfirmed). Quite a few QSL cards have been sent out, but as yet received no returns.

Tom L3112 has received via this column and Hamads offers of help and assistance for his AR3 rx which is at present inoperative, including the offer of the original manual for the rx as a gift and thanks all concerned. Tom has put forward a suggestion to use the following information on QSL cards. The Royal Australian Navy will supply the precise location of the nearest railway station to a QTH, or area of operations, and this may be useful to those boys who go mobile, and need exact bearings for co-ordination purposes. Mr. A. Eggleton, the co-ordinator, Naval Public Relations, Dept. of the Navy, Canberra, is the gentleman concerned. The Navy cannot supply the exact reference to a house number, but the information supplied should be useful for most purposes of calculation. What do you think

of this suggestion that members indicate their location in latitude and longitude on QSL cards and reports?

S. Gregory, L5043, who did not leave a christian name, may be leaving the ranks of s.w.l. and may join the Z calls on 6 mx by the sound of things. He has recently completed the construction of a 4 element yag1 and a three-tube converter for 6 mx. The rx being used on the lower bands is a Marconi B28, the antenna system is a 10 and 20 mx dipole, 25 ft. high, also a 15 mx and 40 mx doublet (also suitable for 20 mx), and a long wire is being used for 80 and 160 mx.

Wishing all Short Wave Listeners and Amateurs all the best for Xmas and the New Year, and hope those long-awaited QSL cards come to Ye in '63. 73, Robert, L3076.

DX LADDER FOR DECEMBER

	Countries	Zns.	S.s.b.	W	
	Conf.	Hrd.	Conf.	Hrd.	
E. Trebilcock	277	282	40	—	50
D. Grantley	111	250	38	16	95
A. Wescott	84	159	31	9	107
M. Hilliard	69	211	33	9	116
M. Cox	56	217	29	20	128
C. Abernethy	44	85	27	—	14
N. Harrison	38	92	27	—	28
P. Drew	33	180	19	7	93
I. Thomas	28	134	18	8	88
P. Fields	26	133	—	—	—
D. Jenkins	10	141	7	—	—
H. Burger	6	185	5	1	19

YOUTH RADIO CLUBS

Did you know that we now have the official approval of the N.S.W. Dept. of Education? That we have the ear of the Boy Scout movement? That both the executive and engineers of the commercial broadcasting stations are very interested indeed? That the Air Training Corps in many centres would gladly have their classes do our certificates for higher all-round efficiency? That we are going to have more and better publicity for the real benefits of Amateur Radio than any other activity you can think of?

You don't have to force yourself to do something for a Youth Radio Club if you have experienced, just once, the expression on the face of a boy who has just heard the faint signal come through the little set he built himself, or the light in the eye of a youth of 16 or 17 who shows you the letter telling him he has passed A.O.C.P. You're on a certainty—anything you do for this movement MUST be for the good.

Harking back to the commercial broadcasting people, I must tell you that this is absolute fact. Here in Canberra, the manager of 2CA telephoned me to ask if I had a boy in the Lyneham High School Radio Club who would like a job. He reasoned, with good sense, that 2CA would be getting a trainee technician who would (a) have much basic knowledge, (b) have proved his aptitude for further study, (c) have settled in his mind that this was his career for good. One of our boys now has his job waiting for him after his Leaving Certificate examination. There was a further idea of an address to the Federation of Commercial Broadcasters on the Youth Radio Club scheme but it was not possible this year as the programme was already arranged. The chief engineer of the local t.v. stations is also interested in the possibility of trainee technicians. I understand all broadcasting and t.v. stations are short of technicians and trainees of quality. You Club Leaders—go sell 'em!

Without too much of a blow on the trumpet, can anyone beat this under present regulations? One of our boys, George Brzostowski, passed fully in A.O.C.P. at the age of 16 years 1 month, and is now VK1GB. We're proud of George's feat, but we'll gladly salute any better.

The N.S.W. Dept. of Education has officially approved Youth Radio Clubs in High Schools and it is expected that this will not only give the green light to Science Masters but will also

lead to Summer Schools to train science teachers in basic radio and methods of running a radio club. Surely each W.I.A. Division can get this far!

As your semi-volunteer scribe, I appeal to you all to give me information on club activities. Let me know about your members and your gear (or lack of it). Particularly let me know everything to the public credit of the movement—such as, for instance, boys who get a job through your club, all forms of public service and display, progress with State Departments of Education, etc. No letter is too trivial, and I hope to hear from all States. Can you write me a brief summary of all activities from the very beginning? I want to card-index you all and prepare a very thick file to re-inforce our next I.T.U. case. This is a situation where we must not only do good but also blow off about it.

A parting thought—when you write, can you tell me that your local parliamentary member is a patron of your club? Surely you can manage at least the mayor, if not both.

73, Ken VK1KM.

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The consensus from mail to hand is that the bands are worse than they have ever been at this time of the year. It figures, as last year's smooth Sunspot Number at this time was around 50 or more, and it will be down to approx. 15 next year. Not until 1987 can we expect the bands to really brighten.

Our present DX is governed by what is known as Sunspot Cycle 19 (1954-1965). The peak occurred during January 1958 when the smooth Sunspot No. was 210. It has now declined to a Spring No. in the vicinity of 30, and there is still more than two years of steady drop, when the smooth No. will be 10 or maybe less. This should occur around January 1965; after this, things should begin to improve, but probably not for 40 years or so will they be as good as the cycles past.

Ole Man Sol will carry on in his eternal way, but the next two score years is going to see an undreamt-of change in electronics and communications—and space travel, maybe W.A.S. Mars is not so fictional as it used to sound.

NOTES AND NEWS

Danny ZK1BY is operating from Suvorov in the Manahiki Group (Cook Is.) on 7006, 14065 and 14195; best time for the latter frequencies is around 0300 hrs. G.M.T. Next port of call is American Samoa, and then ZM6. More news as it comes to hand.

CR8AC, Portuguese Timor. Conditions being suitable for VK, many QSOs were had. Some have already recd. his QSL card. It comes from Aurelio Fernando De Brito Seco, Capitania Dos Portos, Dili, Port. Timor.

VK9LA, Cocos Keeling Is. If you still want this one, be patient as he is QRX for an HT37. However, listen on Mondays at 1300z on 14115 Kc.

JT1KAC and JT1KAG, Ulan Blator, are both fairly active on about 14020, mostly early evenings. You send the QSL marked JT13.

The following by courtesy of Bev. Cavender. The Florida DX report: Gus has left for Gough Is., ZD9AM. He plans to spend about 12 days signing ZD9AM. It will take about 10 days for Gus to reach Bouvet Is., where he plans to use LA0A for three to five days.

W4SSU says in the S.E.D.X.C. Weekly Report (W4MCM editor) that Marge ZS1IRM says there is at least limited 14 Mc. s.s.b. operation from ZS2MI, Marion Is. Marge plans to DX-pedite to Marion with c.w. and s.s.b., come next April or May.

It is fairly well known that ZS2MI shows for about an hour on Sunday mornings, around 14060 at 1500. On Sunday afternoon, Oct. 21, KAWIS telephoned long distance to your editor to inform that ZS2MI was on 14018 at 2000 G.M.T. Sure enough he was.

ZS6BBB and ZS6PC will be on from Bechuanaland from Nov. 29 to Dec. 3 according to N.E.D.X.A. Operation will be s.s.b. using 14315, 21445 and 28465 according to W.G.D.X.C. (Call down ten.) K4QBP has received some requests to see about ZS6PC/ZS8 cards which have not been received by some members of F.D.X.C. Warren talked with ZS6BBB about this (he was on the DX-pedition), who said that the anyone who has not received a card from the earlier, or the coming-up DX-pedition, should send him a card s.a.s.e. and he will make sure that the card is answered. His address: P.O. Box 9299, Johannesburg, South Africa.

Heard Is. Steve VK0VK expects to be operational from Heard Is. for approx. one month as of mid-January 1963. QSLs for the Heard Is. DX-pedition only will go via Nikki, K5ADQ. Kermadec will be on the air in mid-Nov. as Ian ZL1AF signs ZL1ABZ. QSLs to ZL2GX. Dick W0MLY is to DX-pedite to Navassa Is. in December.

DX Flash de K6BX. Don Miller, W9WVN, M.D., in AF, is headed for HL9KH for two years commencing Nov. 1, 1962. Will operate c.w. and s.s.b., 10 through 160 mx. He is seeking permission to DX-P from AC3, AC4, AC5, AP, BV, CR9, CR8, FUB, KA0, KB6, KC6, KG6, KJ6, KP6, KS6, MP4, TA, PK, VK9, VR1-3-4-5-6-9, VU4-5, XZ2, YA, YI, YJ, YK, ZC5, ZM6, 3W8, 4S7, 9M2 and 9N1. All QSLs will be promptly handled by W9VZP. Don says he will attempt to fulfill all requests for skeds handled through W9VZP.

HP1IE is expected to show on 7 and 3.5 Mc. very soon.

On the home front Frank VK2QL reports a membership in excess of 300 for the QRP Club. Some VK members are 3NC, 3RJ, 2QL, 4CK, 7SM, and yours truly. Any one of us will be happy to give interested parties partic. and benefits of same.

George VK5RX writes and supplies info. on several Awards. Recently he has received the W-38-Z (1st VK), OHA, WAZ, Taiwan Award, WPCF, W-21-Meridian, WA-VQ, etc. (Where do you put 'em all OM?)

VK3KB has made the "CQ" Honor Roll, WPX c.w. 400. 1st VK. (Nice work, Alf.)

