

AMATEUR RADIO

JANUARY

1949

JOURNAL OF THE WIRELESS INSTITUTE OF AUSTRALIA

NOW AVAILABLE...

TYPE
830B
£1'2'3



TYPE
834
£1'8'9

LOW-PRICED PHILIPS VALVES

FOR TRANSMITTERS AND MODULATORS

That new rig you are planning or the re-building of your present set-up can be improved by using a pair of 834's in the final stage, while for modulation, of course, the answer is a pair of 830B's in class B.

TYPE 834 TRIODE.

A transmitting triode designed for use as RF amplifier and oscillator, with maximum ratings up to 100 Mc/s. It may be used at 50% rating as high as 350 Mc/s. Power output at 1000 volts anode supply is 60 watts. Filament voltage 7.5 at 3.1 amperes. Driving power 6 watts. The price is £1/8/9 (plus 2/- duty).

TYPE 830B TRIODE.

With 6 watts driving power, two 830B's in Class B audio service will deliver up to 175 watts. At 1000 volts H.T. Zero signal anode current is 20 Ma and maximum 280 Ma. Filament voltage 10 at 2 amperes. This valve is also applicable as RF power amplifier for telephony and telegraphy. The price . . . £1/2/3 (plus 2/- duty).

There is a discount of 10% on both valves to licensed amateurs.

PHILIPS ELECTRICAL INDUSTRIES OF AUSTRALIA PTY. LTD. Sydney, Melbourne, Brisbane, Adelaide, Perth



FOR THE EXPERIMENTER & RADIO ENTHUSIAST

Registered at G.P.O., Melbourne, for transmission by post as a periodical

6d.

HERE'S a CROP of NEW YEAR SPECIALS

- **COMMANDO-TYPE RECEIVERS**, 6 Valves. 3-12SK7, 1-12K8, 1-12SR7, 1-12A6. Available in 2 ranges: 3-6 Mcs., 6-9.1 Mmc. Ideal for Ham Shack.
 - **CONDENSERS**. English Block Type:

10 Mfd., 400 volts, Working	0 7 6
8 Mfd., 400 volts, Working	0 7 6
5 Mfd., 400 volts, Working	0 7 6
4 Mfd., 750 volts, Working	0 7 6
4 Mfd., 450 volts, Working	0 7 6
2 Mfd., 1000 volts, Working	0 7 6
5 Mfd., 750 volts, Working	0 5 0
 - **DUCON TYPE**, Small Block:

4 Mfd., 600 volts, Working	0 5 0
----------------------------	-------
 - **XTALS.**—7.7 Mcs., in Large Holder. Few only Each 0 10 0
 - "EMMCO" TYPE R.F. METERS, 0-350 Mills. Few only Each 0 7 6
 - **AMERICAN SWITCHING RELAY BOXES**: Contain good wrecking parts, Co-Ax. Connectors, etc. Each 0 5 0
 - **AMERICAN INTER-PHONE CONTROL UNITS**, less Valves. Full of useful parts. Each 0 10 0
 - **TRANSCIVERS**. 100 to 120 M/cs., English. 16 Valves. E.F. 50's, E.L. 32's, E.F. 39's, R.K. 34's, etc. There are only a few—be early (Plus Freight) £6 10 0
 - **A.T.5 TRANSMITTER KEY CLICK FILTERS**. Full of useful Parts. Each 1 0 0
 - **GENEMOTORS**.—A.T.5, A.R.8 (complete). Slightly-damaged Switches, 24 volt input, 550 and 300 volts output, at 250 mills. To Clear 3 0 0
 - **RECTIFIERS**, Copper Oxide; 12 volt at 100 mills; S.P. Bridge. Ideal for Relay operations. 7/6 each. Also 4 to 5 volt, 100 mills. 0 5 0
 - **TRANSCEIVERS**. 109 VIBRATORS. 0 10 0
 - **TRANSMITTERS**.—A.T.5, 50 watt, Phone or C.W. crystal or V.M.O. Tube line-up; 6V6 Osc., 807 Doubler, 2-807 in final. Ideal Ham Rig, covering 20, 40, 80 metres. Also Broadcast Band to 150 Kc. Meter for all stages; easily adapted to A.C. or D.C. power supply. (And we have cheaper models. Write us your requirements.) 8 0 0
 - **CARBON MICROPHONE INSERTS**.—New. Each 0 2 0
 - **TRANSMITTER**.—V.H.F.; easily adapted for 400 M/c. Band. Uses 2-15E's in final. Trombone Antenna. Each 3 0 0
 - **LOW IMPEDANCE HEADPHONE LEADS**.—Standard Length. Ea. 0 1 0
 - **STANDARD NOTES FOR WIRELESS MAINTENANCE MECHANICS**. Including Bendix, A.T.5, A.R.8, etc. Each 0 5 0
- SEE OUR VAST RANGE OF CONDENSERS, METERS, FILTER CHOKES, RESISTORS (Variable & Fixed).

VALVES

-- NEW --

807's	10/-
AV11's	10/-
6V6's	10/-
6J5	10/-
12J5	10/-
6SH7	10/-
6H6	10/-
3B24	10/-
1J6	10/-
1K4	10/-
OA4	10/-
879	10/-
12SQ7	10/-
EF50	7/6
VR91	7/6
VP41	7/6
V568	7/6
VR102	7/6
VR92 Diode	7/6
VR122	7/6
VR21	7/6
VR65	7/6
VR66	7/6
VU139	7/6
VU111	7/6
VU39	7/6

WRITE FOR ANY PARTS NOT LISTED

HAM RADIO SUPPLIERS

16 Swan Street . . . Richmond

Phone: JA 3827.

After Hours: Haw. 4465.

SPECIAL ATTENTION GIVEN TO COUNTRY MAIL ORDERS.

JANUARY 1949

Vol. 17. No. 1

EDITOR:

T. D. HOGAN, VK3HX,
Telephone: UM 1732.

MANAGING EDITOR:

J. G. MARSLAND, VK3NY.

TECHNICAL EDITOR:

J. C. DUNCAN, VK3VZ.

ASSISTANT TECHNICAL EDITOR:

A. K. HEAD.

COMPILATION:

R. W. HIGGINBOTHAM, VK3RN.

CIRCULATION:

J. F. IRVINE, VK3TU.

ADVERTISING REPRESENTATIVE:

W. J. LEWIS,
20 Queen St., Melbourne, C.1.
Telephone: MU 5154.

PRINTERS:

H. HEARNE & CO. PTY. LTD.,
285 Latrobe St., Melbourne.

MSS. and Magazine Correspondence should be forwarded to the Editor, "Amateur Radio," Law Court Chambers, 191 Queen St., Melbourne, C.1., on or before the 15th of each month.

Subscription rate in Australia is 6/- per annum, in advance (post paid), and A7/6 in all other countries.

Wireless Institute of Australia (Victorian Division) Rooms. Telephone: FJ 6997.

— IN THIS ISSUE —

Series Cathode Modulation	3
576 Megacycles!	5
Questions and Answers	5
Curing That Stubborn B.C.I.	6
Ionospheric Predictions for the Amateur Bands	7
Modifying the FS6 Transceiver ..	8
DX Countries of the World	9
The Quad Beam	11
An Effective Audio Filter Unit ..	12
S.A.R.L. DX Contest January 1949	13
Using VK3WI Standard Fre- quency Transmissions	14
Improving Stability of the Type 3 Mark II.	16
Oh Lord Our Help in Ages Past! ..	17
Federal, QSL, and Divisional Notes	18
Fifty and Up	27
Correspondence	28

AMATEUR RADIO

*Published by The Wireless Institute of Australia,
Law Court Chambers, 191 Queen Street,
Melbourne, C.1*

EDITORIAL



Browsing through some official correspondence the other night, I came across a term now increasingly applied wherein the Amateur Frequency Allocations are referred to as the "Amateur Services." This term came into being as the result of the Atlantic City Convention, and signified recognition of work performed by the radio amateurs throughout the years.

Progress of the art has been shared by professional and amateur alike, and it is difficult to tell where one has started and the other finished. The fact is, that some of the world's leading radio scientists have started as humble experimenters, and, having achieved highest professional honours, still jealously guard their amateur status in the quietness of their own homes. Yes, the amateur services do pay dividends to all who

participate, be they business men or scientists, and provide a meeting ground for all such, regardless of nationality or creed.

To the young experimenter, and the old hand alike, I do sincerely suggest that all privileges in the amateur services so hardly won in the past, should be valued and guarded against indifference or carelessness.

Our ambition and creed for this New Year should give us a fixed determination to be proud of the service to which we belong, and preserve a well-balanced outlook, placing family responsibilities before all else, but determined to do all we can to uphold the traditions of our forebears in the splendid hobby of Amateur Radio.

P.E.

Homecrafts

PTY. LTD.

New Year Bargains .. for .. The Amateur



Single Bank Oak D/W Switches 6 x 2 double sided as illustrated. Usually 11/6. Cut to only 2/11.

Country and Interstate Clients add freight or postage.



Available for immediate delivery. English Collar Electric Gramo Motors The new AC47 Electric Motor with Pick-up and Automatic Stop. Complete as illustrated. £9/5/-.



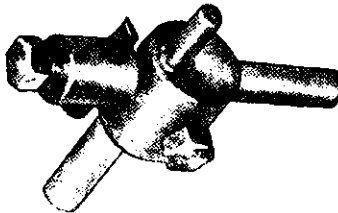
Type 6K7G Valve (Exact equivalent to 6U7G). Electrically perfect, loose base only. Bargain price only 4/11.



Pick-up Bargain. English Cosmo-chord Crystal Pickups. Streamlined Bakelite Crystal Pick-ups—as illustrated. Reduced from £3/7/9 to 39/11.



12 volt 4 Pin Non-Synchronous Vibrators. Standard type. Usually 30/-.. Bargain Price 12/11.



Chassis Hole Cutters. Adjustable Hole Cutters, cuts holes from 1" to 3 1/4". As illustrated. Price 16/7.



Homecrafts 6 Volt 4 amp. Battery Charger Kit. Kit includes 6 Volt 4 amp. English Selenium Rectifier, Transformer, Black Crackle Finish Metal Case, 2 Terminals and Hook-up Wire. Complete Kit is illustrated. Only £4/10/-.



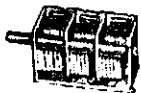
The Paice V.T. (Probe) Multimeter. Model VTM. This outstanding instrument available for immediate delivery. Price £33/10/- plus 10% S.T. Terms available—£6/15/- Deposit, 12/6 weekly. Easy Terms on all Test Equipment. Write for Free Illustrated Leaflet.



American Imported Revoll 6 amp. Charger bulbs. 90 volt. As illustrated 36/6.



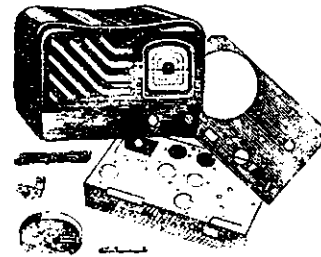
The new English Shefi High Fidelity Moving Coil Pick-up. Complete with Matching Transformer as illustrated. No Pre-Amplifier required. Price only £4/19/



Roblan Miniature Gang Condensers. 1 gang, 13/6; 2 gang, 17/9; 3 gang, 25/-.

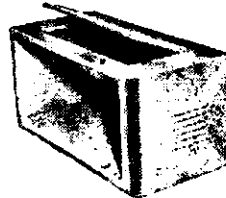


5. Shielded Pig-tail Type American Condensers. As illustrated only 1/11.

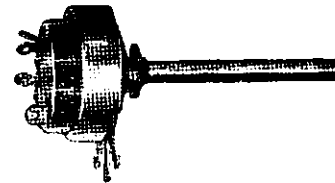


Bargain for the Set Builder. Bakelite Cabinet, Chassis, Front Mounting Plate and Dial Assembly. As illustrated. Only 45/- complete.

English B.A.I. Genuine Sapphire Trailer Type Cutting Needles. Guaranteed 2,000 playings. Only 9/9 each.



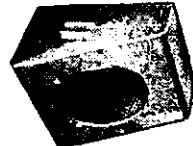
Steel instrument and Communication Cabinets. In Grey Crackle finish as illustrated. Small 7" high, 11" long, 5-5/8" deep, 30/-.. Large, 10-5/8" high, 22" long, 11" deep, 60/-.



High Grade Potentiometers with Switch. English Dagale 1/2 meg. Potentiometers, as illustrated. 8/3 each.



Australia's Best Aerial Wire. Famous Electron Type Steel & Copper Stranded Aerial Wire. 50ft. coils 1/4, 100 ft. coils, 2/6. One or two Mile Drums £5 per mile.



Streamlined Steel Speaker Boxes with Brown Crackle Finish. Suitable for up to 8" speakers. As illustrated, 25/-.



Amphenol Steatite Sockets. Ceramic 5 Pin Sockets. Suitable for 807's, etc. As illustrated only 1/11.



The Collaro Microgram. This instrument gives real life to your records. It includes a high fidelity Amplifier, Speaker, Electric Motor & Crystal Pickup in ultra modern Leatherette Carrying Case. Adds real fun to a party. As illustrated, only £29/19/6 complete.

Homecrafts Special Snap Bargains

Toggle Switches. Reduced from 3/- to 1/6. Speaker Transformers. Reduced from 12/- to 4/11. Voltage Dividers 15000 ohm. Reduced from 4/6 to 1/-.. 2 Gang Midget

Tuning Condensers. Reduced from 19/- to 9/11. Large 7 valve Drilled Steel Chassis. Reduced from 18/- to 6/11. Large Full Vision Dials. With Stations marked. Reduced from 25/- to 9/11. 5 Valve Steel Ducoed Chassis. Cut to 1/11. 2 Bank D/W switches. Reduced from 11/6 to 2/11. Latest Type 40 MA Power Transformers. Reduced from 35/- to 17/11.

290 Lonsdale St., Melb.

Gen. 4311

Series Cathode Modulation

BY PETER H. ADAMS,* VK2JX

Cathode Modulation has been widely used in Amateur phone transmitters and found to be effective, if somewhat critical of adjustment. It is surprising therefore that series, or direct coupled, cathode modulation, which is a logical development of the normal cathode modulation system has been almost entirely neglected.

This modulation system was used by the author—and no doubt many others—some time before cathode modulation was “invented” by Frank Jones of the magazine “Radio.” It employs less equipment and a transmitter using it is just as easy to adjust as one with plate modulation. Furthermore—and this is very important these days—it is almost impossible to produce splatter with it even when the modulation percentage is increased beyond the 100% mark.

The basic circuit is shown in Fig. 1. It will be seen that the modulated amplifier has fixed bias and grid-leak bias in addition to the bias provided by the d.c. drop across the modulator tube. Whilst these three sources of bias are not all essential, their inclusion obviates the need for critical drive adjustment which is typical of grid modulation and simple cathode modulation.

MODULATED AMPLIFIER

The most suitable tube for use in the r.f. power amplifier stage is a high- μ triode which operates normally at a reasonably high plate voltage. A tube with an amplification factor of 30 or more, and typical plate voltage of 1,500 or so, has been found to give very good results. Of course, two tubes in push pull could be used provided the total plate current requirements are not too high. A high voltage low current final is best because it can be effectively modulated with quite a small modulator tube.

Tubes such as the 811, 812, 35T and 100TH have been found to give excellent results in practice, whilst triodes with an amplification factor as low as 10 have been quite satisfactory.

MODULATOR TUBE

A triode may be used as the modulator and good results have been obtained with a pair of 45s in parallel. These were originally used as keyer tubes in a c.w. transmitter and, as there seemed no reason why audio (speech) voltages could not be applied to the grids instead of the d.c. for keying, the idea was tried and quite nice modulation resulted. However a beam tetrode was subsequently tried and its advantages over triodes was immediately apparent. Firstly, by supplying an adjustable voltage to the screen it is possible to vary the effective impedance of the modulator tube over a wide range and so arrive at an exact

match to the modulated amplifier very easily. Further, the fact that the plate current in a pentode or tetrode is substantially independent of the plate voltage allows a tube with a given plate dissipation to modulate a larger amount of r.f. power.

A single 6L6G will modulate a final taking 100 watts input to 100% quite effectively and yet the modulator requires no d.c. plate supply and no modulation transformer—surely the simplest and most economical system that could be used!

THEORETICAL CONSIDERATIONS

The theory of operation will be quite apparent from a study of Fig. 1. The modulated amplifier operates between class B and class C conditions, but may be regarded as presenting a resistive load to the modulator tube which is not strictly linear. Suppose, for example, we have a total plate supply of 1,500 volts and in the unmodulated condition the modulator resistance is adjusted by the screen voltage to a value that results in a 300 volt drop across the modulator tube. Then obviously the effective plate voltage on the modulated amplifier is 1,200 volts. Suppose now that an a.c. voltage of 10 volts peak is applied to the grid of the modulator tube. On the maximum negative swing the current through the modulator tube is

reduced and as the p.a. is also in series with it, the current through this tube is reduced also and hence the voltage drop across it decreases.

Suppose this voltage drops from 1,200 to 900 volts. Then the voltage across the modulator tube must rise to 600 volts, since the total of 1,500 volts is unchanged. This change of 300 volts across the modulator is added to the bias applied to the modulated amplifier and subtracted from the plate voltage.

Conversely, when the modulator grid is at the maximum positive swing of the modulating voltage, the drop across the modulated amplifier may rise to 1,400 volts, leaving 100 volts across the modulator tube. This means that the grid bias for the p.a. has been reduced 200 volts from the unmodulated condition and the plate voltage has been increased 200 volts. We therefore have modulation of both grid bias and plate voltage which is the basic principles of cathode modulation.

It will be noted that, in the example, an equal change in modulator grid voltage was not shown as producing an equal change in voltage between modulator plate and cathode. This could occur under certain conditions, but it is not essential in practice because the efficiency of the modulated amplifier decreases when the bias on it is high. The actual operating conditions are quite complex, but fortunately the correct adjustment for 100% modulation can be arrived at quite easily in practice.

Under full modulation, of course, the plate current of the modulated amplifier will cut off completely at the maximum negative swing of the modulating voltage, but this does not mean that the voltage across the modulator tube would then be 1,500 volts. Actually it might only be 600 or 700 volts because the total bias on the modulated amplifier would then be high enough to cut the plate current off, even with the full r.f. input applied. In other words the resistance of the p.a. tube becomes almost infinite at this point.

EFFICIENCY AND PLATE DISSIPATION

A class C plate modulated amplifier will generally have a tube efficiency of about 70%. As a cathode modulated stage is part grid, or efficiency, modulation and part plate, the efficiency without modulation is generally of the order of 50%. Then be on the safe side and allow for circuit losses as well, it is a good idea to base any calculations on an overall efficiency of 40%.

In a 100% plate modulated stage, the peak plate voltage and peak plate current both increase to double their value without modulation. For instance an

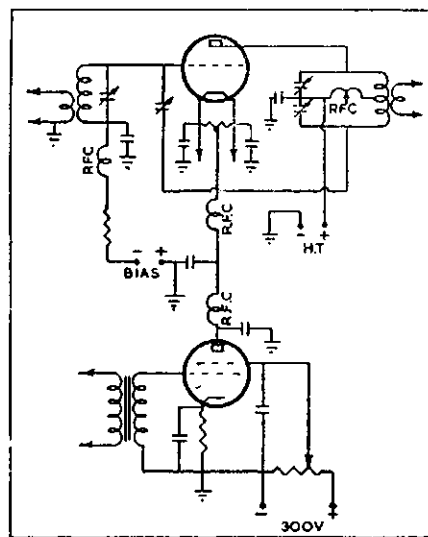


Fig. 1.

Basic circuit for series cathode modulation. By-pass capacitors for cathode and screen of modulator tube should be suitable values for speech frequencies. All others are r.f. by-passes only and should have a reasonably high reactance at audio frequencies. See text for values.

* “Waigani,” Plateau Rd., Avalon Beach, N.S.W.

809 drawing 100 Ma. at 1,000 volts will, under plate modulation, be subjected to 2,000 volts and will draw approximately 200 Ma. on 100% peak. Hence, provided the plate dissipation is not exceeded, there is no reason why the 809 should not be operated continuously at 2,000 volts. With series cathode modulation the plate voltage does not increase beyond the supply voltage under modulation and so it is quite possible to operate a tube that is series cathode modulated at a supply voltage of twice the rated plate voltage for plate modulation. However the plate current must be limited to a value that does not exceed the allowable plate dissipation.

Taking a practical case, the maximum plate dissipation of an 812 tube under I.C.A.S. ratings is 55 watts and the plate voltage for plate modulation is 1,250 volts. Therefore we can operate with a supply voltage of 2,500 volts. At 50% tube efficiency we can operate with a plate input of twice the rated dissipation, i.e. 2×55 or 110 watts. Now assuming that we have 300 volts drop across the modulator tube, the effective plate voltage on the modulated amplifier is 2,200 and for an input of 110 watts, a plate current of 50 Ma. is indicated. This is the maximum that can be permitted without exceeding the plate dissipation for the tube.

For the modulator a 6L6 is quite suitable, because it will easily pass this plate current and the plate dissipation 300×0.05 , or 15 watts, is within its ratings. Of course, if the current or dissipation were too high for a particular modulator tube, two such tubes could be used in parallel.

SPEECH AMPLIFIER Using a 6L6 modulator, sufficient gain to modulate 100 watts input from a crystal microphone can be obtained with a speech amplifier consisting of a 6J7G pentode resistance coupled to a 6J5 triode which in turn is transformer coupled to the grid of the 6L6. Transformer coupling allows the 6L6 grid to be driven positive on peaks without appreciable distortion. A 2 to 1 step-up ratio is quite satisfactory and for speech the transformer need not be of particularly high quality.

The lower frequencies should be attenuated by using a small coupling condenser between the first two stages, as is normal practice in any speech amplifier.

In the VK2JX transmitter a switch on the front panel of the speech amplifier switches it into circuit as an amplifier for the receiver when the transmitter is off. The 6L6 thus feeds a speaker and is supplied with about 300 volts from the speech amplifier power supply for the plate. In a third position on this switch the filament centre tap on the final is connected direct to earth and the 6L6 tube, still connected to the speaker, is arranged as an audio oscillator and acts as a keying monitor for c.w. transmission. Keying circuits are also opened up in the transmitter,

so by operating this switch it is possible to change over instantly from receiving to either phone or c.w. transmission.

It will be noted that cathode bias is used on the modulator tube. No doubt a wider range of operating conditions could be obtained if this resistor were made variable, but in practice it was found that a fixed resistor of the value normally used in class A amplification was quite satisfactory and made initial adjustment of the modulation much simpler. For a 6L6 tube a 200 ohm resistor was used and gave good results.

The screen voltage for the modulator tube is obtained from a potentiometer connected across a 300 volt supply. This is mounted on the front panel for easy adjustment.

R.F. FILTERING Great care must be taken to ensure that no r.f. current flows through the modulator tube. Filament by-pass condensers for the modulated amplifier should not be larger than 0.005 μF . or the top speech frequencies will be cut. At least two different r.f. chokes should be inserted in the lead from final filament c.t. to the modulator plate and these should be by-passed to earth as shown by condensers of 0.001 μF . or thereabouts.

It goes without saying that in any speech amplifier there should be no r.f. pick-up whatever in the input circuits, microphone leads, etc., and the complete amplifier should be built in a metal shield-box.

CLIPPER ACTION In a plate modulated transmitter the plate current of the modulated amplifier will cut off on negative modulation peaks whenever the modulation exceeds 100%. After the plate current cuts off the effective plate voltage actually goes negative and therefore, if the modulation is considerably greater than 100%, the tube remains non-conducting for an appreciable period and under these conditions the side of the envelope immediately before cut off is very steep. In other words, transients are produced.

In effect, this is the same as if the transmitter were keyed at an audio frequency by means of a key inserted directly in the plate circuit. The clicks that would be produced by a c.w. transmitter keyed in this way can well be imagined and therefore it is not surprising that splatter results whenever a plate-modulated transmitter is over-modulated.

In a series cathode modulated transmitter the r.f. output drops to zero before the plate current cuts off and in fact, the audio input must be increased to the equivalent of several hundred per cent modulation before the plate current cuts off completely on negative peaks.

This will be readily understood on reference to Fig. 1. Suppose, under no modulation, the drop across the modulator tube is 300 volts and the total supply voltage is 1,500. The normal drive will be covered by the bias when

this reaches 500 or 600 volts and therefore at this point the tube receives no effective drive and therefore produces no r.f. output. However the plate current is not quite cut off because, if it were, there would be no drop across the r.f. amplifier tube; that is, the modulator tube would behave like a switch that was open circuited. This will not happen till the total supply voltage, i.e. 1,500 volts, appears between plate and cathode of the modulator—and the grid will require a very high negative voltage to cut it off under these conditions.

Thus the positive peaks can be increased up to the equivalent of at least 200% modulation before the plate current actually cuts off. There will therefore be no splatter although the second harmonic distortion will be high, due to the flattened negative peaks. The quality becomes rough, but on speech a surprisingly high percentage of this type of distortion can be tolerated and there is actually very little loss of intelligibility.

The action is similar to a clipper limiting the negative peaks only and, since the positive peaks do not produce splatter, there is no necessity to limit them and they do in fact produce a louder signal at the other end if they are not limited. In the series cathode modulated stage this clipper action is, of course, entirely automatic.

It is possible to go a step further and prevent complete cut off of the r.f. output on negative modulation peaks. This can be done very simply by connecting an adjustable resistor from filament c.t. of the modulated r.f. amplifier to earth, or virtually across the modulator tube. If this tube is then removed from its socket the resistor can be adjusted until, with normal drive, say 2 Ma., plate current flows. Then, when the modulator tube is put back, no matter how negative the grid is driven, the final plate current cannot go below this value. Under these conditions more gain can be built into the speech amplifier and the full gain used without any fear of splatter, but, at the same time, the distortion, of course, will be greater.

PRACTICAL ADJUSTMENT A series cathode modulated transmitter of this type is very simple to adjust. Assuming we have a 6L6 or similar tube as modulator with variable screen voltage supply, the first step is to adjust the modulator screen to maximum voltage (about 300 volts) and tune the transmitter up for maximum output just as though it was a c.w. transmitter. The fixed bias should be set at somewhat greater than cut off for the final and in addition a series grid leak, of about the normal value that would be used if no other form of bias were included, should be employed. The three different sources of bias may not always all be required, but, by including them, the necessity for critically adjusting the drive is obviated and the

exciter may be adjusted to produce maximum drive. This makes the transmitter just as easy to tune up as a c.w. transmitter.

In the VK2JX transmitter dry batteries are used for the final bias because they are convenient and do not add much resistance to the grid circuit. There is no reason, however, why a transformer-rectifier supply should not be used, but it should be well filtered, or hum may appear on the carrier. This is because the final, during part of the cycle, is working class B.

Due to the modulator tube acting as a cathode bias resistor, the dip in plate current at resonance will not be so pronounced and, if any difficulty is exper-

enced in determining the exact tuning point, the modulator tube may be temporarily removed from its socket and a direct connection made between its plate and cathode socket connections. Alternatively, if a phone-c.w. switch is used, the transmitter may be switched to c.w. for tuning up. Then, on switching over, the tuning adjustment will be approximately correct for phone.

Having now adjusted the transmitter for maximum output, the screen voltage should be reduced until the r.f. line, or feeder, current increases when the microphone is spoken into. As the screen voltage is reduced, and with it the final plate current, the carrier power goes down, but the modulation percentage goes up. If a diode rectifier (or germanium crystal) type phone monitor is used it is quite easy to determine the screen voltage adjustment that gives the cleanest and loudest signal and this can subsequently be checked on the air.

Alternatively, the r.f. envelope or the trapezoid pattern may be viewed on an oscilloscope and the modulator screen voltage adjusted until 100% modulation is indicated. It will generally be found that at 50% modulation the sides of the trapezoid are quite straight but become slightly curved as the modulation percentage is further increased, until at 100% the pattern, instead of being a triangle, has the shape shown in Fig. 2a. This indicates non-linearity but no distortion is perceptible to the ear on speech under these conditions. What happens is that the carrier power increases as the modulation percentage is increased—the effect is similar to that which occurs in a controlled-carrier transmitter.

Of course, to obtain the trapezoid pattern, the audio voltage for the horizontal-deflecting plates must be obtained from the secondary of the audio transformer, i.e. the voltage at the grid of the modulator tube.

The patterns that are obtained with the "anti-splatter" resistor in circuit are also shown, under various modulation conditions, in Fig. 2. It will be seen that the carrier does not cut off under any conditions.

Using the series cathode modulation system on all Amateur bands, consistent reports of good quality have been received. In many cases "broadcast quality" reports have been given, but is felt that these are of little value and would hardly be accepted by broadcast station engineers. No doubt a harmonic analyser would reveal more than a negligible amount of distortion at full modulation, but with speech even 10 or 15% distortion is indistinguishable to the ear, especially after passing through the average receiver.

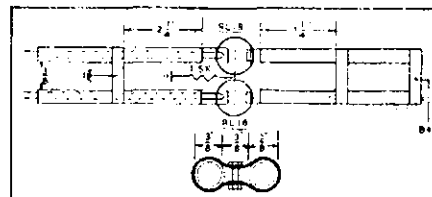
In conclusion, it is claimed for series cathode modulation that it is the simplest, most practical and certainly the cheapest system of modulation for Amateur use.

576 MEGACYCLES!

You think that it is too hard to get up this high? Then take a look at this simple transmitter of VK3RR's. It was on the air less than two hours after deciding to build it, which is nothing compared with the time put into building a low frequency rig.

The circuit is a push pull oscillator using two RL18 tubes and linear plate and cathode circuits. The ratings of the RL18 were given in "Amateur Radio," November 1946. It is a handy little triode with full ratings up to 600 Mc. with plate and grid leads coming out the top of the envelope and an EA50 type base for cathode and heater.

Both plate and cathode circuits are $\frac{3}{8}$ " copper tubing spaced $\frac{3}{8}$ " apart. The plate lines are above the chassis, supported at one end by a stand-off insulator and with the plate leads of the RL18 soldered directly to the other ends. The two grids are earthed through a 1,500 ohm resistance. The cathode lines are under the chassis and the heater leads are run through them.



The shorting bars used are $\frac{1}{4}$ " lengths of 1" diameter copper tubing squashed into a "figure of eight" shaped round a pair of $\frac{3}{8}$ " mandrels. On tightening with a bolt through the "waist," these form very efficient shorting bars due to the large area of contact. The tuning of the cathode lines is not critical as long as it is resonant at a lower frequency than the frequency of oscillation. This is determined by the plate lines and can be measured with Lecher wires. The power is taken off by a hairpin loop near the plate lines.

No by-pass condensers were found necessary anywhere when plate modulated at $7\frac{1}{2}$ watts input.

So if you are looking for something simple, why not try 576 Mc.?

QUESTIONS AND ANSWERS

Q.10.—From VK3KP: In his article "Series Phased Aerial Arrays" ("A.R." May 1948) the late H. K. Love suggested using twin ribbon feeder for the radiators and quarter wave phasing lines of such aerials.

How would the velocity factors for this type of feeder (e.g. 0.77 for the 300 ohm type) affect the physical length of

- The radiators;
- The Phasing Lines?

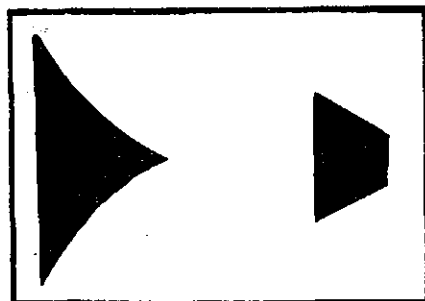


Fig. 2a. Fig. 2b.

- 2a—Normal series cathode modulation 100%.
2b—Normal series cathode modulation 50%.

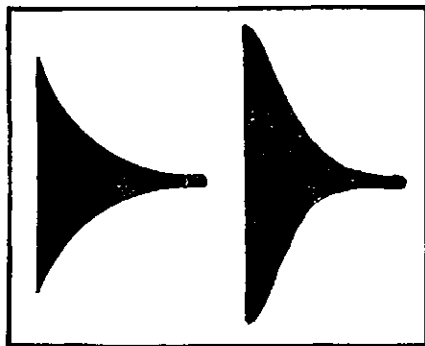


Fig. 2c. Fig. 2d.

- 2c—With "anti-splatter" resistor—about 120% modulation on the positive peaks.
2d—With "anti-splatter" resistor—about 200% modulation on the positive peaks.

SCR522 CIRCUIT DIAGRAMS

Photostat of the complete circuit and duplicate of parts lists for the SCR522 can be obtained from the Victorian Division, 191 Queen Street, Melbourne, at net cost. Price on application.

CURING THAT STUBBORN B.C.I.

BY C. GIBSON,* VK3FO

The evergreen and complexing problem of b.c.i. reared its head at this location recently. The solution to the problem was unusual, and has not been published anywhere else as far as is known, and for those who may be in trouble perhaps the effective cure described will be worth a try.

The set was a pre-war model using 6A7, 6D6, 6B7, 43, 2525, and unshielded coils, in fact everything that goes for trouble to Hams, from an interference point of view.

In this particular case the interference was that, in which, harmonics of the local oscillator beat with the transmitter signal to produce the intermediate frequency. The interference was not continuous over the whole tuning range, but could be tuned in or out at about 15 points on the dial, with the transmitter on 20 metres.

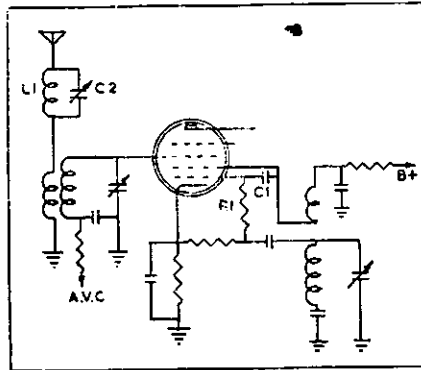
All the usual methods of eliminating the signal were tried, without avail, including r.f. chokes, wave traps, grid stoppers, etc. It was therefore decided to try and improve the waveform of the local oscillator, thus eliminating the harmonics AND the interference.

The voltage was reduced on the oscil-

* 424 Centre Rd., Bentleigh, S.E.14, Vic.

lator plate to the point where oscillation almost ceased—without result. Different values of grid leak, grid stoppers, and reduced coupling between grid and plate circuit also failed. Then the thought—remembering the benefits of negative feedback, in reducing audio distortion, it was decided to try this at r.f.

Since the oscillator tuned circuits have very low reactance at the harmonic



Conventional b.c. converter circuit, showing point of connection for R1, C1, and wave trap for L1-C2.
 R1—2,500 ohms, $\frac{1}{4}$ watt.
 C1—0.5 pF.
 L1) Tuned to trap interference on the C2) band required.

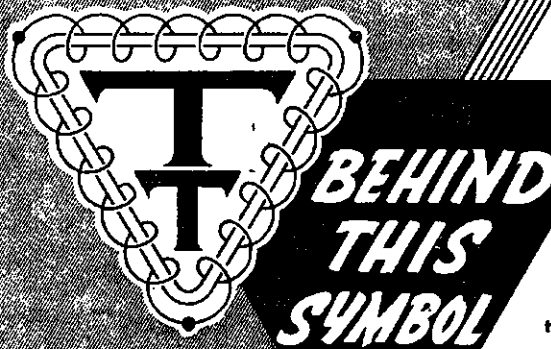
frequencies concerned, a 2,500 ohm grid stopper was placed in the oscillator grid circuit, and a 0.5 pF. condenser connected straight from the grid to plate. A marked improvement was at once noticeable, a wave trap in the aerial lead, and a shield plate over the bottom of the chassis were fitted, resulting in complete elimination of the interference.

A larger resistance than 2,500 ohms would be more effective in preventing short circuiting of the feedback voltage to earth, but a larger value than this prevented the oscillator from functioning at the high frequency end of the tuning range.

In some cases, it may be necessary to use a smaller condenser than 0.5 pF., since due to Miller effect, this has the same effect on the tuning circuit as a much larger condenser from grid to earth. This apparent value is equal to 5 pF. multiplied by the gain of the tube. Thus the trimmer condenser must be reduced in capacity to compensate for this.

These modifications are not suitable for fitting in dual wave receivers unless provision can be made for switching them out of circuit on the short wave range, as they would prevent the oscillator from functioning on short waves.

In conclusion, I hope that none of the boys have trouble of this nature, but if so, try this one—it works, and how!



Every transformer looks to be simply coils of wire on a core . . . but the beauty of Trimax Transformers is more than skin deep! Long experience and high standards of technical ability ensure that the unseen parts of your Trimax Transformer will prove their reliability in every test.

TRIMAX Transformers

Division of CLIFF & BUNTING PTY. LTD. ~ 29-35 FLEMINGTON RD., NORTH MELBOURNE, VIC.

SYDNEY:
L. B. Graham,
5 North York St.

BRISBANE:
Chandlers Pty. Ltd.
Cnr. Albert &
Charlotte Sts.

ADELAIDE:
C. N. Muller,
Woranda Bldgs.,
Granfell St.

PERTH:
R. D. Benjamin,
197 Murray St.

LAUNCESTON:
W. & G. Genders
Pty. Ltd.,
53 Cameron St.

ENQUIRE FROM YOUR NEAREST DEALER

IONOSPHERIC PREDICTIONS FOR THE AMATEUR BANDS

The charts accompanying this page, prepared by the Ionospheric Prediction Service of the Commonwealth Observatory, are similar to earlier sets in the series first published in the November, 1948, issue of this magazine. Nine of the charts, prefixed by the letter "C" for Canberra, refer to forecasts for the South-Eastern Australian States. The remainder, prefixed by the letter "P" for Perth, are for Western Australia.

The world zones, to which these charts refer, were listed in November and December, 1948, issues.

The Perth charts are similar to those based on Canberra, except that the Far East terminal is Shanghai in chart P-Z6. No forecasts are given from Perth to zones Z2 and Z4 for the current month. Chart P-Z2 would be essentially similar to P-Z1, whilst chart P-Z4 would be unreliable due to auroral activity in high northern latitudes.

USE OF CHARTS

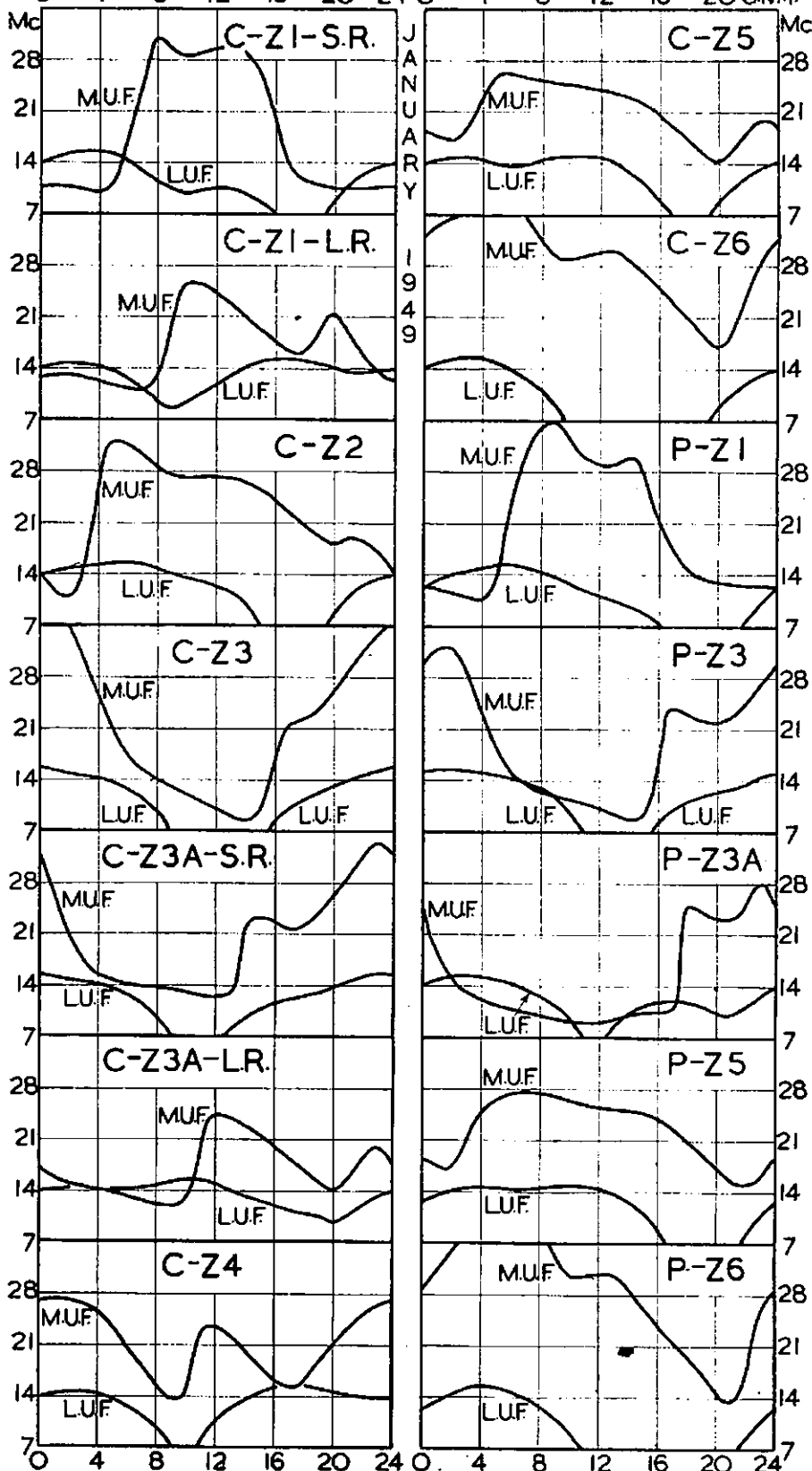
All that is necessary in using the charts is to select a time (G.M.T.) during which a specified Amateur band frequency is below the maximum useable frequency (m.u.f.) of the F region of the ionosphere but above the lowest useful frequency (l.u.f.) for the desired contact. In two cases, zones 1 and 3a, it is necessary to consult both the short-route (s.r.) chart and the following long-route (l.r.) chart.

A practical example might be that of a contact desired between Sydney and Sheffield. The relevant charts are C-Z1-SR and C-Z1-LR. The 28 Mc. band should be open for a few hours before and after noon G.M.T. on the short route. The 14 Mc. band should be available from sunrise to sunset in England, with best conditions on short route towards the end of the English day, when the l.u.f. drops below 7 Mc. Best conditions on long route in the 14 Mc. band should be at about 0900 hours G.M.T. when the whole of the long route is in darkness. The only possibility of a contact in the 7 Mc. band is on short route during the English sunset period at which time there is a complete dark path over the Indian Ocean.

RELIABILITY OF FORECASTS

The prediction charts assume average ionospheric conditions for the current month. Normal day-to-day variations of the m.u.f. will be approximately 15% both above and below the mean curve. Abnormal day-to-day variations may be due to ionospheric storms, when actual values of the m.u.f. are very much lower than that forecast, or to Dellinger fades when the l.u.f. is much higher than normal. Sporadic ionisation in the E region of the ionosphere, although credited with useful effects at "50 and Up," is probably of little value on very long distance circuits.

IONOSPHERIC PREDICTIONS FOR THE AMATEUR BANDS



Modifying The FS6 Transceiver

BY LAWRENCE M. BILLS*

The FS6 Transceiver has been obtainable in large numbers on the Disposal market, and in its original form was not very satisfactory for Amateur use.

The modifications described were made for the Bush Fire Network in South Australia, and it was a unit altered to this circuit which performed so well in the disastrous bush fire in the Gawler District last February.

The alterations apply equally well for Amateur use, and the circuit would make a very nice Beginner's Transmitter for those starting out in Ham Radio.

Released in great numbers, FS6 Transceivers are well known to Amateurs, many of whom have put them to use as portables. The transmitters as they were, have not been popular because of their poor phone characteristics, and many varieties of re-builds have been heard. Here is described an efficient little rig incorporating most of the existing bits and pieces of the FS6 Transmitter. It embodies many of the features of higher powered rigs, and makes the utmost of the limited high tension supply available.

Field tests in developing a bush fire control system showed that it was better to modulate a weak carrier well, than to modulate a strong one poorly. This prompted the testing of a variety of re-builds, including cathode, screen, plate, and Heising modulation. Of these, plate and screen modulation gave by far the best results in practice, and an experimental transmitter using a crystal controlled 6V6 driving an 807, modulated by a 6SN7GT driving a class B 6N7 as plate and screen modulator was very satisfactory.

The 807 gave a good carrier even at 20 mills. However, the total drain on the vibrator unit was over 80 mills, and this was far too much for the unit to stand, although experience with this vibrator at a constant load of 60 mills. over a year or so indicated that some overload could be tolerated. It was therefore decided to aim at 5 mills. no signal drain, thus allowing for the rise when the 807 was driven.

Various oscillators were tried, but none would give the necessary 2 to 3 mills grid drive without heavy plate current. The 6V6 drew about 25 mills, and was critical as to heater voltage, the drop in the leads being enough to bring the voltage down almost to the critical minimum.

An article by Don Knock suggested trying an EF50 as a pentode, and this tube certainly delivered the goods. The required grid drive was available at a plate drain of only 8 mills—the tube would oscillate with 4 volts on the

heater, and was most reliable in starting after a 25 pF. capacitor was shunted from plate to grid.

This left the 6N7 as the only tube in which the plate current could be reduced as it was difficult to expect the 6SN7 to operate at less than 10 mills with both sections in parallel. At no signal, the 6N7 took over 25 mills, using zero bias. Experiments showed however that power output was not materially reduced when the tube was biased to 6 volts or so, and accordingly the cathode was returned to the heater positive, reducing the standing current to about 6 mills. The whole rig then drew about 55 mills at no signal, rising to about 75

plug in the transceiver case when it is mounted. This particular make has convenient mounting flanges. The mike transformer is best placed in the key box, and if the key slides are loosened the transformer can be slid into the case, and locked by re-tightening the slides.

A plate current meter is essential, and the thermo couple meter can be adapted by removing the couple and installing a shunt. Existing markings on the scale can be removed with Bon Ami, or Goddard's Plate Powder and spirit, without taking off the white enamel. The shunt fed tank enables the plate current a resonance to be adjusted

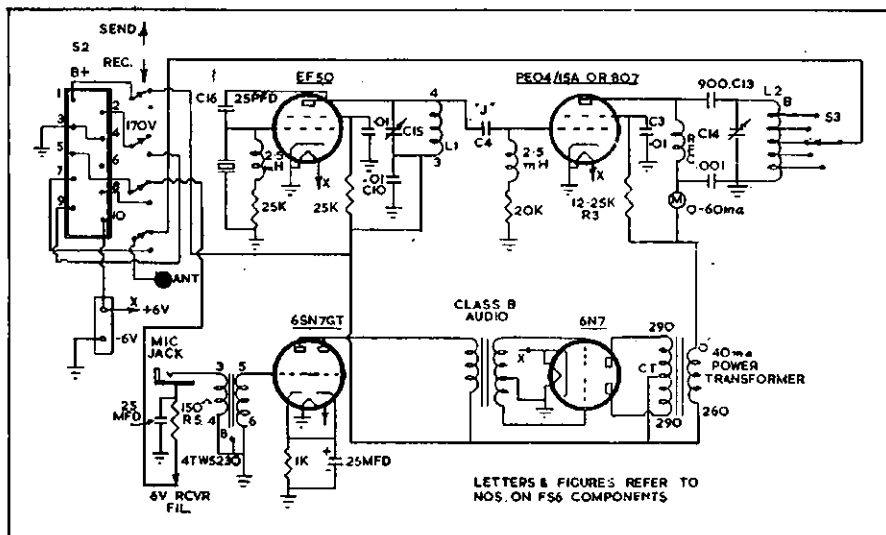


Fig. 1. Circuit diagram of modified FS6.

mills on loud speech. A little over 250 volts was available at normal levels. Fitting a 16 uF. condenser across the h.t. improved the regulation on peaks, and resulted in a perfectly clean carrier.

One or two little details are worthy of note. The r.f. chokes materially increase the drive, and the 25 uF. by-pass in the carbon microphone circuit also increases the drive to the pre-amplifier appreciably. Cascade operation of the 6SN7GT was not found necessary, and an Airzone battery-type class B transformer was quite adequate for the job. Extra drive could easily be had from the EF50 by reducing the oscillator grid leak, but there was a slight rise of plate current. At 10 mills, there was over 3½ mills of grid drive to the 807. No plate or grid suppressors were found necessary at the frequency used for tests, viz. 5.62 Mc. A Denby 40 mill midget power transformer can be mounted just above the 807 tank coil if the bulkhead strut is removed, but care is necessary to get it low enough to clear the 6 volt

as desired, and the unit will then work into a rod antenna of reasonable length, or into a random length of wire. The existing coil and switch is readily modified for this purpose.

A convenient mounting position for the EF50 is horizontally behind the panel in the position normally taken by the speech-key switch, which is transferred and used as a send-receive switch in place of the existing one. The crystal is handily mounted next to the EF50, or can be made to plug in from the front. A simple switch to change from crystal to v.f.o. would also be a proposition.

As a final refinement, a PEO4/15A, which is the transmitting version of the efficient EL3, could be used. These tubes are available with a normal 5 pin base, if ordered, and require rather less drive than the 807. R.F. output per milliamp. of plate current would also be a little higher, but the 807 has proved very satisfactory in field trials of this rig.

*20 Murray Street, Gawler, South Aus.

DX Countries of the World

The list of Countries as hereunder, and as amended from time to time in the Federal Notes, is the Official List to be used in connection with the issue of the Australian DX Century Club Award, and is also the official list as used by the A.R.R.L. for their award.

As many political and geographical boundaries are still to be finalised, it may be some time before a firm list of Countries is produced. As well as applying to boundaries, these above remarks apply equally well to Amateur prefixes, which seem to vary even more than the boundaries!

The list below shows first the Country, the Zone number in parenthesis (as used for the W.A.Z. Award), and the approved Amateur prefix. Those prefixes shown in parenthesis are either provisional or temporary and may be altered as the determinations of the Atlantic City Conference become authentic with the approval of those concerned.

Country	Prefix
Aden and Socotra Is. (21)	VS9
Afghanistan (21)	YA
Alaska and Pribilof (1)	KL7
Albania (15)	ZA
Aldabra Islands (39)	
Algeria (33)	FA
Andaman and Nicobars (26)	(VU5)
Andorra (14)	PX
Anglo-Egy. Sudan (34)	ST
Angola (36)	CR6
Antarctica (12, 13, 29, 30, 32, 38, 39)	KC4, (VK1)
Argentina (13)	LU
Ascension Island (36)	ZD8
Australia (29, 30)	VK
Austria (15)	(MB9) OE
Azores Islands (14)	CT2
Bahama Islands (8)	VP7
Bahrein Island (21)	VU7
Baker and Am. Phoenix (31)	KB6
Balearic Islands (14)	EA6
Barbados (8)	VP6
Basutoland (38)	ZS7
Bechuanaland Prot. (38)	ZS9
Belgian Congo (36)	OQ5
Belgium (14)	ON
Bermuda Islands (5)	VP9
Bhutan (22)	
Bolivia (10)	CP
Bonin and Volcano Is. (27)	
Borneo, Brit. Nth. (28)	VS4
Borneo, Neths. (28)	PK5
Brazil (11)	PY
British Honduras (7)	VP1
Brunei (28)	VS5
Bulgaria (20)	LZ
Burma (26)	XZ
Cameroons, French (36)	FE
Canada (2, 3, 4, 5)	VE
Canal Zone (7)	KZ5
Canary Islands (33)	EA8
Cape Verde Islands (35)	CR4
Caroline Islands (27)	
Cayman Islands (8)	VP5
Celebes and Moluccas (28)	PK6
Ceylon (22)	VS7
Chagos Islands (39)	VQ8
Channel Islands (14)	GC

Country	Prefix
Chile (12)	CE
China (23, 24)	XU (C)
Christmas Island (29)	ZC3
Clipperton Island (7)	
Cocos Island (7)	TI
Cocos Islands (29)	ZC2
Colombia (9)	HK
Comoro Islands (39)	
Cook Islands (32)	ZK1
Corsica (15)	(F)
Costa Rica (7)	TI
Crete (20)	SV
Cuba (8)	CM, CO
Cyprus (20)	(MD7) ZC4
Czechoslovakia (15)	OK
Denmark (14)	OZ
Dodecanese Is. (20)	(SV5)
Dominican Rep. (8)	HI
Easter Island (12)	
Ecuador (10)	HC
Egypt (and Canal Zone) (34)	(MD5) SU
Eire (14)	EI
England (14)	G
Eritrea (37)	(MD3, MI3)
Ethiopia (37)	ET
Faeroes, The (14)	OY
Falkland Islands (13)	VP8
Fanning Island (31)	VR3
Fiji Islands (32)	VR2
Finland (15)	OH
Formosa (Taiwan) (24)	(C3)
France (14)	F
Franz Josef Land (40)	
Fr. Equator Africa (36)	FQ
French India (22)	FN
French Indochina (26)	FI
French Oceania (31, 32)	FO
French West Africa (35)	FF
Galapagos Islands (10)	
Gambia (35)	ZD3
Germany (14, 15)	D (DA)
Gibraltar (14)	ZB2
Gilbert, Ellice and Ocean Is. (31)	VR1
Goa (Port. India) (22)	CR8
Gold Coast and Togo (35)	ZD4
Greece (20)	SV
Greenland (40)	OX
Guadeloupe (8)	FG
Guantanamo Bay (8)	NY4
Guatemala (7)	TG
Guiana, Br. (9)	VP3
Guiana, Fr. and Inini (9)	FY
Guiana, Neths. (Surinam) (9)	PZ
Guinea, Port. (35)	CR5
Guinea, Spanish (36)	
Haiti (8)	HH
Hawaiian Islands (31)	KH6
Honduras (7)	HR
Hong Kong (24)	VS6
Hungary (15)	HA
Iceland (40)	TF
Ifni (33)	
India (22)	VU
Iran (Persia) (21)	EP, EQ
Iraq (Mesopot) (21)	(MD6) YI
Ireland, Northern (14)	GI
Isle of Man (14)	GD
Italy (15)	I
Jamaica (8)	VP5
Jan Mayen Island (40)	
Japan (25)	J
Jarvis and Palmyra Is. (31)	KP6
Java (28)	PK

Country	Prefix
Johnston Island (31)	KJ6
Kenya (37)	VQ4
Kerguelon Is. (39)	
Korea (25)	HL
Kuweit (21)	
Laccadive Is. (22)	(VU4)
Lebanon Repub. (20)	AR8
Leeward Islands (8)	VPZ
Liberia (35)	EL
Libya (34)	(MCI, MD1, MD2, MT2)
Liechtenstein (15)	HE
Luxembourg (14)	LX
Macao (Port. China) (24)	CR9
Madagascar (39)	FB
Madeira Islands (33)	CT3
Malaya (28)	VS1, 2
Maldives Islands (22)	VS2
Malta (15)	ZB1
Manchukuo (24)	(C9) MX
Marianas Islands (27)	KG6
Marion and Prince Edward Is. (39)	(ZS2)
Marshall Islands (31)	KX6
Martinique (8)	FM
Mauritius (39)	VQ8
Mexico (6)	XE
Midway Island (31)	KM6
Miquelon and St. Pierre Is. (15)	FP
Monaco (14)	
Mongolia, Repub. (23)	
Morocco, French (33)	CN
Morocco, Spanish (33)	EA9
Mozambique (37)	CR7
Nepal (22)	
Netherlands (14)	PA
Neths. W. Indies (Curacao) (9)	PJ
New Caledonia (32)	FK
Newfoundland and Labrador (2, 5)	VO
New Guinea, Neths. (28)	PK7
New Guinea, Territory (28)	VK9
New Hebrides (32)	FU, YJ
New Zealand (32)	ZL
Nicaragua (7)	YN
Nigeria and Br. Cams. (35, 36)	ZD2
Niue (32)	ZK2
Norway (14)	LA
Nyasaland (37)	ZD6
Oman (21)	(MP4)
Pakistan (22)	AP
Palau (Pelew) Is. (27)	
Palestine (20)	ZC6
Panama (7)	HP
Papua Territory (28)	VK9
Paraguay (11)	ZP
Peru (10)	OA
Philippine Is. (27)	KA
Phoenix Is., Br. (31)	
Pitcairn Island (32)	VR6
Poland (15)	SP
Portugal (14)	CT1
Principe and Sao Thome Is. (36)	
Puerto Rico (8)	KP4
Reunion Island (39)	FR
Rhodesia, Nth. (36)	VQ2
Rhodesia, Sth. (38)	ZE
Rio de Oro (33)	
Roumania (20)	YR
Ryukyu Islands (25)	(J9) KR6
St. Helena Is. (36)	ZD7
Salvador (7)	YS
Samoa, American (32)	KS6
Samoa, Western (32)	ZM

(Continued on Page 16)

McGILL'S (Est. 1860)

**OVERSEAS AND LOCAL POPULAR MAGAZINES
OBTAINABLE ON SUBSCRIPTION.**

AMERICAN . . .

Audio Engineering, £1/6/-; C.Q., £1/6/-; Communications, £1/2/6; Electronics, £5/6/-; Popular Science, £1/5/-; Popular Mechanics, 27/-; Q.S.T., 33/6; Radio News, £1/12/-; Radio Electronics, £1/9/6; Science Digest, £1/4/-; Science and Mechanics, 17/6; U.S. Camera, 24/-.

ENGLISH and AUSTRALIAN . . .

Australian Radio World, 10/6; Amateur Radio, 6/-; Electronic Engineering, £1/12/6; Radio and Hobbies, 12/-; Radio and Science, 12/-; Shortwave Magazine, £1/7/6; Wireless World, £1/5/-; Wireless Engineer, £2.

(Add exchange to country and interstate cheques)

Large Range of Technical Books, Stationery and Novels on Display.

Mail Orders by Return Post.

McGill's Authorised Newsagency

183-185 ELIZABETH STREET, MELBOURNE, C.I., VICTORIA.

(The G.P.O. is opposite)

M 1475-76-77

**ELECTRONIC
A & R
EQUIPMENT**

DENOTES
Quality

From the Production lines of the A & R Plant, stream Transformers and Reactors of unequalled quality. Over Three Hundred Types ranging in size from Midget Microphone Transformers to 5 K.V.A. Power Transformers are produced. Only the finest insulating, impregnating materials, and filling compounds are used in A & R products, all completed units too, must pass a rigid test bench examination before issue to the consumer.

Write for the Latest Illustrated Catalogue

A & R *Electronic Equipment Co.* PTY. LTD.

The Quad Beam

BY A. GOLDIE,* VK2TG

This beam, also known as the Cubical Quad, is a two element beam with three very definite advantages:—

- (i) A short boom.
- (ii) Low angle of radiation.
- (iii) Easy to feed.

The boom is 0.1 to 0.15 of a wave length long and from it are suspended two squares, held with the diagonals vertical and horizontal. These squares may be constructed of a wooden framework of $1\frac{1}{2}$ " x 2" lengths. Each side of the square is a quarter wave length for the driven element and a quarter wave length plus 10% for the director.

Two turns of wire are then wound round the square, the turns being spaced apart a distance depending on the gauge of the wire:

6 gauge wire—	9" spacing;
10 " " "	7" " "
12 " " "	5" " "

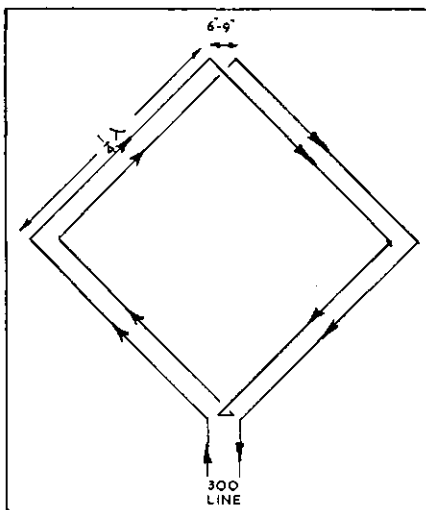


Fig. 1.

The two turns are connected to one another and the 300 ohm feeder as shown in Fig. 1.

The director is similar with two turns of wire with the same spacing relation as for the driven element. There are various methods of connecting the director loops as illustrated in Figs. 2 and 3. In each of these, the end of the first loop is connected to the beginning of the second loop (as in the driven element). In Fig. 2 across the beginning of the first loop and end of the second loop (where the feed line is connected on the driven element) are connected a

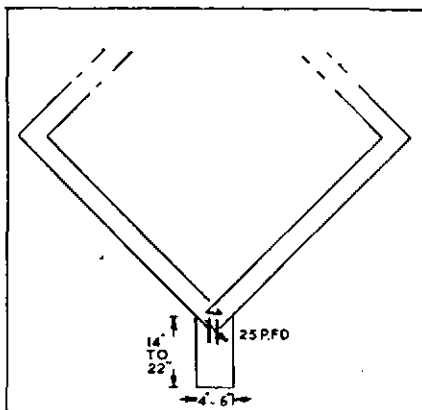


Fig. 2.

closed stub and a 25 pF. variable condenser. The length of the stub depends on the spacing of its wires, being 22" long for 6" spacing, and 14" long for 4" spacing. In Fig. 3 the loops are simply cross joined. The former scheme has the advantage of tuning the condenser for maximum front-to-back ratio.

The beam is essentially broad band, the loading remaining essentially constant from 27 to 30 Mc. for a beam designed for 28.5 Mc. It also will work on the second harmonic, i.e. a 14 Mc. beam would work well on 28 Mc.

NOTE.—There have recently been a number of articles on highly directional loop beams for direction finding in the 30 Mc. region. Although not the same as that described by VK2TG, they might have some interesting features for those wishing to experiment with compact beams. Four such articles are:—

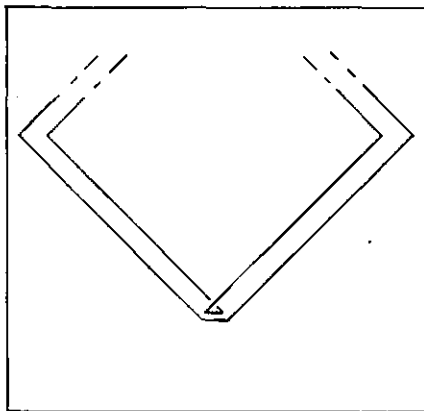


Fig. 3.

W. Ross "The Development and Study of a Practical Spaced Loop Radio Direction Finder;" journal of the Institute of Electrical Engineers 1947, vol. 94, part III. No. 28, p.p. 99-107.

F. Horner "An Experimental Spaced Loop Direction Finder;" J. Inst. Elec. Eng. 1947, vol. 94, part III, No. 28, p.p. 126-133.

F. Horner "Properties of Loop Aerials;" Wireless Engineer 1948, vol. 25, p. 254.

F. Horner "Spaced Loop Aerials;" Wireless Engineer 1948, Vol. 25, p. 281.

—A.K.H.

Australia's Largest Stock of All Radio Components

Chokes
Coils
Condensers
Dials
Intermediate Transformers
Morse Equipment
Potentiometers
etc., etc.
Resistors
Soldering Irons
Speakers
Test Equipment
Valves
Pick-Ups
Power Transformers
etc., etc.

Obtainable from

Bloch & Gerber Ltd.

with which is associated
the

WELDON ELECTRIC SUPPLY CO.

46-48 YORK STREET,
SYDNEY

G.P.O. Box 2282 M

Phones: MA 6291 (10 lines)

* 54 Byng Street, Orange, N.S.W.

An Effective Audio Frequency Unit

BY J. N. WALKER,* G5JU

Because of the crowded state of many of the Amateur bands, methods of increasing the effective selectivity of a receiver always arouse interest. One method which has much to recommend it is the use of an audio filter, particularly since it is easy to apply, without necessarily interfering in any way with the receiver itself.

TYPES OF FILTER Filters can be designed to produce frequency/amplitude response curves having various characteristics. For Amateur use, two major types are of interest. One gives a very peaked response over a very narrow band of frequencies, situated in the region between 800 and 1,000 cycles. At such frequencies, the human ear develops maximum sensitivity, does not tend to become tired, and also to them many makes of the usual types of iron-diaphragm telephones show a peaked response. These factors add intelligibility to a c.w. signal, particularly if the latter is a weak one and is accompanied by interfering signals on higher or lower audio frequencies.

The second type of filter is more complicated. It is designed to pass, at a more or less uniform level, a band of frequencies between about 200 and 3,000 cycles, and to reject all frequencies above and below these figures. This pass band gives what is known as communication quality speech and results in increased intelligibility under conditions where interference is likely. It also has other applications—for instance, when included in the modulator portion of a transmitter, it ensures greater efficiency by preventing unwanted frequencies modulating the carrier.

The particular design described hereafter is of the first type but can also be applied, to some extent, to telephony reception.

BENEFITS OF A FILTER An audio filter can be used with any type of receiver, superhet, or t.r.f. It is of particular benefit with the t.r.f. type, since the latter is prone to suffer from lack of selectivity.

For c.w. reception, the note of the incoming signal is adjusted to correspond with the resonant frequency of the filter. Because of the special characteristics of the latter, it is then amplified to a considerably greater degree than other frequencies, with the result that interfering signals on other adjacent frequencies and possibly of originally greater strength, become much less prominent and are more easily "forgotten" by the ear.

In the case of telephony, a very peaked response, such as is desirable for c.w., renders speech almost unreadable, as is actually the case with the present design. If however the response can be flattened out to some degree, the low and high frequencies will still be considerably attenuated and, although naturally the mid-band response will not be linear, the intelligibility can often be improved. Interfering signals, sidebands and heterodyne whistles caused by beating carriers will be much reduced in strength.

A further benefit is the reduction of background noise. It is a well-known fact that the narrower the pass-band, the less the noise, whatever its source of origin, internal or external. With high positive regeneration, the decrease in the level of background noise is very noticeable.

The present design does three things. With the positive and negative feedback controls (more of these later) suitably adjusted, the unit becomes a straight-forward amplifier, but with relatively increased amplification between roughly 500 and 1,500 cycles. In this condition, it has been found excellent for telephony reception. For better linearity, the output tuned circuit may be replaced by a high inductance choke. It may also be noted that if the input and output tuned circuits are replaced by resistances, the linearity can be made extraordinarily good.

Further adjustment of the positive feedback control, almost to the point of self-oscillation results in the steep response curve illustrated in Fig. 1. It is necessary for the receiver itself to possess good frequency stability or it will be difficult to hold the signal within the narrow pass-band of the filter.

The third use is an unusual one. With the positive feedback control well ad-

vanced, actual oscillation occurs and the output may be employed, after further amplification, to modulate a transmitter for m.c.w. transmission. It is very likely that this form of transmission will be called for on the new v.h.f. bands being allotted to Amateurs. The note produced is entirely suitable for the purpose.

POINTS ABOUT THE DESIGN The performance of a filter is related to the Q of the tuned circuit. Due to various factors (thin wire, iron core, external loading, etc.), it is impossible to achieve an inherently high value of Q . The selectivity curve is not as steep as one would wish and the performance is disappointing.

To attain the desired objective, it is necessary to enlist the aid of valves and introduce positive reaction to increase the apparent value of Q , at least of the input tuned circuit, to a really high value. At the same time, negative feedback is also introduced, to stabilise the action of the circuit and minimise the effect of variations of supply voltages, loads (both input and output) and ageing or changing of valves.

The Circuit, shown in Fig. 2, employs two triode valves, which may be of almost any medium impedance type. For that matter, a double-triode can be used provided separate cathode connections are brought out, thereby making possible a very compact unit.

The first stage includes a tuned grid circuit, the constants of which should be such that resonance occurs between 900 and 1,000 cycles. The value of C_2 (and C_7) is given as 0.01 $\mu F.$, but this will only be correct if the choke employed has an inductance of 3 henries at 1,000 cycles. A word of caution is necessary here. The writer initially used a choke of unknown make plainly marked "3 henries," but, in fact, a total capacity of 0.05 $\mu F.$ was necessary to secure resonance at 1,000 cycles. Obviously, something was wrong somewhere and on testing the choke, it was found to have an inductance between 2.5 and 3 henries at 50 cycles but only about 0.4 henries at 1,000 cycles, due presumably to magnetic leakage. Reliable make of choke should therefore be used. One of lower inductance than 3 henries can be employed, at a pinch, but the results will not be quite so good, because of the lower dynamic resistance. Experiment will then be necessary to arrive at the proper value of C_2 . These remarks apply also to the anode circuit of V_2 .

R_1 is necessary to prevent a low impedance input source loading the tuned circuit to a degree which can alter the resonant frequency quite considerably. The R_4/C_3 combination introduces positive feedback— R_4 should be wired so that clockwise rotation increases the

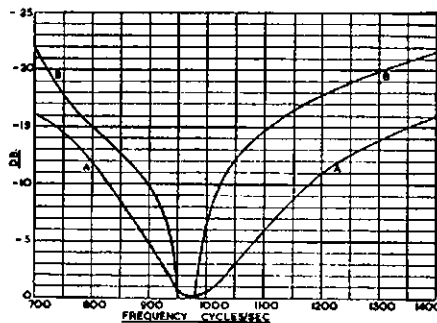


Fig. 1.

Response curves of the filter unit. Curve "A" is with both R_4 and R_5 backed right off. (It can be flattened by advancing R_5). Curve "B" is with 80,000 ohms of R_5 in circuit and R_4 advanced to a point a little short of self oscillation.

* Engineer, Technical Services Dept., Stratton & Co. Ltd., Birmingham, Eng., and published by special arrangement with the "Short Wave" Magazine.

S.A.R.L. DX Contest, Jan., 1949

amount of feedback. The negative feedback path is through C5 and R5 to the cathode of V1. In this case, clockwise rotation of R5 should decrease feedback (i.e. increase the resistance in circuit). No by-pass condenser must be connected across R2.

A tuned circuit, having constants identical to those of the input circuit, is connected in the anode circuit of V2 and assists in sharpening the response.

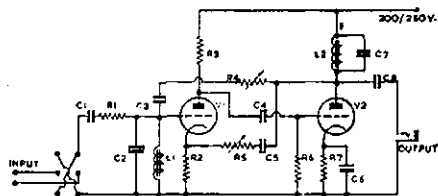


Fig. 2.—Circuit of the Filter Unit.

C1, C3, C4, C5—0.1 uF. paper.

C1, C7—0.01 uF. mica.

C6—50 uF. 12 v. electrolytic.

C8—0.5 or 1 uF. paper.

R1—47,000 ohms, $\frac{1}{2}$ watt.

R2—3,000 ohms, $\frac{1}{2}$ watt.

R3—100,000 ohms, $\frac{1}{2}$ watt.

R4—0.5 megohm potentiometer.

R5—0.25 megohm potentiometer.

R6—247,000 ohms, $\frac{1}{2}$ watt.

R7—1,000 ohms, $\frac{1}{2}$ watt.

L1, L2—3 henries at 1,000 cycles Chokes.

V1, V2—L63, 6J5, 6C5, etc.

Switch—D.P. change over type.

It is assumed that the gain will be controlled in the receiver itself. No gain control should be fitted in the grid circuits of V1 and V2 or the operation as a whole will be upset. One can of course be fitted preceding R1 and can take the usual form of a 0.5 megohm potentiometer connected across the input jack or terminals, with the moving arm connected to R1.

CONSTRUCTION Little need be said about the construction. The unit is purely an audio frequency device (and a stable one at that) and liberties can be taken with the lay-out, wiring, etc., to suit the constructor's convenience. Since the two valve combination gives quite a degree of amplification, the filter can be built in as the audio part of a receiver, in permanent form.

As shown, the circuit is suitable for use with telephones—if loud speaker operation is desired, it will be necessary to add an output valve of the 6V6 type, the grid being fed from C8 (reduced in value to 0.1 uF.) via a 250,000 ohm gain control. Many receivers will already incorporate an output valve and, if there is no objection to the making of internal modifications, the filter can well be fitted in between the first audio stage and the output valve.

There is one point to watch—that the insulation resistance of the coupling/

The South African Radio League has decided to hold its first post-war DX Contest in January this year, to further and foster the underlying principles of Amateur Radio. All members throughout the world are cordially invited to participate and share in the fun.

GENERAL

1. The Contest is open to licensed Amateurs throughout the world, and will be on c.w. only.

2. Contacts with or reports from ships or unlicensed stations located in countries where licenses are obtainable will not count for points. The decision as to whether a station is to be classed as unlicensed will rest with the S.A.R.L. DX Committee.

3. Only one person is allowed to operate a specific station for the duration of the Contest.

blocking condensers C1, C3, C4 and C5 is high—otherwise the valve operating conditions will be altered.

USING THE FILTER The input voltage will normally be taken from the telephone jack of the receiver and, in the case of commercial receivers, it should not be taken for granted that the sleeve is the "earthy" side of the telephone plug—in some receivers it may be the tip. This is the reason for the inclusion of the change-over switch which precedes R1—in many cases it may not be required.

In the first place, R4 (positive feedback) should be backed right off. With R5 (negative feedback) also backed off, the inherent gain will be evidenced by the strength of signals, noise level, etc. As R5 is advanced, the gain will progressively fall off. A setting of R5 such that about 100,000 ohms or somewhat less is in circuit will generally be found about right—the operation of the filter will be stable without too much loss of gain.

On advancing R4, at the same time tuning through a heterodyne beat note, it will become more and more noticeable that the tone correspond to 950/1,000 cycles stands out above other frequencies. Beyond a certain point (dependent on the degree of negative feedback), self oscillation will occur. When receiving c.w., R4 should be set a little short of this point. Too close an adjustment will give rise to "singing," rendering the incoming signals difficult to copy. For telephony, R4 should be backed off to the full extent, and R5 advanced if necessary—the additional negative feedback will tend to flatten out the response, but gain will be lost. The adjustment of R5 will therefore depend on reception conditions, strength of signal and the total amplification available external to the filter unit, so that no hard and fast rules can be given.

4. Certificates will be awarded to the first three DX stations, and to the first three Southern Africa stations who are members of the S.A.R.L.

Certificates also to the leading station in each Prefix Zone provided at least three entries received from that Zone.

5. All entry forms should be posted so as to reach Port Elizabeth not later than April 30, 1949, and should be addressed to S.A.R.L. DX Contest, P.O. Box 462, Port Elizabeth, South Africa.

6. The decision of the DX Contest Committee is final.

RULES

1. The Contest will extend from 0001 G.M.T. Saturday, 22nd January, to 2400 G.M.T. Sunday, 23rd January, and from 0001 G.M.T. Saturday 29th-2400 G.M.T. Sunday, 30th January, 1949.

2. Stations in the Southern Africa Zone must exchange six figure groups with stations in the rest of the world. The first three figures must be the signal report and the last three the self-assigned serial, e.g., 569333, 559807, etc.

3 (a). Southern Africa is divided into the following prefix zones: (1) ZS1, (2) ZS2; (3) ZS4, ZS7, ZS8; (4) ZS5; (5) ZS6, ZS9; (6) ZS3, ZE1, ZE2, VQ2, VQ3, CR7.

3 (b). The rest of the world will be divided into zones according to the official country prefix list, except in the case of: (a) U.S.A. and Canada, where each call district will be a separate zone, e.g., W1, W2, VE1, VE2, etc.; (b) Australia, where the zones will be: (1) VK2, (2) VK3, (3) VK4 and 7, (4) VK5 and 8, (5) VK6 and 9.

4. **Bands.**—The 80, 40, 20, and 10 metre Amateur bands may be used.

5. **Scoring.**—20 points for the first contact, 19 points for the second, 18 for the 3rd, and so on down to 1 point for the 20th contact, and 1 point for each contact thereafter, in each zone. The same method applies to each band used.

6. Only one contact with a specified station may be made on each band during each week-end of the Contest; stations worked during the first week-end may be contacted again during the second week-end.

7. Band monitoring stations, under the auspices of the S.A.R.L. will be active and any station reported off frequency will be disqualified.

8. **Logs** should show the following: (a) Date, (b) Time—G.M.T., (c) Band, (d) Serial In, (e) Serial Out, (f) Station Worked, (g) Points Claimed. An analysis sheet for each band should accompany entries: (a) Prefix Zone, (b) Contacts—number, (c) Points.

RECEIVING SECTION

This section of the Contest is confined to non-transmitting members of the S.A.R.L. resident in Southern Africa.

Using the VK3WI Standard Frequency Transmissions

BY J. DUNCAN,* VK3VZ, AND R. JEPSON,† VK3JI

The Standard Frequency Transmissions broadcast over VK3WI have not been used much by Members, and it is felt by T.A.C. that this is due to unawareness of the value which this service can be to the Amateur.

It is quite common to visit a Ham shack, and see a well constructed v.f.o., stable, and with all necessary temperature compensation and voltage regulation carried out, and which lacks one of the most essential requirements of all—an accurately calibrated dial. It seems a pity that a v.f.o., upon which many hours of work has been spent, should be left incomplete, when for the addition of a few hours extra work, a dial, calibrated directly in terms of frequency, would complete the job.

The usual excuse when this question is asked is "How am I going to calibrate a dial, when I get it fitted?" The answer to that one is obvious, "use the Standard Frequency Transmissions provided for just such a job by the W.I.A." After the job has been completed, it is an easy matter to check the calibrations on future Transmissions.

There are at present, at least two commercially made dials available with dial cards left blank for calibrating purposes, and if these are not suitable, it is not difficult to make one. The main requirement is to obtain a suitable planetary reduction drive, which is capable of taking the calibrated dial.

CONSTRUCTION OF CALIBRATED DIAL

The dial can be constructed from white celluloid, cut to the correct diameter with a pair of scissors, after marking clearly with a pair of dividers. The hole in the centre should be drilled, firstly with a small drill, and secondly with a larger morse drill of the required size. If wood centre bits are on hand they can be used to make a clean hole.

The shiny surface on which the calibrations are to be drawn is removed by rubbing with fine glass paper, using a circular motion to avoid scratches. It will be found that drawing ink will "take" to this surface just as well as it would do on drawing paper.

The final job is to fit a clear celluloid cursor to the front panel of the instrument on small metal pillars, the hairline on the cursor being made by scratching the surface of the celluloid with a sharp knife held against a straight edge, and filling the scratch with Indian ink. Reference to August, 1947, "Amateur Radio" will show an illustration of a dial made on these lines.

It may be considered simpler to cut the white celluloid into a half circle,

fix it to the front panel with screws, and use a transparent celluloid pointer moving over the scale; in any case whichever method is adopted, the job is easily accomplished. The most essential requirement being that the calibrated scale be incapable of slipping, and that after the calibration points have been drawn in ink, it can be fitted back onto the v.f.o. in exactly the same place as before. This point cannot be stressed too strongly.

To enable accurate calibration points to be transferred to the scale surface, a small hole should be pricked in the hairline on the cursor, large enough for the sharp point of a lead pencil to be inserted. If more than one band has to be calibrated, a series of holes are drilled equal to the bands required, and the spacing between the holes along the hairline should be so arranged that there will be sufficient room for both calibration and figures.

When the calibration has been completed, we will have a series of pencil dots in concentric rings on the white celluloid dial, with a few light pencil figures marking say 7, 7.1, and 7.2 Mc. if the v.f.o. is on 7 Mc. band; if the v.f.o. is operating on a fundamental frequency of 3.5 Mc., we would also mark at the same time the 3.5, 3.55, and 3.6 Mc. points on the appropriate scale. Additional harmonic scales for 14 Mc. and 28 Mc. are also suggested, to save having to do mental arithmetic when operating on the higher bands.

Our scale would now have 5 Kc. points on 3.5 Mc., 10 Kc. points on 7 Mc., 20 Kc. points on 14 Mc., and 40 Kc. points on 28 Mc., if the calibration was made on the 7 Mc. band.

DRAWING OF THE SCALES

The scale is now removed ready for inking, and it is important at this point to mark the panel or shaft in some way so that the scale can be refixed in exactly the same position.

Fix the scale to a piece of softwood with drawing pins inserted through any suitable holes in the scale, or if there are none, the drawing pins should be inserted alongside the scale with a small piece of paper under them to prevent marking the scale. As the centre point of our scale has been drilled out to take the condenser shaft, it will be necessary to find this point. A pencil compass is adjusted to the approximate position of the centre and extended to touch the ring of calibration dots, and by varying the spread of the compass and altering the position of the point slightly, a point will be found where the circle will just touch the inside edge of the calibration dots throughout the complete half circle. We have now

found the correct centre and the compass point should be pressed into the softwood to fix it.

Draw in the circular scale with the pencil compass, and also the 10 Kc. lines by using a rule and a large pin inserted in the centre compass hole, in other words complete the scale in pencil first. By resting one end of the rule against the pin mentioned above, all radiating lines on the scale will be even, which will give a professional looking job.

The scale is now ready for inking, and it will be necessary to obtain a drawing pen and compass, and some waterproof Indian ink; a friend can usually be found who can oblige in this direction. To fill a pen of this type, dip an ordinary pen in the ink and insert it between the prongs of the pen, the ink will run in and remain. The thickness of the line should be now tested on a piece of paper, and set by the adjusting screw.

After the scale has been inked the figures should be drawn, and it is here that the true test comes. If you are particularly good at lettering, a satisfactory job can be done with a mapping pen, but have some practice first on odd pieces of paper. If you want a perfect commercial looking job, purchase a lettering stencil.

A well known type is the "UNO" lettering stencil, and is used for most of the drawings for this magazine. A typical example of the lettering done with this stencil is in the drawings of the hydraulic beam rotator, November issue. The writer has also used these stencils for marking grey crackle finish front panels, and they can be recommended to those who like to make their gear look something.

The most suitable size for scales is the No. 0 pen and UC 1½ stencil for lettering, and UF 1½ for figures, the complete set costing about 18/-, complete with pen holder.

After the figures and letters have been completed the scale should be allowed to dry for a few hours, and then all pencil marks cleaned off with a very soft rubber. The completed scale can now be refixed to the v.f.o., and from then on you will be able to see where you are, without having to consult calibration graphs, which somehow never seem to be about when you want them.

Although a v.f.o. has been mentioned in the above description, the same principles apply, obviously, to Frequency Meters and Receivers, all of which can be improved with a direct reading dial.

(Continued on Page 18)

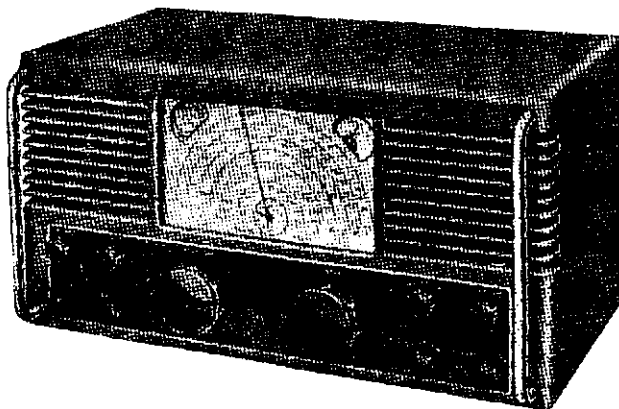
* Technical Editor, 23 Parkside Ave., Balwyn.

† 12 Camden Street, St. Kilda, S.2.

The Super-sensitive
EDDYSTONE
MODEL 504

**PROFESSIONAL COMMUNICATIONS
 RECEIVER for the DISCERNING AMATEUR**

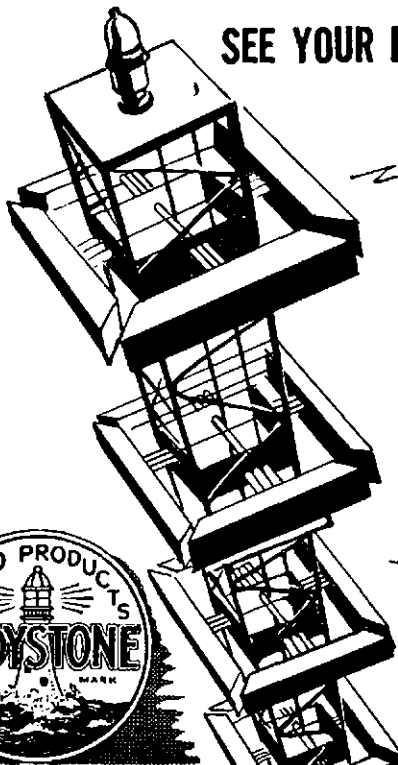
The 504 Receiver is a high gain super-heterodyne designed for Amateur and Professional Communication requirements. Two R.F. pre-selector stages give a first rate image suppression, excellent response to weak signals and a particularly high signal-to-noise ratio.



THE "504" FEATURES—

- Tuning range 30 Mc/s to 600 Kc/s.
- Twin Crystal filter giving 300 cycle band pass.
- Excellent selectivity and sensitivity.
- Very efficient noise limiter.
- Built in "S" meter.
- Ten tubes.

SEE YOUR DISTRIBUTORS NOW FOR A DEMONSTRATION



DIRECTORY OF DISTRIBUTORS

- VICTORIA: J. H. MAGRATH & CO.
208 Little LonSdale St., Melbourne
- WEST AUST.: CARLYLE & CO. LTD.
Hay St., Perth & 397 Hannan St.,
Kalgoorlie
- N.S.W: JOHN MARTIN PTY. LTD.
116-118 Clarence St., Sydney
- S.A: GERARD & GOODMAN LTD.
192-196 Rundle Street, Adelaide
- Q'LAND: CHANDLERS PTY. LTD.
Cnr. Albert & Charlotte Sts. Bris.
- TAS: W. & G. GENDERS PTY. LTD.
53 Cameron Street, Launceston

Australian Factory Representatives:

KEITH HARRIS & CO. LTD., 51 WILLIAM ST., MELB. Tel. MB 2119



EDDYSTONE OFFERS YOU
**THE LATEST, MOST DEPENDABLE
 COMPONENTS for FM., AM., & PULSE**

Improving Stability of Type 3 Mark II

DX COUNTRIES OF WORLD

(Continued from Page 9)

BY H. STEVENS,* VK3JO

Following the installation of an 807 in place of the 6L6 p.a. in accordance with directions given by 3TO in Dec. 1947 "A.R.," some difficulty was encountered in attempting to neutralise the p.a.

Using conventional neutralising methods, it was not possible to achieve complete stability. Although without plate and screen voltage on the tube the grid current did not vary when the p.a. tank was tuned through resonance, but when plate and screen voltages were applied and the rig tuned up, the r.f. output appeared undiminished when the crystal was removed from its socket. Removing the EL32 from its socket, the following effects were noted.

When neutralised (by means of the conventional grid current method) the 807 showed no signs of any sort of oscillation, whereas without the neutralising condenser or incorrect adjustment of it caused self oscillation. These same effects occurred when the EL32 was plugged in but with its plate and screen supply disconnected.

Tuning the rig up again and removing the crystal produced the same result as already mentioned, but shorting the

grid of the EL32 to earth stopped it. Realisation at last dawned! The EL32, not the 807, was the culprit, feed back being introduced by stray coupling between the plate of the 807 and the grid of the EL32. A shield between these two tubes confirmed this and on removing the crystal from its socket, the set is completely dead. These effects were noted on 3.5, 7, and 14 Mc. using 3.5 and 7 Mc. crystals, and this, together with the fact that a shield between the two tubes cured the trouble, proves that the EL32 itself was not oscillating of its own accord when the crystal was removed.

For those not familiar with the Type 3 Mark II, it is pointed out that these two tubes are mounted very close together—right alongside each other in fact. With the original p.a. tube this trouble should not occur and for the home constructor the foregoing presents a useful design hint—don't overcrowd your stages. The all important shield can be readily mounted on the transmitter case, care being taken to see that when in its normal position the shield does not make contact with the terminal strips mounted near the front panel.

* 33 Auburn Grove, Hawthorn, E.3.

USING VK3WI TRANSMISSIONS

(Continued from Page 14)

TIMES AND METHOD OF THE TRANSMISSION

The times and method of transmitting the Standard Frequency Transmissions are as follows:—

Times.—The transmissions will take place at three monthly intervals, and are listed in "Amateur Radio."

Dates for the next 12 months are:—

26th January,
28th April,
22nd July,
22nd October.

Transmissions take place on the 7 Mc. band at intervals of 10 Kc., the frequency of the transmissions being accurate to better than 0.01% or 500 cycles.

The operating procedure and times of transmission being as follows:—

7.50 p.m.—Phone transmission on 7196 Kc. with a general call and information on what is about to take place.

7.55 p.m.—VK3WI shifts frequency to 7,000 Kc., and calls as follows on c.w. at 12 w.p.m.:—S.F.T. (Standard Frequency Transmissions) 3 times de VK3WI (3 times), then —...— QRG —...— 7,000 Kc. (twice). The key is then held down for one minute; then QSY 7010 Kc. (twice) de VK3WI (once) AR.

The transmitter then commences operation on 7,010 Kc., and the proced-

ure is repeated until 7,200 Kc. is reached.

If the hour is not too late frequency checks will then be made for any Member contacting VK3WI.

In obtaining an exact zero beat against the Standard Transmission, an "R" meter is very useful, as the needle will show a slow pulse when the v.f.o. and Standard Frequency are almost zero beat. If there is any likelihood of interference blanketing out a check point, a graph can be drawn and the missing point obtained with quite good accuracy.

A.O.C.P. CLASS

The Victorian Division A.O.C.P. Class will commence on Thursday, 20th January, 1949. Lectures are held on Monday and Thursday evenings from 8 to 10 p.m. Persons desirous of being enrolled should communicate with the Secretary W.I.A. Victorian Division, 191 Queen Street, Melbourne (Phone FJ 6997 from 9 a.m. to 5 p.m.), or the Class Manager on either of the above evenings.

San Marino (15)	(CZ)
Sarawak (28)	VS5
Sardinia (15)	IS
Saudi Arabia (21)	HZ
Scotland (14)	GM
Seychelles Is. (39)	VQ9
Siam (26)	HS
Sierre Leone (35)	ZD1
Sikkim (22)	(AC3)
Solomon Islands (28)	VR4
Somaliland, Br. (37)	(MD4) VQ6
Somaliland, Fr. (37)	FL (MD4)
Somaliland, Ital. (37)	(MD4)
South Georgia (13)	VP8
South Orkney Is. (13)	VP8
South Sandwich Is. (13)	VP8
South Shetland Is. (13)	VP8
Southwest Africa (38)	ZS3

Soviet Union:—

European S.S.R. (17)	UA
Asiatic S.S.R. (16, 18, 19)	UA9, 0
Ukraine S.S.R. (16)	UB5
White Russia (16)	UC2
Azerbaijan (21)	UD6
Georgia (21)	UF6
Armenia (21)	UG6
Turkoman (17)	UH8
Uzbek (17)	UI8
Tadzhik (17)	UJ8
Kazah (17)	UL7
Kirghiz (17)	UM3
Karelo-Finnish (16)	UN1
Moldavia (16)	UO5
Lithuania (15)	UP2
Latvia (15)	UQ2
Estonia (15)	UR2

Spain (14)	EA
Sumatra (28)	PK4
Svalbard (40)	
Swan Island (8)	KS4
Swaziland (38)	ZS8
Sweden (14)	SM
Switzerland (14)	HB
Syria (20)	AR1
Tanganyika Territory (37)	VQ3
Tangier Zone (33)	EK
Tannu Tuva (23)	
Tibet (23)	AC4
Timor, Port. (28)	CR10
Togoland, Fr. (35)	FD
Tokelau (Union) Is. (31)	
Tonga (Friendly) Is. (32)	VR5
Transjordan (20)	ZC1
Trieste Free Terr. (15)	MF2
Trinidad and Tobago (9)	VP4
Tristan de Cunha and Gough Is. (38)	ZD9
Tunisia (33)	FT
Turkey (20)	TA
Turks and Caicos Is. (8)	VP5
Uganda (37)	VQ5
Union of South Africa (38)	ZS
United States (3, 4, 5)	K, W
Uruguay (13)	CX
Venezuela (9)	VV
Virgin Islands (8)	KV4
Wake Island (31)	KW6
Wales (14)	GW
Windward Islands (8, 9)	VP2
Wrangel Island (19)	
Yemen (21)	
Yugoslavia (15)	YU
Zanzibar (37)	VQ1

Oh Lord, Our Help in Ages Past!

BY "OLD HOMBRE"

Freedom of speech is one of the tenets of Democracy—most of us fought to preserve it along with other privileges a little while ago. But freedom of speech can be a bit overdone, an unpleasant fact that is obvious in the world of Amateur Radio, especially after listening to some of the 7 Mc. "gang." The other bands are not immune.

The present-day urge seems to be toward speech in quantity rather than in quality—not so much a technical consideration, but one involving what we, of British stock, like to style as "The King's English."