ACTIVITIES

Ken VK3TL reports the 14 Mc. band good during the afternoon and early night. He worked on 14 Mc.: AP5AH, FT1DJ, DJ2-4-5-6-7, DL3-7-9, DM3, DU1FM, EA1BC, F7BK, F8IH, F9OQ, G2-3-4-5-6, GW3JI, HA1KSA, HB9, HC-1JU, HC0NE, HK3, HK7YC, I1ZL, I1NU, JA, KC6, KL7, KR6, KS6, KZ5EM, LA5HE, LA5VH, ON14KP, MP4TAM, OE1RZ, OH1-2, OK1-2-3, LZ4GL, PA0ADP, PA0LOU, SM3, SM5, SM-7CAB, SP5RF, SP6QH, SP7HX, SP8SR, VE1-3, VS4RS, VU2LN, VR2, XE1PJ, YU1NDU, YU-1HR, YU2AKL, YU3YU, YV5, ZK1AR (Manahiki), ZK1BY, 9M2FK, UA1-3-4-6-9-0, UB5, UC2AR, UL7NB, UM8ZF, UM8KA, UT5AA, UT5CO. 14 Mc. phone wkcd.: CE0ZI/MM, CR-9AH, DJ1-3-5, DL1, DL9, F2KC, F3EG, F8PK, FK8AC, G2-3-6-8, GB2SM, GWA5HN, HB9, HK3LX, I1CWN, I1TGM, KP4, KL7DGB/KS6, KZ5LA/MM, KZ5WZ, OA2AA, OA2F, OA4AI.

● An official bulletin from the A.R.R.L., No. 856, states that American D.X.C.C. credit will not be given for contacts where either station is operating by telephone using frequencies between 14,000 and 14,100 kc. This move by the A.R.R.L. is to enforce the principle that the bottom 100 kc. of the 14 Mc. band is to be used exclusively for telegraphy.

—VK4SS.

OE1RZ, OH2NI, ON4QX, PY2QT, UBSUN, UM-8KAB, VR30, VR5AA, XW8AT, Y510, YV-30L, YV5, ZE4JN, X4XG, Y4TZ, 9M2, QSLs recd.: DJ5GG, MX, D3S1, E1, DJ5CC, DL-1XZ, DL8BL, DM2BT, DM3ZT, G3MBN, I1, GQS, G8TC, H1AGI, JZ0MI, KX6AM, LA8WG, LUSHL, OE3RE, OK1KDT, ADF, OK-2YF, QR, OK3KAG, SMC50, SP8HT, UA1MA, UA0KFG, EK, VE4JT, VPSMJ, VQ9AA (Aldabra Is.), VR2DK, VS1GC, VU2PS, XE1OK, XW8AS, YV1EL, ZS1CD.

Chas. LZ211 logged in the past month on 14 Mc.: T1ZJC, G2FHM, EA3NI, G3FUT, EA3JE, CF1CT, HK7AJE, HK7AJE, OA4AA, OA4PE, YV5BFD, YV5BMG, OA2J, VS1GC, OA4CR—all between 1600-1800 hrs. E.A.S.T.

Bev. VK4BL, from Nth. Qld., QSO'd these, on 14 Mc. c.w.: JA5AJQ, JA6EJ, JA7OD, UA-0S2, UA9JS, UA4FP, UW9UI, UW5SD, UT5EW, UB5SE, UB8KAA, DL7GF, DL3RK, DJ1BZ, DJ8CN, OK2QR, OH5FT, HL9KB, SP8KAF, SP2AJQ, CR8AC, VU2GD, G8Z0 and many others. Some that got away were: U0E0U, UQ2DR, DJ4KF, DL5L, ZK1EY, I1IF, SM-7CXH, LU8DJX, YV1AD, HA7KPF, HB1WL, HC1JV, OH7QN, GM3CIX, FB8ZZ, VS1FZ, VU2LR, XW8AL, ZC5FF. Please write again, Bev., OM.

George VK5RX wkcd. this nice lot, all 14 Mc. c.w., times G.M.T. (JT1AG (1130), AP5AH (1204), VP9DL (0704), OH5TK/0 (1520), CT2AI (0834), EA4CR (0818), OE1RZ (1503), FB1H (old F81H, 1443), Y0KBA (1600), SP5GX (1615), ON4LK (1657), PA0ADP (1408), UM-8KAA (1145), KP4BBN (0740), UP2NV (1510), and lots DL, SM, OH and usual assortment of UAs.

Garry VK5ZK sends in info. on 21 Mc. band. He reports the band open around 0000z and 0600z each day. He wkcd. the following, all phone. W1SWT/AM (between Wake Is. and KH8), 9M2DQ, VS4RS, ZE2SA, ZEBJZ, ZS-6ATF, ZS6AXI, 5R8AA, FZ8ZZ, VQ8, KS8, I, G, F, DJ, DL, PA0, 8P8, YO2, ON, F2BA/MM

(in Bay of Biscay), OE, VU2CQ, SM, Gs including G5HZ, G3HFD, G8PO (C.S.), G3OHN, F2XY, I1ZM, I1PAJ. (Please send in more news, Garry, ex hope ur s.s.b. wkcs. out f.b.)

Hal VK4DO says he has never known the bands so poor for this time of the year. He did log these, 14 Mc. c.w. wkcd.: AP5AH, CP5EZ, CR8AC, DJ3HW, DL1IN, FK8AY, G2DC, HP-1IE, JA, KH6, KR6LJ, KR6ML, OA4FPZ, OK-3DG, UA00M, UA0KZB, UA0KCA, UA9VB, UA9DN, VE, VU2BG, W, YV5BCG, ZK1AR, ZK1BY. 14 Mc. c.w. hrd.: CE3VD, DU1OR, EA3JE, G4CP, HCLJU, HL9KB, KP4BIQ, OA-4CQ, OH1NK, OK1ASY, OK2KAU, OK2EJ, UA0S, UB5ZV, UL7KCR, UL7KS, UL7KDF, VR5AR, XZ2KN, YU2JKL, 3A1AS. 21 Mc. c.w. wkcd.: I1WSG, UA4KEA, KR6NAA, 21 Mc. c.w. hrd.: VS1FZ, HA5KBP, I1NAL, IS1SZU, SP1AGE.

Frank VK2QL reports Europe not audible in mornings. His list is, 3.5 Mc. wkcd.: W2PE0, W2BIQ, W8NBK, ZK1AR, W4VCA/KH6, VE-3EK, K1LMO; heard H3FPK, JA8. 7 Mc. wkcd.: DU8TY, G3JAG, G3HDA, PY1NFC, UA1NZ, VS4RS, G3FMB, DL1CF, G5DQ, XE1OK, JA-1DMX, JA3DKT, JA6BPN, G6XN, SM5CCE, ZB1JZ, ZK1BY (Manahiki), HMA4Q, VS1LJ, ZB1CR, W1ZY via I.P. (2015), DL1KS, GSWP, ST2AR, Y0YGB, G3KSH, VQ4IN, DL7JA. 14 Mc.: VS4RS, HS1T.

Eric BERS195, who will be in W.A. for the Games, writes that he has had very good year for s.w.l'ing. He has recorded these of late, 3.5 Mc.: ZK1BW, VE3EK, W2PE0, W8ANO, ZK1AH, etc. 7 Mc. c.w.: B1YFK, 3A2BP, ZB1CR, VS1LJ, DU1BSP, U06AM, 9M2RI, UH8EM, UL7NB, VQ4IV, ZD6JO, 5B4BF, HI-3PC, GC2FMV, KG8NAA, LA2PH, 4X4WF, ZB1BX, KX6AJ, and many others. 14 Mc. c.w.: DU1FM, FK8AS, K6EBD, K5FOQ/KS6, KM6CI, ZK1AR, VR2EH, FO8AA, ZC5FF, VR5AA, VR-5AR, VS4RS, HK7ZT, XZ2KN, U1KAD, VR-4CV, ZK1BY. QSLs recd.: PY2CD, UT5CQ, UR2AR, KR8AP, XZ2BB, YJ1RH, ZS6AXU, CE8AA, HL9N, JZ0ML, KC4USB, UQ2CC, VU2LNZ, YV2BJ.

Pete Drew, L6021, took the trouble to supply a very comprehensive condition report and included his list of those heard during the past weeks. They are, 15 mx a.m.: KA2RF, DU1ME, DU1EH, ZE7JR, KR6NG, ZS6AXI, ZS1JQ, VS4RS, DU1AN, KR6RB, VS1GC, KR-6PS, KH6ETV, KR6IF, DU9PET, VE8EW, VQ-4DW, TN8BA, 9U5BB (0802z), GM3OCV, 9M-2GF, 9M2DX, 4SYTL, DU7SV, UBSLV, etc. 15 mx s.s.b.: KA7DM, KR6MD, KA2OV, VR2DS, 15 mx c.w. KR8NAA, VQ2MS, VS1IG, UA-0KKD, SL5LZ, SM5ZS, 4S7PG, KR6ML, 20 mx a.m. 4SYTL, VV5BFD, VR2DJ, JA9JT, OA2J, ZE7JR, 9M2DQ, KR6NG, ZK1AR, 9M2GH. 20 mx s.s.b. K6CBK, ZS6BR, PY2AK, KC4USE, VR5AA, KR6OH, KR6DI, YV5AHG, VR30, KR6LJ, MP4BBW, UC2AA. 40 mx a.m. W3PL, VR2Q, 4SYTL, 40 mx c.w. 9U5BZ, Y06KBA, VS1FZ and others.