One wonders if many of those who consistently and persistently mutilate grammar over Amateur radiophone channels do realise that theirs is no session "in camera," and that anybody can listen; that broadcast listeners with short-wave bands on their receivers can and do sit back in virtual judgment?

Much of the jarring drivel that thus becomes public property via Amateur microphones is doing extensive damage to the status of the Radio Amateur; his stocks are by no means rising, and it is of no use emulating the ostrich and hiding our heads in the sand about it. Many of the undesirable features were with us in pre-war days, but now they are accentuated and "snowballed" increasingly by individuals with movie-inspired "smart aleck" mentalities.

Frequent interpolations of the morse abbreviation denoting mirth are such as to arouse a feeling of distaste, to say nothing of moronic requests for a symbolic indication of christian name—but these are minor faults compared to some. Nevertheless, it is now almost a source of wonderment why it is seemingly impossible for some Amateurs to carry on or to conduct a conversation unless their insistent clamour for a "handle" is immediately gratified.

Many years ago Amateur Radio be-

came characterised by telegraphic abbreviations, adopted from commercial operating practice as a convenience, not a necessity. For the purpose intended, Q calls and other abbreviations serve good purpose; but when injected into speech in overdoses they strike a discordant note. They are just as much off-tune as the lad who smother's a verification card with a mass of "radioese." Letters and cards written in the "Mni trx fer QSO OM es cu agn—hi" style are not pretty; nor is such microphone jargon as "OK old man about my sigs being OK over there, what's your handle?; the handle here is Alec—A for America, L for Louisiana, E for England" (etc.) and the "kewteehaitch" here is the little one mule town of Waspville" Ad lib.

The alternatives to these practices? Simple in the extreme—to write fully without resorting to crazy-reading telegraphic condensations, and to speak sensibly. For both facilities, schooling should have been responsible, but of course there are always the "no-hopers" in any place of learning. Unfortunately Amateur Radio appears to have attracted more than a surfeit.

Another pest that would cause less trouble by stamp-collecting or something is he who will leave a microphone "open" whilst attending to sundry affairs around the place, whistling the while excerpts from "McNamara's Band" or attempting dismally to emulate Crosby. Then Sadie or Penelope or somebody equally dis-interested in the Amateur side of Radio is asked to burble small-talk, or repartee with somebody in the next room is indulged in.

This kind of outrage persists off-times on a would-be DX band, and with all of 100 watts to convey it to another less than a mile distant. That recipient invariably comes back with "Roger, Roger Dodger, all one hundred per cent.,

Sadie came over good-oh but there was er bitter feedback when youse was on, yer 'mojerlasheun's down a bit'."

Amazing does it seem to many that the P.M.G. actually licenses people to do this kind of thing, for, the Lord knows, it is about all some of them appear to do. The plain fact is that it behoves Amateur Radio everywhere to take stock of itself and do some spring-cleaning. This hobby is one which should be jealously safeguarded for future welfare, and indeed survival, for Amateur Radio exists in most countries by privilege alone and not in any sense by Rights.

S.O.S. SPECIALS

Collins V.F.O. Units, 10 to 80 metres calibrated... ..	£26 10 0
IN34 Sylvania Ger- manium Crystal Diodes	1 5 0
National 50 P.F. Isola- ntite Variable Con- densers	5 0
6AK5 Valves	1 10 0
S.O.S. Universal Stroboscopes	9
I.R.C. Resistoguide... ..	1 0
Ohmite Ohms Law Calculators	2 6
465 Kc. I.F. Crystals	1 19 6

NETT N.Z. CURRENCY

Mail a Money Order now to

S.O.S. RADIO LTD.

283 Queen Street

AUCKLAND, N.Z.

STATION DESCRIPTION.

VK2VW KINGSFORD

Like most other Ham stations the equipment has undergone many stages of rebuilding, but is now operating fairly satisfactorily. Three separate transmitters are used, one covering 40, 20 and 10 metres; one for 6 metres, and a converted SCR522 for 144 Mc. The multi-band job is a five stage, crystal or VFO controlled unit with an 813 in the final, modulated by a pair of 809s Class B. Input is 100 watts on all bands. The 50 Mc. transmitter is also a five stage job using a 100TH in the final with an input of 100 watts.

Power supplies and modulator are common to both these transmitters and can be switched to either as required. All transmitters, power supplies, etc., are housed in two six foot standard

racks and full push button remote control is provided by means of interlocking relays.

Besides the usual mess of papers and cigarette ash, the operating table carries three receivers, a twelve tube all-band superhet. with crystal filter, a 14 tube superhet for 50 Mc. and a 14 tube superhet for 144 Mc. The receivers are mounted in a small rack and beside them is a unit containing sub-modulator, with AMC, tone oscillator and modulation indicator. Another small cabinet contains remote control push buttons and associated interlocking relays.

Separate aeriels are used for each band. The 20 and 40 metre radiator is a 36 foot dural mast which gives excellent results on DX. A half wave doublet operates on 10 metres and two four element beams operate on 50 and 144 Mc.

FEDERAL, QSL and DIVISIONAL NOTES



Federal President—W. R. Gronow, VK3WG; Federal Secretary—W. T. S. Mitchell, VK3UM, Box 2611W, G.P.O., Melbourne.

NEW SOUTH WALES

Secretary.—Dick Dowse (VK2RP), Box 1734, G.P.O., Sydney.
 Meeting Night.—Fourth Friday of each month at Science House, Corner Gloucester and Essex Sts., Sydney.
 Divisional Sub-Editor: H. F. Treharne, VK2BM, 5 Waimaea St., Burwood.
Zone Correspondents.—North Coast and Tablelands: P. A. H. Alexander, VK2PA, Hill St., Port Macquarie; Newcastle: E. J. Baker, VK2FP, 13 Skelton St., Hamilton, Newcastle; Coalfields and Lakes: H. Hawkins, VK2YL, 27 Comfort Ave., Cessnock; Western: G. J. Russell, VK2QA 116 Bogan St., Nyngan; South Coast and Tablelands: R. H. Rayner, VK2DO, 42 Pettit St., Yass; Southern: E. N. Arnold, VK2QJ, 673 Forrest Hill Ave., Albury. Western Suburbs: A. C. Pearce, VK2AHD, 48 Harrabrook Ave., Five Docks. Eastern Suburbs: H. Kerr, VK2AX, No. 4 Flat, 144 Hewlett St., Bronte North Sydney; L. D. Cuffe, VK2AM, 779 Military Rd., Mosman, St. George; J. A. Ackerman, VK2ALG, 32 Park Rd., Carlton, South Sydney; V. H. Wilson, VK2VW, Cr. Wilson St. and Marine Pde., Maroubra.

VICTORIA

Secretary.—C. C. Quin, VK3WO.
 Administrative Secretary.—Mrs. O. Cross, Law Court Chambers, 191 Queen St., Melbourne, C.I.
 Meeting Night.—First Wednesday of each month at the Radio School, Melbourne Technical College.
Zone Correspondents.—North Western: B. R. Mann, VK3BM, Quambatook; Western: C. C. Waring, VK3YW, 12 Skene St., Stawell; South Western: B. Secrine, VK3BI, 17a Raglan Street North, Ballarat; North Eastern: J. A. Miller, VK3ABG, "Erinvale," Avonlea; Far North-Western Zone: Harry Dobbyn, VK3MF, 42 Walnut Ave., Mildura; Eastern Zone: J. D. Chilver, VK3DI, 20 Smith St., Leongatha.

WI BROADCASTS

All Amateurs are urged to keep these frequencies clear during, and for a period of 15 minutes after, the official Broadcasts.

VK2WI.—Sundays, 1100 hours EST, 7196 Kc. and 2000 hours EST, 50.4 Mc. No frequency checks available from VK2WI. Intra-State working frequency, 7175 Kc.

VK3WI.—Sundays, 1130 hours EST 7196 Kc. Individual frequency checks of Amateur Stations given when VK3WI is on the air.

VK4WI.—Sundays, 0930 hours EST simultaneously on 3750 Kc., 7190 Kc., 14,342 Kc., 52.4 Mc. and 144.138 Mc. Frequency checks are given two nights weekly, and the times are announced during Sunday broadcasts. 7010 Kc. channel is used from 1000 to 1030 hours each Sunday as VK4 query service to 4WI.

VK5WI.—Sundays, 1000 hours SAST on 7196 Kc. Frequency checks are given by VK5DW on Friday evenings on the 7 and 14 Mc. bands.

VK6WI.—Sat 2 p.m. Sun. 9.30 a.m. W.A.S.T. between 7000 kc. and 7200 kc. No frequency checks available

VK7WI.—Second and Fourth Sundays at 1030 hours EST on 7174 Kc. No frequency checks are available.

QUEENSLAND

Secretary.—G. G. Austlesen, Box 638J, G.P.O. Brisbane.
 Meeting Night.—Last Friday in each month at the State Service Building, Elizabeth St., City.
 Divisional Sub-Editor: F. H. Shannon, VK4SN, Minden, via Rosewood.

SOUTH AUSTRALIA

Secretary.—E. A. Barbier, VK5MD, Box 1234K, G.P.O., Adelaide.
 Meeting Night.—Second Tuesday of each month at 17 Waymouth St., Adelaide.
 Divisional Sub-Editor.—W. W. Parsons, VK5PS, 483 Esplanade, Henley Beach.

WESTERN AUSTRALIA

Secretary.—W. E. Coxon, VK6AG, 7 Howard St., Perth.
 Meeting Place.—Padbury House, Cnr. St. George's Ter. and King St., Perth.
 Meeting Night.—Watch the Monthly Bulletin.
 Divisional Sub-Editor.—VK6WT, Mr. D. Couch, Mary Street, Watermans Bay, W. Australia.

TASMANIA

Secretary.—J. Brown, VK7BJ, 12 Thirza St., Newtown, Telephone: W 1328.
 Meeting Night.—First Wednesday of each month at the Photographic Society's Rooms, 163 Liverpool St., Hobart.
 Divisional Sub-Editor.—T. Connor, VK7CT, 385 Elizabeth St., Hobart.
 Northern Correspondent.—C. P. Wright, VK7LZ, 3 Knight St., Launceston.

FEDERAL

DX C.C. LISTING

PHONE	NIL.	C.W.	Zones	Countries
VK3CN (3)	39	125
VK3RZ (14)	39	121
VK3EK (10)	38	117
VK3VW (12)	39	117
VK3EO (7)	40	116
VK4DA (20)	38	113
VK2QL (13)	40	112
VK4HR (22)	102

PHONE	NIL.	C.W.	Zones	Countries
VK3RZ (5)	39	148
VK2DI (2)	40	145
VK3KX (1)	136
VK3HG (4)	131
VK3JE (18)	39	123
VK6RU (11)	36	121
VK4HR (9)	118
VK3MC (6)	117
VK4EL (16)	40	113
VK6KW (19)	108
VK2YL (17)	106
VK2ACX (8)	40	100
VK2AHA (15)	40	100
VK2ADT (21)	100

Figures in parenthesis indicate membership number to the DX C.C.

ANNUAL FEDERAL CONVENTION

The Annual Federal Convention will be held during the Easter period this year in Melbourne. As the preparation of items for the Agenda must be put in hand early so that all Divisions will have an opportunity to discuss them, now is the time to send in that item of contention that you have been thinking about. Let your Divisional Council have your item in plenty of time to submit it for inclusion in the Agenda. We are hoping this year to have a really original Agenda without those "hardy annuals" that always seem to re-appear from year to year.

LIST OF DX COUNTRIES OF THE WORLD

As a result of many requests, we are including elsewhere in this issue the up-to-date List of DX Countries of the World, including Zones and Prefixes. We trust this will assist the DX gang, and hope in future to re-publish this List every January. Amendments will be included in these Notes from time to time as they occur.

W.A.S. ON 50 Mc. RULES

As it is understood that Federal Executive will be making their first issue of a W.A.S. (Australia) Certificate in the near future for 50 Mc., it is hoped to publish the necessary details in the next issue.

W.A.P. AWARD

Details of a new award, the Worked All Pacific (W.A.P.) have been announced and will be published in the next issue. Watch for the details of this difficult-to-come-by Award.

SUB-DIVISION OF AMATEUR BANDS

From the Radio Club of Argentina comes news that it has been agreed by that Society to sub-divide their 7, 14, and 28 Mc. bands between phone and c.w. as follows:—

7000—7050 Kc. c.w.
7050—7075 Kc. phone and c.w.
7075—7300 Kc. phone.
14000—14100 Kc. c.w.
14100—14150 Kc. c.w. and phone.
14150—14400 Kc. phone.
28000—28100 Kc. c.w.
28100—28150 Kc. c.w. and phone.
28150—30000 Kc. phone.

It is becoming increasingly apparent throughout the various countries of the world that something must be done regarding our DX bands. While some countries are making these divisions compulsory, the W.I.A. feels that a "gentleman's agreement" must be given a fair trial. To this end, the last Convention agreed to a plan on this basis. The following frequencies were those decided on:—

3500—3550 Kc. c.w. only.
7000—7030 Kc. "
14000—14100 Kc. "
21000—21100 Kc. "
2800—28100 Kc. "

It behoves every Amateur to remember the other fellow when operating, especially on the main DX bands, and if this agreement is voluntarily successful, there will be no necessity for the W.I.A. to be as drastic as some of our fellow Societies have been. It is up to the individual to do his part, so give it a try and see how much more pleasant our operating can be without restrictions.

COMMERCIAL INTERFERENCE

The first list of off-frequency commercial stations logged in our bands has been sent to the appropriate authorities. In order that this may be a continuing function of F.E. to supply these details, please make a note of that commercial you have been hearing and send the relevant details (as full as possible) to the Federal Secretary without delay.

AUSTRALIAN AMATEUR CALL SIGNS

New Issues!—

- VK2ADO.—D. Batley, 2 Myra Ave., Ryde, N.S.W.
- 2AAG.—H. Jones, 15 Council St., Speers Point.
- 2AGN.—G. E. Nixon-Smith, 15 Badham Ave., Mosman.
- 2AKC.—Kingsford & District Amateur Radio Club, 48 Rainbow St., Kingsford, N.S.W.
- 2AOX.—H. Cox, 41 Rixson's Pass, Woonona.
- 2ARU.—F. N. Sizemore, 22 Tweedmouth Ave., Rosebury.
- 2ARY.—H. G. Hine, Hyde St., Bellingen.
- 2ATL.—L. L. Somers, 2 Ingham Ave., Five Docks.
- 2ASP.—S. J. Parr, Flat 4, 28 The Crescent, Manly.
- 2AWP.—W. G. Coward, Comlaroy Station, via Mungindi.
- 2HP.—H. W. Raifs, 19 Dudley St., Coogee.
- 2KC.—R. A. Catmur, 2 de Quincey Rd., Ballaburra.
- 2PC.—M. T. Smith, 11 Bridge St., Lane Cove.
- 2XY.—N. B. Hansen, 17 Fifth St., Lambton.
- VK3ABK.—R. J. Heighway, 57 High St., Geelong West, Vic.
- 3ACL.—E. J. B. Andrew, "Ricolda Orchard," Red Hill.
- 3ADC.—D. Charlton, 12 Stevedore St., Williams-town.

3AEM—A. E. Morales, 54 Reynolds Pde., Pascoe Vale South.

3AGM—G. M. Campell, 37 Essex Rd., Surrey Hills.

3AJZ—A. J. Zarth, 443 Waverley Rd., North Carnegie.

3ALB—J. W. Bennie, 36 Bowen St., Oakleigh.

3AIC—D. J. Brennan, "Edelweiss," Bunngor.

3ALQ—D. McKenzie, 10 Chambers St., Footscray.

3AMS—A. M. Smallwood, 72 Merton St., Albert Park.

3AMW—M. E. Williams, 8 Grey Court, Coburg.

3ARS—R. C. Stephens, Albert St., Trencham.

3ARY—R. E. Yeates, 4 Jennings St., Moonee Ponds.

3BI—J. Allan, 9 Sweeney St., Ballarat East.

3BO—N. L. Storck, 4 Parliament Place, East Melbourne.

VK4KT—S. A. McMurtie, Maryborough Rd., Gympie, Queensland.

4SY—S. G. Symons, 38 Stokes St., Townsville.

VK6BB—H. A. Behenna, Mitchell St., Crystal Brook, S.A.

6CO—R. C. Treson, Aeradio Station, Mount Eba.

5FS—L. F. Sawford, 14 Brook Ave., Glen Ormond.

6KW—E. B. Davis, 12 Surrey St., Grange.

5LF—R. J. Sanders, 2 Olive Ave., Cootonville.

6SL—L. N. Sjobery, "Wandeen" Guest House, Berri.

5SU—F. M. Gray, 52 Ormond Gve., Toorak Gardens.

5ZO—F. D. Wilkinson, 447 Esplanade, Henley Beach.

VK6DU—W. A. J. Du Feu, 20 Walker Ave., West Perth, W.A.

6GI—Lt-Col. B. G. Thompson, X-Ray Dept., General Hospital, Hollywood.

6RC—R. G. A. Coghlan, 86 Rokely Rd., Subiaco.

6WX—M. G. Haynes, 4 Leonard St., Victoria Park.

VK7BY—H. M. Yeates, 47 George St., Launceston, Tasmania.

VK9FD—F. Don, c/o D.C.A. Norfolk Island.

9FJ—H. C. James, O.T.C. Radio Station, Mandang, New Guinea, T.P.N.G.

9GM—G. E. Meaton, Norfolk Island.

9LW—E. J. Pascoe, S.D.A. Mission Headquarters, Inus, Bougainville, T.P.N.G.

Cancelled:—

VK2HE, 2KC, 2NE, 2PB, 2XY.

VK3ADI, 3AJY, 3APD, 3KU.

VK4HW, 4IM.

VK5AF, 5GP, 5KN, 5ZN.

VK6PK, 6GW, 6QF.

VK7PW.

Alterations:—

VK2AOR—W. J. Hart, 42 Botanic Rd., Mosman, N.S.W.

2AGT—J. K. Langley, 29 Fourth St., Ashbury.

2AHY—H. E. Quilty, 130 Hastings Pde., North Bondi.

2AKY—S. J. K. Adshead, Byng St., Holbrook.

2BJ—W. A. Easterling, 16 St. Peters St., St. Peters.

2QC—J. L. Carter, 132 Madeline St., Balfield.

2XB—F. G. Melivan, Delgarno St., Coonabron.

2XW—A. J. Voysey, 342 Stony Creek Rd., Kingsgrove.

VK3ADA—J. B. Jarmen, 102 Buckley St., Essendon, Vic.

3ADL—B. E. Matheson, O.T.C. Radio Station, Fiskville, via Ballan.

3AZO—J. A. Cunniffe, 21 High View Rd., East Preston.

3HZ—E. M. Clyne, 99 Corio St., Shepparton.

3IU—T. J. Coakley, 6 Lincoln Rd., Essendon.

3OK—J. T. Pease, 47 Station St., Camberwell.

3UQ—N. G. R. Foxcroft, 181 Victorian Rd., Northcote.

VK4AD—E. P. Black, c/o. Radio Station 4RO, Rockhampton, Qld.

4CI—A. J. Forbes, 144 Boreen Tee., New Farm.

4KP—M. J. Mitchell, Otantis St., Coorparoo.

VK5IQ—F. R. Trehame, 3 Birdwood Close, Plympton, South Australia.

5LL—G. H. Lucas, 15 Augusta St., Maylands.

5RZ—A. L. Nestron, 48a The Broadway, Glinely.

VK6BJ—K. M. Bunn, D.C.A. Aerodrome, Geraldton, W.A.

6SR—Radio Society of W.A. Inc., 49 William St., Perth.

VK7GC—G. P. D. Clarke, 24 Newlands Ave., Newtown, Tasmania.

7LL—Dr. K. M. Kelly, 451 Sandy Bay Rd., Hobart.

FEDERAL QSL BUREAU

RAY JONES VK3RJ, MANAGER

According to J2AAL, through VK3FH, prefixes for Japan are to be changed as from 1st January, 1949. The new prefixes are:—

J42 Tokyo area.
J43 Nagoya area.
J44 Kyoto area.
J45 All B.C.O.F.
J46 Not issued.
J47 Kyushu area.
J48 Northern Honshu area.

What is now J7 will be JA9.

VT1RF, R. B. Fugua, Kuwait Oil Co. Ltd., Kuwait, Persian Gulf, advises "that he is operating his transmitter by permission of His Highness Sir Sheikh Ahmad Jabir Alsubah and our political agent."

YU7KX, Oton S. Bernard, Box 137, P.C. Trieste, advises that as at 25th October, 1948, he still awaits cards from the following VK stations to whom he has sent his card:—

2HZ, 2PX, 2ALG, 2BA, 2OI, 2QP, 2TF, 2TI, 2VN, 2ACC, 2RN, 2ADY, 2KB, 2AM, 3BZ, 3CN, 3NC, 3BZ, 3JE, 3GU, 3MC, 3EK, 3ZU, 3OP, 3XQ, 4TX, 4AP, 4UL, 5FL, 6RU, 7CW, 7RK, 7LZ.

QTH of YX1CH is R.N. Radio Station, Kranji, Singapore. Am holding a card from him for a VK2 named Jack whose call sign not shown. Card relates to a contact on 28 Mc. c.w. at 445 G.M.T. Date is also not shown. Owner of card may obtain same on application to this Bureau.

The Amateur Radio Club, P.O., Mhow (Central India) advise that cards for VU2 and VU7 areas should be routed via them.

The D.A.R.C., Postbox 99, Munich 27, Germany, writes under signature of DL1AX Hans Haberl, Secretary:—"We are happy to inform you that German Hams will be licensed by the Military Government. Distribution of DE (s.w.l.) cards will be closed in the near future. We will send and receive all QSLs to German Hams licensed under the call DL."

NEW SOUTH WALES

The November general meeting of the Division was held at Science House on Friday, 26th November, 1948, under the chairmanship of the President, Mr. Maurie Meyers 2VN. A lecture and demonstration of f.m. mobile equipment was organised by Mr. Morice Brown 2OR and given by Engineers of Thom & Smith Ltd. Mr. Brown apologised for the absence of Mr. R. S. Hope, Chief Engineer of Thom and Smith Ltd. and one time 7RS, and introduced the guest lecturer Mr. R. S. Zucker.

Mr. Zucker outlined the requirements of an f.m. system and followed with a detailed description of transmitter and receiver units illustrated by slides and black board diagrams. This was augmented by a most interesting demonstration of f.m. service by direct two-way communication with vehicles operating in the metropolitan area on the 70 Mc. band, handled by Mr. L. H. ("Tubby") Vale 2MR. Installation Engineer of Thom & Smith Ltd.

Mr. F. Heine 2QL, in moving a vote of thanks, congratulated Mr. Zucker on the delivery of this lecture and paid tribute to Mr. Zucker's colleagues for the trouble they had gone to in arranging this most interesting evening which had proved to be one of the most important demonstrations ever given to members and made the occasion a memorable one.

1948 FIELD DAY

The Divisional Field Day held at Woy Woy on 5th December was a huge success, 166 persons being present including the following Amateurs: VK2s OI, CW, NX, ER, VX, HZ, ARN, AFX, LY, IG, ADO, ZH, RF, AKO, CI, ARR, AET, OY, XT, PZ, CX, VE, HO, XU, IV, JW, AHU, CZ, LX, ANH, MR, EP, AGD, OS, HT, AEN, AGL, WH, AZO, RE, AIM, MI, NS, HT, FE, GA, ZC, PQ, SW, EO, MA, ARP, TY, XQ, AEB, AMU, ADX, YC, IP, WJ, ADT, YL, AC, RU, DR, AFS, JX, AGW, XO, HI, OC, VW, VL, AJB, YP, LS, FH, and AMP. It was the best and largest gathering of Amateurs ever held outside Sydney. Some of the Hams travelled up to 200 miles to be present.

The 144 Mc. transmitter search was a centre of attraction. The transmitter being secreted by 2IT and 2EO who had the experience of being bogged in the process. First in was 2JX and party, the time required 17 minutes.

2OC and party were a close second. Peter 2JX used a simple dipole plus a reflector, which was carried by an assistant who waved it around the dipole. It was very effective and competed with stacked arrays and six element parasitic beams.

During the search the YLs, XYLs, and kiddies were entertained on a launch trip.

The prizes were presented by Morrie Meyer 2VN, State President, and the following were the winners:

Crystal Frequency check: 2ZC pair of 807s, and second 2AET a 5R4GY. Lucky number: 2KU pair of 807s, and second 2SW a 5R4GY. Ladies prize was won by Mrs. 2AEN. The cup for the transmitter search was presented to 2JX, and a 5R4GY to 2OC for second. 2VH collected a 3R4GY for coming the longest distance.

Thanks for the day must go to Cec 2KR and Mrs. 2KR for their work at Woy Woy; to Mac 2ZH and Dick 2RP for keeping the books and finance straight. Bob 2AFS gets special mention for supplying the beverage and to Wal 2XU as his assistant on the serving. We can't mention everyone that gave a hand, but the Council thanks all those that assisted and don't forget the next one in 1949.

NORTH SHORE ZONE

After wishing all you guys a bigger, better, and and brighter 1949, with all sorts of shiny certificates coming up, let me hasten to offer apologies to 2BQ, whose call appeared in the November, 1948,

Low Drift Crystals

FOR

AMATEUR BANDS

ACCURACY 0.02% of STATED FREQUENCY

3.5 M/C and 7 M/C

Unmounted .. £2 0 0

Mounted .. £2 10 0

12.5 and 14 M/C Fundamental Crystals, "Low Drift" Mounted only £5.

Spot Frequency Crystals
Prices on Application

Regrinds ... £1 0 0

THESE PRICES DO NOT
INCLUDE SALES TAX.

Maxwell Howden

15 CLAREMONT CRES.,
CANTERBURY, E.7.

TECHNICALLY in the know

TO-DAY more than ever before, it is essential to keep fully informed on electronic matters.

RADIOTRON offers a technical service on valve applications that is unique in the radio world.

RADIOTRON TECHNICAL PUBLICATIONS INCLUDE:

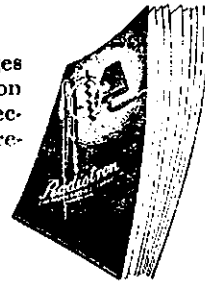
I. "Radiotronics"—quarto size—20 pages per issue—sections devoted to DESIGN, THEORY, CIRCUITS and VALVE DATA—published every other month. Handy filing covers are supplied with available back issues to "Radiotronics" subscribers.



II. Data Book—octavo size—150 sheets in loose leaf binder—comprehensive data on all Australian-made receiving types—new and revised sheets released periodically.



III. Valve Charts—quarto size—36 pages covering characteristics, classification tables, socket connections—special section on Australian-made types—comprehensive substitution directory.



plus first-hand knowledge on power valves and allied types, cathode ray tubes, the miniature range, circuits and associated components, as released. This information is just another service offered you by Radiotron.

keep posted on the latest developments in electronic research. Arrange for Radiotron Technical publications to reach you regularly through the mail. Full particulars are available on enquiry.

AMALGAMATED WIRELESS VALVE CO. PTY. LTD.

SALES PROMOTION AND ADVERTISING

47 YORK STREET (BOX 2516, G.P.O.), SYDNEY, N.S.W.

issue of these notes in place of that dulcet voice of the air-waves 20Q, sorry o.m.

Congratulations to Mr. Gordon Robertson 2ALA on his selection as organiser of the Fire Brigade's f.m. service. 2BG kicks in again with doings of the v.h.f. gang around his area—many thanks Bruce. 2AH in the midst of bigger and better beams, a four element wide-spaced on 144 Mc. being the latest. 2MQ has moved from his small backyard shack to a comfortable section of his closed-in verandah. 2HL now using a new horizontal beam. 2110 complains most v.h.f. blokes can't work c.w. 2BG elated at working his first ZL on 50 recently. 21S heard again on 50 Mc. Most of the boys have been having a field day with the ZLs on 50, ten contacts an hour during the peak periods being commonplace. VK3 4, 5 and 7 are being worked fairly regularly, but any VK4 50 Mc. signal would be as welcome as flowers in May.

2ART and 2ARR doped up a 144 Mc. rig for the field day, mounted the works in a car, and had the time of their lives. The rig was p.p. 6C4s, unity coupled, modulated by a 6C5, 6V6 lineup; the receiver was a 955 super-regen. with two audio stages to a speaker. While 2AET drove, 2ARR worked 2IT, 2VW, 2AGL and 2SW. Vertically polarised dipoles were used and all contacts were made using 2AET's call. As to the rest of the Field Day news, you'll find it all elsewhere, in a full report.

2AMB still the main DX representative in Mosman and Cremorne. 2NI heading for the west soon. 2AND in a tail spin after exams and a holiday.

SOUTH SYDNEY ZONE

The v.h.f. contest is still the main interest of the chaps active in this area and most of them are on nightly piling up the points. There will be some close finishes when the final scores go in. The recent Interstate DX has also increased the interest on 50 Mc. 2VW has now got his 144 Mc. mobile gear installed in the car and operates from various locations at week-ends.

2ABC still active on 28 and 50 Mc. bands. 2WJ now operating on 288 Mc. as well as other bands. 2AC still experimenting with Qud Beam on 10 metres, with improved results. 2ABU works plenty of DX on 20 metre phone. 2AB has been very quiet lately. 2ABB is active on all bands with new transmitter. Has an excellent five element beam on 144 Mc. 2UV still active on 144 Mc., but threatens to blow a hole in 40 any day. 2VA not heard lately.

WESTERN SUBURBS ACTIVITIES

A Merry Xmas and a Happy New Year to all! May the New Year resolution be for all you good fellers to supply more news than ever—ring BO309 Ext. 327 after 8 p.m. Monday to Friday inclusive.

Amongst other familiar and homely faces at the Wyong Field Day meet were 2AZO, 2MA, 2AGL, etc., no doubt attracted by the magic of that one word—144. Amiable Lionel Todd represented the P.M.G.'s Department and had a happy time with the Hams, on their day out. Mrs. 2AHU had the boys in stitches when she quite innocently asked 2AGL whether he thought the fishing would be good. Warren, of course, had a walkie-talkie job on 144 and we must admit it could have been mistaken for a fishing rod.

In the suburbs 2AHU has the b.c.i. licked, but so far no sign of that new pole. 2BF struggles on with quadruple conversion for 144. Now has 3 1/2 waves in phase plus square loops. 2DW's next door neighbour said Joe was competing with the b.c. stations, so out went the coax and in went a doublet. 2OL has developed a solid signal on 40 metre c.w. lately! 2AGU not so active. 2OQ has had a bad run with coax b.c.i., but all are friends once again. 2WB has a lash at 20 metre phone at week-ends. 2AER was heard discussing the pro's and con's of disposals equipment. 2TD has done it. Got himself a gal, forsook the rig and is now engaged. 2AHB now has 18 zones on 40 metre c.w. this year. 2GR still tries his hand on 20 metre phone.

EASTERN SUBURBS ZONE

2WR not heard much these days, busy fitting radio gear to yachts. 2KT has a new mud, using phone on 40. 2YF having trouble getting enough drive from his new v.f.o. 2FJ heard on rare occasions. Jack is busy decorating his shack.

2AFZ making up c.r.o. 2AJG has recovered from recent illness, can be heard pumping the key. 2MB busy building club gear for 2BV. Harry has spent the last two months on this job. Still waiting to hear from 2DU with his new class B mod. I must apologise for lack of dope this month, but hope to have more in the New Year (with the co-operation of the boys of the zone); also like to wish all Hams the Compliments of the Season.

DX NOTES BY VK2ACX

An interesting letter to hand from 2AIIA tells of his phone effort in the recent "CQ" magazine Contest. Harold worked 60 countries in two days on 14 Mc. with 196 contacts. On 28 Mc., 21 countries with 77 contacts. His open score was 39,525 points which is a very fine effort—congrats Harold. He says he is going back to c.w. for the next test. A few of his choice ones were: VP2, CX, OQ5, CR7, ZE, M13, YQ4, -EA, IS, CP, GD, TGR, HP, YS, GC, AR8, FT, EI, HC, and HK. Harold uses a two element rotary on 14 Mc. and three elements on 28 Mc. He has worked 40 zones and 133 countries post-war, which is very fine DXing. He sends along a few QTHs which you will find at the end of this column.

2DI is still in the lead as far as is known here with 180 countries. His latest catch, a very rare one, VU7AF located in Nepal. He was found on phone in the American phone band. 2HZ has now 148 countries, his latest additions being ZK2AA, SP4BAB, HP1BR, VR3A and UR2KAA. A very, very, nice one heard by Bill was FL8MA in French Somaliland. His frequency, approx. 14,100 Kc., and QTR 0530 hours.

2VN adds ZC1CL, HP1BR, VP1AA and IS1AFM bringing him to 38 zones and 131 countries. Still does not find much time for Ham Radio. 2EO adds VP8AM, OQ5RA and YU2A for 40 zones and 157 countries. Now using a three element rotary and his AR88 receiver account for the rare ones we hear Dave calling and working. 2QL is now W.A.Z. confirmed after receiving a card from AC4YN—it should not be long now before we see that coveted certificate on the wall at 2QL. Frank adds VP6CD, ZC1CL and FT4AB for 143 countries. Here it's 170 with FE8AB, YS1GM and AR8BM. Still no card from zone 40. Had an air mail letter to OX3CG returned from the d.i.o. stamped "unknown."

VK9NR on Norfolk Island has been on now and again, and has been worked by a few of the gang. He will be an additional country very soon.

The State of Israel is represented by 4X4AA, 4X4AB and a few others. A good one to have up your sleeve for the official listing in the countries list. Also from that part of the globe, we have ZC8PM (who is W2ABS) operating from Nablus in what he calls Arab Palestine. Well fellows, that's all for now, so a Merry Xmas to you all. Lots and lots of good DXing in the coming year and may our DX bands be always open—2ACX.

HONOR ROLL

Call	Zone	Countries
VK2DI	40	180
VK2ACX	40	170
VK2YL	40	160
VK2EO	40	157
VK2HZ	40	148
VK2QL	40	148
VK2AIIA	40	143
VK2TG	38	141
VK2VN	38	131
VK2RA	38	128

Some QTHs to note:—

- YS8PL P.O. Box 222, El Salvador.
- YS2AG Alfonso Gadaña Maria, Santa Ana, El Salvador.
- OS8EA (Formosa), A.P.O. 909, c/o. P.M. San Francisco.
- HP1LB Box 1016, Panama City.
- M13SC Radio Marina, Asmara, Eritrea.
- T33FAS Lt. J. Adel Tsufag, American Embassy, Ankara.
- VP3TR A.P.O. 857, c/o. P.M. Miami, Florida.
- ZE1JI S. N. Potterton, P.O. Shabani.
- CX2CO R. Sierra, Pte. Berro 2741, Montevideo.

NORTH COAST AND TABLELANDS

The Northern Gang were very active during November, especially the v.h.f. gang who were pleased with results. 2ADE really got amongst the ZLs and Interstate VKs on 50 Mc. The 2ADE/LH link is still operating and 2PA heard all States except VK4 and VK6. The band sounded like 20, signals every 15 Kc., thinning out between 52 and 54 Mc. 2ARY is a new one in Beilingen using p.p. 807s. To his efforts in obtaining masts hangs a tale. Harry set sail, selected a nicely timbered patch and carted off two 50 footers. The bounce came later, when the owner demanded the return of the timber, the masts having been erected in the interim—it took a lot of explaining before a settlement was reached. 2FN hopes to move into an a.c. area after the Xmas vacation. 2ZY using a lazy H on the U.S., compared his new receiver with a 640 owned by 2FN and quite happy about it. 2OE visited Port Macquarie and Kempsey.

2SH enjoyed two weeks' holiday mostly fishing, hopes to have the rotary going by Xmas. 2XO re-

cently moved into a new shack, out of floods' reach and providing the a.c. keeps on, won't stop next time. 2Q1 QRL came cutting, but gets on 89 most evenings. 2ART on 20 with two half waves in phase. 2SO's caravan is nearly completed. 2AFP on with a new rig and doing well. 2ZX purchased two steel towers, one for 2ARG and one for self. Quite a job to decide what constitutes two masts in pieces. Much midnight oil being burnt on beam and boom design. 2UX inactive, uses an AT5 when on. 2ATS decided QRP no good, so is back on the QRO. 2ZP very inactive. 2GE late of Wagga, now of Moree, has a fine signal on 40.

NEWCASTLE ZONE

Newcastle was favoured with a visit from 2XU 2YC, 2ZH, and 2YL on 14th November and we are sure they had a nice day. Local escorts accompanied the visitors on a tour of the shacks and eventually saw them on the homeward track. We all hope the XYL closed the shop Jim!

Conditions for the month have been very bad. 2FX is erecting a new antenna of his own design, somewhat like a quad. 2TE has some higher voltage these days. 2BZ had the hard luck to lose his tranny, on at the moment with a temporary supply. 2ADX putting out a terrific signal from a new beam, 2AQ was heard from there the other evening. 2AFS after a few weeks tracked down the gremlin in his modulator, his motto now—no mud moulded valve sockets. 2AGD experimenting with a quad when not swinging a paint brush around the house. 2PF has 90 up on 10 metre phone and awaiting the elusive 100th before rebuilding. All the best for the New Year from the Newcastle gang.

COALFIELDS AND LAKES

All had enjoyable day at Woy Woy and look forward to more outings in the future. 2KZ at present in hospital at Newcastle, hope you are better before you read this Max. 2YO also in hospital at Kurri, fall of stone in the mine was the trouble, hope you are about soon George. 2KF not heard much, has been away from home working. 2TY just returned from three weeks holiday at Lakes, heard on his old stamping ground 10 metre phone. 2JZ not heard much but possibly bagging his share on 10 metres. 2VU on 40, doing a lot of listening on 50 Mc., heard a KA in recent weeks when the band opened. 2PZ lots of good gear to carry out his many ideas, but not much time. 2MK rebuilding, should be heard soon. 2ADT spending most of his time on 50, lots of VIs and ZLs worked. His new receiver six-band turret coil change creating a lot of interest.

2YL should be heard more often in the near future, a new 50 Mc. beam scheduled for the holidays. 2KR, a 40 metre regular, promises to supply the news from his district each month. 2AEZ strong on 20 and he too will supply news from around Gosford way. 2AMU is going on 50 Mc. now, also on 28 Mc. with beams. 2RU doing very well on 50 Mc. and getting set for 144. Hill in the direction of N.Z. makes the ZLs hard to raise on 50. 2TX was at the field day, please let me know of your doings. 2OC Owen still sticking to the v.h.f.s. That is all for now chaps, please let 2KR, 2AEZ, 2AMC or 2YL know of your doings, all the best for the New Year.

SOUTH COAST AND TABLELANDS

Many of the stations in this Zone were heard this month including new calls 2ALN of West Wyalong and 2AOX of Woomona, the first with 2 watts series modulation and a good signal, no dope on 2AOX. 2WP QRL on 40 DX, heard at all hours working and calling it. 2OW working 2FZ this must be strange to Gordon, pre-war he was 2FZ himself. 2AJK got across filter condensers whilst making adjustments to the v.f.o., and dropped the v.f.o. six feet, hard luck Cecil. He was lucky in another direction, a local radio service donated the bits and pieces of many years gathering, so he has plenty of gear to play around with. 2TC and 2GU are working together nicely on 50 Mc. Heard on 144—2PI calling "the old grey mare," who we believe was 2VS who was coupled up with wheelbarrow containing portable 144 gear. The latter raised cheers from passing cars.

2PI and 2VS both work at b.c. station 2CA. The DX bug bit 2PI and he is off to a good start, with UB5BC for his first DX contact. 2JQ now QRO with 50 watts on 40. 2ALS not too active of late. 2DO contacted 2JR portable on Lord Howe, the latter talking with his brother at Yass. The QSL has arrived already, a photo of the landing jetty at Lord Howe. 2OY worked a lot, he is thinking of doubling to 50 Mc. What about some news from Wollongong, 2WP the only station heard from there. 2AKE QIL shearing, heard once only. 2DO received a nice card from IIR1FQ, it's really well worth having.

VICTORIA

The General Meeting of the Division was held on Wednesday, 1st December, at the Melbourne Technical College. The first part of the meeting comprised a talk on "Electric Shock," by Reg Busch 3LS. In dealing generally with the effects of electric currents on the human body, Mr. Busch first pointed out that the intensity of the sensation produced by electricity depended mainly on the value of current flowing, rather than the amount of potential difference (voltage) required to produce it. The effect of electric currents seem to go through three stages as the amplitude of the current is increased.

The first sensations are produced with a.c. (of power frequency) at a current of about one milli-ampere; with d.c. about five times as much current is required to produce an effect of the same intensity. The end of the second stage is reached when the current is such that the subject is just able to let go the electrodes. This current value, called the "let go" current, is about 5 milliamperes a.c. With currents above 7 or 8 milliamperes a.c., the "freeze on" stage is reached, at which it is found impossible to release the electrodes. No harmful effects are produced by "let go" currents if they are only allowed to persist for a short time, but currents at the "freeze on" value will cause death if allowed to persist for periods greater than one minute.

Mr. Busch, speaking from experience, described how it feels to be "caught up" on a.c. and on d.c. live equipment. The need for care in dealing with radio equipment having high tension power supplies was stressed, and charged filter condensers particularly need to be treated with great caution. Mr. Busch then described the steps to be taken in the rescue and resuscitation of persons shocked into unconsciousness by electricity. The need for speedy action was stressed and the Schafer method of applying artificial respiration was described in detail and demonstrated on 3WQ, who volunteered to act as a "body."

In the discussion following the talk, great interest was shown by the audience, and a few speakers describing their personal experiences, supported the lecturer's warnings concerning the lethal powers of Amateur Radio equipment. At the conclusion of the discussion, Mr. Busch distributed copies of a pamphlet "Life in the Balance," describing the method of applying artificial respiration. Copies are available for all who request them.

TECHNICAL ADVISORY COMMITTEE

Frequency Measuring Contest.—It is proposed to conduct a frequency measuring contest shortly after the next Standard Frequency Transmission from 3WI which is scheduled for Tuesday, 25th January, 1949. Publicity will be given to this contest over 3WI. It is expected that the contest will be run on similar lines to those organised by A.R.R.L.

Laboratory Workbenches.—These have now been completed by a gang of enthusiasts working with T.A.C. member Harold Webber 3PW, who has fostered this project personally, right from its inception. Harold is also to be congratulated on the job of organising the erection of the new antenna for 3WI, erected several months ago.

Library.—Members are reminded that among the literature available from the Library are handbooks on military equipment available ex Disposals. Some of the equipment described in detail in these excellent handbooks are (a) AT5/ARS Transmitting and Receiving equipment, (b) ATA and ARA Transmitting and Receiving equipment, and (c) Bendix type Frequency Measuring equipment type BC221N.

LADIES COMMITTEE FORMED

In response to an invitation issued to wives of members, a happy gathering took place at the Rooms on Friday, 3rd December.

A Ladies Committee was formed to assist members in arranging social functions and the appointment of the office-bearers of this Committee will be made at the next meeting on Wednesday, 5th January, at 2 p.m. at the Rooms.

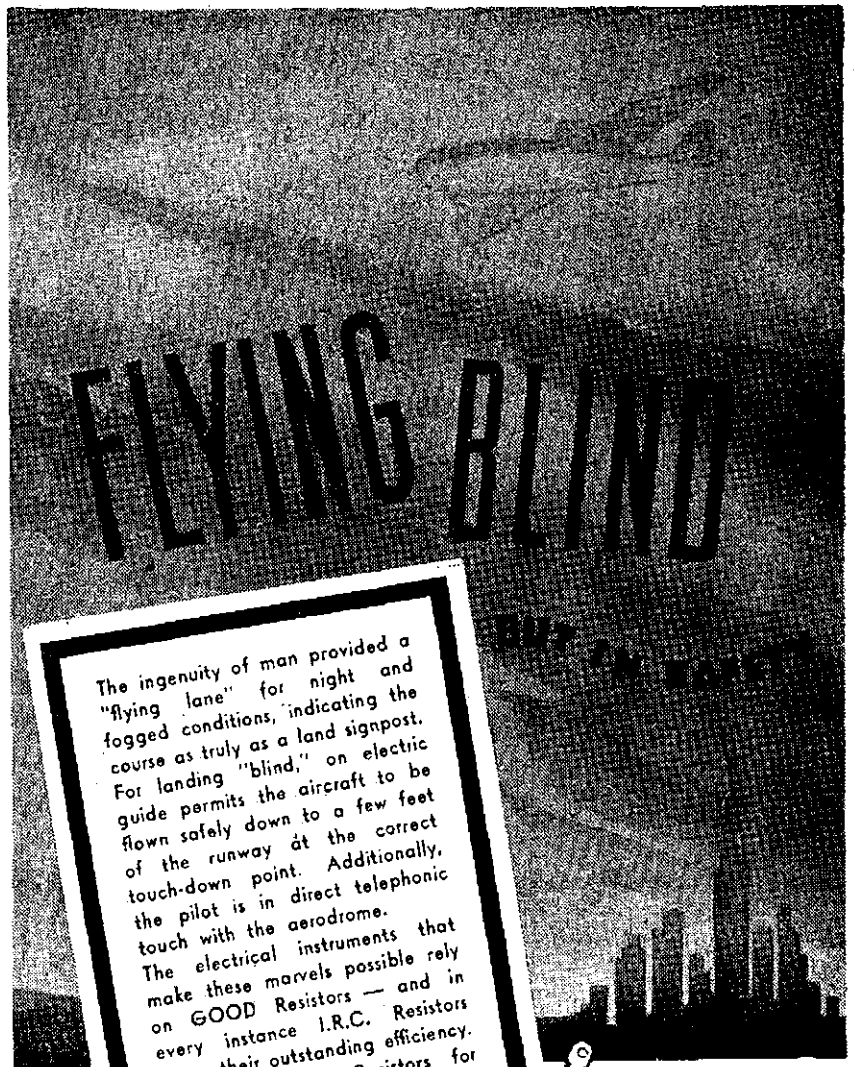
All ladies who are interested are invited to join in and attend future meetings.

VICTORIAN QSL BUREAU SERVICE

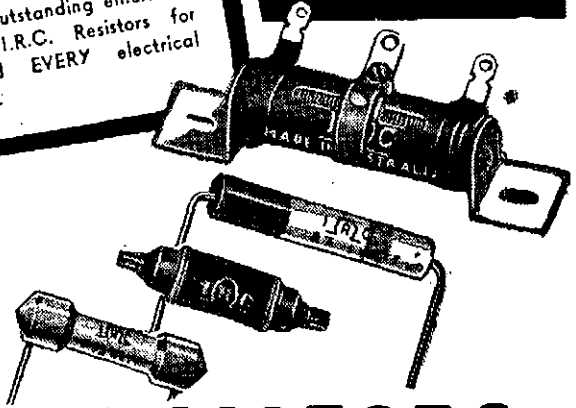
The following information will be of interest to Victorian Amateurs:—

OUTWARD.—Bring your cards into the General Meeting OR Post to Outwards QSL Manager, Mr. F. O'Dwyer, 190 Thomas Street, Hampton, S.7. Price is 1d. per card. Cards to VK3 are free.

INWARD.—Collect cards at the General Meeting OR supply Inwards QSL Manager, Mr. G. Roper, 26 Lucas Street, Caulfield, S.E.8, with stamped addressed envelopes.



The ingenuity of man provided a "flying lane" for night and fogged conditions, indicating the course as truly as a land signpost. For landing "blind," an electric guide permits the aircraft to be flown safely down to a few feet of the runway at the correct touch-down point. Additionally, the pilot is in direct telephonic touch with the aerodrome. The electrical instruments that make these marvels possible rely on GOOD Resistors — and in every instance I.R.C. Resistors prove their outstanding efficiency. There are I.R.C. Resistors for YOUR and EVERY electrical requirement.



I R C RESISTORS

SOLE AGENTS FOR AUSTRALIA:

Wm. J. McLELLAN & Co.
BRADBURY HOUSE, 55 YORK ST., SYDNEY • BX2508

T.A.C. MEETING NIGHTS

It is noted that the Technical Advisory Committee of the Victorian Division of the V.I.A. hold meetings at the Institute Rooms at 191 Queen Street, Melbourne, regularly throughout the month.

All members and visitors are cordially invited and welcome to attend these meetings at which many technical discussions and demonstrations take place. Meeting nights are as follows:—

- 1st Tuesday: Practical Work.
- 2nd Wednesday: V.H.F. Group.
- 3rd Tuesday: T.A.C. General Meeting.
- 4th Tuesday: Practical Work.
- 4th Wednesday: Receiver Group.
- 5th Tuesday (if such): Practical Work.

VK3WI will announce the programme for these individual meetings in forthcoming broadcasts.

EASTERN ZONE CONVENTION

Members of the Eastern Zone met at Leongatha on 27th and 28th November for the Annual Convention, and were pleased to welcome VK3s AG, ML, WQ, IK, LS, ED, MN, HK, and RR, who came from Melbourne for the evening. First to arrive was 3QZ and car-load, followed soon after by 3LS, 3ED, and 3MN, who had caught up with 3HK, stopped on the road working 3DI and 3VL on 50 Mc. From then on there was a stream of chaps going into 3DI's yard to inspect his shack and 3VL and 3HK's 50 Mc. portables. Much merriment was heard during the recording of all members' voices by 3DI.

Dinner was delayed through the breakdown of 3AHK's car. However, 33 sat down at the tables. After the dinner we adjourned to the Council Chambers, where many matters were discussed until the early hours of Sunday morning. Unfortunately the Melbourne gang could not stay overnight, and left without solving the mystery of the cigars. XYLs of 3DI, 3QZ, 3PR and 3LV, assisted by Dawn Colley, prepared a tasty home-cooked supper, which was much appreciated by the members.

On Sunday morning the gang gathered at 3DI's shack for further recordings to be made, before going out to inspect 3PR's shack. 3DI and 3US left them to it, and took 3DI's 50 Mc. portable to hide it. The trouble was, they hid it too thoroughly—within sight of 3PR's QTH—as the searchers with 3VL and 3HK, who had their rigs, couldn't find it and eventually had to give in and return to Leongatha for lunch, again prepared by the XYLs.

After lunch, a short Field Day was held, but no outside sigs except 3AKM and 3CI were heard or worked. Afternoon tea was on at 4 p.m., followed by a short sale of Disposals gear, after which the gang departed, leaving 3HK to visit 3PR, and 3US/VL to continue their stay at 3DI's.

Eastern Zone members who attended the Convention were VK3s WE, QZ, SS, BB, LV, TH, PR, DI, US, VL, RH, AEP, AHK, ADC, and two associates. 3DI is to be congratulated for organising, with 3PR's assistance, such an enjoyable programme, and the XYLs for providing such tasty meals.

3GI reports that he worked 14 DX 50 Mc. stations and two stations on 144 Mc. on 5th December. 3AEP has a new antenna and is working Gs on 40. Would those members who can't join the hook-ups on 3650 Kc. on Sunday nights, please send news to 3US Red Hill, for inclusion in the magazine notes. The sub-Branch held its meeting on 6th December and those attending heard a lecture on oscillators, and a description of a crystal stabilised v.f.o. by VK3KT.

Comments of VK3SS on the Convention.—Having returned from the Eastern Zone Convention, the thoughts of it seem so pleasant, that methinks maybe they are worth recording in a rough way. The game started by picking up our esteemed President, Bill Williams 3WE, who had travelled by stage coach from the mountain fastness at Omeo to Bairnsdale, then by train to Stratford where he was collected. We picked up Ted Clark (awaiting call sign) in Maffra, then at Tinamba transferred into the Mercury of the Kellas establishment. Ossie Kellas 3AHK took up the reins and I assisted him to drive from the back seat. Thus we started in fine form about 3.45 p.m.

Arriving at Traralgon we picked up Pat Read 3RH and that being the last stop—we hoped—Ossie gave it the works at the request of, and aided by, his mates in the back seat. Well we had a beaut trip, gradually entering lovely green hills, and first class scenery. The townships of Morwell, Boolarra, Yinnar were deeply coated with our dust, and as the super Ford rolled round the bends up hill and down dale, everyone felt fine.

Then a most disturbing noise, indicating that at least one wheel had come off, prompted the back seat drivers to suggest Ossie might slow down and investigate. Upon being convinced that it wasn't

just another rude remark, an investigation disclosed the back spring had shown preference for one particular wheel and so moved over into its works. We weren't worried, for everyone knew Ossie would have a most complete kit of tools and so he searched the rear portion, and threw the whole travelling workshop at our feet. This was a rusty old jack that only worked on the bumper bar, plus two small tyre levers. Mr. Editor, you can't print the words and events of the next 20 minutes, so the story will be resumed as Ted Clark and 3SS hiked hopefully up and down those big hills for help. We were soon swept aside by a couple of nasty types in a smart blue car who coated us with dust as they ignored our pitiful gestures. Our morale was kept up by invoking all kinds of misfortune upon them, and we hope their electrolytics break down and dish in their power trannies.

Then the band opened up, and we were lifted by a big truck which took us a few miles. More hiking, until a beaut car answered our prayer and gave us another lift. We flattered this driver by comparing him to the "pirate" types in the blue car, so much so, that his mate who we also assured was a real gentleman, confided that the driver was none other than the garage proprietor at the township we were heading for.

The Convention dinner, according to the time table, would be at the second course by this time, so we explained everything to our new friend and back he went to gather up the rest of the gang who were forlornly waiting for something to happen. Well our great new mate (should be a Ham), after hearing our fears that the visitors from the City would wolf all our dinner if we were more than an hour late, he said, modestly, "I'll get you there." So he fired his jet turbines and covered the remaining twenty odd miles quicker than the bloke who comes back on your frequency just as you are about to answer that very special OQ DX call.

So we arrived about 90 minutes late, and found a first class feed awaiting us, some dreadful remarks, and a good turn up of visitors (complete with Disposals cigars) from the City, who were the better types, because our dinner was intact—thank goodness, for we were very hungry, and it was a very fine dinner.

Next day the 50 Mc. cranks stoked up ready to convince the doubting Thomases just how good that wonderful band was. Keith 3HK had his portable car there, with a dipole attached thereto, which as it leaned over at the top, nearly tipped his tiny car over. It was just big enough to hold Keith and his collection of FSB looking mobile 50 Mc. gear.

Gwen (3US, XYL of 3VL) and Rex had a suit case full of assorted parts, said to work on 8. When they switched on the vibrator, Keith's receiver was struck dumb, but said Keith was too much of a gentleman to say what I would have said.

Personally, my impressions of 6 metres are well—er—ANY sig is regarded as a "whale" of a sig, great excitement prevails if an 89 sig manages to crash through the super-regen. hiss and vibrator hiss—even if said sig comes only half a mile. It consists mainly of twirling bits of rusty conduit on the end of a stick, turning howling knobs on receivers and optimistically hoping a sig will appear from some far away place, or the band will open up. Wonderful things are said to happen when it does. Give me the comfort of good old 80 metres.

After the Convention, and afternoon refreshments were disposed of, the five car-less souls were jammed, with sundry junk and gear, into the backs of a few baby cabs—no one had a big car, Ham Radio keeps the boys too poor, I suppose. We were returned to North Mifoo where Ossie's car was waiting thank goodness. Coming home very, very cautiously, we called in on 3TH Gordon at Yinnar, 3BB Bert at Morwell, 3RH Pat at Traralgon, then 3QZ Graham at Traralgon also, where the weekly zone hook-up was in progress. Great frivolity prevailed while Mrs. Colly fed us on sandwiches, biscuits and cheese until Graham, fearing we might blow his rectifiers, signed off. So, all ye who didn't go, see what you missed—but make sure you attend next time.

NORTH EASTERN ZONE

When 3JK opened up his November issue of "A.R." and noticed that the predictions for 23 Mc. showed the band was coming back again, he decided to do something about his major QRM. So he invited 3YV to his "shack" for a discussion on the "ether." Along went 3YV with his mind full of DX on 144 Mc. (phone, of course, couldn't use c.w. because of a glass wrist caused by rheumatism). Straight into Jim's den he went, where he soon found out to his horror, as Jim and a Doctor pounced on him, that the ether was a different type to what he was used to. After he came back to earth, he discovered that all his fangs were missing, and the Dr., who by the way is a pal of 3LL, was also missing, but Jim was there sitting with a large smile of satisfaction on his face. His success was complete—3YV with no teeth meant no phone QRM and with a glass wrist no c.w. QRM. Now for that tasty 10 metre DX, phone

GLO-RAD

WISH YOU ALL A PROSPEROUS NEW YEAR

Users of "GLORAD" Products will be glad to learn that 1949 will herald more abundant supplies of existing types of equipment and the introduction of many new types of V.H.F. Assemblies.

FOR QUALITY PRODUCTS TRY
GLORAD ENGINEERING SERVICES

186a RIVERSDALE ROAD (Cr. Robinson Road).
HAWTHORN VICTORIA

Phones DAY WA 3819 NIGHT WX 3440

only, as Jim's wrist is useless after the struggle. 3WZ was not in the plot as he is at present ear-shaving 3QC in Terang.

3DW is leaving shortly for Woodend. 3UJ is acting President: 3BP heard on 40 c.w. with 100 watts. 3KR is on holidays. 3DG has new mast up. 3FD acted second op. and chief beam turner for 3ABG/Portable on 144 Mc. field day. 3ACW built new transmitter for 144 Mc., 3ABG has only contact so far on 144. 3UI now using v.f.o., Alan has worked 3ABA and 3ABG on 144 Mc. On 50 Mc. YK3s, YK2s, YK4s, and YK5s have been worked. 3FS, 3UI, and 3APF have worked 3BM on 50 Mc. 3ABG, while portable on 5th, worked YK3M, 3UI, 5MP, and 4BT on 50 Mc., and 3ACW, 3TI, 3ABA/Portable and 3ACM/Portable on 144 Mc.

CENTRAL WESTERN ZONE

Disposals gear arrived in a most imposing case and opened up OK. We got most of the gear ordered, and those that received same, seemed well satisfied. The Horsham Convention effects are still with us as 3AIP has never got over 3TA's three element beam and now has 60 ft. of good solid tree lined up out in the mountains; main trouble of course is to get it in, but that is a minor detail, to one set on the DX. SOW at Lubeck is going all portable for the holidays and is very busy getting his 5 watts into movable shape, which reminds me of 3FI's portable rig in the car; is the car attached to the whip or the whip to the car? Ray? It certainly does an f.b. job. 3IQ and 3XC are busy trying to push 50 Mc. sigs over the hill between them, but up to date have not had much luck, keep trying boys.

3ARM is going quiet on radio for a while and getting the harvest in. 3YW has struck a snag or two with the four element beam for 50 Mc.; the beam is OK, but the mast is not, so it looks like some extensive alterations before it can go up. A miniature Hamfest descended on Stawell a few weeks back in the shapes of 3GN, 3IV, 3AKR, V3KR and a crew of Bush-portables, the occasion being a demonstration of mobile work to the local Brigades, they put up such a good show that a network is to be formed to cover the local farming areas and roped in that very busy person 3HL.

Zone hook-ups, we are sorry to say, are not quite up to expectations despite the change of time, maybe we did the wrong thing but will give them a longer trial, so how about it chaps, mark it up on the slate "Zone Hook-up Second Sunday in the month, control station on 7120 Kc. Time 2 p.m."

SOUTH WESTERN ZONE

Bert 3VA is very beam-happy these days working DX on 10 and 20, giving 40 away. Bob 3GR wishes every Ham, who talks in, to take off their shoes when entering his shack. Bob is playing with folded dipoles on 20 a few feet from the ground, and gets better DX than when up high. 3BU still puts out good signals on 7 Mc. 3AKE is 144 Mc. happy, won't work on any other band. Murray 3AMP still working on wire recorder, but hopes to be back on 40 soon. 3VT puts out fine signals with his 5 wattor, work any DX Bill? Heard that 3VF and 3BW had some Ballarat boys down getting dope on 144 Mc. gear, did you have a look around the shack after they left? 3QC still silent on so much work getting radios. Jack 3JA working DX on 10 and 20, got over 100 countries up. Norm 3EQ working on gear for 144 Mc., but finds time for a QSO on 40. Frank 3ZU too busy working at P.O. fixing up phones the YLs crack up. 3ALM now putting up super 10 metre rotary, look out for 3VA, heard Bert was only one who worked DX on 10.

3DS is having QRM from John of 3HW and don't know what band to use, but thinking of going up to 10,000 Mc. for a change. Heard 3ASY has poor front-to-back ratio with his 10 metre beam, only spaced a few inches apart. Also heard Allan 3YT is a keen 10 metre bird and working QRP lately in other directions. Jack 3WN going portable at Xmas to Ayco, and has been on 40 for a few rag chews. Nell 3IH still works that rare DX with Vee beams; has alternator working and a 540 receiver. No word of 3MC, must be working hard. Leigh 3IJ was in dry dock for a few weeks overhaul in Hamilton Hospital, back again with same cheerie voice. 3HF, who knows how to work DX, is thinking of running a long wire antenna from the top of the commercial mast 266 feet up. Ted 3PS, the real old timer, has FS6 receiver packing 100 per cent. on 20 now, hopes to have transmitter crystal control soon with 100 watts. Les 3DX pulling up new super rotary beam for 20 on 45 feet steel tower, at present times Les is using an S84 in final working DX on c.w. 3ARR in strife with aerials, thinks of putting up Vee beams. Rev has plenty of space on farm and has a new 640 receiver also.

Stau 3SE been off air lately probably due to courtship troubles, or is it that 144 transmitter and receiver have been taking up spare time. Andy 3BE now knows what a QSO is like, had a QSO with Andy for 2 hours 10 minutes the other night. 3BE is troubled with a Lazy H antenna on 40 that works only one way, which way is that Andy? 3BI is going for a trip to VK7, hope you have a good time Bert. 3HW, the chap who is going to dice the DX, now finds 144 Mc. under skin with SCR322. John is putting up a 16 element beam on top of 45 feet stick and he wants applications for someone to scale the stick as John's nerves are not the best now. 3VA, 3GR, 3HW are going to open 3UT's new shack, transmitter, vertical antenna, and Vee beams when finished. 3VA said he was drinking contents of bottle before cracking it on shack. Well boys let's know what you are doing so as I can put them in "A.R." Address all dope to 3UT before 28th of each month.

In the S.W. Zone hook-up on 5th December, 3BE, 3WT, 3ALG, 3YE, 3IC, 3UT took part. We would like to see more fellows in the monthly hook-up.

Geelong Amateur Radio Club

At a meeting of the Geelong Amateur Radio Club held at the Clubrooms, 65 Lt. Malop St., Mr. Alex Bell (3ABE), with the aid of outsized meters, demonstrated the movements of a moving coil meter and an iron-cored meter. After which he demonstrated a Kingsley ART receiver. Alex also brought along a Type A Mark 8 portable transceiver. Instead of the usual meeting the following club night, members were taken over the local juice plant, a tour which proved most interesting and took 2 1/2 hours.

Emergency Network.—On 12th December the Geelong Hams held an emergency test on 80 metres. Those who took part were: 3BU base transmitter and portable, 3ABG, 3ABW, 3IC, 3ABE, 3ALG, 3CM, 3AJF, 3WC, 3VF, 3AKE, and 3WT. In conjunction with the test, Mr. L. G. Lowry, the Regional Fire Officer, will give a lecture at the next meeting on Map Reading and Mr. McConnell will give a talk on "Message Handling."

A newcomer to the Geelong gang is 3ABK Dick Heighway, who now has a portable call of 3ABW. Phil 3APG is messing about with a v.f.o. and also has a new receiver going.

QUEENSLAND

The November meeting of the Queensland Divisional Council was held, for the first time, in the new club room. Six new members including 4EF, 4ZL, and 4CF were admitted. Federal Councillor read correspondence dealing with the Uniform Constitution and the proposed Correspondence Course A.O.C.P. Quite a discussion took place on the sub-division of bands for c.w. and phone.

The new rooms at Victory Chambers will be open to members from Monday to Friday between the hours of 12 p.m. and 2 p.m.

General Meeting for November was held in the Elizabeth Street room on the 26th November. There were thirty-six members present. In the absence of 4AW, the Vice-President 4EB occupied the chair. An auction of the winter edition of the Call Book was won by 4WQ and netted a little profit to the Division.

Members are advised that as from 1st March, 1949, all subscriptions will fall due on that date each year.

Trophies in connection with the recent D.F. Field Day were presented. 4RT received an Electric Kettle, and 4ES a 30 watt Transformer.

The general business of the meeting was followed by two lectures, one by 4KB on receiver noise and the second by 4VJ on the Quod Beam Antenna.

The Council meeting for December was held on the 3rd December, having been brought forward a week because of the Xmas Party which took place on the 10th December. The Secretary reported that the business of the Division was so heavy now that an assistant secretary would be very welcome. The matter of forming sub-branches was discussed and it is hoped to form sub-branches in the larger country towns. The matter is still in the embryo stage and further developments will be announced over 4WI at a later date.

The formation of Emergency Communication system to provide communication system by Amateur operators to give assistance in times of emergency (e.g. bush fire fighting, flood warning) was discussed. Further information is being sought from other States. Discussion on the matter in the Sunday morning hook up showed the idea to be a popular one.

Letters of appreciation are still being received from G land for food parcels sent by this Division. The Rubber Man of the month is 4FN. Frank thinks nothing of holding 1,500 volts. Reckon he has an open circuit in his relay—his still on deck anyway. Whilst we are on the subject of 4FN, let us report that Frank, using his portable rig 4MF, had a beano on the 21st November, making 144 contacts, most of it DX. But the month wasn't all roses for the operator of 4WI for another high power transformer gave up the ghost, but he still has a long way to go before he can work DX with the smoke pouring out of the rig. At least that is what 4PR did!

ZONE NEWS

Mackay Zone.—JKW Harry reports 10 metre signals very good during the last week-end in November. A little bird told me that 4KW is taking swimming lessons every Sunday morning now. 4FH is moving again, South America this time John? 4BQ still very active on 20 and with Harry and 4AM filling in their spare time re-erecting antenna at John's new QTH.

Townsville Zone.—4GD is the only one in this zone interested in 4 metres, and reports other activity very quiet. The President of the Townsville Radio Club, Mr. Greenwood, puts in a lot of spare time listening to the 60 Mc. signals.

Liswich Zone (4WS).—Newcomer to the zone is 4LT; all the very best in the new venture Albert. 4WS just received a few new chasses—looks like a complete re-build Bill? 4GG has returned from his holidays and still using the good old 50 ft. a side. Temporarily located in the zone is 2AWC—looking for 144 Mc. contacts.

South West Zone (4ER).—4DA knocked up a very good score in the recent VK-ZL Contest. We believe he is now eligible for DX C.C. 4RF has 93 verified countries. Fred has applied for the B.E.R. T.A. award. 4XN looking forward to the opening of the new 21 Mc. band, but at present looking for 50 Mc. contacts. 4UX worked CP5FA to complete 100 countries on phone. 4ST has bought a new engine for the car, so radio is getting a rest. 4TY reports DX on 40 metres very good in the early mornings.

Sundaberg Zone (4XJ).—Les is very active on 28 Mc. and reports that the vee beam gives better results than the vertical. The Sundaberg and District Amateur Radio Society held its second anniversary meeting at the residence of 4PG on the 26th November. 4PG is re-building a new rig will be complete with band switching for 3, 5, 7, 14, and 28 Mc. bands. 4CW active on 7, 14, and 28 Mc. 4HE active on 28 and 50 Mc. and building new antenna array for 28 Mc. 4RJ loafing.

Central Zone (4HZ).—4HD has two receivers now, an ART and a Crossley, and according to Jim has a very f.b. rig. 4LN active on 14 and 50 Mc. 4XR chasing 14 Mc. DX. Newcomer to zone is 4RA. 4HZ very QRL building and does not expect to be active on the bands until 1949.

SOUTH AUSTRALIA

The notes this month are required by the Editor to be in his hands a little earlier than usual, and therefore I cannot cover the general meeting, and consequently there is very little city news. One item of news however can be classed as "Hot," and that is the fact that Ross Kelly (3 Little Watts), to use the phonetics of this infamous, sorry, famous station) is bemoaning the fact that all the power that he has left at his QTH since the visit of the R.I. is five little watts. However you can't keep a good Ham down, and I have just heard from one of my spies who was passing the shack as the R.I. was leaving, that Ross was in QSO with heaven and the other place, and at the same time waving farewell to the R.I. and utilising his remaining hand to frantically remove the high voltage windings of his final tranny, which you will all agree is no mean feat even for a "professor."

News has arrived via the grape-vine that nominations for Council next year will exceed the number required and therefore voting will be found necessary. This is good news to the present Council members, as new blood is always required in the running of any organisation, although sometimes new blood turns out to be somewhat anaemic and loses interest after one or two weeks. Anyway several of the stalwarts on the Council would appreciate being voted out, as they are showing the effects of being the packhorse for the large majority of members. Don't be scared that they will be hurt if you don't support them in the voting.

Talking of Council duties reminds me that I was a little slow off the mark at the last general meeting and was grabbed for a working bee at Doc's QTH, in spite of my protestations of being very, very busy on that night. The job was connected

with the disposal correspondence, etc., and any other job that might be going. Well, did I cop the lot, I was new to this stamping, sealing, stoking and sorting business, and did they go out of their way to show me up. Jim Paris, Cec Baseby (5BZ), and Hal Austin (5AW) were such a rowdy lot that they were parked in a room by themselves. George Ramsay (5GD), Dr. Ross Adey (5AJ), Doc. Barber (5MD), and myself (5PS) were confined in the shack (I didn't do too bad out of it, I am re-building). I never worked so hard in all my life, every time I tried to tell them one of my Sunday school stories they smothered me with envelopes and sheets of foolscap. Cec Baseby stamped in every now and then to do his "Simon Legree" act, always seeming to make wild flourishes with his rawhide whip at me. Doc. periodically drifted in with a wide grin on his face, and looking at me would say "how are you doing, Crackers" (well it gounded like Crackers). Ross Adey kept taking sidelong glances at me and whispering that he thought that my figure was a perfect set-up for a "vernia" or something. He scared me so much that I was frightened to even lift a cup of tea at supper time for fear that I burst something or other. Just as we finished, Gordon Bowen (5XU) walked in and made the somewhat lame explanation that he had been delayed practising on his organ at Maughan Church. This caused me to have hysterics, and by the time that they had all thrown water over me to bring me around, it was very late. George Ramsay made a lightning dash by sea, land, and air to enable me to catch the last train, and I was a very tired and overworked Council member as they lowered me into my couch of repose that night. So you can see my prospective Council members, it is not all beer and skittles being on the Council.

It is a pity that the general meeting cannot be written up as the title "General Discussion" looks very intriguing. It looks quite possible that Ted Cawthron (5JE) may be persuaded to rise to his feet and say a few words on some subject or other, and it is also quite on the cards that Les Pearn (5PN) will condescend to rise and softly, but purposefully knock over anything that I might bring forward. Well, time will tell.

The present march forward in Amateur Radio science leaves some of us lagging a little, but I came across the following lines and felt a little more cheerful. Be not the first by whom the new is tried—Nor yet the last to lay the old aside. Not dead eh!

Now for some news from the South East corner of our fair State. When it was winter time, the excuse regarding lack of news was that it was too cold in the shack, now that the weather is on the improve I suppose it is too good to remain indoors. Anyway, here is the little that my spy has scraped together. 5TW has been very quiet for two reasons, in the early part of the month his rotary converter was on loan, and then his aerial blew down in a storm. However, 5CH aided Tom to get the skywire up in the air again, so we can expect to get some news of him next month. 5CH is building a new modulator and his quietness won't last long now. His D104 has been repaired and is better than ever, he has been getting across to the Yanks and Canadians on c.w. with f.b. results. 5JA is in Melbourne again and no news is available. 5MS has not been heard of since he had the a.c. installed. Nobody has been heard getting across the mains so "no news is good news."

A couple of months ago I mentioned that there were two starters from M.L. Gambler for their tickets and I am very pleased to announce that they have passed the exam and should be heard any time now on the air. The chaps concerned are John Harris and "Erg" Von Stanke. John, by the way, is to be married on 11th December, so it is possible that we won't hear much of him until the New Year. "Erg" had bad luck recently, as a fire destroyed all the radio gear that he had been collecting in anticipation. However, in true Ham spirit, the boys collected quite a bit of gear and so "Erg" will be on as soon as his licence arrives. The best news always is kept until last and I am no exception to the rule.

6CJ (Col. to you) who by the way is my unpaid spy, has not been very busy for the simple reason that he is also to be wed on 11th December, and having been lucky enough to secure a house as well, one can see the reason for no activity on the air. (How did he get the house? well I look after my spies and nothing is too much trouble for me, Ahem.) Be that as it may, we all join in wishing Col. and his intended all the best for the future, and don't forget, Sked's before Dishes is the motto.

Due to the fact that Cec Baseby (5BZ) has resigned from the office of Treasurer of the VK5 Division, several alterations to the complement of

the Council have occurred. Gordon Bowen (5XU) now becomes the new Treasurer, Dr. Ross Adey (5AJ, Ross to you) becomes Programs Organiser, and Tom Laidler (5TL) has been co-opted as the new Council Member.

The usual thing to do at this period of the notes is to write up the doings of the Northern gang, but apparently there is nothing doing, as my usually "energetic" correspondent from that district has decided to keep all the news for his own publication "Splatter." Which only goes to show that talent will always drift to the higher paid job (Editor please note). Anyway Lee what about sending me a copy of "Splatter," and then I can pick out the highlights for "Amateur Radio."

You chaps who are off duty during the daytime would be doing a good turn to yourselves and also to the Woodville High School, if you could contact them on 40 metres. These lads are very keen and get a great kick out of a QSO, but contacts are scarce during school hours for obvious reasons. The call sign is VK5WH with Gordon Bowen (5XU) as science master (wot no organ?).

News has reached me that these notes are being read by an increasing number of XYLs, in fact I know of one XYL who rushes out to the front gate on the day the postman delivers the "mag," so as to be the first to read it. I have been puzzling my head as to how I could cater for this female audience. So far no inspiration has arrived, although I am tinkering with the idea of being a radio Dorothy Dix. Couldn't you see it. "My dear Dorothy" (or should it be "Pansy"—Editor), writes Nancy, "the other day I accidentally knocked a cheap valve off the shack table, it was an 813 I think, anyway my husband used quite a lot of words that I have never heard before, does this mean that he no longer loves me?" signed broken-hearted." I think that I would enjoy answering those sort of letters, but probably nobody would write to me (even the Secretary won't write to me).

It's a bit late I know, but still very sincere, when I say "A Happy New Year to all." I regret that you will all have to put up with my burbling for another twelve months in the magazine (I hope), but I have enjoyed every minute of it, and if I have offended anybody (which I doubt) please put it down to over enthusiasm in the greatest cause of all, "Amateur Radio."

WESTERN AUSTRALIA

The November meeting was held in our new rooms in the basement of Padbury Buildings, Corner St. George's Terrace and King Street, on Monday the 30th. There were 43 present, and new members elected and welcomed were 6ZX, 6RP, and 6HM. Good show!

The big item of interest was the confirmation of the winning of the Lambert Trophy (6FL, now 3AFL) by 6WG at Albany, for the first W.I.A. member to have a 50 Mc. QSO outside this State. Actually the first VK6 to work Interstate on 50 Mc. was 6HM who will receive a pennant from the Institute as recognition of his achievement. Both 6WG and 6HM worked into VK5, and 6RT is the first VK to W.A.S. on 50 Mc., f.b. 5RT.

6SA discussed the activities of certain "commercial pirates" in the Amateur bands, and reports are being forwarded to F.E. All Amateurs are encouraged to log these commercials and send information to their respective Divisions.

A good response was made to the formation of a VK6 Emergency Network—6MU being country organiser, and 6FC in the city.

Ionospheric predictions, as printed in the "A.R..." were discussed at length, and a report is being compiled for C.S.I.R. as requested by them.

Suggestions as to how VK6 can win the 1940 Remembrance Day Contest were discussed. Congratulations go to 6RU and 6KW for the highest individual scores in VK.

The next meeting will be held on January 18, and on the third Tuesday in each month from then on.

6CP gave a most interesting account of his 16 years of Amateur Radio. Clarrie recalled his DX, running 1 watt input with his first rig on 3.5 and 7 Mc. bands. He told us of two emergency contacts he will never forget. One was on 7 Mc. c.w. with an exploration in Central Australia, which had lost communication with its base at Darwin. The other was a request for medical aid from Wiluna during a time when they were out of communication with the P.M.G. at Perth. Clarrie has congratulatory letters from the parties concerned in both emergencies. His present rig is running 40 watts input with a tower and beam, and is looking for a South American to W.A.C. His talk was delivered in very fine style, and he well earned the round of applause which followed.

We wish to take this opportunity of wishing all our readers a Happy and Prosperous New Year, and may sunspots never shine on your shack during 1940!

PERSONALITIES

The Annual Dinner for VK6 Division of the W.I.A. was held on the 3rd of December at the Marble Cafe, Hay Street. Quite a number of country members were able to be present, and a really good evening was had by all. Here are some of the personalities we meet here. From Albany came Wally 6WG. Many of us met him in person for the first time. He is a very proud man winning the Lambert Trophy for his Interstate QSOs on 50 Mc. 6RL was able to get down from Northern for this occasion. Ralph helped 6MY with a few drinks and we are not quite sure who had the most to say! Our other country visitor was 6GS of Harvey fame. Blake steered a steady course and by the way he kept his sked with 6RK, neither wanted to see TV of themselves that evening. 6MU

Amateur Radio Station

★ LOG BOOK

This log book has been designed to fulfill the need for a standard log. Radio amateurs and experimenters will find that they can keep their log books uniform while at the same time having on hand a permanent record not only of experiments and QSO's, but also of outstanding work done by the station—records that can be shown with pride.

Price 3/6 each, plus 7d. reg. post, or four for 12/-, plus 1/- reg. post.

TECHNICAL TOPICS

★ Radio Handbook

Here is another publication of interest to the radio amateur. Many servicing problems that confront the technician are dealt with in this reference book. Size 7½ in. x 9½ in., stiff cover bound. First edition.

Price 7/6, plus 9d. reg. post.

Note: Second edition available early 1949. 15/- plus 1/- reg. post.

Both available from

MINGAY

Publishing Co. Pty. Ltd.

Box 3765, G.P.O. Sydney

To Amateur Operators and
Radio Experimenters, Mingay
Publishing Co. extends New
Year Greetings.

made the trip from Merredin. Didn't see very much of you Mal, but we did notice you fatter over that micro-section of shark! There was a telegram from GDx of Kalgoorlie. He was not able to get down and had a few wise words to say about "spirits." Better luck next time Bill. 6KW was the star of the evening. Ron never laughed so much before. The beer wasn't weak, but you should have heard some of those jokes!

6YZ won a special prize for his talk which was on the wire recorder. Dick took it in good part. 6MY kept us all guessing with a couple of quiz sessions. What about one for the judges Mal? 6KE left his bee-farm to join in the festivities. Keith was rather quiet but had his share. 6JN and 6JP had the afternoon "off the chain." John and Jack enjoyed themselves before and after. "Silent Night" was John's theme en route home to Kalamunda. 6HR told us all about nothing and he then settled down over by the barrels along with 6KW and 6FW. Ross Hunt put on a magician's act. It went over really well. 6CM, his assistant for one act, nearly went too. Thanks Ross for a really f.b. show. Among our visitors were Mr. Jewell, Bill Sprouge, Keith Taylor and Ray Campbell. Hope they won't be visitors next year, but active members of the Institute.

6RU gave DX away for once. Jim was a trifle worried though, in case the band came good while he wasn't around. 6RO organised the grog—we nearly missed out too! Was Bert's face red? Anyway, some quick thinking saved the situation. 6SA gazed longingly at the host of trophies to be won by members. Which one did you take home Jim? What happened that 500 microamp. meter? 6JS showed us a couple of films. What about a Donald Duck next time Jack, instead of E. and M.? 6CA recently W.A.C. told us all about it and how not to send QSL cards by air mail! Our worthy presi-

dent GWI had a few mouthfuls to say. He tailed along with 6AG. Yes, 6AG had tickets on himself. 6PW celebrated the successful termination of his recent examinations. Congratulations on your B.Sc. o.m. f.b. Look out DX, here comes Ray! 6EN had a pocket full of wire puzzles. He got quite a few of the boys in trying to work them out. We found 6GC tucked away in a dark corner. Bob was hot under the collar, just why, we don't know.

6KR put in an appearance. Pleased to see you there Val, and hope you can get along to a few meetings during 1949. 6CP never touched the "lolly-water." Clarrie caught an early train home and only just in time. 6HL had a different kind of beam. Two round elements and a folded elbow. What was that about "sporadic pea" (ex Menu) Harry? 6FC enjoyed the Savoures, i.e. insulated wafers, section of wave guides and micropups!

6OK was looking for a mate on the "lolly-water." Just as well you didn't see me Col. There were 45 Amateurs and about 10 visitors present, and by 11.30 p.m. the two casks were drained, so it is thought everyone had a jolly good evening. The "do" closed in orderly fashion. All the bands were strangely quiet on Saturday, but on Sunday we did hear one or two of the lads back in their usual places, among the QRM.

You will be reading this in January, so here's hoping you all had a very Happy Christmas, and now, that 1949 will bring you each 100 watts, a rotary beam, a 15 tube d.c. receiver, DX C.C. and small slice of Prosperity.

TASMANIA NORTHERN ZONE

The first official visit of State headquarters officials and members was paid to this zone over the weekend of 20th November. Amongst those making the trip were Mr. Lon Jensen, our State President, and

Mr. Joe Brown, the State Secretary. The visit opened officially with a meeting held in the Launceston Y.M.C.A. at 8 p.m. on the Saturday evening. Mr. Len Crooks, the Zone President, officially welcomed our guests and Mr. Lon Jensen replied on behalf of the visitors.

Owing to the various discussions and meetings held before the formation of the zone, no problems arose and the meeting was confined mainly to discussions on various interests affecting our Division as a whole. Mr. Joe Brown gave us a general outline of the Division's activities over the preceding six months and the desirous of so doing, time to sample the local brew before going to supper at 10 p.m.

Around the supper table conversations could be heard about DX, the ultra highs, and all the various interests associated with Ham Radio and the festivities concluded, in some instances I am told, about the time good Hams should be calling CQ DX South Africa. On the Sunday morning visits were paid to the various shacks and the visitors left for Hobart at midday.

VK9YY advises that as he is now in the north and that as he is still a member of this Division, we can consider him a member of this zone. Bill will be about on approximately 14020 Kc. at 8 p.m. Thursdays on sked with myself so members can raise him then should they want a QSO.

At the last meeting of this zone Mr. Len Crooks resigned from the position of President and Mr. Don Brooks was elected in his stead. I feel quite sure that all members will give Mr. Brooks the same support accorded our past President.

Don't forget our meeting nights are always on the second Friday of each month so there is no excuse. An excellent itinerary has already been arranged for 1949 with plenty of interesting lectures.

TRANSFORMERS, CHOKES, ETC.,

Manufactured to order. Following stock sizes available:

**SOLVE YOUR MAINS TROUBLES WITH AN
AUTO TRANSFORMER**

Tappings at 110, 190, 200, 210, 220, 230, 240, 250, or where desired.

200 Watt	£2 10 0
500 Watt	3 10 0
1000 Watt	5 0 0

A few more oil filled T.C.C. and CHANEX Condensers are now available in the following sizes.

2 MFD 3000 volt working	£1/12/6	10 MFD 1500 volt working	£1/7/6
2 MFD 2000 volt working	£1/5/0	2 MFD 500 volt working	5/-
4 MFD 1500 volt working	17/6	1 MFD 400 volt working	3/-

B.T.H. 10 HENRIE 250 M.A. 1000 volt CHOKES £1/5/-.

Crystals as illustrated, 40 or 80 metre, AT or BT cut. Accuracy .02% of your specified frequency £2/12/6 each
20 metre Zero Drift £5/0/0
Large, unmounted, 40 or 80 metre £2/0/0

Special and Commercial crystals. Prices on application.

CRYSTALS REGROUND .. £1/0/0 each

BRIGHT STAR CRYSTALS may be obtained from the following interstate firms:—

Messrs. A. E. Harrold, 123 Charlotte Street, Brisbane; A. G. Healing Ltd., 151 Pirie Street, Adelaide; Atkins (W.A.) Ltd., 894 Hay Street, Perth; Lawrence & Hanson Electrical Pty. Ltd., 120 Collins Street, Hobart.

A.W.A. SPLIT STATOR TRANSMITTING CONDENSERS, high voltage ... £2/15/0 each

SCREW TYPE NEUTRALIZING CONDENSERS (National type) to suit all triode tubes, Polystyrene Insulation ... 19/6 each

Prompt delivery on all country and interstate orders.

Satisfaction Guaranteed

BRIGHT STAR RADIO. K. G. Allen (late R.A.N.)

1839 Lower Malvern Road, Glen Iris, S.E. 6, Victoria.

Phone: UL 55 0



FIFTY AND UP

NEW SOUTH WALES

The month of November provided quite some interesting activity which included VK5 stations actually contacting VK6s, thereby being eligible for the coveted W.A.S. on 50 Mc. We understand that VK5RT was the first to be so fortunate and would take this opportunity of offering congratulations on this worthwhile achievement. Since this contact, we have it on good authority that some half dozen VK5s have also qualified for W.A.S. on 50 Mc. So it has happened at last! which proves that careful observation and attention to all details, is essential for reliable v.h.f. contacts especially 50 Mc.

Sporadic E reflections has also been responsible for N.S.W. stations contacting all other States (excepting VK6) during the month and towards the latter part ZL signals have been heard and worked at several Sydney and metropolitan locations.

2LY in Katoomba also was very successful with ZL stations, contacting as many as 10 in one evening. This should help considerably to add some few points to his score in the v.h.f. contest. 2ADT and 2RU also seem to be doing very well in the contest, but we believe that some Sydney people have quite good scores and the final results should be very interesting. 2WJ and 2MQ have been successful in making two-way contact with 2RU in Gosford on 144 Mc., all using modified SCR522 equipment with horizontal beams.

288 Mc. has suffered a reverse during this month as far as activity is concerned, but "diehards" such as 2LZ, 2ABZ, 2AZO, 2ND and 2HL have been heard consistently during odd intervals.

It was reported incorrectly in a recent issue that 2NO has been operating on 376 Mc. with 2RF. This should read 2ND who seems to have quite some flair for experimentation, having successfully managed to get a "lighthouse" on to 10K Mc. so we hear! Ray Priddle managed to procure a Klystron 723B and is coaxing some "herbs" out of the thing on 10K Mc. per second! Just wait until his receiver troubles start!

Most of the Sydney fellows kept watch on the bands during the recent eclipse, but to date had nothing unusual to report. The Radio Research Board have appreciated greatly our efforts on their behalf during the recent Sporadic E openings, which goes to prove that some of the fraternity do really justify their existence as "experimenters."

Mr. Holloway, an engineer of the A.W.A. Co., lectured to us at the November meeting of the v.h.f. section and judging by comments heard around the bands satisfied all tastes. We appreciate Mr. Holloway's effort and we hope to hear more of him in the future. He covered the subject of "v.h.f. Receiver Design and Technique" very thoroughly and catered for the not-too-technical people, who go to make up a fair percentage of our attendance. Mr. Corbin stressed this point during his vote of thanks.

Mr. Whyte 2AWW will be our guest speaker at the December meeting, his subject being "Noise Limiter Design." We have a heap of respect for Mr. Whyte, both as a Ham and a lecturer, having had the pleasure of hearing him before at a recent meeting, and we are all looking forward with interest to hearing him once again.

The Gladesville Radio Club held another successful field day on 28th November using 7 Mc. for the hidden transmitter hunt, and 144 and 285 Mc. for those so interested.

We had the pleasure of meeting 2BV, of Wagga, in Sydney recently and he gave us some interesting information of activity from the Southern Tablelands. 2PN, 2TA, 2TC and 2GU have been contacted quite regularly by 2BW which is pleasing news and we would like some more information of activity of this nature on v.h.f.s. from the lads in the bush. Judging by 2QU's signal heard and worked in Sydney, we are not surprised that Arch has been amongst the Interstate stuff with p.p. 800s and a four element beam doing the necessary work.

We know also that 2LH of Lismore, and 2ADE of Casino, have been contacting other States on 50 Mc., also that several of the country stalwarts elsewhere have actually heard the DX breaking through. What a pity they have only receiving equipment! After all, 50 Mc. is no more difficult to reach than 28 Mc. and the technique is exactly the same.

The Wollongong Radio Club are keenly interested in v.h.f.s. and will be very busy during the summer season arranging composite field days with other clubs in Sydney. Mount Kerna has been proved an excellent location for 144 and 285 Mc., and has all the altitude necessary for this type of communication. Who knows, they may even break the existing record on 144 Mc. of 85 miles, by contacting Newcastle from Wollongong by an all water path which, in the light of current happenings, does not seem impossible. So keep a watch for this virile club from the south. Once again we would like to stress the importance of using c.w. on v.h.f. bands; especially 50 Mc., when the DX is on the fade out.

It has been proved that a fading phone signal is almost impossible to copy when noise level has been reached, whereas the use of keyed c.w. would have made a contact possible. So think seriously of making a morse key available somewhere in the transmitter when time permits.

It was interesting to hear 2ABC's letter to the W.I.A. mentioning this very point. We could all do with some morse practice, judging by the fists one hears on the air these days.

By the time this appears in print, the v.h.f. contest will be over and won and congrats offered all round, but next issue we hope to publish the scores and comments on the running of this first v.h.f. contest by the N.S.W. Division. Perhaps other Divisional Councils in other States could sponsor something similar, thereby stimulating interest and activity in Ultra High Frequencies which is the future field, we would believe, of all Amateur Radio activities and experimentations. We feel sure you must all agree.

QUEENSLAND

Interstate activity from this State has been on a large scale of late. On 14th November 4HD worked 5RT, 5QR and 5OP; 4GE and 4XD worked 2PN who had some trouble copying the two VK4s as they were using modulated oscillators. 4GD worked 2PN, 2WJ, 2VW and 2BG and also heard 2RU, a number of VK3s and a couple of VK5s. 4HR contacted 5RT, and 4ZU worked 5PQ and 5DL.

15th November: 4BT, 4ZU and 4FN worked a number of VK3s. 19th Nov.: 4HD worked 3DI, 3PG and also heard 3ZL and 3GN. 23rd Nov.: 4CU contacted 3PG. 26th Nov.: 4ES QSOed three VK7s. 27th Nov.: 4RY worked ZL1HP; 4AW worked ZL1HP, ZL1MM and ZL1QF, and 4ES worked ZL3ZB.

28th Nov.: 4CU worked 3RR and also heard 3PG, 7XL, 7DN and 7PW; 4HD contacted 3RR, 3PG and 3HD; 4HE QSOed 3RR; 4LN worked VK3, 5, and 7; 4CU heard 4HD off the back of the beam (distance 100 miles). 29th Nov.: 4HR, 4RY and 4PN worked 7XL, 3OP and 7AB were also heard; 4HD worked 3ABG; 4ZU worked 3IM; 4HR worked 3IX; 4CU worked 3OF, 3IM and 3ABA; 4KK heard thirteen VK3s and worked five of them as well as 7XL.

1st Dec.: Townsville enthusiasts heard VE' working each other and also working ZL, but no contacts were made with Townsville. 4HR had the band to himself when the ZLs broke through at 1735 hours on 2nd December and worked ZL1ML, ZL1HP, and ZL1FN; 4RK worked 3ZL and 3EX. 5th Dec.: 4HD worked 7XL, 7AB, 7AB and some VK3s. 4CU worked 7XL, 7AJ, 7AJ; 4XC and 4ES contacted 7AB; 4ZU was heard working VK3s.

During the period mentioned above it is believed that several other VK4s made Interstate and ZL contacts, but no details are to hand at present.

WESTERN AUSTRALIA

History was made during the early part of November, when 6HM of Kalgoorlie and 6WG of Albany made contacts on 50 Mc. band with several VK5s. Heartly congratulations to these Amateurs upon their great achievements. Read their reports. First from 6HM, quote—

"These words come of several week's observations on 28 Mc. in reports compared with other Perth stations, and from various DX reports from all over the globe. However, the first indications I received of V.H.F. possibilities occurred on the 28th October, when signals were heard at good strength up to 47 Mc. I discovered later that the 50 Mc. band was open on the two following days in the East, but unfortunately, I was not on 50 Mc. band.