ADDRESSES

VP2GAC—Via W40PM.
6W8DE—Saint Hilaire, Box 3033, Dakar, Senegal.
6O1ND—American Embassy, Mogodiscio, Somalia.
5T5AB—Box 100, Nouakchott, Mauritania.
TT9AL—Box 235, Ft. Lam., Tchad.
Z2BBAK—Box 28, Tirana, Albania.
PJ1BH—Via W6SBO.
CN8FU—Box 244, A.P.O. 30, New York, N.Y.
9K2AM—Box 146, Kuwait, Arabia.
VSG6G—G. Scott, S.O.A.S. College, Brunei.
K6CB—C/o. Weather Buro. Truk, East Caroline Is.
TA2BK—Via DL3DA.
9G1DE—Via K81GQ.
PJ2AF—Via K4OGT.
9N1CJ and 9N1MD—R. Dennis, WBCJ, 5232 Wentworth Dr., Oxen Hills, Wash., D.C.
6W8DT—Box 3033, Dakar, Senegal.
News just to hand says that VS1FJ is scheduled to be active from Christmas Is. in Indian Ocean early in January.
9NTSO (week days) is ex-W6RTK. He is active week days from Nepal on 14230 s.s.b. Antigua, VP2AL is on the air on 21 and 14300 kc. around 2100z.
ET3Y is expected to show from Yemen any time now using 4W1 prefix. (My thanks to Bob K6CQM for these items.)
Merry Xmas to one and all, and here's to our togetherness in the Ham Spirit in 1963.
73, Al, VK4SS.

W.I.C.E.N. EXERCISE BY S.A. DIVISION

At the first meeting of the S.A. W.I.C.E.N. Activities Committee, it was decided to hold two on-the-air exercises in the coming two months. Before describing these two exercises in detail, it should be mentioned that the Committee decided:—

- (1) To recommend to all South Australian W.I.C.E.N. members to buy Army Ordnance Survey Maps of Gawler, Adelaide and Echunga. These may be bought from Sands & McDougall, King William St., Adelaide. Members taking part in the second exercise will have to have the maps of Gawler and Adelaide.
- (2) That all exercises in the immediate future will take place on either or both 3.628 Mc. and 53.1 Mc. telephony. It therefore recommends that mobile W.I.C.E.N. equipment be crystal controlled on these frequencies.

The first exercise was held on 28th Nov. on 3.628 Mc. and 53.1 Mc. It was a general get-together of W.I.C.E.N. members and those interested in W.I.C.E.N.

The second exercise will be held on the afternoon of Sunday, 2nd Dec., starting at 1330 hrs. As well as giving practice in emergency communications and map reading, it could be a pleasant afternoon's drive in the country. Although primarily intended for mobile transmitting stations, members with fixed stations only or mobile receivers may, and indeed, are very welcome to participate. The exercise will be of a competitive nature and the winner will be given a 14 Mc. crystal.

The exercise will take place in four stages. Should a member find it is impossible or inconvenient to take part in any stage, he is quite at liberty to miss that stage and join in at the next control point. We want members to gain practice in emergency procedure—the points system adds interest but is not so important.

The rules to be described apply to mobile transmitting stations. Modifications for members with fixed stations only or mobile receivers will be given after a member scores points as follows:—

- (a) For missing a check point in the time allowed 25 points.
- (b) For every mile travelled in excess of the minimum distance between check points 5 points.
- (c) For every incorrect phonetic used, 1 pt.
- (d) For every omission of the word "figures" before any number group except a map reference 1 point.
- (e) For every omission of the name of the map in use, for every omission of the words "map reference" before giving the six figures of a map reference, e.g. "Gawler may reference 123321" is correct, but "map reference 123321" or "Gawler 123321" would lose you one point.

The N.A.T.O. phonetic alphabet will be used. This is the Australian emergency communications phonetic alphabet.

If a member wants to omit one stage but still stay in the contest side of the exercise, he should have his speedometer reading noted by one of the control station operators at the previous check point.

The winner will be the station with the smallest score, and will be announced on the VK5WI broadcast of Dec. 9.

RULES FOR MOBILE TX STATIONS

In each of the four stages there will be a control station on 3.628 Mc. and 53.1 Mc. Upon request they will give the mobile a map reference to which they must go within the time allotted.

Stage 1: Starts 1330 hours. Control stations: VK5KC and VK5ZCQ. Both within five miles of G.P.O. At 1400 hours both operators will close down their fixed stations and operate as VK5KC/M and VK5ZCQ/M, still acting as control stations until 1415 hours, when stage 1 ends.

Stage 2: Starts 1415 hours. Control stations: VK5TM/M and VK5ZJM/M. The map reference they will give upon request will be their own. They will be located somewhere between Elizabeth and Gepps Cross. Stage 2 ends at 1515 hours.

Stage 3: Starts 1515 hours. Control stations on both channels, VK5PE. The map reference will be that of VK5QL, mobile on 53.1 Mc.

somewhere between Elizabeth and Smithfield. Mobiles on 3.628 Mc. may communicate with VK5QL/M by being relayed on 53.1 Mc. by VK5PE. Stage 3 ends 1600 hours.

Stage 4: Starts 1600 hours. Control stations: VK5NQ and VK5MK/M. The map reference will be that of VK5ZMK/M, somewhere near Gawler. Stage 4, and the exercise, will end at 1700 hours.

Mobile Receiving Stations will have to wait until the map reference is given to a mobile transmitting station.

Members without Mobile Equipment will have to receive the map reference by word of mouth from mobile stations at the check point.

Six metre mobile stations without a crystal for 53.1 Mc. note that the Elizabeth Amateur Radio Club and its members have a limited amount of 5.900 Mc. crystals (5.9 x 3 x 3 equals 53.1) to lend for this exercise and will later have more such crystals for sale at a nominal price.

—S.A. W.I.C.E.N. Activities Committee.

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FEDERAL AND DIVISIONAL MONTHLY NEWS REPORTS

(SEND CORRESPONDENCE DIRECT TO DIVISIONAL REPORTER NAMED AT PARA. END)

NEW SOUTH WALES

The Dec. meeting of the N.S.W. Division will be held at Wireless Institute Centre, 14 Atcheson St., Crows Nest, on Friday, 14th. The meeting will be in the form of a social evening to which members may invite their XYL, YL, etc., and the entertainment has been specially arranged to cater for all. A talk will be given by Mr. Gordon Sanders, of the Dept. of Civil Aviation, entitled "A Field Day with a Difference." This talk, illustrated by slides, is something different from the usual run of Ham Field Days.

In addition, there will be two films of a non technical nature on Amateur Radio. One of these films has been shown on ABN2 television. Members are asked to bring the XYL, YL, etc., and make this evening a social success.

Since the last notice in "A.R." eight lecture tapes have been compiled by the Education Officer, Harold 2AAH. These are as follows:—

- 1—Quad Antennae, by Harold 2AAH, Sid 2SG and Ted 2ACD. This interesting tape runs for 68 minutes and is illustrated by 20 slides.
- 2—Linear Amplifiers. A tape by Mr. Bob Wilson, which runs for 60 minutes and is illustrated by seven slides.
- 3—Transistorised Converters. A tape by Syd 2SG, which runs for 60 minutes and is illustrated by 12 slides.
- 4—Tally-Ho. An excellent tape on 7 Mc. Fox Hunts, which runs for 60 minutes. The talk is by Harold 2AAH and is illustrated by five slides.
- 5—Grid Dip Oscillators, by Bob 2OA. This tape runs for 80 minutes and is illustrated with 15 slides.
- 6—Balun Transformers. This very interesting tape by Joe 2JR, runs for two hours and is illustrated by 33 slides.
- 7—How and Where does my Signal go? A tape by the Ham who does know where your signal goes, Frank 2QL. Illustrated by 17 slides.

These tapes and slides are available to members, clubs, etc., and have been specially prepared for use of country clubs, so contact Harold 2AAH for particulars.

The Council wishes to thank the following members who have donated gear to the Youth Radio Scheme: VKs 2IJ, 2CA, 2ST, and Arthur Sutton. How about going through the junk box and making up a parcel of the gear you do not need and forward it to the Wireless Institute Centre for despatch to the various schools that are training boys in the art of radio?

The Annual Convention of the N.S.W. Division will be held during the Anniversary week-end in January. The Annual Dinner will be held at Wireless Institute Centre on Saturday night at 8 p.m., and the Field Day will be held at VK2WI transmitting centre at Dural on Sunday. A Convention Committee has been formed and are holding regular meetings to arrange events for this week-end Convention, so it should be a success. 73, 2VL.

HUNTER BRANCH

The most recent meeting of the Hunter Branch of this Institute was held at the Newcastle University College on Friday, 12th Oct. Thirty-three members and guests were present to hear a most interesting lecture from our renowned associate of Mr. Marconi in the person of Mr. Joe Reed, who had undertaken the trip from Sydney earlier in the day, used a magic lantern to show some very enlightening line drawings and woodcuts depicting the state of the art. As well as the excellent pictures, the interested gathering was treated to a demonstration of Mr. Reed's famed talking machine, a compact instrument, no larger than one of Mr. Marconi's wire-less receiver cabinets. So great was the interest shown in Mr. Reed's discourse that several of the more ambitious of our gathering remained after the others had left the room to ply the lecturer with questions. Mr. Reed patiently answered each in turn and our correspondent at the gathering, who was one of those interested enough to stay after the lecture, reported that Mr. Reed filled several large sheets of writing paper with further line drawings, used, no doubt, to illustrate points not completely covered in the talk.

Those contemplating using any of Mr. Reed's ideas in their own residences are advised that he has gone to considerable length to make available, for a most modest fee, superbly engraved prints, about the size of a post card, of all of the illustrations used during the evening. Keen students would do well to take advantage of this offer and will no doubt contact Mr. Reed at his home to make the necessary arrangements.

However, for those more interested in the happenings of our immediate neighbourhood, here, in detail, is the news of the month couched in slightly more modern terminology. The three t.v. stars of the Branch are still recovering from their escapades of the week-end of the Scout Jamboree on the Air. During the week-end Jim 2AHT, Vic 2AKP, Kev 2ZKW, Gordon 2ZSG and the Hamburgers 2ATZ made stations available to the Scouts of this area. Lots of interesting fun was had by all and the local station NBN gave the boys and the W.I.A. some very good coverage in news and presentation telecasts. Thank you NBN and thanks also to the local boys who did a good job in promoting the cause of Amateur Radio.