"The next sign was on the 5th November when I contacted 6CN and 6EL (both of Geraldton) on

28 Mc. from 1700 to 1730 W.A. time. (This is short-skip for 28 Mc.—Ed.) Unfortunately guests arrived at 1740, and I had to go off the air.

Arrives the day (6/11/48)—"1340 W.A.S.T. contacted 5KL and PK4DA in three-way contact on 28 Mc. to arrange skeds for the following day. Cleared at 1400 hours and checked 28 Mc. band and observed short-skip again. At 1730 hours put 50 Mc. carrier on the air and went to dinner. 1820 hours returned to shack, called, and listened. Band sounded lively. Heard a weak carrier on 50.15 Mc. Called again and heard a carrier phone modulated running about S4 R3 on 52 Mc. By 1835 this carrier was peaking 89. Later, went back down the band to 50.15 Mc. and there was a phone carrier running from S3 to S9. A Q5 voice said: 'Tll call VK as I've heard a signal on 50 Mc.' (Mine?). He called VK2 and VK6 came back. It was George 5GB, who gave me S5 to S9 plus. Followed 6KO and 5RT, giving the first W.A.S. 50 Mc. Then 5PQ later worked 5GB, and finally at 2000 hours W.A.S.T. after several calls, 5RT came back again to report my signals still peaking 89, but he didn't think there were any other VK5s on the air. No further signals heard. Sigs were bearing reasonably sharp at 105 degrees or 15 degrees south of east.

"Monday, 8th November, 1905 hours W.A.S.T. heard a VK5 build up to S7. Called, but by 1915 hours, signals were gone again. Monday, 15th November at 1820 hours, heard carrier on 50.19 Mc. which faded out. I called, and 5WL answered, and reported me Q5 S3 to S8. Band faded on second over. 1935 hours, 5WL again reported Q4 S7 down to zero. He faded out on his comeback. At 1957 hours I called, and 5LJ reported me Q5 S9 and his signals were the same. Then at 2000 hours worked 5QR Q5 S9 plus. Band was as solid as a rock by this. Signals were stronger than any local I had ever worked when I was in Perth, except for 6GB (who was in same locality). Worked 6QR for about 20 minutes. Eastern States radio ranges still at 89 on 33.8 Mc. No other VKs heard on 50 Mc. Called again at 2045 hours and worked 5QR again for 7 minutes, when the band faded. Note—VK3s were showing good strength at this time on 28 Mc., but no signs from Radio ranges at all.

"The 28 Mc. band during all these tests showed nothing unusual as far as DX was concerned, but it was unusual in respect to short skip. This could mean that the m.u.f. was not actually rising, and the break-through would be attributed to Sporadic E, which I personally think was responsible for our contacts.

"A point of interest is the VK5's opinion that my signals were being received via reflection from a storm front north-west of Adelaide. This does not altogether agree with my bearings here. On the occasions of both break-throughs, bearings here were identical, and weather conditions were entirely different on both dates. Another point of interest is that while in contact with 5QR, when signals were solid, I could not receive him at all on a vertical antenna, but his signals were S9 on the 50 Mc. beam which is horizontal and mounted just 6 ft. above the 28 Mc. array.

"Would welcome comments from any v.h.f. boys, particularly in regard to the cause of these transmissions, also to any observations they may have made on the dates mentioned. Their comments may be of great help in determining any future predictions, e.g. the co-incidence of the Radio Ranges with 50 Mc. transmissions—VK6HM."

The following is a list of stations heard and worked by 6WG of Albany, on the 50 Mc. on Monday 15th November. All times are again W.A.S.T.: heard 6LJ c.w. RST 559 (no contact). 1840 hours worked 5GH Q5 S6. He received 6WQ Q5 S9 plus. 1845 hours heard 5QR Q5 S7 (phone). 1845 hours heard 5RT's phone. 1909 hours worked 5QR Q5 S8, 6WG's signals Q5 S8. 1918 hours worked 5LJ Q5 S6-7. 6WG's sigs Q5 S5 to S9 plus. 1922 hours 5GB Q5 S8, 6WG's signals Q5 S7 to S9. 1930 hours heard 6EC Q5 S3 to S4, too weak to copy on phone. 1934 hours worked 5GB Q5 S8, 6WG's signals were Q5 S8. 2103 hours heard 5QR working 5LT; band closed at 2110 hours. 6WQ gave 5LJ his W.A.S.

No reports have come in from Amateurs in Perth. It is doubtful whether anything was heard during those momentous occasions. However, both 6LW and 6FC are on constant watch whenever they are able, and in between listening periods, put out sigs on the 50 Mc. band. 6LW approximately 50.25 Mc. beamed East, 6FC approximately 50.1 Mc. with up to 90 watts input, using a longwire antenna, from 1730 hours onwards.

Another listener is 6CS of Harvey. He has no 50 Mc. transmitter, but works cross-band, transmitting on about 7075 Mc. approx., while 6EC at Minding, near Wagin, puts out a sig on 50.8 Mc. using a six element curtain. He has no receiver

yet, so also has to work cross-band, receiving on 40 metres. 6EO has been heard both in Perth (125 miles) and also by 4WG of Albany approximately the same distance. This would be via ground wave propagation.

TASMANIA

The 50 Mc. band opened quite a number of times during the past month, but up till the time of writing these notes (18/12/48) conditions have been patchy and only the keenness of some of the newcomers to the band in the Hobart area has helped to make this report worth while.

No reports are to hand of any contacts that the Northern Gang have made, but we know they are quite active because of stations in other States heard calling them.

7AJ has contacted the following stations since 28/11/48 to date: 4ES, 4HR, 4CU, 4AW, 4RY, 4BT, 4KK, 2ADT, 2VC, 2BZ, 2ADE, 2WJ, 2PN, 2LY, 2LSAR, 2LDR, and 2LGY.

7DH has contacted 2ADT, 2BZ, 2VL, 2ADE, 2LY, 2PN, 2WJ, 4ZU, 4ES, 4BT, 4RY, 4CL, 4LN, 4HR, 2LDR, 2LDR, 2LDR, and 2LGY.

7OW has also made many contacts and also reported reception of a VK6.

In view of the fact that the band has never really opened fully as yet, the number of stations contacted by 7AJ and 7DH is indicative of the time and effort these lads are putting into the work and they are to be commended on their respective results.

144 Mc. DIGEST by Bill Hartley

Ideal conditions prevailed most of the time for the Victorian 144 Mc. Field Day on Sunday, 6th December. No new DX records were made, and 25 stations put in an appearance and of this number six went out portable. The most successful of these would appear to be 3ACM located at the look-out on Mt. Dandenong, 2,077 feet high. From this point 21 different stations were worked with the 3ABA contact of 88 miles as the best for the day, next was 3CI for 75 miles, 3XM 47 miles, and approx. 60 miles to the Geelong gang. All signals worked were R5 S9, except 3ABA-YS who were R5 and S8, this portable outfit did not do so well as on other days probably due to the location Mt. Tarrenower, which seems to be ideal as it was given an altitude of 2,000 feet, yet only three contacts were made, namely 3ACM, 3VP at Drysdale (R5 S7), and 3ABG portable at Mount Callens (1,760 feet), near Avenel, for a R5 S9 both ways there. They heard a newcomer in 3HW of Ballarat at R5 S7 for a distance of 40 miles.

Apparently the 50 Mc. break-through on the field day had a lot to do with the absence of several country stations who reported to be ready, willing, and able. 3ABG was heard by 3CP in Melbourne, but some trouble seemed to be in John's receiver. He made contact with 3ACW, 3UI, 2ABA and 3ACM. 3CI lead a lonely life on 2 metres at Mt. Fatigue, approx. 87 miles from Melbourne. His contact with 3ACM was R5 S9 both ways and was heard by 3XM at Arthur's Seat (1,031 feet) at R5 S7. 3XM, on in the afternoon, worked 3AJ, 3EL, 3ACM, 3XA, 3EW, 3EM, 3LS and 3ASG, and heard 3CI, 3BW, and 3TO. Rain proved the QRM factor at that location as the sigs were washed out.

A novelty was added to the operations by 3ASG going out portable to the City and Bourke St. of all locations! Steve brought into use the wire recordings of stations that were worked and these were played over at the December v.h.f. group meeting, much to the surprise of several Hams who did not know their own voices. So ended the day, much done for little, and almost a case of not enough stations. The indications do point out that band conditions could be much better for DX work and it is hoped that the future will see stations go out afield on week-ends irrespective of field days in the effort of finding good conditions, that is if there is such a medium.

The following were active over the past month: VK3, 4AJ, ABA, ACM, AKE, ASG, ADC, MB, MN, KA, AR, LS, LH, EM, EL, ED, EH, FO, JO, BC, BU, BW, WF, OP, ACR, EW, VZ, and RZ. Don 3XA joined the band in some manner by using a 10 watt 522 feeding a dipole attached to the picture rail inside the shack and receives on an AR301, 48V-type of receiver. The output of the 30 Mc. i.f.s. are fed into the super pro for finer tuning. Seven contacts were made in two nights with a S7 signal to 3VF, 3MN, Milton, was heard back in a three-way with 3ED and 3IS. 3OD of Hornham spends a lot of time listening to lots of signals, but unfortunately due to the infrequent use of call signs he is hard put to identify the stations. For receiving he has a super-regen. (OV6, 6CS, 476) used with a 16 element horizontal beam, fed with 300 ohm line. The signals come from a 50 Mc. unit tripling in the p.a. and driving another 820 p.a., a later addition will be a 622.

3ABG reports as to being on the band permanently with a modified 522 which is operated at home on 24 volts and on 12 when portable. The 12 volts is derived from a petrol driven Deleo unit. When the ideal antenna is found it will be perched 38 feet high. At present the lazy HZ curtain reflected array is in hand. 3ACW is another of the N.E. group now on the band, at present using a mod. osc., super-regen. together with the four element close-spaced beam. Quite the right gear to start with for getting experience on v.h.f.s. 3UI out last field day used his 522 equipment and dipole, but has to travel much to find the high spots. Another 522 user is our ever-busy Technical Editor 3VZ. Jack, when he obtains time for himself, will be spotted for good on 144.2 Mc. In addition to the 522 he has a hand switched converter feeding the regular AMR260, and hopes to finish his new horizontal beam during the Xmas holidays. 3PT is building simple, but powerful, gear for a start, as it will be the p.p. mod-osc. called from "Radio News." His buddy 3AB is lining up his receiver via 3TO's standard frequency service. Skywaves are the hold up at Wangaratta, for it seems to be the worry to Harold as to what is best for 3YV.

Visitors to the 144 Mc. shacks are very frequent now, 3ABA showed the way with 50N, while 3ASG showed the mike to 3TA of Hornham. 3OD, of the same busy town, is also down. Next in town for a look-see will be 5JA.

3EL is very busy with the idea of a "turnstile" antenna. By the time these notes appear 3QK will have his 522 perking on 146.70 Mc., a frequency which is quite sensible to use. The power supply at Churchill is, from a 32 volt house lighting supply and for a start a simple dipole will be used 230 feet above sea level. 3EM presented himself with a Xmas present in the shape of a 16 element beam and now is heard to advantage. Harry 3KN is making enquiries re simple 144 Mc. gear for mobile use; the sign of the times or is it the weather? It is reported that 3YV is on the band at last via a six element beam and it is hoped that contacts this way will not be overlooked by the N.E. network. 3UI sports a 522 unit working on a type 19 generator antenna in use at present is a 72 ohm co-ax dipole.

3ACW for the present is using p.p. 7193 mod-osc. and a 6FG in Heising modulation, carbon mike is used and running about 10 watts input on 146 Mc. Super-regen. of 900Z, 6J7G, 6G6 is used on the 4 element c.s. rotary 28 feet high. The Geelong network is still adding recruits, for in addition to 3BW, VF, HU, AKE, WT, AJF, etc., 3ABK is on with a mod-osc. to a three element beam; 3ALG is building up a CV6 transceiver. 3AKE has just put up his eighth beam fully rotary, 40 feet high complete by control wires for control of motors and indicators, etc. 3BU won't make the League team this year on account of the old leg playing up.

3RZ is putting very strong signals on 146 Mc. from his temporary rig of a RK34 mod-osc. which is boosted by p.p. 458, antenna is an indoor three element series phased array, receiver 955 super-regen. two audio. At 3OP's a very nice 22 watt in is action to a 46 feet high half wave dipole, fed with 75 ohm flat twin, a 3 tube converter of two 6AK5-636 feed the big communication receiver, transmitter line up has RL7 c.o. tripling, RL7 doubler, 832 buffer, p.p. RK34 trebler, and a neutralised RK34 p.a. 3HW and 3SE are now conducting a series of test signals on 144 Mc. beamed to Melbourne. 3RW is using a 3 element beam plus 522 gear and it is understood to be only a temporary hook-up until a bigger job is made.

Indications of the N.S.W. v.h.f. contest held on 50, 144 and 288 Mc. show that 2LY, 2LZ up in the Blue Mountains are well in front with huge scores, also 2ADT of Cessnock whose score is over 600 points. The regular gang on 144 Mc. is made up of VK2s VW, WJ, ANB, ABB, UV, PU, ASE, AZ, ASP, ABZ, HL, LZ, MQ, NB, AJA, FK and PF. 2YV has just completed his mobile gear comprising a 12 watt pair of OV6s with a 8L6 and 6J5 as modulators together with a 900Z super-regen. and two stage audio used with a simple dipole half wave. Finds he can hear and work all the stations just as well with simple gear as with super-hets and high power rigs. 2RU of Gosford has at last got his beam up and now is classed as a local.

Annual holidays cut short the attempt by 7AB to work the 144 Mc. rig over the Bass Strait to 3OI; when things break even VK3 will know where it is coming from.

The Mt. Gambier boys were on the job for the YES field day but had nothing to report except 5MS will have a bigger receiver for the next field day, the unit is a BC748. 5JA is busy scouring

the countryside for any windmill towers that are going begging. No contact was made to Mt. Lofty. 5JD is QRU w.i.t. his mechanical blowdy (Austri 7), and next item is a mobile 144 Mc. rig for VK5.

For the benefit of those interested in v.h.f. matters and who have not access to the R.S.G.B. "Bulletin," it may be of some interest to note that the Gs commenced operations on their 145-146 Mc. band on 1st September. Disposal gear is well in use for both purposes including 622s, antennae of the 3-4 c.s. element beams seem to be the most popular, with the Yagi next best. High power does not appear to be in favour as 25 watts seems to be the maximum used. Quite a number of contacts have been made up to 250 miles and two-way hook-ups across the English Channel to Holland and Belgium.

CORRESPONDENCE

APPRECIATION

Mary St., Waterman's Bay, Western Australia.

Editor "A.R." Sir,
Recently I visited VK3 for a few days, and whilst there, called in at 191 Queen Street, and met your Divisional Secretary, Mrs. Cross.

We had quite a chat about Amateurs generally. Mrs. Cross conversed as though she herself were an Amateur, and I felt quite at home rag chewing about "QSOs, DX, 50 Mc., etc." with her.

I asked her could she by any chance tell me where a certain VK3 worked in Melbourne, as I would like to see him. (I knew his QTH was 20 miles from the city, and I didn't have time to visit him at his home.) She dialled a phone number, but no joy. She asked me to ring her in about an hour's time and she may have some information for me.

Rather doubting that she would have been able to locate my friend, I did ring, and to my amazement she told me where he worked, how to get in touch with him, and also that he was anxious to see me! That was service!

Should anyone reading this be visiting VK3, go along and have a yarn with Mrs. Cross. You can be sure of an enjoyable Amateur QSO, and if she can help you find your way around the big city, she will most certainly do so.

VK3 have a real "find" in Mrs. Cross. She's doing a grand job, and taking a leading hand in building up the organisation of the Victorian Division of the W.I.A.

—D. COUCH, VK6WT.

FOR SALE, EXCHANGE, WANTED

9d. per line, minimum 2/-

Copy must be received by 15th of month. Remittance must accompany advertisement. Calculation of cost is based on an average of six words per line.

FOR SALE.—American Hammerlund "Super-Pro" BC779E Receiver and Power Supply Unit RA-94-A, eighteen tubes, condition as new. What offers? —VK4ES.

WANTED.—Ham Receiver, home-brew or otherwise, battery or a.c., must be sharp, stable, and suitable for use as stock receiver for 14, and as i.f. channel for double-change to v.h.f. Up to £15. Contact VK3AGF, 132 Madden Ave., Mildura, Vic.

WANTED TO BUY.—100 Kc. Crystal from "Loran" Equipment, price and particulars to A. J. Drew, 63 Stanley St., Erindale, South Australia.

TRANSFORMERS OF DISTINCTION

HIGH TENSION PLATE SUPPLY TRANSFORMERS

The units listed in this Section are high-tension transformers for full-wave rectifier circuits. Valve heater windings are not incorporated, as they are designed for use in amateurs' transmitters, large public address and paging installations, and many other applications where it is necessary to break the B positive D.C. supply line for "stand-by" operation.

ITEM 20.	TYPE No. 27/600
Primary: 200-230-240v.	150 vA 50 cps.
H.T.: 600/600/600/600v.	250 mA Choke Input
Base: 5x5x4-5/8" H.	Wgt. 13 lb.
Mntg: V15	"S" is 2"
D.C. VOLTS	CHOKe INPUT
866	(A) 515v. (B) 415v.
523	(A) 415v. (B) 310v.

ITEM 21.	TYPE No. 27/880
Primary: 200-230-240v.	250vA 50 cps.
H.T.: 890/710/710/880v.	275 mA Choke Input
Base: 5x5x4-5/8" H.	Wgt. 16 lb.
Mntg: V15	"S" is 3"
D.C. VOLTS	CHOKe INPUT
866A	(A) 765v. (B) 615v.

ITEM 22	TYPE No. 4/1250
Primary: 200-230-240v.	500vA 50 cps.
H.T.: 1250/1250v.	400 mA Choke Input
Base: 6 1/2 x 6 x 5 1/2" H (app.)	Wgt. 27 lb.
Mntg: Not Shown	Not Shown
D.C. Volts	1000v 866 Rectifier

ITEM 23	TYPE No. 4/1400
Primary: 200-230-240v.	575vA 50 cps.
H.T.: 1400/1400v.	400 mA Choke Input
Base: 6 1/2 x 6 x 5 1/2" H (app.)	Wgt. 30 lb.
Mntg: Not Shown	Not Shown
D.C. Volts	1250v 866 Rectifier

CHOKES

The Chokes covered in this Section are tested under measured inductance values with rated D.C. flowing, as the meaningless "30 Henry" values are misleading to the uninitiated, and ignored by the engineer. They are smoothing inductances for use as the first choke in condenser input systems, or, of course, as the second choke for choke input circuits.

All inductances are sufficiently high for effective filtering, while D.C. resistance values are made low to maintain good regulation.

ITEM 24.	TYPE No. 3068
Maximum Direct Current	60 mA
D.C. Resistance	400 ohms
Voltage Drop	24 volts
Maximum Inductance	25 Hys.
Minimum Inductance	15 Hys.
Base: 3 1/2 x 2 x 2 1/4" H	Wgt. 1 lb. 8 ozs.
Mntg: MHI	"S" is 1"
Insulation	500v.

ITEM 25.	TYPE No. 50825
Maximum Direct Current	80 mA
D.C. Resistance	300 ohms
Voltage Drop	40 volts
Maximum Inductance	30 Hys.
Minimum Inductance	18 Hys.
Base: 3x3x2 3/4" H	Wgt. 2 lb. 10 ozs.
Mntg: V2	"S" is 1 1/4"
Insulation	750v.

ITEM 26.	TYPE No. 301214
Maximum Direct Current	125 mA
D.C. Resistance	300 ohms
Voltage Drop	38 volts
Maximum Inductance	30 Hys.
Minimum Inductance	12 Hys.
Base: 3 1/2 x 3 x 2 3/4" H	Wgt. 3 lb. 2 ozs.
Mntg: V2	"S" is 1 1/4"
Insulation	750v.

ITEM 27.	TYPE No. 201515
Maximum Direct Current	175 mA
D.C. Resistance	200 ohms
Voltage Drop	35 volts
Maximum Inductance	23 Hys.
Minimum Inductance	12 Hys.
Base: 3 1/4 x 3 x 2 3/4" H	Wgt. 4 lb. 4 ozs.
Mntg: V14	"S" is 1 1/2"
Insulation	1000v.

ITEM 28.	TYPE 102512
Maximum Direct Current	250 mA
D.C. Resistance	100 ohms
Voltage Drop	25 volts
Maximum Inductance @ 10v. A.C.	15 Hys.
Maximum Inductance @ 80v. A.C.	20 Hys.
Full Load Inductance @ 10v. A.C.	7 Hys.
Full Load Inductance @ 80v. A.C.	10 Hys.
Base: 3 3/4 x 2-7/8" x 3 1/2" H	Wgt. 5 lb. 4 ozs.
Mntg: V14	"S" is 2"
Insulation	1000v.

ITEM 29.	TYPE No. 5735
Maximum Direct Current	300 mA
D.C. Resistance	60 ohms
Voltage Drop	18 volts
Maximum Inductance @ 10v. A.C.	10 Hys.
Maximum Inductance @ 80v. A.C.	14 Hys.
Full Load Inductance @ 10v. A.C.	5 Hys.
Full Load Inductance @ 80v. A.C.	7 Hys.
Base: 4x3-7/8" x 4" H	Wgt. 7 lb. 12 ozs.
Mntg: Not Shown	"S" is 2"
Insulation	1000v.

ITEM 30.	TYPE No. 35215
Maximum Direct Current	15 mA
D.C. Resistance	350 ohms
Maximum Inductance	30 Hys.
Minimum Inductance	15 Hys.
Base: 2x1-3/8" H	Wgt. 8 ozs.
Mntg: MHO	"S" is 1 1/16"

ITEM 31	TYPE No. 294
Maximum Direct Current	1 Amp.
Filament Choke	4 m/Hy
Base: 2 x 1 1/2" H	Wgt. 8 ozs.
Mntg: MHO	"S" is 1 1/16"

SWINGING CHOKES

The swinging chokes in this section have the same general design and constructional features as the smoothing chokes above. Gap ratios, however, are modified on an incremental inductance bridge to develop large initial inductances, and, at the same time, to maintain sufficient inductance under full load conditions to comply with the circuit requirements of high efficiency rectifier systems where the maximum possible regulation is required.

ITEM 32	TYPE No. 10255
Maximum Direct Current	250 mA
D.C. Resistance	100 ohms
Voltage Drop	25 volts
Swinging L. is from 20 Hys to 5 Hys	
Base: 3 1/2 x 2 1/4 x 3 1/2" H	Wgt. 5 lb. 4 ozs.
Mntg: V14	"S" is 2"
Insulation	1000 volts.

ITEM 33	TYPE No. 5734
Maximum Direct Current	300 mA
D.C. Resistance	60 ohms
Voltage Drop	18 volts
Swinging L. is from 15 Hys to 4 Hys	
Base: 4 x 3 1/2 x 4" H	Wgt. 7 lb. 12ozs.
Mntg: Not shown	"S" is 2"
Insulation	1000 volts

RED LINE EQUIPMENT PTY. LTD. TRANSFORMER ENGINEERS

WORKSHOP: Cent. 4773. CITY OFFICE: MU 6895
2 Coates Lane, Melbourne (3 lines), 157 Elizabeth St., Melbourne.

DISTRIBUTORS:

VICTORIA:
Homecrafts Pty. Ltd.
Arthur J. Veall Pty. Ltd.
Radio Parts Pty. Ltd.
Howard Radio,
and all leading whole-
salers.
NEW SOUTH WALES:
United Radio Distributors
Pty. Ltd.

QUEENSLAND:
A. E. Harold,
B. Martin,

SOUTH AUSTRALIA:
Gerrard & Goodman,
Radio Wholesalers Pty.
Ltd.
Newton McLaren Ltd.



KEEP THIS CATALOGUE
Cut out and file for reference

A GUARANTEE OF DEPENDABILITY

Some Interesting Suggestions for Holiday Builders

From

J.H. MAGRATH & CO

Aluminium Chassis

PLAIN UNDRILLED

12 x 7 x 2½	4/9 without ends.
13 x 7 x 2½	7/- with ends.
17 x 10 x 2½	12/- with ends.

other sizes available. All prices plus tax.

Germanium Crystals

We can supply from stock the famous ETH type C.G.I. which is equivalent to Sylvania 1N34. 20/- each plus tax. Write for your copy of our six page folder of circuits using germanium crystals. Some of these are most original.

Co-Axial Cable

70 ohm ½" diameter	2/- yard.
70 ohm ¾" diameter	2/4 yard.
45 ohm ½" diameter	3/9 yard.
55 ohm ¾" diameter	1/9 yard.

ALL PRICES PLUS TAX.

Crystal Microphone Inserts

An excellent mike for speech transmission
21/- EACH PLUS TAX.

Metal Cabinets

Crackle finish in black or grey.

15 x 7 x 8 with panel	37/6
11 x 7 x 5½ with panel	25/-

Other sizes to order. All prices plus tax.

Power Chokes

Rola 6/60	4/4
Rola 14/60	5/6
Trimax 100 mil.	17/3
Trimax 250 mil.	41/-

ALL PRICES PLUS TAX.

Frequency Modulation

10.7 mc. 1F transformers	14/-
10.7 mc. Ratio Transformers	14/-

All prices plus tax. Call and hear our F.M. Converter.

Crystal Sockets

We now have sockets for crystals with 2" pin spacing.

1/- EACH PLUS TAX.

"144" Enthusiasts

We have valves type

954 penthode	14/-
955 triode	14/-
CV66 g.g. triode	11/3
65H7 Penthode	14/-

PLUS 2/- EACH EXCISE.

Modulation Transformers

Trimax 30 watt	87/6
Ferguson 125 watt	178/-
Ferguson 50 watt	10/-
Ferguson 25 watt	52/6

ALL PRICES PLUS TAX

*With Best
Wishes
for a
Prosperous
New Year
and the promise
of even
Better Service
in 1949*

from

Are you on our Mailing List? If not, write now.

J.H. MAGRATH & CO

208 LITTLE LONSDALE STREET, MELBOURNE

AMATEUR

FEBRUARY

1949

RADIO

JOURNAL OF THE WIRELESS INSTITUTE OF AUSTRALIA

**COMPACT WITH HIGH EFFICIENCY
AT H.F. OR V.H.F.**



Only five inches long and 2½ inches in diameter, these new Philips valves have a power output of more than 200 watts at 100 Mc/s. or 300 watts at lower frequencies. These valves embody entirely new techniques and offer unequalled efficiency. Their construction minimises internal insulation. Base-pins are sealed by fusion of powdered glass. Zirconium-coated anode gives complete freedom from secondary emission. Base pins fit the standard 5-pin socket.



PHILIPS

**TRANSMITTING
VALVES**

PHILIPS ELECTRICAL INDUSTRIES OF AUSTRALIA PTY. LTD.

Sydney • Melbourne • Brisbane • Adelaide • Perth



FOR THE EXPERIMENTER & RADIO ENTHUSIAST

Registered at G.P.O. Melbourne, for transmission by post as a periodical

6d.

HERE'S a CROP of NEW YEAR SPECIALS

- **COMMANDO-TYPE RECEIVERS**, 6 Valves. 3-12SK7, 1-12K8, 1-12SR7, 1-12A6. Available in 2 ranges: 3-6 Mcs., 6-9.1 Mmc. Ideal for Ham Shack. 0 7 6
- **CONDENSERS. English Block Type:**
 - 10 Mfd., 400 volts, Working 0 7 6
 - 8 Mfd., 400 volts, Working 0 7 6
 - 5 Mfd., 400 volts, Working 0 7 6
 - 4 Mfd., 750 volts, Working 0 7 6
 - 4 Mfd., 450 volts, Working 0 7 6
 - 2 Mfd., 1000 volts, Working 0 7 6
 - 5 Mfd., 750 volts, Working 0 5 0
- **DUCON TYPE, Small Block:**
 - 4 Mfd., 600 volts, Working 0 5 0
- **XTALS.—7.7 Mcs., in Large Holder. Few only** Each 0 10 0
- **"EMMCO" TYPE R.F. METERS, 0-350 Mills. Few only** Each 0 7 6
- **AMERICAN SWITCHING RELAY BOXES: Contain good wrecking parts, Co-Ax. Connecters, etc.** Each 0 5 0
- **AMERICAN INTER-PHONE CONTROL UNITS, less Valves. Full of useful parts.** Each 0 10 0
- **TRANSCIEVERS. 100 to 120 M/cs., English. 16 Valves. E.F. 50's, E.L. 32's, E.F. 39's, R.K. 34's, etc. There are only a few—be early (Plus Freight)** £6 10 0
- **A.T.5 TRANSMITTER KEY CLICK FILTERS. Full of useful Parts. Each** 1 0 0
- **GENEMOTORS.—A.T.5, A.R.8 (complete). Slightly-damaged Switches, 24 volt input, 550 and 300 volts output, at 250 mills. To Clear** 3 0 0
- **RECTIFIERS, Copper Oxide; 12 volt at 100 mills; S.P. Bridge. Ideal for Relay operations. 7/6 each. Also 4 to 5 volt, 100 mills.** 0 5 0
- **TRANSCIEVERS. 109 VIBRATORS.** 0 10 0
- **TRANSMITTERS.—A.T.5, 50 watt, Phone or C.W. crystal or V.M.O. Tube line-up: 6V6 Osc., 807 Doubler, 2-807 in final. Ideal Ham Rig, covering 20, 40, 80 metres. Also Broadcast Band to 150 Kc. Meter for al stages; easily adapted to A.C. or D.C. power supply. (And we have cheaper models. Write us your requirements.)** 8 0 0
- **CARBON MICROPHONE INSERTS.—New.** Each 0 2 0
- **TRANSMITTER.—V.H.F.; easily adapted for 400 M/c. Band. Uses 2-15E's in final. Trombone Antenna.** Each 3 0 0
- **LOW IMPEDANCE HEADPHONE LEADS.—Standard Length. Ea.** 0 1 0
- **STANDARD NOTES FOR WIRELESS MAINTENANCE MECHANICS. Including Bendix, A.T.5, A.R.8, etc.** Each 0 5 0

SEE OUR VAST RANGE OF CONDENSERS, METERS, FILTER CHOKES, RESISTORS (Variable & Fixed).

VALVES

-- NEW --

807's	10/-
AV11's	10/-
6V6's	10/-
6J5	10/-
12J5	10/-
6SH7	10/-
6H6	10/-
3B24	10/-
1J6	10/-
1K4	10/-
OA4	10/-
879	10/-
12SQ7	10/-
VR91	7/6
VP41	7/6
VS68	7/6
VR102	7/6
VR92 Diode	7/6
VR122	7/6
VR21	7/6
VR65	7/6
VR66	7/6
VU139	7/6
VU111	7/6
VU39	7/6

WRITE FOR ANY PARTS NOT LISTED

HAM RADIO SUPPLIERS

16 Swan Street . . . Richmond

Phone: JA 3827.

After Hours: How. 4465.

SPECIAL ATTENTION GIVEN TO COUNTRY MAIL ORDERS.

AMATEUR RADIO

EDITOR:

T. D. HOGAN, VK3HX,
Telephone: UM 1732.

MANAGING EDITOR:

J. G. MARSLAND, VK3NY.

TECHNICAL EDITOR:

J. C. DUNCAN, VK3VZ.

ASSISTANT TECHNICAL EDITOR:

A. K. HEAD, VK3AKZ

COMPILATION:

R. W. HIGGINBOTHAM, VK3RN.

CIRCULATION:

J. F. IRVINE, VK3TU.

ADVERTISING REPRESENTATIVE:

W. J. LEWIS,
20 Queen St., Melbourne, C.1.
Telephone: MU 5154.

PRINTERS:

H. HEARNE & CO. PTY. LTD.,
285 Latrobe St., Melbourne.

MSS. and Magazine Correspondence should be forwarded to the Editor, "Amateur Radio," Law Court Chambers, 191 Queen St., Melbourne, C.1., on or before the 15th of each month.

Subscription rate in Australia is 6/- per annum, in advance (post paid), and A7/6 in all other countries.

Wireless Institute of Australia (Victorian Division) Rooms. Telephone: FJ 6997.

— IN THIS ISSUE —

A.C. for the D.C. Ham	3
Ionospheric Predictions for the Amateur Bands	5
An Inexpensive Microphone Case	7
Recommended Valves for 1949	7
Push-to-Talk or Break-In	9
Questions and Answers	9
Suggestions for Reducing Hum	10
Australian National Research Expedition to Heard Island	12
Around the Shacks	12
B.E.R.U. Contest, 1949	14
Emergency Communications (Vic. Division)	15
Federal, QSL, and Divisional Notes	16
Fifty and Up	24

*Published by The Wireless Institute of Australia,
Law Court Chambers, 191 Queen Street,
Melbourne, C.1*

EDITORIAL



"THE YOUNG AMATEUR."

Judging by the healthy membership of most of the divisions of the W.I.A., one is impressed by the fact that this expansion is due in no small measure to the many hundreds of young amateurs who are now joining up. On the other hand, it would probably be found upon investigation, that quite a sprinkling of foundation members are still to be found in the ranks of the membership.

My present thoughts, however, are with the young amateur; the man who has for the past few months applied himself assiduously to his theory and practical studies for his A.O.C.P. His enthusiasm has spurred him on, and at last he holds the coveted amateur operators certificate of proficiency. He is in a vastly different position from the other young man who held a similar ticket 25 to 30 years ago. He has benefitted by his forebears' experience, and all his component requirements, backed by adequate literature, have been very amply catered for, and, in fact, he has little difficulty in going on the air with a T-9 signal from the word "go."

This is excellent, and indicates that he is conscious of all the advantages that he now possesses in the application of

suitable materials for his purpose, and that he can apply them with certainty and effectiveness. Many old hands plodding along with old and untested materials, which will "just do for the time being," could well take example from the transmissions of some of our newcomers. The young amateur of to-day quite likely possesses a good practical background by reason of the fact that he has probably had service training in the past, and now relies upon radio for his daily job. This knowledge he effectively applies in his experiments with amateur gear with fine effect and precision, and it is these young men that we must encourage and develop as part of the national pattern of amateur radio.

We have stressed before the need for banding these young members into an effective reserve force for service to their country in time of need. The facilities for their higher training are all here, but the opening for service is slowly being forgotten by the Government and amateurs alike, for want of a decisive lead. It surely needs someone who can take up the threads and weld this young potential with all its energy and enthusiasm into something that can be fine and patriotic.

—P.E.

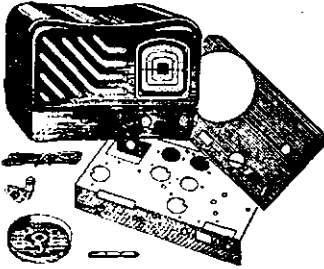
Homecrafts

PTY. LTD.

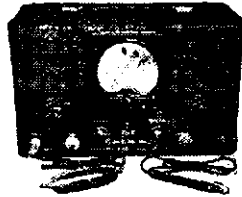
BIGGEST STOCKS

-- IN --

AUSTRALIA



Build a Super AC 5 Valve Super-hat with this Kit. Bargain for the Set Builder. Bakelite Cabinet, Chassis, Front Mounting Plate and Dial Assembly. As illustrated. Only 45/- complete.



The Palec V.T. (Probe) Multi-meter, Model VTM. This outstanding instrument available for immediate delivery. Price £33/10/- plus 10% S. Tax. Terms available. £6/15/- deposit; 12/6 weekly. Easy terms on all Test Equipment. Write for Free Illustrated Leaflet.



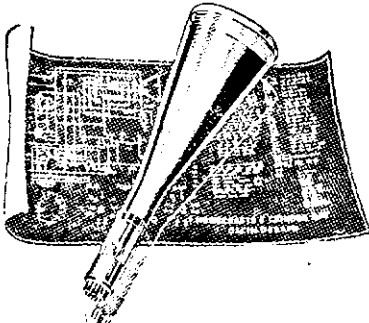
Australia's best Aerial Wire Value. Steel and Copper Insulated. Aerial Wire. 50 ft. Coils. 1/4d. per Coil. 100 ft. 2/6 per Coil. One or two Mile Drums. £5 mile.



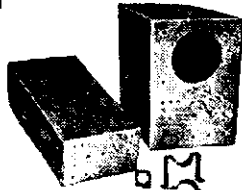
Rohlon Miniature Gang Condensers, as illustrated. 1 Gang, 13/6; 2 Gang, 17/9; 3 Gang, 25/-.



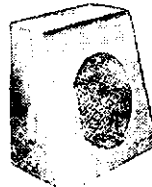
Steel Instrument Cabinets. Finished in Grey Crackle Finish. Small: Type 7" high, 11" long, 5 5/8" deep. Price 30/- Large type as illustrated 10 5/8" high, 23" long 11" deep. Price 60/-.



Build your own De Luxe Oscillograph. Outstanding Value. The famous 5BP1 Cathode Ray Tube. Originally cost £15. Immediate delivery 37/6d. Blue Print as illustrated to build De Luxe Oscillograph. 1/6d.



Sockets for 5BP1 Tube 9/6 each. Cathode Ray Oscillograph Cabinets. Black Crackle Finish steel drilled Cabinets with Chassis complete with brackets. As illustrated. £4/7/6. Power Transformer for 5" Cathode Ray Oscillograph. 69/9d.



Streamlined Steel Speaker Boxes, as illustrated. With Brown Crackle Finish. Suitable for Speakers up to 8" As illustrated. Price 25/-.



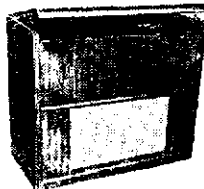
Amphenol Steatite Sockets. Ceramic 5 Pin Sockets as illustrated. 1/11d.



Test Equipment Bargain. Palec Ohm Meters. 4 Range earth Continuity & Resistance Tester. Cut to only £3/19/.



Warning & Pilot Light Assemblies. EMA Type F. Faceted Jewels. Wide Vision Type. With Nut & spacer for 1" Hole Mounting. 2/- each. With Back Loading Pilot Light Assembly. 3/9. Front Loading Type, 6/- each. Colors red & green. Finish — Nickel Plated.



Radiogram Cabinets as illustrated with Walnut Piano Finish. Standard Model £10/12/3. Model with Deep Well for Record Changer. £10/19/6. Country and Interstate Clients add 15/- Packing Charge.



Outstanding Value Bargain. Type 6K7G. Equivalent to 6U7G. Electrically perfect. Base only. 4/11d. plus 9d. packing charge.



12 Volt 4 Pin Non-Synchronous Vibrators. Standard Type. Usually 30/- Bargain price 12/11d.

Country & Interstate Clients add Freight or Postage.



Pickup Bargain. English Cosmo-chord Crystal Pickup. Streamlined Bakelite Crystal Pickups. As illustrated. Reduced from £37/7/9 to 39/11d.

SPECIAL SNAPS

Enamel Copper Wire, assorted gauges—Cut to 2/- per lb.
15,000 ohm. Voltage Dividers. Cut to 9d. each.
2 Gang Midget Tuning Condensers. Reduced from 19/- to 9/11d.
Large 7 Valve Drilled Steel Chassis. Reduced from 18/- to 5/11d.
Large Full Vision Dials. With Stations Marked. Reduced from 25/- to 9/11d.
5 Valve Steel Duocad Chassis. Cut to 1/11d.
2 Bank D/W Switches. Reduced from 11/6 to 2/11d.
English Crystal Pickup Cartridges. Reduced from 27/6 to 9/11d.

SUPER DISPOSAL PRICE BARGAINS

Type EF50 High Gain R.F. Pentode 6.33V 9 Pin Lock-in Socket	16/-
Type EA 50 6.3V VHF Diode Suitable for Vacuum Tube Voltmeter Test Probes	16/-
Type 954 6.3V Def. Amp. Pc ode Acorn Base. As illustrated.	16/-
Type 955 6.3V Def. Amp. Osc. Acorn Base. As ill.	16/-
Type 7A6 Twin Diode.	16/-
Type 807 Beam Power Amplifier	16/6
Type 42 SPT 4 Volt Cossor Screened Pentode.	14/-
Type 5BP1 6.3V Cathode Ray 5" Screw Elect. Deflection. 37/6 plus S.T.	14/-
Type 7C7 Triple Grid 6.3V 8 Pin Lock-in.	Price 16/-
Type 2 x 2 High Vacuum Rectifier 4 Pin.	16/6
Type 834 7.5V 4 Pin. Power Amplifier.	Price 30/3.
Type 6SH7 Sharp Cut Off RF Pentode.	Price 16/-
Type 211 10V. Jumbo 4 Pin Power Triode	28/3.
Type 830 B. 10V. Triode, 60 Watt	25/-
10% Discount for Amateurs. All prices include Excise.	



290 LONSDALE STREET, MELBOURNE. — CENTRAL 4311

A.C. FOR THE D.C. HAM.

A Simple and Cheap Inverter for Amateurs on D.C. Mains.

BY ERIC CORNELIUS,* VK6EC

This article is written specifically for Amateurs using d.c. mains, and brings the humble vibrator from its home in the 6 volt receiver, or portable gear, to pride of place in the first unit of your equipment—a vibrator-inverter, limited to about 500 watts.

The circuit is original, the only publication being by the author in the I.R.E. "Proceedings" of June 1946, and reference from readers of this paper has led to its being rewritten for "Amateur Radio" and you.

Most Hams on d.c. mains, at some point or another, have considered that Amateur Radio can give enough problems in applied science of its own, without adding to it those problems inherent in working their gear from d.c. mains. The flat limit of 200 volts on the anodes of all tubes limits power input, or forces unwieldy parallel-push-pull stages. Heater problems are a study of their own, with instability dogging long heater lines, used in an effort to save hundreds of watts in dropping resistors—and power in d.c. areas notoriously is not cheap.

So let's away with it, and run the lot from a.c. in civilised fashion, have the right volts and the right current in the right places. How to do it? A rotary converter is a big budget item, and an interference problem of tremendous size—so let us use the humble vibrator, and do it cheaply, efficiently, and have a comparatively easy job in keeping it quiet.

WHAT IT WILL DO—

Provide up to 500 watts or more of a.c. of fair wave-form at 50 or 100 cycles at any voltage you want.

Start instantly, and run continuously without attention.

Cost you less than one quarter of the price of a rotary converter of the same output.

WHAT IT WILL NOT DO—

Run for long off load—watch it. Provide good voltage regulation.

The c.w. man on medium to high power would have to have auxiliary gear to cut the output on "key up."

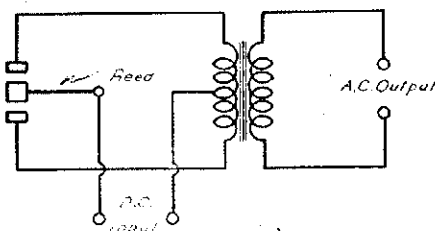


Fig. 1.

* C/o. Regional Station 6WA, Wagin, Western Australia.

The fundamental standard vibrator circuit as used on low voltages (Fig. 1) is not applicable to d.c. mains voltages, unless expensive and complex precautions are taken. On contact break, the full current, through an inductive load, will cause a strong arc, and immediate destruction or welding of the contacts.

If a circuit is arranged such that the potential difference across each pair of contacts is reduced to near zero, just at contact break, the arc will be eliminated. Such a circuit is shown in Fig. 2, where a capacitor is placed in series with the primary circuit of the transformer.

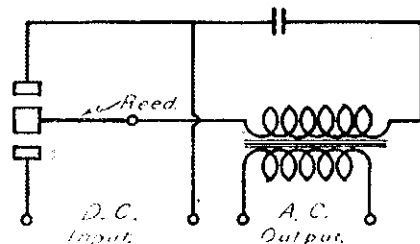


Fig. 2.

Fig. 2 shows an extension of the method, with two capacitors. One will be charging, while the other is discharging, but in the same direction through the transformer primary.

The capacitors and the transformer form a series resonant circuit, and as the transformer effective inductance is a function of its loading, the size of the capacitors will be a function of the load.

Without going into mathematics, the size of capacitor required for a given load may be obtained approximately from—

$$C = \frac{P}{E^2 f}$$

where—

C is total capacity in farads (sum of both halves).

P is power output required in watts

E is d.c. mains voltage.

f is vibrator frequency.

Most receiver type commercial vibrators have a frequency of 100 cycles/sec. Assuming 220 volt mains, the capacitor figure is 4.84 watts per uF., with a figure of about 4 watts per uF. realisable in practice. From the circuit it will be seen that electrolytics will do admirably, but the current rating is high, so use 525 volt units, and mount them in a well ventilated point—above chassis, and vertical.

PRACTICAL CIRCUIT

A split reed synchronous vibrator is used, with one half of the reed isolated from the rest of the circuit, and used

in the interrupter circuit only—call these the "drive" contacts. The other half of the reed, and associated contacts—called the "work" contacts—are used in the condenser-transformer circuit described above. The current required to drive the reed is from 70 to 100 Ma. for Ferrocart and Oak vibrators, and a 15 watt lamp will usually serve as a dropping resistor, although a 25 watt lamp may be needed.

As both halves of the reed are above earth potential, and one is usually connected to the can internally, from a safety viewpoint it is advisable to remove the internal connection, and earth the can direct, or enclose the whole inverter in a case.

THE TRANSFORMER

Details of the transformer are as follows (for 220 volt mains):—

Primary.—75 volts plus and minus five and ten volts.

Secondary.—240 volts or to suit.

Note.—Where the mains voltage is other than 220 volts, adjust the rated primary voltage to suit, and where the range of mains voltage is wide, more primary taps will be needed, and appropriate switching to compensate.

$$\text{Nominal Primary Volts} = \frac{\text{Mains Volts}}{2\sqrt{2}}$$

$$\text{i.e. } \frac{220}{2.8} = 78 \text{ Volts.}$$

Winding.—When ordering, or making it yourself, use a turns/volt ratio 10% higher than for a.c. mains practice, i.e. if the normal mains transformer calculations gives a 2 turns-volt ratio, use 2.2 turns-volt.

The writer found that a transformer designed to normal mains figures took a very heavy exciting current off load, which did not occur on a.c. mains. The probable reason is the wave form.

Shield.—A good electrostatic shield is essential.

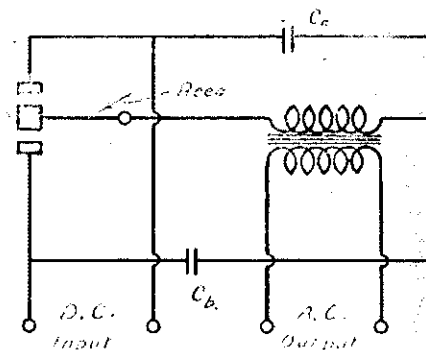


Fig. 3.