By the time you read this, Lionel 2CS will have returned from his sojourn at the Amaroo residence of Ray 2HC. It is hoped also that he will be fit enough to return to his place of employment at the hot water board. The reason for the non-appearance of Kev 2ZKW of late is the magic call of the silver screen with Kev emulating the pious example of Cecil B. DeMille and getting some films ready for Christmas. When he does return to the 2 mc band you will no doubt wish to hear him and if so contact Mac 2ZMO who has at least a dozen spare converters for disposal (so I am told). Bill 2XT at this time is still on his Oriental orientations but should be back in time for our December meeting—and more of this later.

It is also reported that Varley 2SF has been seen walking along Hunter Street of late with a large plastic bucket, muttering something

about Stuart and suds. Perhaps those in the know will enlighten me. Stuart in the meantime is running up some good scores in the 50 meg. band with regular contacts to VK3, 4 and 5 using his simple "elementary dipole" as it has been dubbed. Not so fortunate is the plight of Neil 2ZCU who was involved in a car smash recently and is now an inmate of Hornsby District Hospital. Best wishes Neil and hope that some of the Sydney boys will be able to visit you. Ian 2ZIF has just completed a 2 mc transmitter in a lunch box. This is used to fool the fellow employees. I am informed. Norm 2ZNF is still twiddling knobs on the AMR300 and up Raymond Terrace way there is a shortage of exercise books because Tom Davis has used them all as log books on the new rx.

Romeo and Juliet, 2RJ to you, are holidaying in VK3, while John 2ZJG is holidaying in Newcastle, doing tech. exams. with ZIF. On the h.f. bands, Vic 2AKP has been bitten by the bug again and is regularly on again, while Rodney 2CN, seeing enough of v.h.f. at work is now running 120w. on 7 megs. Neil 2XY has been off work for some time with an injured hand and we all wish him a speedy recovery. Ron 2ASJ had a mention on the A.B.C. Hospital Half Hour the other day by courtesy of the Talkative Tough from Turramurra, and Ron also is looking forward to continued activity on 2 mc. Bill 2ZL is looking for some ready made moulds for casting concrete sleepers while his other (no pun) friend, Bob 2AQR, still conducts regular skeds on 80. Gordon 2ZSG has been heard at Inverell, via radio, and Harry 2AFA has not been heard at all. Four new associates have joined our ranks and more about this next month.

The Dec. meeting, set down for Friday, 14th, is to feature Bill 2XT with most recent films from Japan and all point East, while Bill 2ZL has promised, as is customary, to shout all to a grand Christmas supper afterwards, so come prepared. All the very best for the festive season from the scribe and all the boys and try to make it on the 14th to meet all your log book friends. All the others will be there, so see you, 73, 2AKX.

BLUE MOUNTAINS SECTION

The Oct. meeting held at Lawson was disappointed again as Les 2ZBJ was still away and could not give us his lecture, although I understand there was a mix-up with yours truly. Fifteen members attended and the final arrangements were made for the field day and turned out an excellent day.

It was held at Lawson Swimming Pool with a record attendance of 56, including a DL30F. Dave 2NK, the Section President, welcomed all and asked Max 2MP, the Div. President, to present the prizes, the results which were as follows: 144 Mc. hunt, 1st, Dick 2ZCF; 2nd, Tim 2ZTM. 144 Mc. scramble: 1st and 2nd a tie with 21 contacts, Dick 2ZCF and Dave 2AWZ. 7 Mc. scramble, 1st, Harold 2AAH (13); 2nd, John 2WJ (10). Gents' lucky number, 1st, 2ZTM; 2nd, 2ADA. Ladies' lucky number, 1st, 2ASZ; 2nd, 2ADA; 3rd, 2ZJC. Bob 2ASZ was the fox and hid the tx in a record

W.I.A. D.X.C.C.

Listed below are the highest twelve members in each section. New members and those whose totals have been amended will also be shown.

PHONE

Call	Cer. No.	Cnt. ries	Call	Cer. No.	Cnt. ries
VK5AB	45	275	VK6KW	4	206
VK6RU	2	272	VK3ATN	26	204
VK6MK	43	263	VK4HR	12	192
VK3AHO	51	255	VK4RW	23	184
VK4FJ	21	236	VK3GB	50	183
VK3WL	14	211	VK5WO	59	178

Amendment: New Member:

VK2AGH	55	103	VK7AI	60	102
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C.W.

Call	Cer. No.	Cnt. ries	Call	Cer. No.	Cnt. ries
VK3KB	10	305	VK3RP	56	229
VK3CX	26	298	VK3FH	15	226
VK2QL	5	279	VK3BZ	8	222
VK4FJ	29	270	VK4HR	8	218
VK3NC	19	251	VK2AGH	71	216
VK6RU	18	234	VK3XU	48	213

Amendment: New Member:

VK3YD	27	206	VK7SM	72	134
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OPEN

Call	Cer. No.	Cnt. ries	Call	Cer. No.	Cnt. ries
VK2ACX	6	300	VK3AHO	76	259
VK6RU	8	283	VK3HG	3	252
VK4FJ	32	276	VK4HR	7	233
VK6MK	74	266	VK3BZ	4	231
VK2AGH	83	265	VK3JA	43	229
VK3NC	77	285	VK3WL	45	225

Amendment: New Member:

VK7SM	84	152	VK4SN	88	100
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W.I.A., N.S.W. DIVISION

ANNUAL CONVENTION ANNIVERSARY WEEK-END

THE ANNUAL DINNER will be held at 14 Atcheson St., Crows Nest, on Sat. at 8 p.m. Sub. 25/-.

THE FIELD DAY will be held at Dural on Sunday. Sub. 10/-.

Come along and make this Convention a success. A good programme of events has been arranged.

Subscriptions and Bookings to Bill Shakespeare, VK2AGF.

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player, hi! It had them all guessing and Bob innocently redirected Dave 2EO in the direction of Katoomba and it was not until Dave enquired who the fox was did he realise he had been tricked. A good day was had by all and it is hoped we shall break another record next year. Prizes were by the courtesy of Phillips and B.S.R.

Jack 2NC is nearly ready to go on 2 mx and is copying everybody loud and clear. His gear will be common equipment for mobile and base station with a 640 for the home rig. Noel 2ZNS has already turned the first page in his log using an 832 in the final. He gets out well to north, south and west, but not so well to the east. I understand in Dec. Noel will raise his antenna for city contacts. 2ABY is back in the district and is on 2 mx, operating from Penrith. Trevor 2TM has moved lower down the mountains to Glenbrook, but as yet still not on the air. Arie Bless, from Springwood, has received his call, 2AVA, so keep a listen out for Arie on s.s.b. instead of Alec 2EX.

Jamboree stations were operated from 2NK, 2AVA, 2AVN, 2ART, 2ADA, 2ASZ and 2AAT, and most contacts were made on 2 mx. Only the boys who were interested in our "art" turned up this year, leaving the wild ones to their own devices. From all reports it was generally a better year than previous.

The bush fire boys have been out every week-end spotting for fires and had one experience near Warrimoo where communication was excellent and well covered, but the fire fighter co-ordination was a bit poor, but no real danger resulted, so all ended well. 2ADA.



The Victorian Division's State Convention was held at Ballarat over the week-end of 3rd and 4th November. The location on Sunday afternoon was Swan Reservoir, where a barbecue lunch was partaken. Members are seen gathered around the home made equipment exhibits.

VICTORIA EASTERN ZONE

Graham 3QZ brought back a 10 transistor Heathkit Communications rx that seems to be an excellent performer. Talking about new rx's, several of the boys have purchased these new Japanese models, which are giving very good results. Bill 3AMH should be on 144 Mc. before Xmas using s.s.b. Ken 3ZNK was successful in passing his full ops. licence. Ken also has taken up a position with the staff of our local t.v. station (Ch. 10). Alan 3ZNE, of Anderson, is now building up equipment for 50 Mc. Peter 3ZGM spent the first week of the month in our zone, operating portable from Wilson's Promontory using the 50 Mc. band.

Our next Zone Convention is to be held at Warragul around March, so any suggestions would be welcomed, constructive or otherwise. 73, 3ZCG.

MIDLAND ZONE

The Scout Jamboree activities were attended to by 3DG, 3ZK, 3ND. I have no information as to just what transpired at 3DG and 3ZK, but for myself the time I had at my disposal was very fruitful and several excellent contacts were made with VK and ZL, and much information flowed back and forth.

We have swelled our ranks with a new call—3ME, and welcome to you OM, good hunting with your Collins' 32S1. May even work you on 15 or 20 mc if skip permits.

By the time these notes appear in print we will have had our general meeting at the Bendigo Technical College on 16th Nov. and reports of the doings will appear next month.

3ACN will have taken the plunge on 17/11/62 and taken unto himself an XYL. 73 and 88 to you both and may all your troubles be little ones.

Jim 3SV is attending to W.I.C.E.N. activities and participated in the recent exercise from which he returned a nervous wreck, hi, hi!

Activities on 144 Mc. have been spasmodic and not much information to hand. However with the approaching summer there should be an upsurge in activities generally. 73, 3ND.

WESTERN ZONE

Murtoa was the venue for our annual get-together last month. We were sorry that because of the passing on of his wife, a former President, Herb 3NN, could not be with us. One of the first arrivals was Trev 3ATR, who came per Cessna aircraft. Having his mobile gear installed in same, he was able to work the local boys on the way down. Mr. Len Grotz, a friend, was the pilot.