CAPACITOR SWITCHING

This is the main control of voltage output with change of load, and the circuit shows that capacitors not in use in the inverter circuit are assisting in filtering the d.c. side.

The range of capacitors will be in accordance with your power requirements. Say 8 plus 8 for your first position—permanently in circuit—then 8 plus 8, 16 plus 16, and then as required.

For the switch a modified Yaxley plate is used. Use a 6 x 2, and move four of the "pips" into adjacent slots in the centre plate, and you have it.

For light loads the transformer will be on the 75 or 80 volts tap, and as the load increases, I²R losses will mean the use of the 70 volt tap.

The inverter must be operated near its resonance point, but this is broad, and a good check, if voltage is low, is to drop one tap on the transformer, and if this does not raise the voltage sufficiently, then switch in more capacity. Run the unit on the minimum capacity

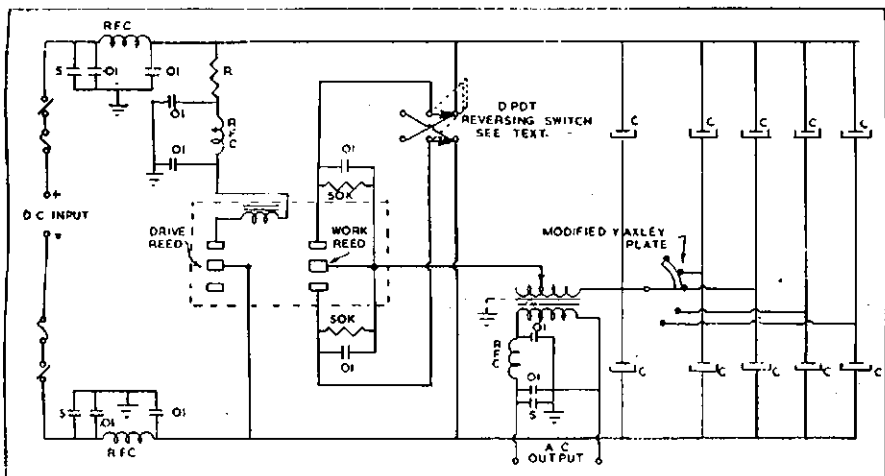


Fig. 4.

R.F.C.1—Special chokes, see text.

R.F.C.2—2.5 mH. receiver choke.

R—15 or 20 watt lamp, 220 v.

reasonable figure. Use may be made of the lamp as an indicator for "a.c. on," and the "drive" dropping lamp for "d.c. on" if bright enough.

D.C. REVERSING SWITCH

It was found, after many hours of running on heavy load that each pair of the vibrator "work" contacts developed a crater and a cone, their relative positions depending upon the polarity of the mains. Reversing the polarity to the contacts once a week, or daily if used a great deal, overcame this. The position of the switch reverses the d.c. to the vibrator without upsetting the polarity to the electrolytics.

ALTERNATIVE VIBRATOR

If you are unhappy, as I was, about a small receiver vibrator handling up to 500 watts, although it stood up quite well, use one as fitted to the Type 109 Army Set. This is a heavy duty 50 cycle job, which will stand anything you like to give it. As the frequency is

R.F. FILTERING

Use good quality capacitors throughout. The chokes in the power leads may be R.C.S. mains filter types for a.c./d.c. sets, with a 0.75 amp. rating, but for higher powers, wind your own. A method tried and proved was to cut five cards of punching bakelite 3" in diameter, slot with an odd number of

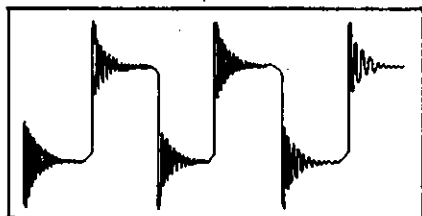


Fig. 5.—Output Waveform, no load. Note supersonic hash frequency not to scale. R.M.S. value of this—240 volts—peak volts are much higher.

slots (three hacksaw blades side by side), and wind with 20 gauge in a basket weave. Space the cards about 1/2" and mount on a wooden dowel. Connect in series. It is bulky, but efficient. Earthing one leg of the a.c. output dispenses with one half of the filter on this side.

In earthing, use h.f. techniques, with short heavy leads, and one point earthing. Layout is important, but with good workmanship, and a vented copper or aluminium shield around the whole unit, r.f. noise may be reduced to receiver background noise level over a frequency range of from 0.5 to 30 Mc.

GENERAL

The unit will start instantly on full load, and will run your receiver, transmitters, and associated gear as efficiently as will the a.c. mains. All you must watch is the output voltage with a varying load, and adequate ventilation of those electrolytics. If you have some paper capacitors, well and good,

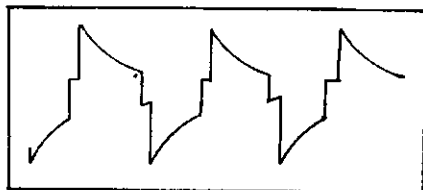


Fig. 6.—Output Waveform, correct load approximately. This waveform was taken at a 400 watt loading, 100 cycles.

use as many as you can. You may need a little more filtering in your power supplies, as the wave form is rather square, and the hum may be a little harder to filter. Overall efficiency is about 70%, so see your electric light bill fall, and your scope expand.

Refinements you may fit are a d.c. overload relay in the supply side, and a rectifier operated reversed polarity relay, both arranged to kill the input to the electrolytics.

C—Electrolytic capacitors to suit loading.

All 0.01 uF. capacitors are mica.

All 0.5 uF. capacitors are 600 volt paper.

that will serve, without dropping your transformer tapping lower than the minus 5 volts position on the primary, except possibly for very heavy loads.

For varying loads, as in c.w., a relay operated switch to bring in extra capacity on "key down" may be needed, or a heavy a.c. bleed. For phone, a simple lamp load, switched in when the rig is off will suffice, or alternatively, switch out capacity. Experiment, and if possible (financially) have an accurate voltmeter on your a.c. output.

To save the inverter from flashovers should the load accidentally be removed completely, wire a 15 watt lamp permanently across the a.c. output, as off load, the peak voltage (supersonic oscillations) is over the thousand mark—even for an r.m.s. value of 240. This has been watched on an oscillograph, but a small lamp clips this down to a

one half that of the other, you will need twice as much capacity, but this too, will have the good effect of easing the current load on the capacitors and minimise heating.

This vibrator is easily available disposals, and is in a rectangular metal case, about 6" x 2 1/2" x 3" high, with two six pin chassis plugs in the base, and usually with a grey wrinkle finish.

You will need to rewind the driving coil, which is easy. Measure the clearances as near as you can before disassembling. Remove both bobbins by the screws in the pole pieces, ditch all the wire, and insulate the pole pieces (cores). Then wind both with wire of 30 gauge or finer, connect in series, and re-assemble. The resistance will then be from 150 ohms up, depending upon the gauge of wire, and 70 Ma. or less will drive it.

IONOSPHERIC PREDICTIONS FOR THE AMATEUR BANDS

FEBRUARY 1949

The charts accompanying this page, prepared by the Ionospheric Prediction Service of the Commonwealth Observatory, are similar to earlier sets in the series published in the November, 1948, issue of this magazine. Nine of the charts, prefixed by the letter "C" for Canberra, refer to forecasts for the South-Eastern Australian States. The remainder, prefixed by the letter "P" for Perth, are for Western Australia.

The Canberra charts refer to the following world zones:—

Zone	Region	Terminal
1	Western Europe	London
2	Mediterranean	Cairo
3	N.-West America	San Francisco
3a	N.-East America	New York
4	Central America	Barbados
5	South Africa	Johannesburg
6	Far East	Manila

The Perth charts are similar to those based on Canberra, except that the Far East terminal is Shanghai in chart P-Z6. No forecasts are given from Perth to zones Z2 and Z4 for the current month. Chart P-Z2 would be essentially similar to P-Z1 while chart P-Z4 would be unreliable due to auroral activity in high northern latitudes.

USE OF CHARTS

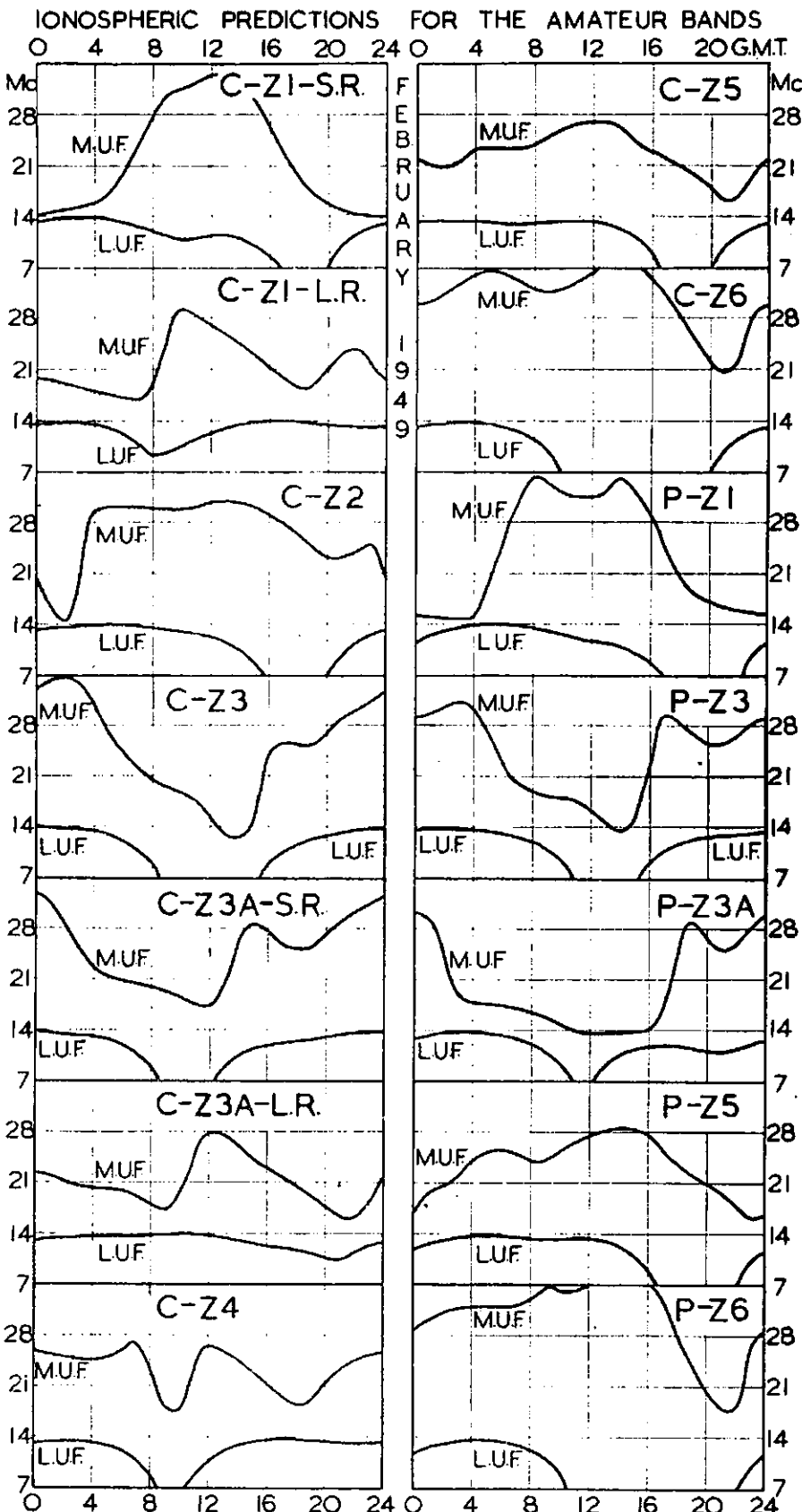
All that is necessary in using the charts is to select a time (G.M.T.) during which a specified Amateur band frequency is below the maximum usable frequency (m.u.f.) of the F region of the ionosphere but above the lowest useful frequency (l.u.f.) for the desired contact. In two cases, zones 1 and 3a, it is necessary to consult both the short-route (s.r.) chart and the following long-route (l.r.) chart.

A practical example might be that of a contact desired between Sydney and Hong-Kong. The chart to use is C-Z6. This chart shows that the 28 Mc. band should be open from before midnight to 18 hours G.M.T. with best conditions for a few hours after Greenwich noon. The 14 Mc. band should be open for 24 hours but conditions are likely to be poor for several hours around midday in Australia when the l.u.f. is close to 14 Mc. The 7 Mc. band will be available only between sunset and sunrise in Australia, when the path is in darkness.

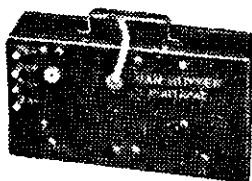
COMMENTS WELCOMED

The Prediction Service would welcome comments on the accuracy of these predictions. In particular answers to the following questions would be most helpful:—

1. Did a break occur consistently in the 28 Mc. band from 18 to 23 hours G.M.T.?
2. Was the 14 Mc. band open for 24 hours?
3. Were conditions much better on 28 Mc. than on 14 Mc. around noon in Australia?



VEALLS is the PLACE for ALL RADIO REQUIREMENTS ! !



VAN RYTEN
"PORTAPAC"

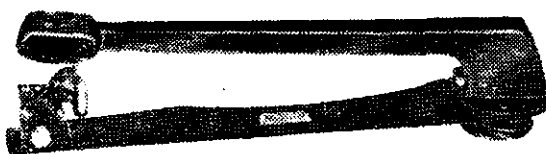
Converts your portable for use off the main.

£8/13/6

Speaker Boxes of High Standard

- 6" Speaker box, 20/4
- 8" Speaker Box, 24/-
- 10" Speaker Box, 29/3
- 12" Speaker Box, 33/3

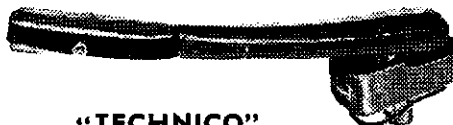
■ **HAMS** ■
Supplies and Service are now also available at Vealls **NEW Melbourne Store**. Note the address below — You are cordially invited.



LEXINGTON PICK-UP

This English moving coil Pick-up gives full reproduction of the total audio frequency range. Complete with transformer, screening box and sapphire needle.

NOW ONLY £14/6/- Complete.



"TECHNICO"

LOW PRESSURE PICK-UPS

MODEL FL 48. Replaceable needle pick-up for general use £5/4/-

MODEL FP8. Crystal Pick-up with built-in sapphire stylus £6/9/-

UNIVERSITY S.G.A. SIGNAL GENERATOR

Frequency 155 KC to 110 MC. Seven bands £45 (plus tax)
UNIVERSITY X.O.A. A.C. OSCILLATOR
£19/19/- (plus tax).

OTHER ITEMS OF INTEREST . . .

● **CHASSIS** for all circuits cut and drilled to your specifications. Let Vealls' quick service supply you!

"NOW !" "BRF JUNIOR" HOME RECORDER

● Enables you to cut your own recordings or record your favourite radio programme direct from your receiver. At Vealls, £48.

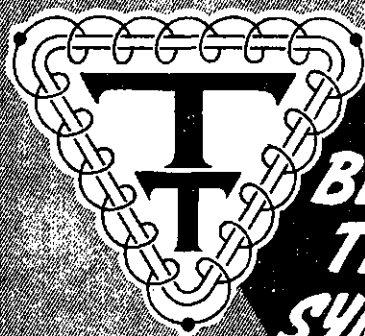
● Full range "University" M.A. and Volt Meter available.

● "Valco" Amplifiers and Microphones full range for every purpose.

● **Ham Discount** where applicable.

VEALLS

243 Swanston St., Melb. FJ 3145. 307 Elizabeth St., Melb. MU 1048; 299 Chapel St., Prahran, LA 1605; Mail Orders Box 2141T, G.P.O. Melb. Established 1911. Associated with Arthur J. Veall, Pty. Ltd.



BEHIND THIS SYMBOL !

Every transformer looks to be simply coils of wire on a core . . . but the beauty of Trimox Transformers is more than skin deep! Long experience and high standards of technical ability ensure that the unseen parts of your Trimox Transformer will prove their reliability in every test.

TRIMAX Transformers

Division of CLIFF & BUNTING PTY. LTD. ~ 29-35 FLEMINGTON RD., NORTH MELBOURNE, VIC.

BRISBANE:
Chandlers Pty. Ltd.
Chr. Albert & Charlotte Sts.

ADELAIDE:
C. N. Muller,
Worondo Bldgs., Grenfell St.

PERTH:
R. D. Benjamin,
197 Murrey St.

LAUNCESTON:
W. & G. Genders
Pty. Ltd., 53 Cameron St.

ENQUIRE FROM YOUR NEAREST DEALER

An Inexpensive Microphone Case.

BY A. M. CREWTHER,* VK3SM

An inexpensive Mike Case suitable for the J7 inserts, so popular at the moment, is very easy to construct, and the job can be done with only a few hand tools in the average Ham shack in a few hours. Several have been made at this QTH and the results are very pleasing, and in appearance the completed job is similar to the D104.

The body is a piece of brass tube of 16 gauge approximately $2\frac{1}{2}$ " diameter and $\frac{3}{4}$ " long. It may pay dividends to get the tube turned off to length although good results can be had with care using a hacksaw and file.

The front and back of the body are made of 16 gauge brass sheet. The back is cut out with a hacksaw, a little larger than the outside diameter of the tube, and soldered in place over a gas flame (apply the solder to the inside of the tube and allow it to run through to the outside).

Most difficult part of the job comes next, and is the construction of the front. Take another piece of the brass sheet, and with a circle cutter cut out a circle the same diameter as the outside of the body tube, then drill four holes

round the outside of the circle so that $\frac{1}{8}$ " screws will just clear the inside of the tube when the front is placed in position. Using these holes, screw the disc to a block of wood, and again with the cutter, remove the centre of the disc leaving a ring about $\frac{3}{8}$ " wide. On to this ring solder a piece of heavy brass gauze, keeping it clear of the edges of

the ring so that it will not interfere with the fitting of the front to the tube and also clear of the screw holes.

When the front is cold, the doming of the gauze can commence. To do this hold the front gauze up and with a ball-pein hammer, gently tap the gauze until the required dome has been obtained. Final finishing to the dome can be done with the handle of a file or other rounded block of wood.

The handle is made of a piece of tube $\frac{1}{2}$ " diameter rounded at one end to fit snug against the body of the case. Into this end solder another piece of tube about 1" long and a snug fit inside the handle, leaving $\frac{1}{4}$ " projection to solder into a hole drilled in the body of the case. Again solder from inside the body, as solder on the outside of the case leaves a mark after plating.

With the handle fitted, it only remains to project the assembly holes from the front plate through to the back; drill and tap $\frac{1}{8}$ " and clean up the case with a file and emery cloth.

After plating, the unit can be packed in, using light sponge rubber or cotton wool. Across the front sew with a couple of stitches some black cloth, fit the cord, and there is a mike to grace the operating table of any Ham shack.

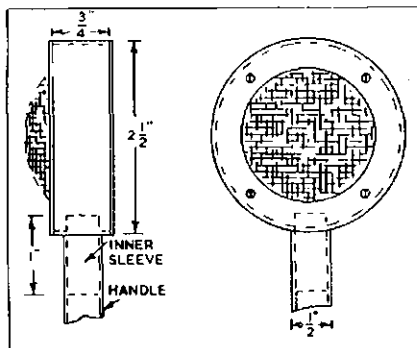


Diagram of Microphone Case showing main dimensions and method of construction.

*42 Carrington St., Pascoe Vale Sth., W.7

Recommended Valves for 1949.

The following is the Radiotron range of equipment types recommended for use by receiver and amplifier manufacturers in new equipment. Type U52/5U4G has been added in place of type 5V4G for large amplifiers. Type X61M triode hexode has been added as an alternative to type 6J8GA where high gain is required. Type 6J8GA has replaced type 6J8G for an indefinite period. Type 6SN7GT twin triode has been added to complete the range.

The four miniature 7 pin a.c. types are primarily intended for use in auto. sets and sets incorporating f.m., but may also be used in ordinary a.m. receivers. Type 6BE6 is an almost exact equivalent of type 6SA7GT, which has now been dropped from the list of recommended equipment types. Type 6BA6 may be used in r.f. and i.f. amplifiers as an alternative to type 6SK7GT; it is particularly valuable as an untuned r.f. amplifier. Type 6AV6 has improved characteristics but is otherwise an equivalent of type 6B6G or 6SQ7GT.

Type 6J7G/1620 takes the place of the older type 1603 as a non-microphonic

amplifier, while type 807 remains in the list as a high power amplifier.

A complete range of a.c./d.c. valves with a heater current of 0.16 ampere has been added. These are all octal based. Printed characteristics are now in the course of preparation.

The following types are recommended for use in new equipment (1949):—

1.4 Volt Miniature Battery Range—

- 1R5—Converter.
- 1S5—Diode, pentode.
- 1T4—Remote cut-off r.f. pentode.
- 3S4—Power amplifier pentode.
- 3V4—Power amplifier pentode.

2 Volt Battery Range—

- 1C7G Pentagrid converter.
- 1H4G—General purpose triode.
- 1J6G—Class B twin triode.
- 1K5G—R.F. pentode.
- 1K7G—Duo-diode, pentode.
- 1L5G—Power amplifier pentode.
- 1M5G—Remote cut-off r.f. pentode.

Rectifiers—

- 5Y3GT—Full wave rectifier, directly heated.
- 6X5GT—Full wave rectifier, indirectly heated.
- U52/5U4G—Full wave rectifier, directly heated.

A.C. Range—

- 6A8G—Pentagrid converter.
- X61M—High gain triode hexode.
- 6J8GA—Triode-heptode converter.
- 6G8G—Duo-diode remote cut-off pentode.
- 6J7G—R.F. pentode.
- 6S7G—R.F. pentode.
- 6SK7GT—Remote cut-off r.f. pentode.
- 6U7G—Remote cut-off r.f. pentode
- 6SN7GT—Twin triode.
- 6SQ7GT—Duo-diode high-mu triode.
- 6B6G—Duo-diode high-mu triode.
- 6V6GT—Beam power amplifier.

A.C. Miniature Range—

- 6AU6—R.F. pentode.
- 6BA6—Remote cut-off r.f. pentode.
- 6BE6—Pentagrid converter.
- 6AV6—Duo-diode high-mu triode.

High-Power Amplifier—

- 807—Beam power amplifier.

Non-Microphonic Amplifier—

- 6J7G/1620—Triple-grid amplifier.
- 0.16 Amp. A.C./D.C. Range (Octal Base)—

- X76M—Triode Hexode Converter.
- W76—Remote cut-off r.f. pentode.
- DH76—Duplex-diode triode.
- KT71—Power output tetrode.
- U76—Half wave high-vacuum rectifier.

McGILL'S (Est. 1860)

OVERSEAS AND LOCAL POPULAR MAGAZINES
OBTAINABLE ON SUBSCRIPTION.

AMERICAN . . .

Audio Engineering, £1/6-; C.Q., £1/6-; Communications, £1/4-; Electronics, £5/6-; Popular Science, £1/5-; Popular Mechanics, £1/8-; Q.S.T., 33/6; Radio News, £1/12-; Radio Electronics, 29/6; Science Digest, 24/-; Science and Mechanics, 17/6; U.S. Camera, 26/-.

ENGLISH and AUSTRALIAN . . .

Australian Radio World, 10/6; Amateur Radio, 6/-; Electronic Engineering, £1/12/6; Radio and Hobbies, 12/-; Radio and Science, 12/-; Shortwave Magazine, £1/7/6; Wireless World, £1/12/6; Wireless Engineer, £2.

(Add exchange to country and interstate cheques)

Large Range of Technical Books, Stationery and Novels on Display.

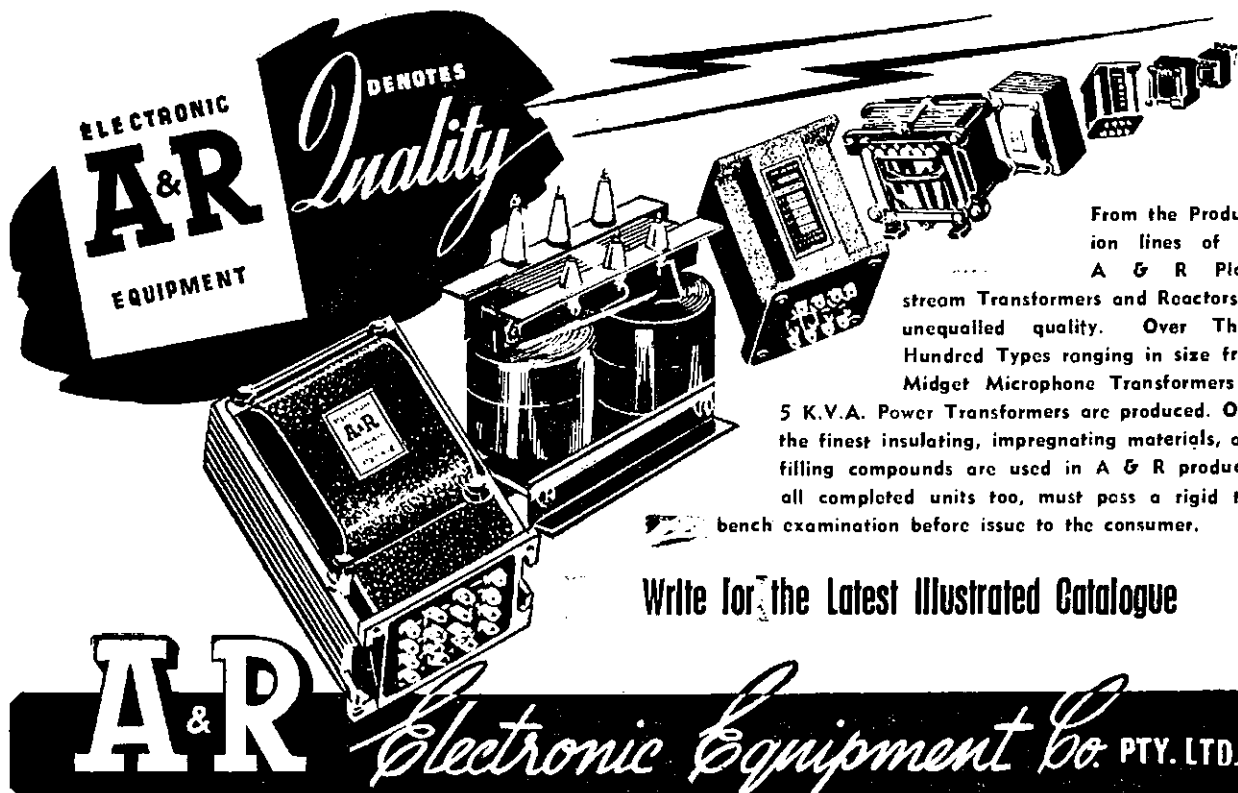
Mail Orders by Return Post.

McGill's Authorised Newsagency

183-185 ELIZABETH STREET, MELBOURNE, C.I., VICTORIA.

(The G.P.O. is opposite)

M 1475-76-77



**ELECTRONIC
A & R
EQUIPMENT**

**DENOTES
Quality**

From the Production lines of the A & R Plant, stream Transformers and Reactors of unequalled quality. Over Three Hundred Types ranging in size from Midget Microphone Transformers to 5 K.V.A. Power Transformers are produced. Only the finest insulating, impregnating materials, and filling compounds are used in A & R products, all completed units too, must pass a rigid test bench examination before issue to the consumer.

Write for the Latest Illustrated Catalogue

A & R *Electronic Equipment Co. PTY. LTD.*

Push-to-Talk or Break-In

BY RALPH F. HENWOOD*, VK6RL

Quite a large number of Amateurs are equipped to use "push-to-talk" and yet how many do you hear using this method with its obvious advantages. The truth is, not very many, except stations of American origin and a few others. I would like to put the case for a much more extensive use of this method for both DX and local contacts. The one thing that the general public find boring about Amateur Radio is the monologues one often listens to. "How unnatural" they say and indeed it is when one comes to think of it. This practice is just a heritage from the days when it took some time to change from "Transmit" to "Receive." Yet, in these times of modern transmitter and control methods, one still hears the majority of Amateurs using this long antiquated "technique."

It is quite easy these days for all Amateurs using mains supply to throw from "Transmit" to "Receive" just with a single switch or button on the microphone or table.

Now let us see what the advantages of this system are. First, let me say that the regulations state that we must transmit both our own call sign and the call being worked at least once every five minutes during a contact, so this should be remembered. Let us treat it from the point of a typical contact on one of the Amateur bands.

Let us switch our receiver on and listen on the band which we intend to use. There is a station whom we desire to contact calling CQ or already in contact with some other Amateur. Right, we wait until we hear him say he is listening over such and such a band for any calls. (I am not in favour of using a v.f.o. to slide onto another station and break-in on an existing contact except in case of a civil emergency.) Then we call him in the following way: His call twice and ours twice or three times, then the word "break." Listen on his channel for two seconds. If he doesn't reply, another call of the same duration and again listen for two seconds, and continue this sequence for as long as you think it will take him to cover the band once or twice with his receiver.

Of course, it is first necessary to try to transmit on a frequency that will cause the minimum interference to other Amateurs. Nevertheless with telephony the fact that the carrier is being broken means that you will not interfere to the same extent with other stations as if your carrier were running continuously. By this method, you can hear the desired station immediately he transmits again and cease your own transmissions and save useless calling and interference.

Its advantages during a contact have to be enjoyed to be realised and after

all, in ordinary human contact we do not make long one-way speeches (except politicians) so why should we do it on the air. How galling it is to talk away for some time, go over to the receiver and be told to repeat about half of your remarks as there was interference or a fade-out. This is all eliminated with "push-to-talk" as you can get an immediate answer to your question simply by use of the little word "break" or "over."

Now, what is holding the rest of us Amateurs back. We can cut down QRM, pass and gather information much quicker and more rationally, while making our contacts much more enjoyable, both local and DX. So let us see more Amateurs using it. I know it takes quite a bit of getting used to. One finds oneself drifting back to the old method, just from habit, but with both sides of a contact using it, we will all get used to it and enjoy less QRM and more 100% QSOs.

Also, on telephony, just a little plea for the elimination of Q signals and other abbreviations of c.w. It takes no longer to talk in a normal way which is more intelligible in the ears of the general public who listen to us more than we may realise. Even the use of CQ should gradually fall into the discard for telephony as the P.M.G.'s Handbook recommends the use of the following: "Calling any Amateur Station."

SPIVS OF THE ETHER

Several hundred illegal radio transmitters—one source says about 440—are operating in Germany. They work for the black market rings!

The morse speeds show that most of the operators learned their job in the Luftwaffe and the Navy! the sets are mostly from Wehrmacht stocks. Transmitters, ranging in power from 5 to 100 watts, operate by night on the 39, 42, 48, 75, and 80 metre bands.

Typical is a station somewhere near Hanover, which gives regular evening transmissions with details of prevailing black market conditions and prices. The other evening a black marketeer transmitted on it an urgent request for 59 bicycles.

There is obviously an efficient central organisation controlling the black market stations. One transmitter a few weeks back allocated station signals, and these have since been adhered to. Illegal transmitters exist in all four zones of Germany. The British and American authorities are hoping to rob the black radio ring of some of its personnel when, in the near future, licences are issued to Amateurs, hitherto not allowed to indulge in their hobby.

—"Leader" (Eng.)

QUESTIONS AND ANSWERS

Q.10.—K. Bridger would like to know the approximate capacities of the m.o. and p.a. tuning condensers of the BC458. In the circuit diagram published on p. 6 of "Amateur Radio" for May, 1948, these are C63 and C65.

Q.11.—Can anyone give VK3RN information on disposals gear labelled R-9-A/APN-4, such as the frequencies of the fixed tuned i.f. strip and what the whole thing does.

Australia's Largest Stock of All Radio Components

Chokes
Coils
Condensers
Dials
Intermediate Transformers
Morse Equipment
Potentiometers
etc., etc.
Resistors
Soldering Irons
Speakers
Test Equipment
Valves
Pick-Ups
Power Transformers
etc., etc.

Obtainable from

Bloch & Gerber Ltd.

with which is associated
the

WELDON ELECTRIC SUPPLY CO.

46-48 YORK STREET, SYDNEY

G.P.O. Box 2282 M

Phones: MA 6291 (10 lines)

* 16 Hawes St., Northam, West. Aust.

Suggestions For Reducing Hum

BY R. L. PAECH,* VK5RL

We have all had our distressing moments when something won't work, but I think one of the main problems confronting all on phone is, at some time or other, that laborious searching and testing for hum.

Before tackling the problem it must be understood that it is assumed reasonable care has been taken for the most obvious causes of hum, e.g. adequate shielding of high gain pre-amplifiers and at the same time kept as far away as possible from the r.f. sections of the transmitter, good earth system, microphone leads properly shielded and not unnecessarily long, and heater wiring arranged for minimum hum pick-up.

It is very desirable to find the stage or circuit arrangement that is causing the hum. By far the simplest and most effective way of doing this, is by shorting the grid of each valve commencing with the pre-amplifier. If for instance a troublesome hum can be eliminated by shorting the grid of the valve following the pre-amplifier, it is obvious the trouble is originating in the pre-amp. Checking still further it may be found the hum still continues to be present after shorting the grid of the pre-amp., therefore it is apparent the hum is being induced into the circuit either from the heater cathode or plate circuit—more likely in most cases to be the heater cathode circuit. If the hum cannot be localised we may say with confidence the trouble is lack of filter in the power supply.

Hum may be briefly summed up to be due to one or more of the following causes:—

- (1) Lack of sufficient filter.
- (2) Electro-magnetic coupling.
- (3) Electro-static pick-up in low level stages.
- (4) Heater cathode circuits.

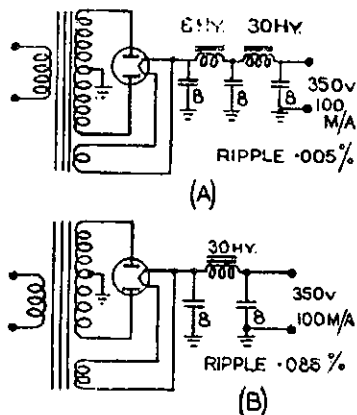


FIG. 1

LACK OF SUFFICIENT FILTER

The cure is obvious. A typical circuit of a well-filtered power supply is shown in Fig. 1a. With the terminal voltage of 350 volts and load of 100 Ma. the ripple percentage is 0.005%. A comparison is drawn between this circuit and a single section filter Fig. 1b, where the ripple percentage is 0.085%. In most cases the latter circuit is satisfactory where high gain pre-amplification is not required.

ELECTRO-MAGNETIC COUPLING

May be reduced by any of the following methods:—

- (a) The use of non-magnetic material for the chassis.
- (b) Separate power supply chassis.
- (c) Insulating the power transformer from chassis, then making a single earth connection from transformer to chassis.
- (d) Rotating a.f. transformers for minimum coupling.

AN APPEAL

It will be evident to readers that the three issues of November, December, and January used considerably more technical material during that period than is normally used.

As a result of this, the Technical Editor's file of technical material is almost completely exhausted, in fact it looks as though he will have to, with the help of his Assistant, write sufficient material to fill the March issue.

I have heard favourable comments about the three issues mentioned and if the standard is to be maintained, you, the reader, will have to do something about it, for it is only with your assistance in providing the technical material required to fill the Magazine each month, can we hope to continue to produce a good technical section in the Magazine.

At the present moment the need for technical articles is urgent, so if you have something you can write about, please do so and forward it as soon as possible.—
EDITOR.

ELECTRO-STATIC PICK-UP

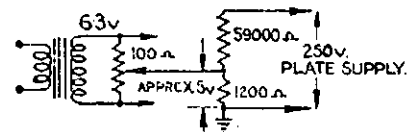
Due to capacitive coupling, the cure is isolation or shielding. This source of hum is least likely of all to cause any degree of trouble, however it must not be neglected, particularly in the grid circuit of a high gain low level pre-amplifier.

HEATER CATHODE CIRCUITS

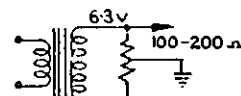
The truly obstinate and possibly the commonest source of hum originates in the heater cathode circuit and can be found in any stage from the pre-amplifier to the phase splitter.

Direct sources include hum leakage through socket capacitances, this of course can be remedied by using a valve with the grid brought out to a top cap, or reduced by earthing the heater pin nearest the grid connection.

Indirect forms of heater leakage can be due to capacitive coupling between heater and cathode or other electrodes within the tube and sometimes due to actual heater emission.



(A)



(B)

FIG. 2

A circuit devised to help eliminate these effects is shown in Fig. 2a. In this circuit a positive voltage of approximately 5 volts is applied to a hum balancing potentiometer across a 6.3 volt heater winding on the power transformer. The positive bias prevents heater emission, and effects of capacitive coupling balanced out by correct adjustment of the potentiometer. It may be necessary to adjust the positive voltage applied to the potentiometer to a higher or lower value than that given, however it is advisable not to use a higher voltage than is required for minimum heater emission.

While not so effective or complicated as Fig. 2a a variable resistance connected across the heater supply with the moving arm connected to earth, as in Fig. 2b, will serve to eliminate much objectionable hum from heater cathode sources. The use of a hum balancing resistor of this kind is recommended in the original design of all pre-amplifiers—it may save many headaches.

Hum due to cathode heater leakage may be reduced by connecting the cathode direct to earth, adjusting the voltage between heater and cathode and by generous by-passing. For obvious reasons the problem of cathode leakage

* 14 Fernleigh St., Underdale, Sth. Aust.

becomes a little more involved when the source is a phase splitter stage. The writer, having trouble from this source resolved to find a method of neutralising the hum which apparently was due to heater cathode leakage. A most unconventional circuit resulted (Fig. 3) nevertheless most effective, giving approximately 15 db hum reduction and only 3 db loss in gain, the difference in frequency response negligible. Briefly the operation is as follows:

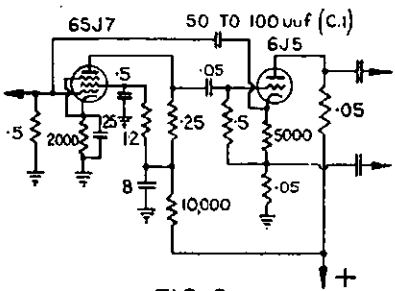


FIG. 3.

low: A small portion of the hum voltage appearing at the cathode of the phase splitter is fed to the grid of the preceding stage, amplified and returned out of phase to the source at the cathode. The use of a capacity much larger than that shown at C1 will result in serious loss of gain and reduction in high frequency response.

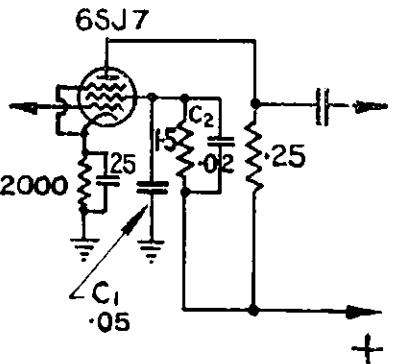


FIG. 4

In conclusion a circuit is shown (Fig. 4) whereby another, yet more conventional method is used to neutralise hum. By means of a capacitive voltage divider the predetermined hum is fed to the screen, being consequently 180° out of phase with the hum voltage appearing at the plate of the valve. The values of C1 and C2 may have to be found by experiment for the greatest hum reduction, those suggested will in most cases be satisfactory.



**"CAPE HAWKE
CALLING, SIR!"**

Designed to provide reliable oral communication for small craft for limited distances (intership or land), the radio telephone set has proved its usefulness by its convenience and efficiency.

Easily operated and small in size, it derives its power from a 24v. battery, and can be installed in a very limited space. The radio telephone has a range of 50 miles, and can be remote controlled from up to 50 yards distance.

In all types of communication systems, from the largest telephone exchanges to the smallest units, IRC Resistors have played an important part. Their outstanding efficiency make IRC the first preference of most Resistor users.

IRC RESISTORS

Sole Agents for Australia:

Wm. J. McLELLAN & Co.
BRADBURY HOUSE, 55 YORK ST., SYDNEY • BX 2508.

Australian National Research Expedition To Heard Island

AROUND THE SHACKS.

VK2ABC

Another "Old Timer" who still finds plenty of time to spend on the air is Fred Stirk VK2ABC. Except for the war years, Fred has been an active Ham since 1931 when he held the call 2XV. In 1935 this was changed to 4XV, and later to 2ABC on Fred's return to Sydney. In 1947 Fred operated from Singapore under the call of VS1AZ.

At present 2ABC is active on 20, 10 and 6 metres with a five stage transmitter. The complete transmitter, including power supplies and speech equipment, is rack mounted and is completely remote controlled from the operating table. The transmitter consists of a 6V6 crystal oscillator, 6V6 multiplier, 6V6 doubler, 807 buffer and an 834 final with 50 watts input. Modulators are a pair of 807's class AB. Also mounted in the transmitter rack is a c.r.o. for constant modulation monitoring. Two receivers stand on the operating table, a 9 tube super for 6 metres, and a 9 tube super for all band coverage.

A half wave dipole is used for 20, while a three element medium spaced beam on 6 and a two element wide spaced beam on 10 metres do an excellent job. At present 2ABC is mainly active on 6 metres participating in the v.h.f. contest and during the recent band opening on Sunday 5th December managed to make 210 points for the day's operating.

VK2WJ

John Peell, VK2WJ, has been active since 1926 and can be rightly termed an "Old Timer."

At present he is active on four bands, 28, 50, 144 and 288 Megacycles with a definite preference for the v.h.f. spectrum.

The main transmitter, which operates on 28 or 50 Mc., is mounted in a standard rack. It consists of a 6L8 tritrit oscillator, 6L8 doubler, 807 doubler and push pull 834s in the final with an input of 90 watts. The modulators are a pair of 807 class ABs.

A converted SCR522, also rack mounted, is used on 144 Mc. and a self-excited oscillator using a pair of 7193s puts out an excellent signal on 288 Mc.

The receiving side is well catered for with an H.R.O. to cover all frequencies from 200 Kc. to 30 Mc., a seven tube superhet. for 50 Mc., a converted AR301 receiver for 144 Mc. and a three tube super-regen for 288 Mc.

A half wave doublet antenna is used for 28 Mc. and four element beams on 50, 144, and 288 Mc. A three element wide-spaced beam is under construction for 28 Mc.

log, will be acknowledged. Amateurs in direct contact with VK1, are also asked to contact the key station, so that a full report can be compiled. Please remember, there is NOT any mail service at Heard Island.

Heard Island was discovered in 1853 by Captain Heard, in the American ship "Oriental." It is swept by gales the year round, except for a possible respite of a week or two during December. It is treeless, and the only vegetation is moss. As late as 1920, the island had an active volcano, so that the cliffs are either black yellow, or glacier ice. It is the home of penguins and sea elephants, which are there in abundance. The location of the Island is 53° South 73° East.

In passing, it is to be hoped that Doctor R. Allison, of Sydney, who is Medical Officer to the expedition, is successful at the next examination for a Ham Ticket, so as to allow him to have a VK1 call sign before leaving. Let us all wish Arthur, Ron and Bob all the best of DX and plenty good luck in their 12 months of isolation in the land of penguins and sea elephants.

TENTATIVE SCHEDULES

The following times are G.M.T. plus five hours:—

- 7 Mc.—1200-1300, 1400-1600 hrs.
- 14 Mc.—1000-1200, 1600-1700 "
- 28 Mc.—0800-1000, 1800-2000 "
- 50 Mc.—Continuous listening.
- 144 Mc.— " "

These schedules will be divided by VK1FE, VK1VU and probably Doctor Allison if successful at examination. 50 and 144 Mc. watches are being undertaken by the Wireless Operator on shift duty, anything breaking through will be transferred to VK1FE or VK1VU for action. Schedules will be altered according to conditions.

NEW LINER MAKES RADIO HISTORY

"CARONIA" FITTED WITH SPECIAL EQUIPMENT

When the new 34,000 ton Cunard White Star liner "Caronia" leaves Southampton on her maiden voyage shortly, she will make history in ship-to-shore radio telephony. Equipment designed by Standard Telephones and Cables Ltd. for the "Caronia," Britain's largest post-war liner, will enable passengers to telephone to Europe and America from any part of the world. Passengers will be able to take calls in their own state-rooms or in public telephone booths. One of the latter includes a loud speaking telephone, a feature likely to prove extremely popular with families or groups of friends.

This new system will make her the first ship in the world to be fitted with radio transmitters and receivers for single side band telephony, a system hitherto used only on intercontinental radio telephone circuits. It gives improved clarity of speech, but has never before been applied to passenger ships.

This Expedition is leaving Australia during January 1949, to further the development of Antarctic research, and will be stationed at Heard Island for a period of 12 months, cut off completely from the outside world except by radio.

Although only a small party of 12 members, it is interesting to note that there are two Amateur Radio boys amongst them, VK4FE and VK3VU, and it is their intention, whilst down at the land of Penguins to study, as far as possible, the conditions there.

Arthur, VK4FE, for the past 20 months, has been stationed away up in North Queensland, at Townsville, and several G stations will remember him, especially G3BUU, whose daily skeds during last July and August were very much in common.

Ron, VK3VU of Shepparton, has not been very active, as he has put his studies before Ham Radio, but we all wish him to be able to put B.E. after his name very shortly after his return.

New call signs have been allotted for Heard Island, Arthur will use VK1FE and Ron VK1VU, and any Hams can look forward to a QSO any time the stations are on the air. The President of the Victorian Division of the W.I.A. is arranging skeds, etc., having gone to a lot of trouble in contacting the powers that be on long range predictions which should be a great help to the VKs in general. Assistance is also being given by the Met. Officers on Heard Island. Arthur is the Engineer to the Party, and Ron is Chief Wireless Officer.

It is interesting to note some of the equipment that is being taken to the Island. Although restricted to 100 watts, they will have to rely on the receiver to do the bulk of the work. The receiver selected is the English Eddystone 840, which covers all bands, and is calibrated on the Ham frequencies, which will be of great help down there. This receiver will be tested thoroughly to find out how it will react to the climatic conditions. The 840 is a stock model, no weather proofing or dope having been used.

Regarding the transmitter, Arthur is taking two separate jobs with him—one covering 7-14-28 Mc., and the other 50-144 Mc. Ron has yet to make up his mind, but we believe that he has something up his sleeve. He says his big job with the 813 is too heavy to carry around.

As none of these frequencies has been exploited on the Islands, it will be interesting to know how they are being received in different parts of the world. Any listener hearing signals from VK1 is asked to get in touch with VK3ML of the W.I.A. Victorian Division, who is establishing a key station, and any reports satisfying the stations'

THE CASE OF QUALITY Versus COST

We have been surprised to find a number of hams who consider that Eddystone Components have one disadvantage—their price! These hams agree that Eddystone Components are undoubtedly the finest obtainable—but—they cost more than other components. Now let's face the facts! Those few extra shillings you pay for Eddystone Components repay you tenfold! For those few extra shillings you get precision-built components that last longer and give better service—reliable components of unequalled quality,

with the highest possible performance—components that give no trouble; but every satisfaction. So you see, with everything considered, Eddystone Components actually cost LESS in the long run than cheaper components. We believe, and we're sure you'll agree, that you only get good value when the article you buy gives you your money's worth—gives you the best service possible for as long as possible, without any trouble, without any further cost. And Eddystone Components do just that!

Don't despair if at present you're not getting the best results—switch to Eddystone and you'll realise what a pleasure it is to work with first-class components.

FREE!

New 1949 Catalogue on world-famous Eddystone Components will be available free upon request. Send to your local distributor.

DIRECTORY OF DISTRIBUTORS

- VICTORIA: J. H. MAGRATH & CO.
208 Little Lonsdale St., Melbourne
- WEST AUST.: CARLYLE & CO. LTD
Hay St., Perth & 397 Hannan St.,
Kalgoorlie
- N.S.W: JOHN MARTIN PTY. LTD.
116-118 Clarence St., Sydney
- S.A: GERARD & GOODMAN LTD.
192-196 Rundle Street, Adelaide
- Q'LAND: CHANDLERS PTY. LTD.
Cnr. Albert & Charlotte Sts. Bris.
- TAS: W. & G. GENDERS PTY. LTD.
53 Cameron Street, Launceston

Australian Factory Representatives:

R. H. CUNNINGHAM & CO, 420 WILLIAM ST., MELBOURNE



EDDYSTONE OFFERS YOU
THE LATEST, MOST DEPENDABLE
COMPONENTS for FM., AM., & PULSE

The B.E.R.U. Contest, 1949

GENERAL RULES

1. The event will be divided into three sections, namely:—(a) Senior (High Power) Transmitting Section; (b) Junior (Low Power) Transmitting Section; (c) Receiving Section. The three sections will be run concurrently.

2. The Contest is open to all British subjects living within the British Empire and British Mandated Territories and to British Occupational Forces operating properly authorised stations who are fully paid-up members of either the R.S.G.B. or one of the British Empire Societies. All entrants agree to be bound by the Rules of the Contest.

3. Entrants who are not members of the R.S.G.B. must certify in the declaration that they were fully paid-up members of their local society at the time of the Contest.

4. An entrant not located in one of the prescribed Prefix Zones shall be considered as being in the Prefix Zone nearest to his station.

5. Contacts with, or reports from, ships or unlicensed stations located in countries where licenses are obtainable will not be permitted to count for points. The decision as to whether a station is to be classed as unlicensed will rest with the R.S.G.B. Contests Committee.

6. Only the entrant will be permitted to operate his apparatus for the duration of the Contest.

7. A trophy will be awarded to the fully paid-up member of the R.S.G.B. scoring the highest number of points in each section of the Contest. Certificates of merit will be awarded to the first three stations in each section and also to the leading station in each Prefix Zone, providing at least three entries have been received from the zone in question. In addition a second certificate will be awarded to each zone provided ten or more entries are received from that zone.

8. The declaration at the foot of the Entry Form must be signed by the operator, who will be recorded as the competitor.

9. Entrants must provide their own log sheets which, together with the analysis sheet, must be legibly written or typed as set out in the sample appended. Incomplete entries will be disqualified.

10. All entries must be posted within seven days of the close of the Contest. No entry will be accepted at R.S.G.B. Headquarters, New Ruskin House, Little Russell Street, London, W.C.1, later than June 13, 1949.

11. The judging of entries will be carried out by the R.S.G.B. Contests Committee. The President's decision will be final in all cases of dispute.

12. No correspondence can be entered into regarding any decision made by the President or Contests Committee.

13. The Contest will extend from 0001 G.M.T. Saturday, March 5, 1949, to 2359 G.M.T., Sunday, March 6, 1949.

14. Contest operation during local hours of restrictions in the use of electricity for wireless which have been publicly announced is forbidden. The duration of any such restrictions will be recorded on the entry form.

RULES FOR THE TRANSMITTING SECTIONS

1. Fifteen points will be scored for the first contact on a specific band with a British Empire station located in any Prefix Zone outside the competitor's own zone. Fourteen points will be scored for the second contact on the same band with the same zone, thirteen points for the third contact, and so on, to the fifteenth contact, which contact will score one point. All contacts with that particular zone on that band thereafter will count one point each. This scoring procedure, will be repeated on each band to encourage multi-band operation.

2. Only one contact with a specific station may be made on each band during the Contest.

3. The Contest is open for two-way A.1 (c.w.) contacts only, on the following frequency bands, viz.: 3.5, 7, 14, and 28 Mc., providing the input to the valve or valves delivering power to the aerial is not in excess of that specified on the competitor's licence and in no case more than 150 watts in the Senior (High Power) Section and 25 watts in the Junior (Low Power) Section, and providing the entrant has permission to operate his station on the band or bands in question.

(This rule excludes the use of the 27 Mc. band.)

4. The conditions laid down in the entrant's transmitting licence shall be observed.

5. A serial number consisting of six figures must be exchanged before points may be claimed. The serial number is made up of EST and three num-

erals denoting the number of the contact, the first contact being 001, and so on.

6. Entrants receiving consistent tone reports of less than TS will be disqualified.

7. Specially appointed Band Monitoring Stations under the auspices of the R.S.G.B. will be active during the Contest. Any station reported off frequency by these checking stations will be disqualified without appeal.

RULES FOR THE RECEIVING SECTION

1. The scoring system will be the same as for the transmitting sections, viz.: fifteen points will be scored for the first station heard on a specific band within any Prefix Zone outside the competitor's own zone. Fourteen points will be scored for the second station heard on the same band in the same zone, and so on. This scoring procedure will be repeated on each band to encourage multi-band operation.

2. Before points can be claimed, the following information must be logged: (a) Call of station heard; (b) Call of station being worked; (c) Entrant's report on the signals of the station heard (RST); (d) The Serial Number given by the station heard to the station being worked.

3. CQ and Test calls will not count for points.

4. The same station may only be logged once on each band during the Contest.

WARNING

Last year 8 competitors were disqualified for late entries, 3 for late entry and no analysis sheet, 10 for no analysis sheet, 2 for no signed declaration, 3 for no declaration or analysis sheet, 1 for log inaccuracies, and 1 for excess power.

FORMAT OF THE B.E.R.U. ENTRY FORM

B.E.R.U. Contest, 1949.....Section

Name (Block Letters).....Call sign.....

Address

Transmitter

Input Power to last valve(s).....

Receiver

Aerial System used.....

(1)	G.M.T. Contact Established (2)	Band Used Mc. (3)	Call sign of Station Worked (4)	Serial Numbers		Points Claimed (7)
				Sent (5)	Received (6)	
				.001		
				.002		
				etc.		

TOTAL

DECLARATION:—

I hereby certify that my station was operated strictly in accordance with the rules and spirit of this Contest, and I agree that the decision of the President, R.S.G.B., shall be final in all cases of dispute. Date..... Signed.....

If an entrant is a non-member of the R.S.G.B., he must sign the following additional Declaration:—
I hereby certify that at the time of the Contest

I was a fully paid-up member of.....
Date..... Signed.....

RECEIVING CONTEST

The entry form for this Contest should be prepared on the lines set out above with the following amendments:—

Column 2: G.M.T. station heard.

Column 4: Station heard.

Column 5: Entrant's report on station heard.

Insert new Column: Station being worked.

Column 6: Serial number given by station heard to station being worked.

PREFIX ZONE CHART AND SPECIMEN SCORE ANALYSIS SHEET

Prefix Zone	...Mc.		...Mc.		...Mc.	
	Contacts	Points	Contacts	Points	Contacts	Points
AP, VU2						
D2, EI, G, GC, GD, GI, GM, GW						
J4, VS6						
MB0, SV0						
MD1, 2, ZB1, 2						
MD3, 5, ST, VQ0 (MD4)						
MD6, VS0, VU7 (VS3)						
VE1						
VE2						
VE3						
VE4						
VE5						
VE7						
VE8						
VE9						
VE4, 9						
VK5, 6, ZC2, 3						
VO1, 2, 3, 4, 5, 6						
VP1, 5, 7, 9						
VP2, 3, 4, 6						
VP8						
VQ1, 3, 4, 5, ZD6						
VQ2, ZE						
VQ8, 9, YR1, 2, 3, 4, 5, 6						
ZK1, 2, ZM						
ZS1, 2, 4, 5						
ZS7						
VU5, XZ2						
ZC4 (MD7)						
ZD1, 2, 3, 4, 8, 9						
ZL1, 2, 3, 4						
ZS1, 2, 3						
ZS4, 5, 6, 7, 8, 9						
Totals						

NOTE.—Some of the above prefixes may be out of date at the time of the Contest.

Make sure you have read the Rules carefully and do not forget to sign the Declaration at the foot of the form.

Suggestions for future Contests are invited.

15th A.R.R.L. INTERNATIONAL DX COMPETITION

This Contest is run over four week-ends, each 48 hours long; two for phone work and two for c.w. The c.w. section starts at 2400 G.C.T., Friday, February 11 and Friday, March 11, ends 2400 G.C.T., Sunday, February 13 and Sunday, March 13. Phone section starts at 2400 G.C.T., Friday, February 13 and Friday, March 13, ends 2400 G.C.T., Sunday, February 20 and Sunday, March 20.

ALL-EUROPEAN DX CONTEST RESULTS

Advice has been received from V.E.R.O.N. that the following is the result of the first All-European DX Contest. Congratulations to the two Australian winners.

Station	C.W.			
	QSOs	Count.	Bands	Points
VK2EO	74	21	2	4662
VK4AP	55	26	2	4290
VK2JX	55	25	3	4125
VK4RC	19	12	2	684
VK6RU	17	10	2	510
VK5PH	14	10	1	420
VK3XR	14	6	1	252
VE2GW	6	5	1	90
VK3KB	5	2	1	28
VK3JI	2	2	1	12

PHONE

Station	QSOs Count. Bands Points			
	QSOs	Count.	Bands	Points
VK6RU	46	13	1	1794
VK3QE	1	1	1	3

Emergency Communications

(Victorian Division)

SOUTH WEST ZONE—GEELONG DISTRICT

On 12th December the emergency network, working in conjunction with the Geelong Bush Fire Brigade, staged a combined field test. Prior to the test, two lectures were given at the Radio Club on 8th December by Mr. J. McConnell (Message Handling) and Mr. Lawry (Map Reading) so that a complete understanding would exist between all persons participating in the exercise.

The 3.5 Mc. band was utilised, as previous tests had shown that a satisfactory coverage of up to 20 miles was possible without interference from skip distance effects.

The network was arranged with a main station (3BU) situated in Geelong proper, and in telephone contact with the Regional Office, and three outer base stations 3WT, 3APG and 3IG working on 3630, 3505 and 3450 Kc. respectively. The main station (3BU) maintained a watch on these frequencies, using three receivers, so that messages from one or more outer base stations could be suitably received and routed. The main station transmitter was arranged to operate on any one of the three frequencies mentioned above by utilising a v.f.o. system.

Stations 3VF, 3AJF, 3AKE, 3ALG, 3ABW and 3ABE acted as mobile or portable stations and were suitably arranged and controlled by the outer base stations.

The mobile or portable stations mostly used Type A Mark 3 units, the outer base stations Type 3 Mark 2 units, and the main station a AT6 transmitter and three receivers. Whip aerials were mostly used on all field stations, some being top loaded to improve radiation characteristics.

A complete analysis of the test showed that the operation was very satisfactory and the Regional Officer has requested that a similar field test be

repeated in late January so as to thoroughly consolidate the wireless and fire fighting teams in case of an actual outbreak.

NORTH EASTERN ZONE—BOGONG DISTRICT

Emergency communications were set up on the 22nd December when the search for a lad lost on Mount Bogong was established.

The search party made a base from which they conducted their search. On the night of 22nd, VK3ABX, Vic Bond, took his Type 3 to the base at Mountain Creek and kept contact with the S.E.C. Station in Bogong. The S.E.C. Station was operated by Eric Martin, VK3RN, and communications were held until the area of search altered. Operation was again conducted on the night of 22/23 December, the lad being found next morning when he stopped a bus in the Glover Dam area.

RUTHERGLEN DISTRICT

When a fire started on the railway line approximately 2½ miles south of Springhurst on 23rd December, Henry Fleming VK3HP attended and was in contact with VK3UB (Box Hill). 3UUE ring the Victorian Railway's Telegraph Office at Spencer Street and they arranged to contact the Springhurst Station Master via their own land lines so that suitable action and equipment could be dispatched to the fire area.

Eight minutes elapsed from the time 3HP set up his gear to the time the Station Master at Springhurst was advised from Spencer Street.

Ken Rankin VK3KR (Benalla) also acted as a stand-by station and he remained on watch till the fire was extinguished.

3HP's equipment is mounted in a trailer and consists of transmitter ATR2A consists of 6F6 crystal oscillator, 807 power amp., plate modulated by an 807, the grid circuit of which is excited

from carbon mike and transformer. Receiver is a 6 valve super het. Power supply is a generator, battery operated. The antenna is wound on a drum and all equipment necessary for the aerial erection is carried in the unit. The complete portable station can be on the road two minutes after receiving a call for assistance, and on arrival at the scene of operation the antenna can be erected and the station functioning within four minutes. 3HP can be contacted on 7003, 7012 and 7152 Kc.

AVENEL DISTRICT

An outbreak of fire in this district was due to a thunderstorm which settled in the area on the afternoon of Friday, 14th January, 1949. John Miller VK3AHG (Avenel) and Ken Slooper (Associate member W.I.A.) rendered valuable assistance to the local Bush Fire Brigade.

3ABG, operating from home, acted as a base station and was able to handle messages from the mobile unit. John and Ken were on continuous duty from 2100 hours Friday 14th to 1800 hours on Saturday 15th.

The value of radio communication was demonstrated when the mobile unit reported that another outbreak had been detected in an adjacent area and reinforcements were dispatched immediately from Avenel, thus saving valuable time and many miles of car driving. 3ABG and the mobile unit operates under a licence allotted to the local brigade.

The test and emergencies mentioned above are examples of the true spirit of Amateur Radio in general and credit is due to the Emergency Communication Network in particular for their readiness to assist. If you can help in this way get in touch with Reg Busch VK3LS, Wireless Institute (Victorian Division), 191 Queen St., Melbourne.

TRANSCEIVERS.

BENDIX—SCR 522
Crystal controlled. Operating frequency 100-156 m/cs. With valves. 2-832, 1-12J5, 1-9006, 1-12AN7, 1-12C8, 2-6G6, 3-9003, 2-12SG7, 4-12AG. CONDITION GOOD. £12/12/-.
TR1143 H.F.
New and complete with valves. English equivalent SCR 522. 4-EF50, 4-EL32, 2-EF36, 4-E1192, 1-EA50, 3-EF39, 2-EBC33. £8/10/-.

4.3 to 6.6 m/c T R 9 D:
Receiver—6 valves. Transmitter—3 valves. Complete with valves, less batteries. 2-VR18, 1-VT50, 2-VT51, 1-VR27, 2-VR21, 1-VR22. £4/15/-.
T R 1366
17-20 m/cs. Valves—3-EF50, 1-6K8G, 1-CV51, 1-EA50. Contains: 1-2 gang Condenser, 1-3 Gang Condenser. Complete with valves, less power supply. CONDITION GOOD. £5.

TRANSCEIVER TYPE APNZ
U.H.F.—18 valves. 7-6AC7, 1-6V6, 1-954, 1-3U4, 2-6SL7, 1-6SN7, 3-956, 1-2C26. Contains: 24 volt Blower Motor, Coils IFTs, Tuning Condensers etc. complete with valves. £10/10/-.

RECEIVER TYPE CDE
GLIDE PATH RECEIVERS (new)
H.F. Receiver, approx. 30 M/cs
Contains 3-6C6 valves, resistors, condensers, transformer, etc. £3/10/-.

RECEIVERS.

TYPE CW.
AIRCRAFT RECEIVER. Contains 6 valves. 4-78, 1-1642, 1-77. 4 Gang Condenser complete with 1 coil unit, vernier dial. £5. Extra coils. Condition good. 15/-.

Western Electric U.H.F.
4 valve midget type. Brand new
234 to 258 M/cs. Valves—
3-954, 1-955. £6.

VICTORIALS LEADING DISPOSALS MART

DYNAMIC HEADPHONES & MICROPHONES BY ROLA
Double with headband. Good condition. £1. Postage and packing. Vic. 1/6; N.S.W., S.A., TAS., 2/6; W.A. Q'LD., N.T., 3/6.

C.R. INDICATOR UNITS
Complete with EF50, 2-6H6, 1-VCR138. Cathode Ray Tube & Shield—Shift controls, etc. Complete in metal can, with viewing visor. £6. Packing 3/6. FREIGHT FORWARD.

BATTERY CHARGING GENERATORS.
24 volt 1500 watt £15/0/-
24 volt 1000 watt £12/10/-
24 volt 500 watt £10/10/-
12 volt 1000 watt £12/10/-
12 volt 500 watt £10/10/-

H.F. PHILCO IFF RECEIVER
Contains 8 valves—3-7C7, 1-RK34, 2-1203A, 2-1201. Condition good. 24 volt input—480 volt—50 MA Motor Generator and many useful parts, resistors, condensers, etc. £4/15/-.

AERIAL COUPLING UNITS.
Contains 0-300 M/a R.F. Meter, 3-gang .0005 mfd, variable condenser and resistors, variometer, etc. £2. Vic. 3/6; N.S.W., S.A., TAS., 5/9; W.A., Q'LD., N.T. 7/9.

COAXIAL CABLE.
9/16" outside diameter, 73 ohms. Impedance. 20 yard coils. £1. Postage and packing. Vic. 1/3; N.S.W., S.A., TAS., 1/9; Q'LD., W.A., N.T., 2/3.

RADIO BOOKS
Cathode Ray Oscillographs by Rayner. Cost 10/6. Our price 6/-
High Frequency Thermionic Tubes by Harvey. Cost 37/6. Our price 8/6
Wireless Direction Finding by Keen. Cost 27/6. Our price 6/-
R.A.F. Notes for Wireless Mechanics. Our price 5/6
Ultra High Frequency Technique by Brainerd, Woodruff Kackler. Cost £3/2/- Our price £1/2/6.
The Radio Amateurs' Handbook. Published by Radio Relay League 2/6
Radio Receiver Designs—Sturley 19/6.

POSTAGE ALL STATES 9 PENCE.

Mail Orders carefully and promptly despatched. — All Transceiver & Receiver items shown above consigned "freight forward"

WALTHAM TRADING COY. PTY. LTD.

393 FLINDERS STREET, MELBOURNE, C.1. Phone—MB 2701

100 YARDS FROM FLINDERS ST. STATION

ENTIRELY RETURNED SOLDIER FIRM

WHEN ORDERING BY MAIL ORDER PLEASE GIVE NEAREST RAILWAY STATION, POSTAL ADDRESS AND STATE.

FEDERAL, QSL and DIVISIONAL NOTES



Federal President.—W. R. Gronow, VK3WG; Federal Secretary.—W. T. S. Mitchell, VK3UM, Box 2611W, G.P.O., Melbourne.

NEW SOUTH WALES

Secretary.—Dick Dowe (VK2RP), Box 1734, G.P.O., Sydney.

Meeting Night.—Fourth Friday of each month at Science House, Corner Gloucester and Essex Sts., Sydney.

Divisional Sub-Editor: H. F. Treharne, VK2BM, 5 Wairaea St., Burwood.

Zone Correspondents.—North Coast and Tablelands: P. A. H. Alexander, VK2PA, Hill St., Port Macquarie; Newcastle: E. J. Baker, VK2FP, 13 Skelton St., Hamilton, Newcastle; Coalfields and Lakes: H. Hawkins, VK2YL, 27 Comfort Ave., Cessnock; Western: G. J. Russell, VK2QA, 116 Bogan St., Nyngan; South Coast and Tablelands: R. H. Rayner, VK2DO, 42 Pettit St., Yass; Southern: E. N. Arnold, VK2OJ, 673 Forrest Hill Ave., Albury; Western Suburbs: A. C. Pearce, VK2AHB, 48 Harrabrook Ave., Five Docks, Eastern Suburbs: H. Kerr, VK2AX, No. 4 Flat, 144 Hewlett St., Bronte, North Sydney; L. D. Cuffe, VK2AM, 779 Military Rd., Mosman, St. George; J. A. Ackerman, VK2ALG, 32 Park Rd., Carlton, South Sydney; V. H. Wilson, VK2VW, Cr. Wilson St. and Marine Pde., Maroubra.

VICTORIA

Secretary.—C. C. Quin, VK3WQ.
Administrative Secretary.—Mrs. O. Cross, Law Court Chambers, 191 Queen St., Melbourne, C.I.

Meeting Night.—First Wednesday of each month at the Radio School, Melbourne Technical College.

Zone Correspondents.—North Western: B. R. Mann, VK3BM, Quambatook; Western: C. C. Waring, VK3YW, 12 Skene St., Stawell; South Western: B. Sactrine, VK3BI, 17a Raglan Street North, Ballarat; North Eastern: J. A. Miller, VK3ABG, "Erinvale," Avenel; Far North-Western Zone: Harry Dobbyn, VK3MF, 42 Walnut Ave., Mildura; Eastern Zone: J. D. Chilver, VK3DI, 20 Smith St., Leongatha.

FEDERAL

DX C.C. NEWS

We are pleased to report that two applications have at last been received from VK3JD and VK6RU for the Phone Award and are still being checked. Other applications for the Open Award are to hand from VK2NS and VK8OP. As the number of members of the DX C.C. are increasing so rapidly, it will only be possible to list the first ten in each Section and annually to publish a complete list. New members will be listed as they apply. Intending applicants are advised to carefully study the Rules of the DX C.C. as contained in "A.R." for August 1947 and Federal Notes "A.R." April 1948, as non-compliance with the Rules will cause considerable delay.

PHONE

N.I.

C.W.

	Zones	Countries
VK3BZ (14)	39	127
VK8ON (8)	39	125
VK8VW (12)	39	122
VK3EK (10)	38	117
VK2EO (7)	40	116
VK4EL (24)	39	116
VK4DA (20)	38	113
VK2QL (18)	40	112
VK4ER (22)	38	106

OPEN

	Zones	Countries
VK3BZ (5)	39	153
VK2DI (2)	40	151
VK3EX (1)		136
VK3HQ (4)	38	136
VK3JE (18)	39	135
VK3MC (6)	39	132
VK4HR (9)	38	123
VK6RU (11)	36	122
VK4EL (16)	39	110
VK6RW (19)	37	112

New Member

VK4DO (28) 102

Figures in parenthesis indicate membership to DX C.C.

WI BROADCASTS

All Amateurs are urged to keep these frequencies clear during, and for a period of 15 minutes after, the official Broadcasts.

VK2W1.—Sundays, 1100 hours EST, 7196 Kc. and 2000 hours EST, 50.4 Mc. No frequency checks available from VK2W1. Intra-State working frequency, 7175 Kc.

VK3W1.—Sundays, 1130 hours EST 7196 Kc. Individual frequency checks of Amateur Stations given when VK3W1 is on the air.

VK4W1.—Sundays, 0930 hours EST simultaneously on 3750 Kc., 7190 Kc., 14,342 Kc., 52.4 Mc. and 144.138 Mc. Frequency checks are given two nights weekly, and the times are announced during Sunday broadcasts. 7010 Kc. channel is used from 1000 to 1030 hours each Sunday as VK4 query service to 4W1.

VK5W1.—Sundays, 1000 hours SAST on 7196 Kc. Frequency checks are given by VK5DW on Friday evenings on the 7 and 14 Mc. bands.

VK6W1.—Sat. 2 p.m. Sun. 9.30 a.m. W.A.S.T. between 7000 Kc. and 7200 Kc. No frequency checks available.

VK7W1.—Second and Fourth Sundays at 0930 hours EST on 7174 Kc. No frequency checks are available.

SILENT KEY

EX-VK3TH

We announce with regret the passing of George F. Thompson ex-VK3TH on Sunday, 16th January, 1949.

Due to changes brought about by the Atlantic City Conference, some countries have altered their Amateur prefixes to conform with the new prefix blocks. So far the following ones have been altered:

B	China.
DU	Philippine Islands
JA	Japan
KC8	Caroline Islands
RR6	Ryukyu Islands, i.e. Okinawa

The above prefix alterations may be now included in the list of official countries in last month's "A.R." No doubt other countries are due to change also and we will give amendments as they come to hand.

Noel Roberts, VK6NR has advised that it seems most likely that Norfolk Island will be credited as a new country in the very near future, and application is also being made for the inclusion of Heard Island as a new country. Elsewhere in this issue will be found the relevant details concerning VK1FE and VK1VU, the only two official VK1 calls, as VK1AA will not be renewed.

NEW ZEALAND AMATEUR FREQUENCIES

The following are the frequencies released to ZI. Amateurs as from the 1st January, 1949:—

For General Use:—

3.6—3.96 Mc. A1, 3, s.s.s.c.
3.7—3.8 Mc. n.b.f.m. (plus or minus 3 Kc.).
50—54 Mc. A1, 3, s.s.s.c.
60—52.5 Mc. n.b.f.m.
52.5—54 Mc. f.m., p.m.
144—148 Mc. A1, 3, s.s.s.c., f.m., p.m.
420—460 Mc. A1, 3, s.s.s.c., f.m., p.m.
440—460 Mc. A0.
430—460 Mc. A5 experiments.
1250—1280 Mc. A5 experiments.
1215—1300 Mc. A1, 3, s.s.s.c., f.m., p.m., pulse.
2300—2450 Mc. A1, 3, s.s.s.c., f.m., p.m., pulse.

QUEENSLAND

Secretary.—G. G. Augustesen, Box 838J, G.P.O., Brisbane.

Meeting Night.—Last Friday in each month at the State Service Building, Elizabeth St., City.

Divisional Sub-Editor: F. H. Shannon, VK4SN, Minden, via Rosewood.

SOUTH AUSTRALIA

Secretary.—E. A. Barbier, VK5MD, Box 1234K, G.P.O., Adelaide.

Meeting Night.—Second Tuesday of each month at 17 Waymouth St., Adelaide.

Divisional Sub-Editor.—W. W. Parsons, VK5PS, 483 Esplanade, Henley Beach.

WESTERN AUSTRALIA

Secretary.—W. E. Coxon, VK6AG, 7 Howard St., Perth.

Meeting Place.—Paddy House, Cnr. St. George's Ter. and King St., Perth.

Meeting Night.—Watch the Monthly Bulletin.

Divisional Sub-Editor.—VK6WT, Mr. D. Couch, Mary Street, Watermans Bay, W. Australia.

TASMANIA

Secretary.—J. Brown, VK7BJ, 12 Thirza St., Newtown, Telephone: W 1328.

Meeting Night.—First Wednesday of each month at the Photographic Society's Rooms, 163 Liverpool St., Hobart.

Divisional Sub-Editor.—T. Connor, VK7CT, 385 Elizabeth St., Hobart.

Northern Correspondent.—C. P. Wright, VK7LZ, 3 Knight St., Launceston.

3300—3900 Mc. A1, 3, s.s.s.c., f.m., p.m., pulse.
5650—5840 Mc. A1, 3, s.s.s.c., f.m., p.m., pulse.
10000—10500 Mc. A1, 3, s.s.s.c., f.m., p.m., pulse.

For High Frequency Permit Holders Only:—
7.0—7.3 Mc. A1.
14.0—14.4 Mc. A1.
14.2—14.4 Mc. A3, s.s.s.c. (by special permit).
28.0—29.7 Mc. A1, 3, s.s.s.c.
29.0—29.7 Mc. n.b.f.m.

MORSE CODE PRACTICE TRANSMISSIONS

It is hoped in the very near future to conduct morse practice transmissions from W.I.A. official stations on the 80 metre band on a proposed frequency of 3664 Kc. The roster of stations is yet to be completed but as soon as final arrangements are made, the Divisional W.I. stations will make the necessary announcements. These transmissions will be conducted at various speeds so that all may avail themselves of this service.

DX OPERATING CODE

We have placed an order with the A.R.R.L. for 2,000 copies of a new printed card on DX Operating Ethics. It has been advised that these cards are in the mail and they will be distributed to the Divisions as soon as received. We commend this excellent code to every DX man as a "must" on his operating table. They are to be issued free with the compliments of the A.R.R.L.

FREQUENCIES FOR GREAT BRITAIN

Besides those bands already in use in Great Britain, the following bands have been released as from the 1st January, 1949:—

58.5—40 Mc. (until the 31st March, 1949).
144—146 Mc. 25 watts.
144—145 Mc. on a non-interference basis.
420—460 Mc. 25 watts (non-interference basis).
1215—1300 Mc. as for 420 Mc.
2500—2450 Mc. 25 watts input.
5050—5850 Mc. 25 watts input.
10000—10500 Mc. 25 watts input.
F.M. is allowed on all bands above 28 Mc. except 144 Mc.

FRENCH ANTARCTIC EXPEDITION

The following information has been received from the R.E.F.:

"The Antarctic Expedition, which left France in

the early part of October for Adelle Land, have been authorised by the High Commissioner of the Republic of Madagascar to possess and operate a transmitting station in the 5th category and to use the call sign FB8AX. The Expedition expects to work on the following frequencies: 3520, 3580, 7040, 7060, 14080, 14120, 28160, and 28240 Kc.

Details of any contacts, etc., would be appreciated by the R.E.P. Traffic Manager, F8PA. Victorian members will remember M. Yves Valette, who is accompanying the Expedition as Engineer, and gave an outline of the proposed operation of the station at one of the General Meetings. (Note.—We presume the "5th category" referred to above indicates Amateur operation.)

FEDERAL QSL BUREAU

RAY JONES VK3RJ, MANAGER

According to Noel VR5PL the station signing VR5R is a pirate and is alleged to be near the W2 area.

Among the many visitors to Melbourne during the holiday period were the following: Eric Cagney VK4EC who was heard saying his piece on many occasions from local stations; Fred Haas VK5FH of international renown also made a short visit to Melbourne and did the Rounds. Fred is heard to advantage on 14 Mc. c.w. from his home location per medium of a 700 foot long wire. Old friend Len Crooks VK7BQ, or as he says, "Seven Beers Quickly" (let's know Len where you can get seven beers), spent some time in Melbourne and made new friends in addition to renewing old. It is expected that as a result some good signals on 14 Mc. trans-Bass Strait will eventuate. Jim Hillhouse VK4ZO also has made another of his regular pilgrimages to this fair city.

A listener in Germany has written me asking for the address of a VK Amateur by name of Adrian Nall. According to the listener Adrian "was at 1938 Esqu but I have forgotten his number but I think he was in the district of Adelaide or Sydney." Although the name sounds familiar to me a thorough search of all call lists failed to place Adrian. Anyone knowing his whereabouts please communicate here.

Interesting cards to hand during December emanated from OX5MG, Kangerdlugssuaq, East Greenland. Hans, who is ex-OZ2PA, solicits replies to his QSLs either direct or via E.D.R. The direct mail reaches him only twice a year and he is located at a weather observing station. A rather plain card from VP8AD Reuben McLaren, Radio ZBH, South Georgia Island, should bring joy to the hearts of several addressees.

In a letter covering his entry in the recent VK-ZL Contest "Charley" OBIAW writes as follows: "We must work under cover here in OE as there are no licences issued in the Russian Zone and we face deportation and forced labor if located. The Australian Government would give us a licence but—you may know the reason. Therefore please do not QSL to the old QTH of our Bureau, as it is in the Russian Zone and all QSLs will be confiscated by the Censor. Send all OE cards to the new QTH of the O.V.S.V. which is: Mr. H. Wieder, Salzburg, Mainstrasse, 20/1, Salzburg, Austria. So far I have not got one card from VK or ZL stations and do desire to have one. I have asked the Hams to QSL via R.S.G.B. so far but in vain. Will you ask VK3KX, 3VJ, 3FH, ZL2MQ, etc., to send me another card to the address given above as I need the card for W.A.C."

A German contact for philatelists is DE8488 Hans Joachim Siabert, Hamelin Den, Sandttr 3, Germany. A few cards from TA3FAS have straggled through via VK2AHA. TA3FAS unfortunately spit a bottle of ink over his log in the recent VK-ZL Contest and cannot decipher the calls of four VK stations he worked during that period. Any station who worked TA3FAS during the Contest and has not received a card may obtain same by sending him a card giving details of the QSO but also stating the number group exchanged. He can then identify the contact as this portion of his log was not obliterated by the spilled ink.

Cards for YI4LI or TA3AA may also be sent via TA3FAS or via Harold Whyte VK2AHA of 82 Waratah St., Mayfield, Newcastle, who corresponds regularly and is willing to QSP the cards.

Yours truly is indulging in a little extended leave of absence covering February, March and portion of April. Although arrangements have been made for the routine work of the Federal Bureau to be carried on as usual, personal correspondence and extraordinary matters will suffer some delay during this period of 1949.

A station has been authorised, presumably by the French authorities to operate in the Saar area of Germany. The call is EZ5AA and QTH is Georges Loriot, Haut Commissariat, Direction Information, Sarrebruck, Saar.

NEW SOUTH WALES

An extremely interesting film night marked the final meeting of the Division for 1948. Mr. Eric Birre VK2VE, Chief Photographer of Fox Movie-tone News, presented a selection of 35 mm. films comprising travelogues of Australia and New Zealand and a newsreel of a civil aircraft trip to America, topped off by an amusing comedy.

The Institute was unfortunate in losing the services of Brian Anderson, VK2AND as Treasurer owing to pressure of work connected with pending examinations. Mr. N. H. Hicks VK2ANA however stepped into the breach and was joined by Mr. W. A. Easterling VK2BJ as Assistant Treasurer, a position left vacant by the elevation of Mr. Dowe to the Secretaryship.

Owing to the resignation of the Vice-President Mr. J. Moyle from the Advisory Committee, this year's representatives are Mr. E. Barlow VK2GQ, Mr. R. Patterson VK2ATW, and Mr. D. Duff VK2EO.

SOUTH ZONE

The two main topics of interest for December were the W.I.A. field day and the big DX break through on 50 Mc. This district was well represented at Woy Woy, VKs 2VW, 2HC, 2WJ, 2YC and 2HI making the trip complete with 144 Mc. mobile transmitter and receiver. Although several calls were made on the way up, no contacts were made until reaching Woy Woy. The team managed to score third place in the hidden transmitter hunt with the assistance of a six element beam. Those who did not make the trip were well compensated by a record opening of the 50 Mc. band. VK2ABC made a record run by contacting 14 VK5 stations, seven VK3s, and eight ZL stations. Fred ran up 210 points in the day for the v.h.f. DX contest.

2WJ is busy experimenting with double conversion on 144 Mc. and still manages to make plenty of contacts on 50 and 288. 2VW has also solved the QRM problem on 50 Mc. with double conversion, 21 tubes all working. 2AO heard occasionally on 10 and has also put in an appearance on 6. Bill 2UV is now operating on 20 and 40 as well as 144 Mc. 2ABB still snaring choice morsels of DX on 20. 2AB still rebuilding, time that rig was finished.

WESTERN SUBURBS ZONE

2AHU, after recovering from the unexpected descent of a pole in windy weather, had three half waves ready to go when the "wet" came through the roof and through the rig. Curley can't even get an arc from a shark now! 2AZO is back from holidaying on the South Coast and 144 Mc. mobile on the way. 2MA back from visiting 2LY at Etalong and trying 10 in the shack there. 2AGB is battling well with a converter for 144. 2GY is building up a receiver to end all controversy—14 tubes so far. 2VY is trying portable work in the Woy Woy area. 2MQ thought the fire brigade might be needed—clouds of smoke from his i.v. d.c. supply which burnt up. 2TD has reluctantly abandoned plans for a sailor's life. 2AER comes on when Forestry work permits. 2QC is building up staff for 144. 2OQ has been trying 20 c.w.

The Experimental Radio Society, Greenwood Hall, Liverpool Rd., Enfield, will hold meetings on 3rd February and 17th February. There was a demonstration of 144 Mc. gear at a recent meeting and numerous local contacts were made. 2FX, a staunch c.w. man, was at the mike but this holding at the mike was only a temporary interlude for Harold. The Club transmitter has been completed, and the receiver by the time these notes are in print. Other temporary gear heretofore used for this purpose will still be available to accommodate members and an AT5 has also been acquired. Visitors are cordially invited to attend and will be assured of a hearty welcome.

EASTERN SUBURBS ZONE

One of the bright spots to a rather dull month was the visit of 3IK portable to this zone. Ian armed with a type 3 Mark 2 rig, brightened things up during the holidays. 2JO heard 20 c.w. first time for months. 2FC working on band-switching gear. 2AJG off the air for awhile, after blowing up his final transformer. 2ALW now VK3 portable. 2CE busy building garage and auto radio for his new car. Alf still finds time to do a little 20 phone. 2YF just finished 3 weeks' holiday (busman's). Frank built a v.f.o. and two beams, the second one a W9NLR, worked out well. 2AIG puts out nice sigs on 40 c.w. 2OV active 40 phone, a good sig with his QRP. 2NO not much time for radio these days, but manages to work a little 20

phone DX, also gets his share of six DX. 2BV, the Waverley Radio Club, still quiet, should be coming to light soon.

2EZ reappeared, after long spell, on 20 c.w. 2FI rebuilt completely and now working the DX in fine style. 2TN still off the air, the only operating he does these days is in a projector box, back on soon. 2AEZ heard on 20 and 40 phone. 2OQ puts out nice phone sig when he is on, which is not very often. Ray runs 35 w. mod. 807c, ABL. 2WR moving QTH to the high country near VIS. Better change your i.f. frequency OM. Alan dreams of rotary beams and long wire antennae. 2SA also changed QTH, now located near Sutherland. 2AZH using 83 in final grid mod. first class quality. 2ANB active on v.h.f. Norm is an old-timer and was the original 2NB. Glad to see you back OM.

NORTH SHORE ZONE

2AGN is a marine operator who has just taken out a Ham ticket, and is active from Mosman on 40 and 20 phone during his spells ashore. Listen for him mobile in the near future. 2AND now

Low Drift Crystals

FOR
AMATEUR BANDS

ACCURACY 0.02% of
STATED FREQUENCY

3.5 M/C and 7 M/C

Unmounted .. £2 0 0

Mounted .. £2 10 0

12.5 and 14 M/C Fundamental Crystals, "Low Drift" Mounted only £5.

Spot Frequency Crystals
Prices on Application

Regrinds . . . £1 0 0

THESE PRICES DO NOT
INCLUDE SALES TAX.

Maxwell Howden

15 CLAREMONT CRES.,
CANTERBURY, E.7.

TECHNICALLY *in the know*

TO-DAY more than ever before, it is essential to keep fully informed on electronic matters.

RADIOTRON offers a technical service on valve applications that is unique in the radio world.

RADIOTRON TECHNICAL PUBLICATIONS INCLUDE:

I. "Radiotronics"—quarto size—20 pages per issue—sections devoted to DESIGN, THEORY, CIRCUITS and VALVE DATA—published every other month. Handy filing covers are supplied with available back issues to "Radiotronics" subscribers.

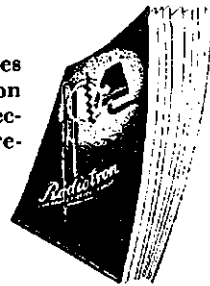


II.

Data Book—octavo size—150 sheets in loose leaf binder—comprehensive data on all Australian-made receiving types—new and revised sheets released periodically.

III.

Valve Charts—quarto size—36 pages covering characteristics, classification tables, socket connections—special section on Australian-made types—comprehensive substitution directory.



plus

first-hand knowledge on power valves and allied types, cathode ray tubes, the miniature range, circuits and associated components, as released. This information is just another service offered you by Radiotron.

keep posted

on the latest developments in electronic research. Arrange for Radiotron Technical publications to reach you regularly through the mail. Full particulars are available on enquiry.

AMALGAMATED WIRELESS VALVE CO. PTY. LTD.

SALES PROMOTION AND ADVERTISING

47 YORK STREET (BOX 2516, G.P.O.), SYDNEY, N.S.W.

possesses the famous receiver on which 2DI ran up 170 countries, and hopes to repeat the performance. 2TL has his v.f.o. perking nicely now. 2GC is gradually getting to work on a 3 element beam, which should put his 9 watts into a few new countries. Someone fell over 2JG's antenna, which had an average height of six feet above ground, so Noel is now pondering over the alleged merits of an underground version. 2AMB still hard at it—most consistent performer on 20 in this district. 2EO appears to be creating a fair amount of slaughter with his new beam—wish they came back to me as consistently, anyway. 2ZH has the receiver-building bug again, reports suggesting that anything from a triple- to a sextuple-conversion job may result. A certain bloke is eagerly awaiting a pink QSL from a certain well-known authority in the U.S.A.—oh, tsak, tsak! Believe he has a mate in the same boat too—for shame! A slight pause here- for hanging of heads.

2RA using a break-in system, a la his lecturette at the W.I.A. 2PV nearing a return to the air-waves. 2ZZ had super trip as chief on recent Llanocetrian survey flight to South Africa via the Indian Ocean and return, but didn't have time to make personal QSOs with ZS gang. 2VN may be operating from new location soon. 2UB has neat-looking rotary at Artarmon. 2OI appears to be getting his share of the DX under the present poor conditions. 2NT has rotary dipole on windmill tower in operation now. 2SS heard occasionally. 2ADV looks like being QRT indefinitely. 2ANX recently changed location. 2RP as active on 20 as his duties as Secretary of the Division will permit. And with the pile of work attached to that job, it's no surprise! 2TF by all reports has something out of box in the way of a new receiver. 2HO, the Squire of "Art Oller," is considering loading his 144 Mc. signals with helium to get them up out of the valley.

DX NOTES BY VK2ACX

Band conditions on 14 Mc. seem to be worse now than they have been for a long time. Very little in the way of "new stuff" has been worked by the gang—although, if you can spend the time listening around you can pick off a stray one or two. For example, 2DI managed to grab VQICUR (ex-VQ4CUR who was in Zanzibar for three days) from the "W dog-pile," giving him 182 countries. He has about 160 of them confirmed now, so he's doing alright. His last card received being T&S&F&S.

Speaking of QSL cards, for those who have worked OX&MG and as yet have not received his card do not despair, as they are arriving for contacts back in 1946 and early 1947. 2EZ is now up to 156 countries and only needs one card for W.A.Z. His latest additions being WOMCF/CS Formosa, FK&AB, FUS&A, VK9NR (Norfolk Island), and a very nice one 2F&XX. That last one looks very nice. Bill tells me that he has "passed up" W&WEA/Truk (now KC&EA) a few times thinking he had worked the Caroline Islands!!!

For those of you who have worked Noel VK9NR, ex-5NR on Norfolk Island and have not as yet courted him onto your country list, you may now add him because Norfolk Island has been added to the official DX countries list. 2VN has moved QTH during the past few weeks—consequently no new ones. He has received his DX C.C. certificate from A.R.R.L. HQ. Congrats Morrie. 2TG paid a visit here for a few hours one evening recently and he is now up to 162 countries with 40 zones. Being a school teacher, he does a fair amount of moving around and has moved from Orange to some place west of Casino. 2EO is still knocking me over very easily with his 3 element rotary beam. I don't know his exact score but believe it to be around 160 countries.

2QL has been away on vacation, but is back once again and still as keen as ever. His latest being MD&BPC and CTS&B. He has sent his cards away for his W.A.Z. certificate. His score is around the 160 countries mark now. Here it's now 173 with VK9NR, TF&EA and VU7AF (Nepal). My hopes of receiving a card from Zone 40 have been raised considerably now that I have TF&EA "in the bag." I hope to dig out those elusive ones in deepest dark Africa very soon with the aid of a 3 element wide-spaced rotary on 14 Mc. For those needing an OQ&S contact, look around the low end of 14 Mc. about 14100 Kc. for OQ&CL T9. He will be on often from 0500 hours and it's ON4QF at the key. From across the Tasman—ZL1HY is now up to 192 countries and is W.A.Z. No. 72 and ZL2GX 171 countries. That's all chaps, so good hunting and 73.

NORTH COAST AND TABLELANDS

The regular 80 gang 2XO, 2GI, 2JC, 2EC are still hard at it and are finding conditions good for this time of the year. 2GI now using an 807 in the final, the boys can't believe it! 2ADE getting his share on 8, one particular day worked 28 DX

stations. Has heard 6HM. Power only 10 watts to converted SCR522 and using 40 zepp. 2PA active on 6 too, has 22 Interstate and ZL contacts up to date. Hears 2LH at S6 and has run tests with ZASF 26 miles away, signals 87. 2JK and 2ARJ Coff's Harbour active on 20, giving 40 away. Both waiting on xtals for 6 and then will join the North Coast net. 2ASF getting gear going on 6 and should fire up in January. 2SH working mainly on 20, good results with centre fed vertical. Nil heard of 2AGM, 2RK, 2NY, don't forget some news to 2PA Port Macquarie. 2AJB still busy on 40, QRL over Xmas but made few contacts. It is anticipated several of this Zone will be on in the N.F.D. 2JC spending his holidays at Urunga and has a portable job mainly on 80, paid a visit to Kempsey and Port Macquarie with 2XO, called on 2ASF and 2PA. Hart's son had a fine pass in recent Uni. exam. 2ZS on the annual holidays at Foster—in radio. 2ZX doing a fine job with some slow Morse in the a.m. for potential Amateurs.

2AMP active once again with an 811 cathode modulated with 6V6s, the line hash has been reduced by using balanced feeders and tuning unit. 2SR active since May on 40. 2TB on 20 and 10 and finds conditions poor; he has a new receiver on all bands to 10. Trying 144 Mc. with 2NY. 2WQ a step further ahead with new (ex-disposals) 11 receiver.