Members came from across the border in South Australia, Ararat, Balmoral, and Lascelles, so long distances of our zone were well represented. About 40 made up the party.

Office-bearers for the coming year elected were as follows: President, Merv 3AFO; Vice-Presidents, Bert 3EF and Vic 3AEQ; Sec.-Treas., Bill 3AKW.

The tx hunt was won by Vic Maddern and party. A look over the broadcast station, 3LK, occupied the afternoon. After evening meal at the Commercial Hotel, we all adjourned to Keith's (3ATS) home. Here we saw slides shown by Chas VK3IE, ex-VR1B. These were taken during his stay on the Gilbert Islands

QUEENSLAND

The Oct. general meeting held in the State Service Union rooms on 26th was attended by 24 members; quite a drop from the usual number. However, some important matters were discussed. Firstly was the referendum on whether there should be a permanent site for 4WI and the point that only 25 per cent. of members expressed their views. However, the chairman (Pat 4KB) said many indicated the matter should go ahead and a committee formed to go into the questions of land and a building. Bert 4AO suggested that the formation of a committee should be deferred until the acquisition of land had been confirmed. Accordingly, Bert was authorised to go ahead on the land matter.

Concern was expressed on the lack of disposals gear offered so far this year. Only one item, an indicator unit, with valves and power supply, has been put up for ballot. The meeting was told that a letter would be sent to the Department of Supply inquiring into the position.

The printing of copies of the Divisional constitution was again raised. The chairman said the committee formed to review the constitution had requested Federal Hdq. to clarify some points and when a reply was received, the committee would discuss them. Any alterations necessary would be presented to a general meeting for ratification.

Probably the most satisfying point of the business was the acceptance of another seven members into the Division. K. J. Benson (4ZGK), T. H. Cain (4JC), D. W. Reed (4DU), and R. A. Sutherland (9BS) as members, and V. R. MacDonald, H. J. C. Clarke and T. Bain as associates. This brings total membership to over the 380 mark, and it appears the goal of 400 will be reached by the end of the year.

The night's lecture was given by Mr. Bruce Gow, engineer in charge of the Standardising Laboratory, of the Brisbane City Council's Electricity Dept. He spoke of measurement of resistance, current, and voltage using modern methods and equipment. Members have been invited to visit the laboratory on Nov. 30. A vote of thanks from Jim 4PR was carried by acclamation.

INTRASTATE CONTEST

Alf 4OL, and station manager of 4WI, took the Sunshine State Contest held during Sept. He was awarded 32 points which is a creditable performance considering he had to work during part of the set times. Runners-up were George 4GG and Ron 4RG, both with 31 pts., with Al 4LT third with 30 pts. In the s.w.l. section, C. H. Thorpe L4018 was first with 36 pts. Then came L. O'Tully (32) and W. C. Fall (29). Numbers of entries were small. Let's hope many more calls will be heard in the next contest. And while we're about it, now is the time to think and work about the National Field Day in February. VK4 has the chance to put up a great show.

Divisional Council, which met on Oct. 11, is keen to receive items for the agenda for the Federal Convention next year. So what about discussing matters at your next club or Division meeting?

JAMBOREE-ON-THE-AIR

The effort in this event in VK4 this year appeared good, despite the usual poor and changing conditions. We heard of some ambitious preparations but so far words of results have not been received. A number of stations were on in the Brisbane area and some good contacts were made between VK4 and the South with Scouts showing they are just as good at rag-chewing as some of the more notorious operators around the place. 4WI operated from Boy Scout Hdq. in the Valley, but unfortunately few Scouts heard about this station and so missed out going on the air. Thanks go to the operators there, including Vince 4VJ who made quick repairs to the tx to get back on the air on the Sunday morning, even if the news was late. Associate Gill again deserves the thanks of all for supplying the very efficient equipment including the gem of a Hallicrafter rx.

and were very interesting. Merv Collins also screened a movie taken from the top of 3WV's mast. After a technical film shown by John Teasdale, we all enjoyed an extra special supper prepared by Kith's XYL, who was helped by Vic's XYL. Many thanks to you both for attending to the inner man so well. 73, 3AXW.

NORTH EASTERN ZONE

3AWT, when on 15 mx recently, had contacts with three stations in Europe and U.K. 3AYD has erected a 22 ft. tower made out of 1 inch water pipe. On this he has mounted a triband quad as per specifications of Jan. '62 "QST". Rotator problems were solved through 3AGG presenting him with car steering box. Alan made first blood into Spain with 5/9 after this. 3ZJH making feeble and spasmodic attempts at morse practice of late and is up to about 7 w.p.m. 3ALF constructed a very effective aerial coupler; his bandwidth has been reduced considerably. Hear tell that 3ACD is going to purchase a brand new rx.

At least 10 of the zone had Scout guests during the Jamboree-on-the-Air, but 3AUL had more than the rest put together, approx. 100 Scouts. October "A.R." editorial re Youth Radio Clubs was read with interest and 3ZGR, 3IG, 3AYD, 3ZJH and 3ASY have all agreed amongst themselves to do all possible in this regard at Shepparton.

3ASY returned on the air for a couple of days for Jamboree-on-the-Air, then closed down in order to construct some test gear such as c.r.o., g.d.o. and an improved freq. meter. 3IG currently constructing a 40 mc converter for broadcast car radio. This unit circuit is from "A.R.," Oct. '60. 73, 3ASY.

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Rx trouble of late and very poor conditions have meant I've not been able to do my usual amount of snooping around the bands this past month. Things have been so bad I've not been able to hear 4WI with the news and yet Alf is no more than five or six miles away, while at other times VK3s, for example, have come through like b.c. stations. But I did hear that Don 4GP has returned from ZL land with tales of how those boys don't have the gear for those kilowatt signals we seem to hear from them. Best wishes for Christmas and the New Year. 73, Don.

THE "DO" AT BARGARA

I must say a good time was had by all. Chaps began to arrive soon after 8 a.m. 4XR and myself did not arrive until about 10.30 a.m. Rusty 4JM and some of the Bundaberg crew were there, getting things set up. 4WQ tx and rx were a Viking II and a Hallcrafters SX100—kindly lent by Bill Bertram. Bill attended in person with his wife and family and we are grateful to him for the use of the gear. By noon 4SW, 5LN, 4HZ, 4XR, 4XJ, 4HE and many of our associates arrived and we had 18 present for lunch. After lunch, everybody was rag-chewing until the hook-up at 2 p.m. and after afternoon tea at 3 p.m., blindfold hunts were set up and continued until the 7 meg. scramble from 4 to 5 p.m.

After the evening meal, with 38 present, the gathering was officially welcomed by the President 4XR, who was supported by 4LN. A short film was presented by 4LN entitled "Hazard" dealing with safety, followed by a special cartoon for the children. After this, all adjourned outside for the barbecue which was made a little difficult owing to the terrific wind blowing at the time.

4WQ was on the air on the Kookaburra session at 7 a.m. on Sunday morning and all were shocked to learn of 4BJ's misfortune when his workshop was destroyed by fire during the early hours of Sunday morning. Blindfold hunts were continued, followed by v.h.f. tx hunt, until the auction of odd gear. Harry 4ZHG was the auctioneer and did a very good job.

Some very interesting home-made gear was on display, particularly interesting was a home designed rx made by Ken Chiverton, a mechanic associate from Nambour. This rx is an outstandingly beautiful piece of workmanship and would be a credit to any commercial station, also his 6 and 2 mx converters constructed on polished brass chassis to match. Also of particular interest was a Geloso front-end converter mounted in its own case for use with a rx as a complete d.c. rx and a VR power supply constructed by Roy Spotswood. 4XJ brought along his new home constructed Geloso tx, built to the design appearing in "R. & H." some little time ago with a few improved modifications—a really excellent job.

After a further 7 Mc. scramble prizes were presented. 4HZ, 1st scramble; 4WS, longest distance travelled; Ken C., best constructed gear, 1st; Roy S., 2nd; Ken C., blindfold hunt; Lena B., ladies' section; Ken C., hidden tx hunt; Bill 4WS, 2nd 7 Mc. scramble. 73, 4LN.

IPSWICH CLUB

During the month the Ipswich and District Radio Club continued to progress. The publicity officer, Bill Jehn, said 38 members visited Brisbane Airport and then had attracted another eight new members at their Oct. meeting. At this meeting, Mr. P. Wood lectured on the fundamentals of radio. The last word was that the club was planning to inspect the radar installations of the Amberley R.A.A.F. base.

SOUTH COAST ZONE

As far as could be ascertained there was no activity here in connection with the Scouts' Jamboree-on-the-Air, this being the first occasion that this area missed in participating.

As usual a number of Southern boys have been on the Coast. Many of these were mobile on v.h.f. and contacts were made with a number of the locals. The outcome, due to the efforts of Cres 4ZAO, was a get-together at Surfers' Paradise near the end of the month. Unfortunately, Eric 2DY was unable to be present due to sudden illness, and it is pleasing to record that he was fully recovered in a few days. Those present were Dick 2ZNL, Cres 4ZAO, Ken 4ZGX, Neil 4WW and Bill 4WS. All appreciate your efforts, Cres, but do not stop there. Let's have another "Do" when another group from the South or any point of the compass is here.

It is regretted to have to record that Ken 4ZGX is returning shortly to, as he put it, "freeze-land"—otherwise Victoria, and all join in wishing you all the best, Ken, and may some of the sun you soaked up here still be with you. As these are the last notes to appear before the festive season, the opportunity is taken to wish everyone the best for Christmas and the New Year. 73, 4WS.

BUNDABERG AMATEUR RADIO CLUB

At the Bundaberg Trades and Industries Fair held in conjunction with the Bundaberg Sugar Festival, from Oct. 8 to 13, the club displayed an amateur station in operation, together with auxiliary radio communication equipment. The station used the official call sign of the Wide Bay and Burnett Branch of the W.I.A., VK-4WQ. It consisted of a table-top tx using a Geloso v.f.o. with a 6146 final stage running about 50w. input, plate and screen modulated by a pair of EL34s. Output was coupled via a balun to an all-band antenna (off centre fed with 300 ohm line). A relay switching unit was made up so that the station was operated from the one control switch.

The rx was an SX100 from Gil Bertram, of General Imports, a kind gesture on his part. DX on c.w. included UA0KZB and F9JH and several JAs and DUs, and on phone JA, ZL and VR2 on 14 Mc. in the early evenings. C.w. kept the crowd around and they showed more interest in this than in phone contacts. Later at night, 80 mx provided the best local type contacts.

Over 60 contacts were made during the week-end and it is planned to send all stations worked a QSL card. A blackboard was used as a log to keep the crowd informed of the nightly progress of contacts. 73, 4JM.

TOWNSVILLE AND DISTRICT

Once again the summer season is upon us and the v.h.f. boys are again turning northwards looking for the openings to Japan on 50 Mc. On the h.f. bands, must admit is galling to hear the boys in other States giving the European stations such wonderful reports when they are just audible here.

As reported in last notes, Ernie 4GE duly called after meeting most of the boys. Apparently he is itching feet after visiting the ZL boys, because he is making enquiries re the Far East. Hear that Arthur 4FE is making a quick trip to the big smoke, complains that band is so poor that he is flat out making a QSO to the end before it changes. The boys in the Lower Burdekin area were to the fore in the Scout Jamboree. Apparently the locals were browned off after the poor response from the Scouts last year, as I did not hear any from the various shacks.

As this is the festive season, I take the opportunity to wish each and every one the Compliments of the Season. As I spent last year overseas to dodge the heat, will take the time this year to visit as far south as Hobart, so you VK7 boys bake the cake as I will be there early in February and wish to meet a few of you personally and extol the beauties of the Sunshine State. 73, 4RW.

SOUTH AUSTRALIA

The monthly general meeting of the VK5 Division was held to a "standing room only" audience once again, and took the form of a "Disposals Night", which is only the VK5 way of saying a "Buy and Sell Night". Under the existing State law, if one buys or sells to a gathering, a licence is required and the auctioneer must also be licensed by the State. The inclement weather kept quite a few away, which was fortunate because room was at a premium, and for once, the gathering could breathe in and out with complete ease.

One or two important matters of business were taken care of prior to the auction, the first being the matter of an installation of an Amateur exhibit at the coming Exhibition in March next year at the Showgrounds; the other being as to whether the Division should move to more spacious club rooms or not. Very little interest was displayed at first by those present in the Amateur exhibit angle until Luke 5LL, in an endeavour to "needle" some sort of reaction, stated quite plainly that the last effort along these lines by the Division was, in his opinion, a washout from all points of view, and served no useful purpose. Results came quickly after this masterful statement, and it was decided to go ahead with the idea, with Council making a few necessary enquiries as to cost, etc., and then report back to the meeting. With respect to the seeking of new club rooms, Council was instructed to definitely move in the matter, report back to the next meeting, and if satisfactory make a move immediately. Hazardous a guess, I feel that we will see ourselves in the new club rooms in time for the Xmas Get-together. However, I could be wrong. Council, after reading this, will probably wait until the New Year, just to put me in my place!

Following the end of this momentous business session, QSL cards were distributed by George 5RX and all present settled back for

the evening's entertainment. The shy, modest and debonair auctioneer, who does not permit me to mention his name in this column in deference to his blushes, was then forcibly dragged to the centre front of the stage, but before he could even open his mouth he was rudely jostled aside by the Secretary, Pat 5US, who apparently wanted to get into the act and make a few announcements to all present. Some four hours later (well, it seemed that long to me, anyhow) the buy-and-sell commenced with the usual reading of three or four stories from the philosopher's notebook by the auctioneer, which, judging by the expressions of mirth from those present, were well received, and then the disposal gear was thrown to the hungry mob.

Nothing further can be written about a disposals night which has not been written before, although I think the standard of gear now being offered is well below that of, say, a year or so ago, and this goes also for the quantity, although one can never be sure of such statements, because several good looking steel cabinets were offered to the bidders earlier in the evening and were battling to reach six shillings in the bids, but were all sold later to a hungry and battling mob for fifteen shillings each. Wouldn't it? Anyway, whatever the opinion as to standards, or quality, or quantity, one thing is certain, the buy-and-sell night still ranks as the number one meeting of them all, both from numbers present and entertainment value—s.s.b. lectures notwithstanding! I could enlarge upon this statement but my natural modesty forbids. The meeting closed at the somewhat early hour of 10.20 p.m., with three hearty cheers for the efforts of the auctioneer and his muscular-looking assistant, Norm Coltman. Well, actually, that is an exaggeration, there were no cheers, they shot the auctioneer to shut him up, but they meant well.

Hear 5WC on 7 Mc. the other Sunday with Ian Hunt at the operating end. Extra good signal, in fact the best I have ever heard them, apparently Ian's magic touch. They hope to move into the new club rooms shortly. Les (Uncle Xray to you) heard for the first time here with the call of 8UX, and judging by the voice is still in the pink. Was putting a respectable signal in on 7 Mc. on the Sunday morning heard here. How's tricks, Les? Comps 5EF hobbling around on a stick at the meeting night and looking like a veteran from the Boer War. Appeared to be a little touchy when I suggested that possibly s.s.b. might be the cause of his knee trouble, muttered something about cartridge or bullet trouble, but I did not stop to argue, he looked too pugnacious for me, anyway I am allergic to lead poisoning.

Joe 5JO is still putting out his well known brand of transmissions on 7 Mc., although judging by the whistling, the coy phrases into the "mike", and the general air of uncertainty in his voice when heard here, he was not too sure of all was well. Tell them to buy a new receiver Joe. Athol 5QL heard for the first time for a long while on 7 Mc., and with the strength and quality of the signal I cannot imagine just why I have not been hearing him. Last time I reported hearing him he was decidedly coarse about it. Even suggested I had ultra-sensitive ears as he was not on.

Clive 5PE (5WI to you), is doing a good job of the Sunday morning broadcasts, as was evidenced by the number of congratulatory callbacks heard last Sunday. He has an interesting and newsy style about the broadcast which cannot but interest all sections of his listeners. Nice work. OM. Murray 5ZQ heard on 7 Mc. with an extra good signal and judging by the number of answers to his CQ heard here, is having no trouble in getting more than his share of contacts. Luke 5LL heard on the 5WI callback recently handing out the bouquets to Clive on his handling of the session. I'll tell you one thing Clive, if this joker tells you all is well, all is certainly well, he was not behind the door when straight speaking was handed out. Anyway, wouldn't you rather have it that way?

Arch 5XK, the wild man from Norfolk Island, heard calling 5LL right in the middle of the callback frequency of 5WI the other Sunday morning. Quite a strong signal during the silence, but oh boy, where did it go to during the transmitting periods of about six or seven stations calling 5WI? Try the Bongos, my native friend, or failing that, smoke signals. Gerchal Gilbert 5GX was doing his best to raise 5WI when heard here, but the opposition from a couple of VK2s slap bang on the frequency made it a little difficult at times. Still, like a true follower of Bruce and the spider, or was it Canute and the wicked wolf? Anyway, Gilbert kept pegging away and finally came through, decidedly bent but certainly not broken!

Tom 5AQ heard during the callback was on s.s.b. and believe it or not, I was copying every

word like a true follower of s.s.b., only to find out later that nobody else was, due to Tom's s.s.b. being on the bugle, a fact which he was well aware of, because he threatened to put the axe through the whole rig. Whilst agreeing with the axe business for s.s.b., I am somewhat put out by the fact that I was copying it so well. Could it be that my poor reception of s.s.b. is due to it being so good, or is it that my good reception of s.s.b. is because it is so bad? Oh dear, oh dear, life gets so teejuss!

VK5 is passing through a spate of breaking and entering of shacks which are external to the QTH. Crystals and receivers seem to be the objective, because nothing else is touched. Anybody buying either of these commodities is well advised to check carefully before parting up with any well-earned shekels to an unknown seller.

Jim 5JK is at the moment of writing in the throes of batching. His wife and daughter have gone away for a well-earned rest (what am I saying?) and Jim is holding the fort. I called in the other night to see him, and after kicking aside the wall of unwashed dishes and giving him a glass of water to bring him around, I am happy to report that I think he will pull through. Brian 5OJ secured some well-earned publicity in the local week-end paper for Amateur Radio, under the heading "Scouts to be linked by radio." Over 400 Scouts set for business at the Torrens District annual rally with Brian on duty for 24 hours at St. Mary's Park. The photo in the paper was a good one and I expect Brian to be rushed for his autograph. Please Mr. Daw, Sir, could I have a lock of your hair, Sir?

Some years ago, when radio was not so specialised, nor were the demands of broadcasting so urgent, the news editor occasionally started the early morning shift not in the pink. So that he could rest his weary head, he would accept my offer to write the news page and he only ever gave me a warning once. He said if I always remembered "that when in doubt, leave out." I would never have any regrets. All of which leads up to my foolish paragraph on the "old-new mixer" and if ever I should have left that out, that was the time. Not only did the VK3 scribe seize it with both hands and use it for his personal pat on his back ("I used it for a couple of months before I sent it on to the Editor"), wouldn't it make you sick? Crawling to the Editor, but he also wound up his paragraph with an insinuation that I was not composed, which is Peruvian for knot-head. If in doubt, leave out. You can say that again! All right, I will. If in doubt, leave out!

Jack 5LR has apparently made a good recovery from his bout of sickness, because my spies report that he was holidaying in Renmark for a fortnight and if all can be believed thoroughly enjoying it. At the moment of penning these notes he has not yet gone back to work, but will start any day now. Rex 5DO now no longer Treasurer of the VK5 Division, took me aside at the meeting and offered to let me into his secret of keeping his creditors quiet, even though he had just bought his new Wolseley. Apparently he thinks my creditors are restive since I bought my Holden. As if they are!

I shall be sorry if we leave our present club rooms, the reason being that the stage portion of the room is really the vestry of the church, and you may or may not remember that I was a choir boy at this church and every time I attend a meeting I find it very hard to keep out the many nostalgic memories that will persist in crowding before my eyes. People flattered me even in those days. I will remember Canon Bleby taking me aside one night after choir practice, when he accidentally came round the corner and copped a hassock fair and square, meant for someone else. "Parsons, I have never seen anybody with such an innocent face and such a sweet voice, who could get into so much mischief in one night. I shall report this to your parents." However, I never allowed myself to be influenced by such flattery, and have remained a loveable, modest, shy, and reserved person.

Bumped into Ted 5JE in Flinders Street, the other afternoon. When I first sighted him, I said to the chap that I was with, "I am going to speak to this joker, and I will bet you a drink that he will mention 7 Mc. in the first 25 words of our conversation." My mate thought this was good odds, but went a bit white about the gills when Ted said, "Good-day Pansy, I never seem to hear you on 7 Mc. I have worked this. I have worked that, it is a wonderful band." Thanks Ted, I will buy you a drink one day. Remind me on 7 Mc.!

Nobby 5WK is reported by my spies as being considerably interested in s.s.b., so much so that he has been visiting Arthur 5HY to see

the lay of the land. Another stalwart about to fall. Oh dear, oh dear.

John 5SJ, apart from being connected technically with t.v., now appears about to become a t.v. star in his own right. According to the local paper he will direct and compare his own show on ten-pin bowling on Saturday mornings on Channel 9. I will wait until he is conducting a big quiz show or something, when he will be giving away a Rolls-Royce car, or perhaps a luxury liner, and then I will demand that I be a contestant. He would be sure to favour me, possibly for a book prize. Luke 5LL told me at the meeting that he had been promised a photo of the picnic get-together at Crystal Brook, mentioned in last month's notes, and thought it would be suitable for the mag. So far it has not arrived, and with Luke gad-abouting in VK7 at the moment, it looks like it will have to make a later issue.

Since being "Custodian of the Instruments," business has been fairly slow. Gilbert 5GX was the first customer, closely followed by Joe 5JO, and then about one a week—all of whom rang up first and checked to see if the gear they wanted was available. Two called at the house during my absence and naturally could not be fixed up, but rang later and did the right thing. A member rang my doorbell at 10.30 p.m. and appeared a bit put out because I did not express exuberant joy at seeing him. However, after I had tactfully told him the facts of life as applying to the borrowing of the test gear, he seemed to see the light. So much so, as he jumped the front fence in his hurry to leave, he said, "Goodnight Mr. Pansy." My XYL tried to tell me that the paint on the front fence was blistered, but I deny it!

Tom 5TL has returned from his trip into the wilds of Interstate, injured foot and all, and reports a good trip. He left quite an impression on Nowra, having backed his car into the wall of the motel, but as he paid up cheerfully, I gather he has no regrets, nor does he bear any malice. Talking of Interstate, I notice the VK3 scribe remarked recently, with a sneer that could be heard in VK7, that he had just paid his local post office the yearly fee of £1. Whether this is intended as a bait to induce me to become a VK4, I do not know. However, I can assure him that I have no objection to walking sedately up to the Receiver of Public Moneys at the G.P.O. Adelaide, it is only the principle to which I object. Gercha, and other expressions of disdain.

Received my copy of "Info," the journal of the Elizabeth Amateur Radio Club, and note it is still maintaining its high standard of journalism. I also note with hurt feelings that my name is still unlisted in the nominees for the Elizabeth Award, plus many mysterious references to an investigation by the F.B.I., etc., etc. If this keeps up much longer I will have to seriously consider penning a "Letter" to the right quarter on the matter of slowness in posting out awards!

If this should meet the eye of Ron 3RN, and if it doesn't then I am no longer a contributor to the mag, he will be interested to know that I delivered his message to a certain gentleman (self-styled) who resides in Gawler and he has promised to do something about the printer's ink!

The new Treasurer of the VK5 Division is Doug 5EL of Elizabeth, and he was officially on duty for the first time at the general meeting. He seems to be decidedly keen on the job and I am pretty safe in forecasting that he will be the perfect substitute for Rex 5DO, who, as you all know, was forced to give up the job because of pressure of outside business.

I had occasion to contact Clive 5WI (or 5PE, please yourself) on the telephone recently and in case anybody also tries to contact him on the phone some time, take along a tent and provisions for a week or so and camp by the phone. I started on Monday and it was not until the Thursday that I managed to get through. He was not at all perturbed about it and said it was quite normal service for the area, both incoming and outgoing. Got any spare carrier pigeons?

Well, here we are again, December, and Xmas on the way. Don't forget chaps, roll up to the Xmas Get-Together this year and don't forget to bring a basket for the supper—enough for you and enough for me. Volunteers are wanted to help carry me from the meeting, somebody with surgical experience to separate me from the coke container. Anyway separate serious from one, A Merry Xmas to all Divisions from the Council and members of the VK5 Division, and may the old chap with the red dressing gown and the white beard bring you all that you want most yourselves. Don't forget, at the height of the festivities, spare a thought for the poor old fellow in VK5, who twelve times a year signs, 73 de 5PS, PanSy to you.

ELIZABETH AMATEUR RADIO CLUB

At the mid Oct. meeting, Mr. R. Clements, of Texas Instruments, gave a most interesting lecture on the manufacture and theory of transistors. The lecture was followed by an informal discussion and almost all those present joined in. SNO outlined the building plans.

The Nov. meeting was devoted to business. 5NQ moved that we should have two field day stations this year, one for the picnickers, and one for the contest men; this received no support, but 5NQ was asked to form a field day sub-committee.

The v.h.f. boys went over to Yorke Peninsula and brought back a 40 ft. tower each for 5ZMK and 5ZMJ. 5ZMK and XYL are eagerly awaiting the results of the c.w. exam. 5ZBR getting his share of DX on 6. Both have been working the Crystal Brook boys on 2 mx. 5NQ trying hard to catch up with 5NO's DX score. 5ZMJ has his 6 element beam ready to go on top of his new tower. 5WV has his tower almost completely up. 5FY also bought a new tower. 5ZJM doing a good job renovating mobiles for 53.1 Mc. W.I.C.E.N. net. 5EU, 5QL, 5DY, 5TM and 5PE took part in the Jamboree-on-the-Air. A letter of thanks has been received by the club from the local Scout Coordinator.

5DY developing a transistorised s.s.b. generator. Perhaps there are nightingales in Berkeley Square, but the chirpy c.w. from the Park is 5QL. 5AX is still struggling with his side-band rig, having trouble with his linear. 5DT is on 40 and 20 m. phone. 5EP made his shift to the new QTH in Elizabeth East with hardly a break in activity. Dec. 15 is the night for the Xmas "Do." 73, SNO.

WESTERN AUSTRALIA

Talk about almond eyes and politeness! Ron 6KW, our President, has returned to Western civilisation after a visit to Singapore, Hong Kong, Japan, and other points in our Near North. However, by the time you read this, of course, a number will have heard Ron's lecture for the Nov. meeting. "My adventures in the Mysterious East" was to have been the title, but it was felt that this would only make members envious or nervous or something. In any case, Ron's XYL was with him! Both enjoyed themselves, in spite of this, and I'm envious if nobody else is.

At the time of writing, the whole of VK5 is suffering from an epidemic. The main area of infection appears to be centred around Perth, with particular spots of highly dangerous activity located at Beauty Park, where manifestations of the disease are shown by people throwing themselves in a small area of water which appears in one or two places; the Velodrome, where people, under the influence of the fever mount two-wheeled vehicles and pedal furiously around sloping walls in an effort to stop themselves from falling over; and the Perry Lakes Stadium, where attacks and spasms give rise to tremendous bursts of physical activity. Some run round in circles, others jump in the air, whilst a smaller number savagely throw things across the ground. Such items as steel balls, long silvers of wood, hammers, and discs of metal have been observed in flight.

An odd effect of this disease is that, far from people running away from those already infected, it seems to draw them towards the centre. Moreover, this attraction appears to be not only confined to those from other States, but from many parts of the world.

Experts are forecasting that the situation will get worse; the main crisis is expected to occur on Nov. 23, followed by intense spasms in all phases of the fever until Dec. 5, when it is expected that most symptoms will suddenly disappear, leaving only the doctors and nurses, tired and worn. It has been forecast, too, that the medical staff suffer what is known clinically as an "after effect," i.e. in popular language the "T.D.'s." They tremble first and get delirious afterwards. This includes loud bursts of maniacal laughter, assuaging an unquenchable thirst, hitting each other violently on the back, for no apparent reason, and many repetitions of "I told ya she'd be apples!" and "Ow are ya, mate! Orrright!"

Finally, all germs—er—people, are expected to recover and by Christmas time should be as near normal again as they ever will be. Anyway, see if the experts are right, the worst will be over by the time you read this. After all, VK5 had a worse attack in 1956 and they recovered—I think!

Oh well! Let's talk about normal people, like Hams. The most recent group activity was the Scout Jamboree-on-the-Air and although conditions were variable, some good contacts were made. Unfortunately, activity was not very intense. In Perth, Pat 6PH and Jim 6RU

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TASMANIA

Heartiest congratulations and best wishes to Den 7DK and Verna, his XYL, from the VK7 Division and all of us individually on the occasion of their marriage on Monday, 28th Oct. We sincerely wish you both a long, happy marriage with lots of QRM but control of harmonics. The happy pair have been heard operating 7DK mobile during their honeymoon on the north-west coast of our State.

The Jamboree-on-the-Air is over for this year and I think it is true to say that operating conditions as regards QRM were not as severe this year as last year. About 20 stations, both h.f. and v.h.f., operated at one time or another during the Jamboree and the results of their efforts were really quite impressive, considering band conditions. Several stations, including 7BS, 7RX, 7CT, 7JF and 7DK, were heard operating from camp sites under weather conditions not at all in favour of camping. 7WI was operated at full stretch by special permit to David 7ZAY and many fruitful contacts were made, despite tx trouble. Nev 7ZEE operated as the v.h.f. control station during the Jamboree, and did a very good job indeed on 2 mx. We are indebted to Nev 7ZEE and David 7ZAY for repairing the dial cord on the 7WI rx early in Oct., and that was a job much harder in the fulfilling than would appear by just writing the fact down. Many thanks, lads, from the Division.

Talking v.h.f., Bob 7ZAL is now portable at Stanley and will be looking for 2 mx contacts throughout the Division and over the water for the next several months. Two new stations are also operating on 2 mx, namely John 7ZOO and Rex 7ZAT. Welcome to both of you.

Greetings also to Ted 7ZBB at Poatina, we have not heard you down this way yet Ted, but we hope to. Rupe 7RM has been in Adelaide for a month visiting his sister over there. It was nice to hear and chat with you again Rupe.

The c.w. section of the VK-ZL Contest took place about the middle of October and three stations were heard to take part. Den 7DK would seem to have led the field from this Division. Several of us have been pleased indeed to work Arch 5XK while portable during his annual holidays on Lord Howe Island, providing us with another country. Arch was also heard to have a dog pile all to himself on 7 Mc. consisting of W stations. Luke 5LL spent three weeks touring around VK7 during November and many of us met him too. Terry 7CT is to lose a daughter and gain a son-in-law about the middle of December, consequently his pocket is being hit hard at present and his radio time is severely curtailed. Alan 7MY has by now moved into his new house at Cremorne and he is talking of going on s.s.b.

At our Nov. Divisional meeting we were lectured most impressively by Joe 7BJ on the subject of crystal filters. It is not for nothing that Joe is called the "old master". Well, the Old Master gave a masterly address even for the Old Master on this very difficult, definitely touchy subject. His words were delivered both from theory, experience, knowledge and practice, all of which are ideal ingredients for a wonderful address. Thanks, Joe.

Finally, from myself, the President, Councilors and rank and file members, I wish you all a very happy Christmas and a prosperous New Year, and may we experience lots of radio activity from you in the year to come. 73, 7ZZ.

NORTH-WEST ZONE

Well chaps, the festive season is almost upon us once more, complete with disrupting influences to Ham Radio! The next meeting on Tuesday will be the last for 1962, so roll up everyone, especially you Ulverstoneites. Kevin 7ZAH was your only representative at the last meeting. The last meeting was strictly a social event. Unfortunately I could not be present, but from all indications a good time was had by all. Sid 7SF had some excellent movies and Max 7MX a collection of superlative slides to show. George 7XL also had some wise words to say about mobile antennae.

It is most gratifying to see the Southern boys rise to the occasion concerning the Sunday broadcast. On 3.5 Mc. no trouble should be encountered in copying. Speaking recently to the Boy Scout District Commissioner, he mentioned in passing that he was impressed by the Amateur fraternity as a whole, and hopes the Jamboree-on-the-Air will become an annual event.

The bands have been quiet lately, but by reports 7SW is doing big things on 20 mx c.w. Should be more of it! Maybe when 7MS gets his new quad up and 7SF stokes the new tx, things will hum! Max 7MX and XYL on extensive tour of VK2 and VK3 at present time. Keep locks on your shacks, you boys! 73, 7ZBH.

NORTHERN ZONE

Of licensed Amateurs in this zone, or more correctly still, in the near vicinity of Launceston, 45 per cent. have not been active for some years and unfortunately do not seem likely to ever become active again. If stations who appear on the air only once or twice a year were added this figure would rise to well over 50 per cent. Considering therefore that we are now getting an average attendance of 17 per meeting, it can easily be seen that this figure is made up of quite a few associates. Fortunately at least four of these definitely intend taking the A.O.C.P. exam. In February so in the interest of the zone it is essential that all licensed members help these associates to the limit of their ability. This will ensure a strong and active zone for the future.

Ted Byrnes has now received the call sign 7ZBB and is operating on 144 Mc. from Poatina with good equipment. 7BQ can be heard regularly on 144 Mc. and is at present working on a 288 Mc. rig. 7BR at Evandale, not active but still threatening to get on 144 Mc. 7CA is occasionally on 7 Mc. Sunday mornings, appears as though Max has been doing too much night work. 7DK temporarily off the air for a few weeks, there is a possibility that Den may be changing his QTH—all the best of luck, Den. 7EC active on 7 and 14 Mc., chasing DX with some success. 7LZ has been overhauling all v.h.f. gear and is now ready for the coming season. Has 50, 144 and 288 Mc. rigs operating. 7PF building a v.f.o. for 144 Mc.

The December meeting of the zone will be held over Geoff Lutwyche's radio shop, George Street, Launceston, on Friday, 14th Dec. All are welcome.

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SELL: Collins KWM1 s.s.b. Transceiver, perfect condition, £400. Traeger Flying Doctor Service Mobile, easily converted to Ham Bands, £25. VK3SK, Bob Slutzkyn, 8 Lynedoch Ave., S.16, Vic. Phone LB 1861.

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were notables in assisting with this worthwhile cause. Associate Hans Frost, who is also a District Commissioner, did his best to organise the Jamboree, but there were not sufficient offers from Hams. To the others in the metro. area who made their rig available, a big hi! In the country areas, and on the brighter side of things, Katanning really gave the boys the insight into Amateur Radio. Altogether 45 Scouts and seven Scouters from Katanning, Kojonup, and Broomehill visited shacks in Katanning. Herb 6XO, Robby 6XR and Clarrie 6XG handled groups throughout the afternoon and night, and again on Sunday morning. I understand that conditions were variable, but some good contacts were made, not only local but overseas. Now I suspect that there were other country stations on too, doing this worthwhile job, but nobody tells me! In this case, just bear in mind that Scouts make a fertile field to grow good Hams!

Alan 6AB has been seen around Katanning again. Hear tell that Joe 6FD has been a temporary resident in the village, too, usually manages to meet the X boys after 5 p.m.—sharing hospitality and fellowship with them. For cash, of course.

I am getting suspicious. I have a feeling that they are on to me! My secret mail has not been arriving. I sent out three letters to three widely separated parts of the State, including stamped, self addressed envelopes, to three of my newest recruits to the spy ring. What did I get back? Nothing! Not even a signet. (Definition: Signet—a small signal. Similar to cygnet, only different. Has no wings but flies.) Now I wouldn't blame the P.G. (that's short for P.M.G., but disguised, because he pays my salary), so I hope I've passed the message and that my boys have got the picture, and will put their hands to the plough, before we have our backs to the wall, and don't have anything to write about at all. (Sorry, I didn't mean that to rhyme!)

By the way, a small signet, i.e. a very young signal, tells me that Neil 6ZDK is disposing of a low frequency rig. What about hanging on to it, Neil and using it yourself? Should make a good portable rig. Sounds as though Bill 6RX is going for the big time, too, because his Geleos tx is going out. What's next Bill, a Collins kilowatt or something? Continue with the good work anyway, Bill and Alleen, too.

Well, the year moves on rapidly and our next meeting will be the last for the year. Our Christmas meeting is the highlight of the year, so don't miss it. The President's trophy for the 40 mx scramble will be presented to the winner of the 1962 effort. So best bib and tucker on for this, brush off the blue suit and come along.

Talking about brushing off. There was this t.v. serviceman, see, who had a new assistant starting. First morning, carries a t.v. chassis onto the bench. Says to the boy: "I think the i.f.s. are off, we'll sweep it first." New boy, puzzled, says, "Er—wouldn't a vacuum cleaner be safer?"

So, it's just as well this is my last effort for the year. Compliments of the Season to you, and you, from all the members of Council, all the other members of the VK6 Division, and myself in particular. 73, 6LS.

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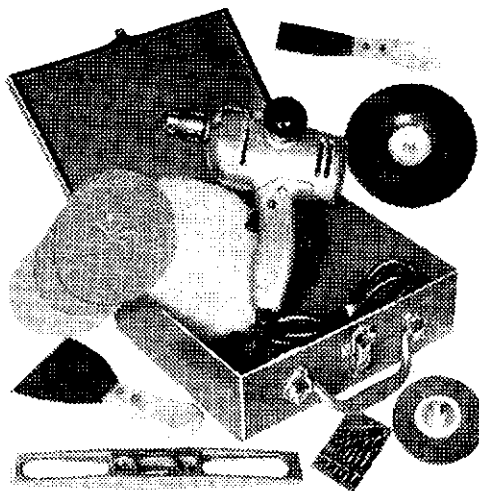
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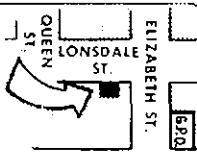
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FREE—to celebrate introduction of these kits, W.F. will give away a **3-PLANE SPIRIT LEVEL** to the first 100 customers.




WARBURTON FRANKI
359 LONSDALE ST., MELBOURNE — MU 8351



- TRADE ALSO SUPPLIED
- OPEN SAT MORNING

Please include postage or freight with all orders



The Management and Staff of AWV
take this opportunity to extend to
their many clients and friends the
sincerest of best wishes for a Merry
Christmas and a prosperous New Year.

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