COALFIELDS AND LAKES

2KQ mainly on 6, new receiver on bench. 2RI testing on 144 Mc. and has at last worked ZL on 6, don't know whether the hill was moved or Major went around the long way. 2AEZ 106 countries and 37 zones on 14 Mc., how is 6? Heard someone working you there. 2AMU has 12 tube double conversion super working on 10. 2OC heard occasionally on 6. Calling 2KR, where are those notes Ces? 2TY still DXing on 10. 2ADX playing around on 6, how is the receiver and beam now Jack? 2JZ no news, same from 2YO, 2MK, 2KF. 2KZ on job again making beam for 6, still working DX on 6 with two tube blooper and 5 half waves on 20 shock excited! 2PZ not very active, been holidaying also making switches for new receiver. 2ADT was first VK2 to contact VK6 on 8, very active and finding time to overhaul 10 beam. 2YL had a month on 50 Mc., few Interstate contacts and at last the 6 beam is up. A couple of bursts on 14 Mc. bought them 162 or 163, according to way the Palestine war goes!

Newcastle was favoured as was the Coalfields with a visit from the down south v.h.f. gang. 2XX, 2VC, 2ADW, 2TY, 2YR, and 2LY made up the party, the car fitted for complete 50 Mc. operation. They communicated on the move and at various points with the v.h.f. gang. The power was point 3 of a watt, they worked from Swansea to Cessnock,

27 miles. Superhet rx. in a 4 inch cube can (7 tubes) did a good job. ZL stations being heard near Cessnock, a good trip.

WESTERN ZONE

News from Broken Hill has been scarce but 2OT at the moment; in Sydney supplies the following: 2DQ is mainly chasing 20 DX. 2RV rebuilding; 2AMX on 10 exclusively; 2VR also on ten with 3 elements; 2AXL has a tower ready to erect. 2BY busy on a receiver. 2OT planning 4 elements on 10 and a corner reflector up 75 feet on 144 Mc. Would be pleased to hear of anyone willing to keep skeds. 2FH still with his 4 elements wide-spaced on 20 chasing DX. 2LY looks like being the winner of 50 Mc. section of the N.S.W. v.h.f. contest. 2LZ never ventures from the v.h.f. 2EF heard occasionally on 40. By fair means or foul, 2HZ has 105 confirmed post-war and will send away for a DX C.C. 2WH and 2NS clocking up some good DX assisted by 2ML—who said that!

SOUTH COAST AND TABLELANDS

Many stations have been heard during the month and details of three new to 40 are to hand. The Hams at Young made front page news in the recent bush fires in that district. When telephone lines were destroyed these stations handled traffic on the bush fire frequency. Nice work chaps. 2TC now has 100 watts to 813, two receivers BC348 and double conversion 13 tube affair. Six metre rig off at the moment. 2MN from Koorawatha on 40 using AT5 ARS, nice sig., also active on five control using ham gear. Three stations active in Goulburn. 2ATZ with a nice signal. 2AJP with a Command transmitter v.f.o. feeding a BC375 using an 807 and 813 in lieu of 211 tubes, a 211 modulator and a Type 10 receiver completes the set up. 2PI also has a command job as a v.f.o.; rebuilding receiver and has been visited by his cousin who is 3PI, enough to confuse anyone.

2PM is off the air, busy with study, also the fact that a neighbour liked the idea of a big aerial and put one a few feet from 2PMs—plenty of b.c.i. now. 2JQ designing and building new transmitter, all band operation; overtones from 20 decided Monty to instal extra stage. 2TA operating portable from Illawarra Lake skeds 2TC. 2WA denies operating on 20, so maybe I'm wrong or a pirate is at work. 2AJ5 from Bendix using v.f.o.—807 final 50 watts, 5L6s AB1, Bendix RA11 receiver using two supplies in series for 750 volts for the final. 2ALS and 2AK are away in Sydney (the latter has been sighted peering into windows at big tubes—something under way). 2ALS surfing according to 2QP. 2ALN and 2AKE heard only briefly. 2MT on 144 Mc. but wants someone on at the 'Gong.

LET

GLO-RAD

SOLVE your remote control and automatic protection problems.

NO problem is too big or too small for GLO-RAD'S Engineers.

Write or Call—

Glo-Rad Engineering Services

186A Riversdale Rd., (Cr. Robinson Rd.)

HAWTHORN — VICTORIA

Phones: **DAY—WA 3819. Night—WX 3340**



AUSTRALIA'S NATIONAL WIRELESS ORGANISATION

AMALGAMATED WIRELESS (Australasia) LTD.

requires

Radio Technicians

in its Aviation Department to install and maintain Radio Apparatus in Aircraft.

QUALIFICATIONS—(a) 1st, 2nd or 3rd class PMG Commercial Operator's Certificate, or the ability to obtain one. (b) A knowledge of general radio theory.

TRAINING—Successful applicants will be coached on full pay for appropriate Department of Civil Aviation examinations and trained for duties at any of the Company's depots located throughout Australia and Overseas.

SALARY—Technicians are paid on attractive salary, plus allowances. Full details will be supplied on request.

ALLOWANCES—include travelling, child endowment, non-metropolitan, tropical, and in-charge.

RECREATION LEAVE—Three weeks per annum.

APPLY—Aviation Superintendent, 47 York Street, Sydney. Phone B 0233.

Aviation Manager, 167 Queen Street, Melbourne. Phone MU 9161.

VICTORIA

The State Convention of this Division will be held on Saturday, 12th February, commencing at 10 a.m. in the Meeting-Room of the Chamber of Manufacturers, 312 Flinders Street. Arrangements have been made for lunch and all City and Country Members are invited to attend. If your XYL or YL want to come along, the ladies' committee have made arrangements to entertain them at afternoon tea. Quite an interesting evening has also been arranged for the OMs, so you are assured of a good time. Sunday, 13th February, will be taken up by a Field Day, Sports Meeting for XYLs and harmonics, controlled model aircraft, etc., to be held at the same place as last year, that is National Park, Yarra Bend, all members will have received direct notification by now. If you intend taking part in the Field Day, don't forget to take out your portable permit. A competition has also been organised for the best piece of equipment.

Do not forget the Discussion Group which is held at the Club Rooms prior to each General Meeting. Bring along your sandwiches and enjoy a chat from 6 p.m. onwards.

An exhibition of Amateur Equipment is being organised by this Division to be held later on in the year, so get to it chaps and do up or rebuild that pet piece of equipment and you may win a prize. Further details will appear later.

FREQUENCY MEASURING TEST

The Victorian Division of the W.I.A. will conduct a Frequency Measuring Test on 10th March (Thursday) and 15th March (Friday).

Signals will be transmitted by VK3WI in the 7 Mc. band and five different frequencies will be transmitted on each night.

Members of the Institute will be eligible for Awards, which will be based on the overall accuracy of measurement of the test signals transmitted, as compared with readings submitted by an independent frequency-measuring organisation.

A prize of £3 will be awarded to the competitor submitting the report having the highest average accuracy, and £2 will be awarded for the report having the second highest average accuracy. In order to encourage participation by members using home-built equipment, a special award of £1 will be made to the competitor who, in the opinion of the judges, has submitted a report of outstanding merit.

For further details, keep tuned to the Sunday broadcasts from VK3WI and watch for the March issue of "Amateur Radio."

SOUTH WESTERN ZONE

Latest news from the S.W. Zone is that Bob 3GR still puts out good signals on 40. Bob had 3RU up for a few days. Jack 3WN has gone portable, also a few others from Ballarat. Murray 3AMP was working Bruce 3AQC who was portable, signals were good both ways, Murray's wire recorder is now 100 per cent. Vern 3YE signals are down, what's the matter Vern, need more herbs up that wire. Jack 3JA still pounds the key on 10 and 20 with more new countries up, in between work on farm. SHG and 3MC are still after that rare DX contact, Neil works a little on 80. Frank 3ZU has new 1½ waves long wire up and now working some super DX on both phone and c.w., good work Frank, hope to have a QSO on 40 soon. Ted 3PS, the old timer, will be on 20 soon with crystal control, has PS5 receiver working 100 per cent. now on 20. Les 3DX has started on new three element rotary beam on top of a 50 ft. tower and will use both c.w. and phone. 3EQ Norm still likes a good QSO on 40, has new crystal mike, hooks the berries

Norm. 3HF Harry is able to work some of the rare DX on 20 with vee beams and a hot receiver.

3VA, the big little man from Ballarat, is still beam happy; he was on 40 other night with a fine signal and was earbushing some chap in VK2 about his super rotary. 3BE Andy has been silent during past few weeks, looks like as if the two 807s have gone to sleep Andy, what about standing them up for a change. Only one heard from Geelong was Ed 3AKE on 40 with a poor signal and QRM, are you on QRP power now Ed? No news from the boys at Camperdown and Ballan, so what about sending along some of the doings chaps, as I cannot hear all signals on the bands. 3UT had Howard 3RD down for a few days, took him along to meet the gang in Warrambool who made him welcome. Ask 3EQ and 3PS, they know what is good for the health chaps. Kevin 3AKK still earbushes the chaps, but will be using new 8 wave vee beam soon. Kevin has new 640 receiver which he is going to revamp. A new comer to 40 is 3AGD, John from Dunkeld, who is Leigh's son-in-law, John has good signal, but Leigh 3H has gone down in signal strength, what about putting up a new antenna and a few more watts.

Geelong Amateur Radio Club held its final meeting for the year on Wednesday 22nd December at 65 Little Malop Street, Geelong, many of the members came along to witness the christening of the Club's call sign VK3ATL. The first contact was with VK2EQ, and other contacts were made during the night. The transmitter used was a Type 3 Mark 2 which VK3ABK brought along. 3ABE brought along his AR7 receiver. Some of the other chaps brought Type A's. Members wound up the evening with a "break-up" supper after which seasonal greetings were exchanged.

NORTH EASTERN ZONE

Congratulations to 3UI on 50 Mc. W.A.S. Alan and Tom sobered up enough to snag VK6HM on Xmas day. Tom needs VK7 for W.A.S. DX was good over Xmas, with all States and ZLs worked on six. After the VK6, Alan and Tom had a joint celebration in Tatura. Alan was not heard for two days, and Tom was off the air for a week.

Nothing but disasters in the Zone lately. 3ABX and 3HN helped the search on Mt. Bogong with radio. 3ACW, 3PH and Associate Ken Sloper were on duty at Magaloro Aerodrome when the DC3 aircraft crashed. The Cops got to the wreckage just in time, so the new beams will have to be conduit. 3UI had a birthday. 3APP bought an M.G. and now building a car radio for it. 3CN rebuilding the receiver. 3ACK using a 640. 3JK and 3YV have terrific signals on 40. How many watts to a Wang, watt? 3QV on with an AT5, busy with bushfire work. 3BP active on 40. 3GD still on DX on ten. 3HZ nearly ready. 3YV on holidays.

3APP, 3UI, 3KR, 3AT, 3AOG, and 3DG please note. Send some notes or we will print an interesting story of your past, which you don't want known. Heard 3TS on six, "The time is 8.30 by the studio clock, could be half an hour either way." 3KR has not been speaking to the writer since the par about his stomach. 3UI was wild and denies the YL report. 3YV went past without calling in. 3DW, 3KR and 3UI also.

EASTERN ZONE

The Eastern Zone suggests that v.i.o. users net to frequencies with the p.a. switched off and the antenna on receive position, to prevent interference to those operating on the bands.

We welcome VK3AFL (the old VKAFL) to the Zone, and hope you can join the Sunday night hook-ups as soon as accommodation permits. 3WE commenced duties as Control Station on 2nd Jan-

uary, after holidaying in Melbourne. 3LS, operating portable at Lake Tyers, was in the hook-up on 2nd January. 3BB has completed new transmitter; how about some details, Bert. 3ACL is active on 80, 40, 20 metres and is now building a rig for 6 metres. 3TH is working 6 metre DX; how is the new shack, Gordon? 3LV has worked VK2, 3, 4, 5 and ZL1, also heard ZL2, 3, 4, all on 6 metres. 3CI had the mistortone to lose 3 power transformers and a 5Z5 in the recent heavy rain. 3DI complains that he is working whenever the ZLs come through on 6 metres. He puts through excellent sigs to VK4, however. At the time of writing, Jim is caravanning to Mildura with 6, 40 and 80 metre portable rigs.

3AEP reports good DX conditions on 40 when 6 is open. Kal is still working Gs on 40. 3PR spent Xmas and New Year collecting battery water instead of making hay, and trying to decide whether to put his new a.c. lines around his antenna, or to shift his poles! 3VL/US are trying to hear sigs

Amateur Radio Station

★ LOG BOOK

This log book has been designed to fulfill the need for a standard log. Radio amateurs and experimenters will find that they can keep their log books uniform while at the same time having on hand a permanent record not only of experiments and QSO's, but also of outstanding work done by the station—records that can be shown with pride.

Price 3/6 each, plus 7d. reg. post,
or four for 12/-, plus 1/- reg. post.

TECHNICAL TOPICS

★ Radio Handbook

Here is another publication of interest to the radio amateur. Many servicing problems that confront the technician are dealt with in this reference book. Size 7½ in. x 9½ in., stiff cover bound. First edition.

Price 7/6, plus 9d. reg. post.

Note: Second edition available early 1949. 15/- plus 1/- reg. post.

Both available from

MINGAY

Publishing Co. Pty. Ltd.

Box 3765, G.P.O. Sydney

GATHERING AT THE EASTERN ZONE CONVENTION

Standing left to right: 3VL, 3RH, 3ADC, 3QZ, Mrs. 3QZ, 3AHK, Mrs. 3PR and Jur. Op., 3BB, Mrs. 3LV, 3DI, Mrs. 3DI, Assoc. Alan Duncan, 3SS and 2nd Op.

Front Row: 3PR, 3TH, Jur. Op. 3QZ, 3CS, 3WE, 3HK, 3LV, 3DI's Jur. Op., 3ALS.



on 144 Mc. They want VK6 and 7 for 6 metre W.A.S. 888 was seen recently at Inverloch consuming quantities of lolly-water. 3RH was heard on 40. 3QZ is busily engaged laying the foundations for his new house, which only leaves time for hook-ups. Memo to Sale and District Hams: How about news from you chaps? No news of 3AJL or 3ABK.

CENTRAL WESTERN ZONE

Christmas having come and gone, the zone is now getting back into harness with members here and there shooting off for their annual holidays. A pleasant pre-Christmas visitor was Radio Inspector Nelson, who blew in with an assistant looking for noises. Another visitor was 5LR from Adelaide, Jack is mainly on 26 Mc., but we introduced him to the virtues of 3.5 Mc. while he was here. 5EL might be on 7 Mc. phone by the time this hits print, then again he may not. While Allan is busy with the harvest, a brother-in-law who came up for a holiday is busy building a modulator, last heard of he was building a steel can to shield the mike tranny. 3DP is also using phone during quiet hours. Jim is using series cathode modulation to the old rig and, provided the big noises are off, gets out very well.

3EF, another of the c.w. boys, is modulating also these days on 7 Mc., Bert is using a Type 3 with plate modulation; it was not so hot but as he will be moving to a new QTH in a few days, Bert was not worrying about it very much. Anyhow it was nice to hear him in the zone hook-up. 3LF, another station with visitors in the shape of 3XB and 3KS, Mavis and Ivor were visiting the home folks at Minyip, and it was pleasant to contact them both once again. 3TY for once missed the hook-up, we missed your cheery voice Bill but no doubt you had a good reason. 3AKW is off on holidays now, how he runs a farm, picture shows and helps 3LK I don't know, but I guess the break will be appreciated. 3ARM is having a spot of bother with downward modulation but is taking the necessary steps. Bob also has a No. 19 generator going now and the power up to 22 watts, but is still in a very hot spot. 3YW over Christmas

relaxed from W.I.A. skeds, and got down to painting the new mast, which should be up before the next lot of notes are due.

ZONE HOOK-UP.—As you will remember the time was changed at the Annual Convention to 2 p.m. instead of 10 a.m. and after an extended trial the boys seem to think that the old time was better, so future hook-ups will take place on 7120 Kc. on the 2nd Sunday in each month at 10 a.m. VK3YW as control station.

SOUTH AUSTRALIA

The monthly general meeting was held as usual, when Clem Tillbrook (5GL) gave a very interesting and entertaining lecture on "Amateur Recording." The records of Amateur transmissions were listened to with enthusiasm and I am sorry that the signals of 5PS were not heard so as a little mud could have been thrown. Better luck next time. A vote of thanks, ably proposed by John Allan (5UL), was received with acclamation. A very pleasant ceremony opened the evening, to wit, a presentation to the retiring Treasurer. The President (5AW) in a few well chosen words handed Cec (5BZ) an electric clock in appreciation of his sterling work during the past years. Cec, with a few (emphasis on the few) direct and appreciative words, thanked everybody for their gesture. Personally I have never known all sections of Amateur Radio to be so united in their appreciation of the work that Cec has performed.

Among the visitors were Messrs. Gay, Peters, Braham, Burton, Whetstone, and 5QL from Salisbury. Last but not least Rev. Father Smith VK3EA. Interstate visitors included VK2AWR and VK2YR, both from Broken Hill. Considering the heat of the day, the attendance was more than satisfactory, and once again proved how popular the South Australian Division has become.

I have noticed lately that big names in radio apparatus usually mean big prices, but I was overcome the other day when an article that I wished to buy was quoted at 7/6, and when I "winged" a bit to the salesman he said "yes it is a bit hot,

but I have something without a big name that will suit just as well for 6d." and believe me it did too. My motto in future is to ask for no big names, but to explain what I want and save money.

What with "Sterbas," "8JKs," "Quods," etc., I thought I knew them all, but a new one has bobbed up in VK5, "the inverted bath tub." Originated by a prominent DX Ham from around Glenelg way, who says that he stumbled upon it accidentally whilst trying to squeeze one and a half wavelengths into the space usually occupied by one wavelength. It is doing an extra good job for several VK5 boys and "Doc" (5MD) will give you a good line of sales-talk on it if you should desire. Full details of this colossal, revolutionary, stupendous serial will be forwarded to you by 5PS upon receipt of two 807s, a 600-600 tranny, and a Super Pro receiver to cover expenses.

One of my New Year resolutions is to secure as many technical books on radio as I can, and try and find out why it is that a c.p.o., a peak clipper, and several other modern gadgets will not let a signal be overmodulated (according to the operator) and yet when I listen to the said signal on my receiver it is spluttering all over the band. As one infuriated Ham said, "they may not be able to overmodulate, but they take up a 'blanky' lot of room." He didn't say "Blanky" but it ended in "Y" (you know these Editors, very Mid-Victorian).

Last month's notes gave me a very uncomfortable few moments when I saw that the printer had substituted 5KO for 5XO in a little paragraph on "splatter." My "Friends" on the Council were overjoyed at the misprint and its implications, but I can assure them that I rang the gentleman concerned immediately, and he accepted my explanation with his usual good humour and kindly courtesy (I'll get on), anyway Mr. Printer, treat me gently: lay off R.I's. Please!!

A very interesting controversy is being conducted in the "Bulletin" 22-12-48 and 5-1-49 under the heading of Amateur Radio. Whilst not wishing to take sides, I somehow feel that "Hadit" (X.S.W.) gave considerable thought to his little

TRANSFORMERS, CHOKES, ETC.,

Manufactured to order. Following stock sizes available:

SOLVE YOUR MAINS TROUBLES WITH AN AUTO TRANSFORMER

Tappings at 110, 190, 200, 210, 220, 230, 240, 250, or where desired.

200 Watt	£2 10 0
500 Watt	3 10 0
1000 Watt	5 0 0

A few more oil filled T.C.C. and CHANEX Cond ensers ore now available in the following sizes.

2 MFD 3000 volt working	£1/12/6	10 MFD 1500 volt working	£17/6
2 MFD 2000 volt working	£1/5/0	2 MFD 500 volt working	5/-
4 MFD 1500 volt working	17/6	1 MFD 400 volt working	3/-

B.T.H. 10 HENRIE 250 M.A. 1000 volt CHOKES £1/5/-.

Crystals as illustrated, 40 or 80 metre. AT or BT cut. Accuracy .02% of your specified frequency

20 metre Zero Drift	£2/12/6 each
Large, unmounted, 40 or 80 metre	£5/0/0
	£2/0/0

Special and Commercial crystals. Prices on application.

CRYSTALS REGROUND . . . £1/0/0 each

BRIGHT STAR CRYSTALS may be obtained from the following interstate firms:—

Messrs. A. E. Harrold, 123 Charlotte Street, Brisbane; A. G. Healing Ltd., 151 Pirie Street, Adelaide; Atkins (W.A.) Ltd., 894 Hay Street, Perth; Lawrence & Hanson Electrical Pty. Ltd., 120 Collins Street, Hobart.

A.W.A. SPLIT STATOR TRANSMITTING CONDENSERS, high voltage . . . £2/15/0 each

SCREW TYPE NEUTRALIZING CONDENSERS (National type) to suit all triode tubes, Polystyrene Insulation . . . 19/6 each

Prompt delivery on all country and interstate orders.

Satisfaction Guaranteed

BRIGHT STAR RADIO. K. G. Allen (late R.A.N.)

1839 Lower Malvern Road, Glen Iris, S.E. 6, Victoria.

Phone: UL 55 0

POWER TRANSFORMERS . . .

600 Volts aside, 250 M/A.	£3 5 0
880 Volts aside, 300 M/A.	4 17 6
1250 Volts aside, 400 M/A.	6 17 6

Tappings taken out where desired.

POWER TRANSFORMERS and CHOKES Re-wound—

Reasonable Prices.



epistle. If you are interested, the controversy may be found under the heading "The other fellow's mind."

My thanks to 5XU for his eulogistic reference to me in a recent letter to the Editor, but I hasten to assure him that I do not "Labour" over the notes, although several readers have blown down my ear that they are a very painful effort.

In view of the fact that "Gremlin" seems to be only a memory now, what about a substitute under a new Non De Plummy (excuse the French), such as "The Old Man," something along the lines of the QST feature of some years ago. Surely there must be someone who will take it on. I would have a go myself, but I would be too busy taking the moat' out of my own eye.

Quite often in these notes I have drawn attention to the fact that the Sec., the Treas., the Pres., in fact all office holders in the W.I.A. are honorary workers (and if that doesn't register, it means that they toil for sweet something or other). Nevertheless there are still a few Hams who think that the Sec. and Treas. are waiting at the other end of the phone, just in case somebody or other wants to insult, abuse, or even take the bat on them. This is a mistaken impression and if it goes on much longer the Sec. etc., will throw in the towel, and then where will we be? (Don't answer that). Why, I would not be surprised if some disgruntled disposal purchaser allowed himself to be talked into slapping a "Blue Paper" on to the Sec. etc., and having them locked up in "Doc's" shack. I'm not kidding either.

Conditions on eighty metres are proving an eye-opener to any Ham who cares to rise at 4.30 a.m. over the past three weeks. European and choice DX signals make this band seem like 10 or 20 metres at their best. One local DX man who discovered these unusual conditions has worked 17 countries, 5 continents, and 123 stations in less than three weeks. If this should interest you, don't all pile up on the same frequency and "bark" it for the bare few who have somewhat pioneered this unusual condition. After all we have a lot of room on this band. As I write this, Hal Austin (5AW) tells me that he had occasion to be up at 4 a.m. one morning this week (you're wrong, he was up because his daughter was badly sunburnt and needed treatment) and he said that "forty" was alive with European signals. Well there you are, go to it and make the best man win.

5JA has secured a tower for further extensions to his aerial system and is also building a 60 and 144 Mc. receiver. 5MS has been heard operating his new rig off the a.c. mains. He is using an 815 in the final. 5TW has been rather quiet this month. He is always very busy this time of the year playing Father Xmas. 5CH has his new modulator completed and in use. Has been heard quite a lot on 20. 5FD (John Harris) one of our new members, has been getting good results from his Type 3 Merk 2 on 20. "Eng" Stanke, our other new member from the Mount, is still waiting for his call sign. 5CJ is finding that married life is somewhat of a deterrent to Amateur Radio. It's strange Colin, but several other people have made that momentous discovery, and isn't it strange that just as the DX starts to roll in the dishes have to be washed or something. No co-operation, that's what it is.

5RG was heard to say that he had a little feedback, but if the squawk that I heard was feedback then I am glad it was only a little bit. Cure it Rob? 5QI is holidaying by the sad sea waves studying "form" or something and probably composing a sultana or two in his spare moments. 5LK went all nautical over the holidays and used his portable 5LX. Nobody heard him, and 5RG became quite agitated lest a shark tickled our Francis on the stern, I am referring to the boat, please. The phone boys may be keeping out of the sacred 30 Kc. end of the 40 metre band to the satisfaction of 5JE, but the c.w. gang certainly don't leave the phone end clear for 5WT on Sunday morning, especially the nut who called CQ about 30 times without a sign, accompanied by sundry splurges and thumps.

5JK must be the champion putter-upper and puller-downer of skywires in VK5, and he fairly screams with delight as each antenna crashes to the ground. The "5JK" is on the way down, "whaffor." The "custodian of the frequency meter," or 5DW to you, has more gadgets hung about his shack than any two other stations put together.

How he remembers which does which, is beyond me. You should get a job in a broadcast station Frank. 5LW was heard to say that he had an 509 in the final with only the filament slight. Low power Ron?

A sure indication of the lousy conditions on "twenty" is given by 5JS who is calling CQ DX these days instead of QRZ? 5LW has got the way that I really believe he believes that he really caught those fish he talks about. Any way, next month the notes will carry an exclusive interview with him concerning a proposed trip to Cape Jaffa and give 5GF are taking shortly. Failing that, Ross will give a short talk on "How I got that RQ." I have had it straight from the horses mouth that 5MF has an electrically rotated three element beam (I might be an element out there, but I always like to be first with the news and it is probably three by now). It is visually indicated inside the shack, and if you press button B, you get your money back or a packet of chewey. (I'm wrong again, I think.)

The notes this month are being written as the festive season fast becomes a memory, a painful memory to some, as they remember the poultry, xmas pudding, etc. with a dash of castor oil to finish it off. However once again all is back to normal and signals are being heard on the air with their old strength, but news is still in short supply and if it were not for Col Ferguson (5CJ) I am afraid that I would have to resign as news gatherer. 5LR is holidaying in Victoria. Understand he was at Strawell. 5WM secured plenty of publicity for his expected "sked" with the Pan Pacific Jamboree at Wonga Park. A write-up in the evening paper, 3 suggested photo, and to wind up, a mention in the local news service at the leading broadcast station in VK5. Which station? Ahem, 5DN. 5XU is having lawn trouble since he mounted his 6 metre beam on the lawn mower. That will mow you down. 5AJ contacted 6HX on six metres on his first night with his new beam mounted on the vent pipe of his house. That tidley winks a bit. 5TR has nearly completed his new shack, so I am told. Quite a slosh affair.

WESTERN AUSTRALIA

Owing to the change of night, and place of our meetings, the report of the January meeting will appear in the next issue of "Amateur Radio."

TIME—8 p.m. DATE—Third Tuesday of each month. PLACE—Paddy Buildings, Cnr. St. George's Tre. and King Street, Perth.

PERSONALITIES

6WZ is responsible for the slogan of the Perth Amateurs during the power restrictions, we are having—"This is our hour for power!" 6WE is having cockatoo trouble. Ray doesn't mind them parking on his rhombic, but when they chew the wire through, he resents that. 6KW also having bird trouble—no jays, but pigeons on the beam. Ron is building a scarecrow on the cat walk. 6GA had to work during the festive season, but he still found time to get onto some choice phone DX. 6AP is back with his old capers again. Alf has ZS2AA (YL) on a daily schedule. 6FC was as happy as a dog with two tails when he contacted VK5 on 50 Mc. recently. Good show Frank, have you a QSL to prove it? 6LW also broke the ice and has worked Interstate on 50 Mc. Pleased to hear it Wally, only wish it had come sooner for you.

6CN almost gave Amateur Radio away (to 6EL) when he cooked three 1625s. Bad luck Cyril, but hope it's a going concern again by now. 6HC has his rig on 23 Mc. Leo is hearing quite a few nice signals. He is chasing a tower for a beam. North Beach will soon come into the DX field. 6RT has been having a nice spell at the Abrobbins Islands. Sorry to hear of the broken arm Len, couldn't you have used the other foot on the key? 6RU has packed away a bundle of QSLs for his DX C.C. Jim hopes to be the first VK to get a phone DX C.C. Nice going Jim. 6CM has taken up gardening and his XYL hooked the beam as a rotary clothes line! Never mind Bill, conditions have been very poor lately.

6NY is holidaying in Rottnest. Mal got fed up with the power line noises at his QTH. He said something about towing home 30 ft. of Oregon—maybe he wants to QSO VK7AL after all. 6WG has had almost 100 contacts Interstate on 50 Mc. Really f.b. Wally and Grace. Hope you can make a W.A.S. 60 Mc. for VK6. 6JW is doing well at his new QTH. He now has four QSOs per hour,

instead of one QSO in four hours. Nice work John, and we really think you are looking better for the extra sleep. 6EC still very active on 30 Mc. How is it going down there at Minding Erlot? Have you worked Interstate yet? 6ND is very active on 14 Mc. phone now. Neville makes the most of his "hour for power" and has some nice Europeans to his credit. 6TP just got things going on 28 Mc. and his power tranny blew up. Hope it's going again by now Ted. 6MX has the rig on 14 and 28 Mc. Good show Milo. When are we going to see the beam? 6GD haven't heard him for ages. What's happening there Horrie? Are you waiting for the junior op. to get his ticket? 6JN has been having a large amount of modulator trouble—sounds OK to me but modulates downward. They say you are going to write a book John! 6PI putting out a really nice signal on 14 and 28 Mc. We heard him getting a share of DX during the holidays.

TASMANIA NORTHERN ZONE

As our January meeting is not until the 14th of the month I cannot give any details in this month's notes, however a large muster is expected to hear and see a demonstration of communication receivers.

Most of our members have been on holidays over the Xmas vacation and activity has been very restricted, however judging by the state of the bands from this location nothing has been missed by those away from home.

Six metres has opened up several times of late and the VK7s have done their share towards populating this band. I tried to add another station to the VK7 list, but as my frequency was 51.6 Mc., I found it useless as only one VK station ever tuned up to me so I decided that it wasn't worth the battle trying to keep all those Kc. for Amateur use anyway.

On the 14 Mc. band DX appeared to closely follow the predictions, however owing to the usual delays associated with the Xmas period "Amateur Radio" did not arrive in Launceston until the 24th of December and we could only check backwards. Several of our members are eagerly awaiting the February issue to check the accuracy of these predictions against local conditions. To date the 28 Mc. predictions appear useless down here.

Visitors to the zone during the month were 7AB, 7AJ 7DH, and 5ANL. It is expected that several members from this zone will be visiting Hobart in March for the Annual Meeting.



**THE
BEST
VALUE
IN VK**

Modern, Attractive

QSL CARDS

YOUR DESIGN or OURS

Prompt Efficient Service

Write for Quotes and Samples

FRANK MAHER

**209 Melville Road
Pascoe Vale South, Victoria**

Interstate Orders Accepted

FIFTY AND UP

NEW SOUTH WALES

The most important highlight during the month of December has been the contacts between N.S.W. and Western Australia with 2ADT, 2WJ, 2LY, and 2BZ working 6WG and 6HM with average S7 signals each end.

We offer congratulations to the stations concerned in making the coveted "W.A.S. On 50 Mc." award and also hope that all of the VK2s who are only needing VK6 find conditions suitable during the remaining few months of the year when sporadic E is at the peak reflection period.

A remarkable feature of this season is the absence of VK3 signals on 50 Mc. in New South Wales.

According to Radio Research Board observations, the E layer this year is travelling from S.E. to N.W., whereas last year the majority of breakthroughs occurred when the E layer was moving N. to S., so this might explain why the Victorian signals have been either very weak and unworkable or non-existent. All other States and New Zealand have been most consistent and have reached maximum strength on many occasions.

The V.H.F. Contest, which was organised by the N.S.W. Division V.H.F. Section, is over and although too early yet to give names of the winners we would believe that the following stations expect to do very well: 50 Mc.—2LY, 2ADT, 2WJ, 2RU; 144 Mc.—2WJ, 2ADT, 2RJ, 2LZ, 2ABZ; 285 Mc.—2ABZ, 2LZ, 2WJ, 2HL. However as soon as the Contest Committee check over the returns and point scores, we will have them published in full detail. The Contest was most successful and the co-operation from all who entered was very much appreciated by the sponsors.

The V.H.F. Section have just concluded another very successful year and the N.S.W. Council wishes to extend its thanks to all concerned who helped make it so. We would like to include the following titles of Lectures delivered to the Section since its inception, to give readers of these notes some idea of the material which has been made available to us at our regular monthly meetings:—Radio Control of Model Aircraft, by C.S.I.R.; Modification of A.S.V. Equipment; Wave Propagation; Valve Technique and Understanding of Characteristic Curves, etc.; Rainmaking Radar as used by C.S.I.R.; U.H.F. Techniques and Centimeter Applications; Radar to Moon, by C.S.I.R.; V.H.F. Antennae; Multi Track Radar and its Application to Civil Airports; Practical Antenna Design; Mobile F.M. Equipment (Transmitters and Receivers); V.H.F. Receiver Design and Technique; Noise Limiter Design and Application; Signal Circuits of V.H.F. Receivers and Merits of Various Valves; Actual Demonstrations with Mobile V.H.F. Equipment; Several Questions and Answers Sessions.

The Lectures have been the result of careful organisation by the members of the V.H.F. Group and we would like to extend our thanks to the various lecturers who have visited us at our invitation to impart to us their knowledge on subjects of topical interest for our benefit.

At the last meeting held at Science House on 14th January, 1948, it was decided on the recommendation of the Divisional Council to impose a levy of sixpence per person at each subsequent meeting to defray the cost of the hall rental which has been increased recently. Although some people think Council should carry the cost entirely, it was thought that rather than let the V.H.F. Section be a financial burden, despite the enthusiasm that exists, we should at least help Council with its financial obligations on a fifty-fifty basis, that is as our Section is concerned. The motion to this effect was carried unanimously so there we can carry on without any fear of being forced to wind up on account of the high cost.

Divisional Council also very generously agreed to donate a sum of five pounds to cover cost of incidental expenses such as hiring and the cost of running an epidiascope for use during lectures. To sum up the situation, we are all agreed that the V.H.F. Section has done very well for itself and hopes to continue to do so with your help and co-operative interest.

WESTERN AUSTRALIA Compiled by VK6FC

Since my last report dated 30/11/48, much has happened on this band, which opened up again about the early part of December. VK6WG, at Albany, and 6HM at Kalgoorlie both having made many Eastern States contacts. However, such contacts from Perth seem to be a totally different

matter. 6LW with a 3 element rotary beam, and 6FC with a long wire antenna (which, when properly tuned, seems to have considerable gain over a single dipole, both for receiving and transmitting) have heard and worked only a few Eastern States stations. 6FC worked 5CU and 5GL (S6 QSB) on Xmas morning.

On about 28th Dec. 6FC was again answered by 5CU just one minute before 6FC's power was cut. Consequently no QSO resulted. Nor did any QSO result with 6LW as VK5s signal faded out.

During the last two months, we have noted with interest, that the opening of the 6 metre band seems to coincide with the reception in Perth of various and many radio ranges throughout the Commonwealth on 33.8 and 33.3 Mc. These have been heard in Perth during the last two months, for about two weeks each month, commencing roughly about the 7th day and then they become inaudible in Perth for the remainder of each month. They are just beginning to come in again at time of writing.

Have just heard that 6DW at Bruce Rock got through to VE6 last Sunday (Jan. 4) about 8 p.m. Perth time. Rollo Everingham (who we hope to hear on the air soon) heard 6CU, 6GB and 6GS in Perth at 3.35 p.m. Perth time. 6GS in Harvey and 6EU at Wagin, both heard VK6s but again at different times, while 6WG at Albany got through at times unknown. 6LW, who was listening continuously throughout the day except between 3 p.m. and 5 p.m. (Perth time), heard no sign whatsoever of any signals.

We have much pleasure in welcoming 6BR (Gooseberry Hill) and 6GB (Perth) back on the band, and are now looking for 6SA's return. What about W.A.S. 50 Mc. Jim? Also what about 6FW and 6JW coming back on the band?

The following is the v.h.f. gear in use at VK6GB: 144 Mc.—transmitter SCR522 modified for a.c. operation. Two power transformers being used, each having 350.0-350 v. at 125 Ma., and two 6.5 v. windings. These windings give two 12.5 v., one supplying filaments and the other, per medium of a dry rectifier, a d.c. supply for the relays and band switching mechanism. Bias supply from separate pack. Receiver: SCR522 modified in usual manner to work outside the mounting rack from a conventional power supply. Antennae, two in use. Half wave dipole with reflector for general coverage, and a horizontal beam, three directors, fed dipole and one reflector. Thirty two feet high. 50 Mc.—transmitter: 6F6 trolley, 6L6 dblr., 807 dblr., T90 plate modulated by a pair of 6L6Gs, running 50 watts for amplitude modulation and 100 watts frequency mod. (in latter case, xtal is replaced by a conventional 6L7 f.m. exciter). The receiver is a converter feeding into a Bendix receiver using RL7 r.f., RL7 mixer, EF50 oscillator with one stage of i.f. (approx. 10 Mc.) on the converter chassis. Antenna is a horizontal, four half waves in phase.

FOR SALE, EXCHANGE, WANTED

9d. per line, minimum 2/-

Copy must be received by 15th of month. Remittance must accompany advertisement. Calculation of cost is based on an average of six words per line.

FOR SALE.—AR8 Receiver, a.c./d.c. power pack 240 v. and speaker. Good condition. £20 f.o.r. J. M. Hilliard, Box 2, Kapunda, S.A.

FOR SALE.—New 803 and socket, 1400-400-0-400-1400 volt 200 Ma. pie-wound tranny, Hilco 7.5v. 4a., 6.3v. 3a., 5v. 3a., 10a. at 2.5v., 2 x 866 nearly new rectifiers, tranny 10v. 5a., 2uF. 1000v. T.C.C., 4 uF. 1000v. Chanex. Lot for £13/10/-. VK3JG, Lake Boga, Vic.

FOR SALE.—AR8 Receiver in good order, remaining in use until sold. Any reasonable offer considered. VK2YN, P.O. Box 60, Bourke, N.S.W.

FOR SALE.—Transformers 2000-0-2000 t. 1800, 1500, 1000 at 500 Ma., £9/10/-; 660-0-660 t. 550 at 250 Ma., £3/10/-; 1500-0-1500 t. 1250, 1000, 750 at 300 Ma., £7/10/-; 2000-0-2000 t. 1500, 1250, 1000, 750, 500 at 200 Ma., £6; 1000-0-1000 t. 750, 500 at 200 Ma., £2/15/-. Filament Transformers 10v. 7a. c.t., 35/-; 2.5v. 10a., 35/-; 6.3v. 2a., 6.3v. 2a., 7.5v. 3a., 2.5v. 10a., £2/15/- Chokes, swinging, 5-20H. 500 Ma., 45/-; 5-20 H. 250 Ma., 30/-; 5-20 H. 300 Ma., 35/-; Smoothing, 8 H. 500 Ma., 45/-; 12 H. 250 Ma., 30/-; 12 H. 300 Ma., 35/- Modulation Transformer Class B for TZ40s 300 w. rating tapped sec., £6/10/- Driver for above, £2/5/-. Another for 801s, sec. has 6 taps with driver trans. and tubes, £4/15/-. Valves: 866s, 12/6 ea.; 866 Jr., 10/- ea.; TZ40s, 30/- ea.; 100TH, 55/- ea. Exciter unit comprises 6V6 807 plate meters 4 xtals 7-14-28 Mc. coils standard rack mounting, £7/10/- P.A. p.p. 807s bal. circuit plate and grid meters standard rack mtg., £7/10/- P.A. p.p. triodes plate and grid Ma. and h.t. and fil. v. meters 14-28 Mc. coils, £10. Pre-amp. 2-6SJ7 1-6N7 p. to line Abac transf. level indicator in steel case, £7/10/-. Sp.-amp. 1-6N7 2-2A3 Ma. meter T attenuator Abac line to g. transf. rack mtg., £7/10/- 200 Ma. p. supply for above, £4/10/- 300 v. bias supply, £2. 350 v. pwr. supply 150 Ma. £3/15/-. Copper oxide rectifier 24v. 5a. £4. 6 ft. steel standard rack, £8. J. Symons, VK3JT, 30 Eleanor St., Ashburton. Phone, day only, JM 1525, Ext. 453.

A.M.R. 200 Receiver, copy of Hammarlund Super Pro. 14 Valve Continuous Coverage, a thousand k/c to 30 M/c variable I.P. and Xtal Channels complete with A.C. Power Supply. £75.

S.X. 28 Receiver 16 Valves 500 K/c to 43 M/c. Very clean condition. An excellent performer. £75.

B.C. 348 Receiver. Condition as new, converted to A.C. £42/10/-.

Transmitter 50 Watt Phone or C.W. Line up E.L. 3 Xtal Oscillator 6 L6 Doubler, Quad., intp 807 in final band and meter switched coverage 10, 20 and 40. Modulated with a pair of 6 L 6s in class A.B.I. Contained in crackle finished steel Cabinet. Complete with Xtal Microphone. £37/10/-.

S.C.R. 522 Transceiver complete with 20 Valves including 2-832s. Ideal for 144 M/c operation. £10.

Also a few only Command Transmitters and Beam Rotating motors at £5 each. Lots of other useful gear.

**MILBURN, 5a Melville St., Hawthorn.
Phone: Haw. 4465.**

WANTED.—Class C Wavemeter in good condition. Price and particulars to VK3ARY, R. Yeats, 4 Jennings St., Moonee Ponds, Melb. (Phone: FU 7260).

TRANSFORMERS OF DISTINCTION

FILAMENT TRANSFORMERS

ITEM 34. **Type No. 7038**
 Prim: 230v. 50 cps
 Secondary 6.3v-3A
 Base: $2\frac{1}{2} \times 2 \times 2\frac{1}{2}$ " H Wgt 1lb. 4ozs.
 Mntg: MHIA "S" is 1"
 Insulation 500 volts

ITEM 35. **Type No. A248**
 Prim: Auto Winding
 V: Common 2.5v 4v 6.3v-3A
 Base: $2\frac{1}{2} \times 2 \times 2\frac{1}{2}$ " H Wgt 1lb. 4ozs.
 Mntg: MHIA "S" is 1"

ITEM 36. **Type No. 2500**
 Prim: Com-10-210-220-240v 50 cps
 Fil: 2.5v 10A CT
 Base: $4 \times 3\frac{1}{2} \times 3\frac{1}{2}$ " H Wgt 4lb. 8 ozs.
 Mntg: V10 "S" is 1"
 Insulation 2000 volts

ITEM 37. **Type No. 5526**
 Prim: Com-10-210-220-240v 50 cps
 Fil: 5v-4A 2.5v-10A CT
 Base: $4 \times 4 \times 3\frac{1}{2}$ " H Wgt 4lb 12ozs
 Mntg: V10 "S" is 1"
 Insulation 1000 volts

ITEM 38. **Type No. 5566**
 Prim: Com-10-210-220-240v 50 cps
 Fil: 5v-4A 6.3v-3A
 Base: $4 \times 4 \times 3\frac{1}{2}$ " H Wgt 4lb. 12 ozs.
 Mntg: V10 "S" is 1"
 Insulation 1000 volts

ITEM 39. **Type No. 66105**
 Prim: Com-10-210-220-240v 50 cps
 Fil: 5v-4A 6.3v-3A CT
 Base: $5 \times 4\frac{1}{2} \times 4\frac{1}{2}$ " H Wgt 12lb. 8 ozs.
 Mntg: V15 "S" is 2"
 Insulation 1000 volts

VIBRATOR POWER TRANSFORMERS

ITEM 40. **Type No. 60256**
 Primary 6v/6v
 Secondary 250/250v 60 mA
 Base: $3 \times 2\frac{1}{2} \times 2\frac{1}{2}$ " H Wgt 2lb 8ozs.
 Mntg: V2 "S" is 1"

ITEM 41. **Type No. 60252**
 Primary 12v/12v
 Secondary 250/250v 60 mA
 Base: $3 \times 2\frac{1}{2} \times 2\frac{1}{2}$ " H Wgt 2lb. 8ozs.
 Mntg: V2 "S" is 1"

ITEM 42. **Type No. 15136**
 Primary 8v/8v
 Secondary 110/110v 15 mA
 Base: $3 \times 2\frac{1}{2} \times 2\frac{1}{2}$ " H Wgt 2lb.
 Mntg: V2 "S" is 1"

OUTPUT TRANSFORMERS

The units in this section comprise a useful range of output transformers for the sound engineer specialising in amplifiers for public address, "Music-while-you-work," paging systems, etc., where it becomes essential to minimise losses due to the necessary use of multiple speakers

at varying distances from the amplifier. They are not "High fidelity" transformers, and are not intended as such.

Their frequency response, in all cases, is designed to be plus or minus 3db from 50 cps to 7 Kc/s, and particular care has been taken to reduce power insertion losses, which are of considerable importance in this field. Complementary types to match speaker voice coils to line will be listed in the future.

ITEM 43. **Type No. API**
 Primary Z: 5000 ohms Plus 29db
 6V6 Class A1 4.5 Watts. DC Max. 50 mA
 Secondary Z: 500 ohms
 Base: $2\frac{1}{2} \times 2 \times 2\frac{1}{2}$ " H Wgt 1lb. 8ozs.
 Mntg: MH1B "S" is 1"

ITEM 44. **Type No. OPI**
 Primary Z: 5000 ohms Plus 29db
 6V6 Class A1 4.5 Watts. DC Max. 50 mA
 Sec. Z: 12 ohms tap at 8.4 and 2 ohms
 Base: $2\frac{1}{2} \times 2 \times 2\frac{1}{2}$ " H Wgt 1lb. 8ozs.
 Mntg: MH1B "S" is 1"

ITEM 45. **Type No. AP2**
 Primary Z: 9000 ohms Plus 34db
 6V6's pp Class AB1 15 watts
 Sec. Z: 500 ohms tapped 250 ohm.
 Base: $3 \times 3\frac{1}{2} \times 2\frac{1}{2}$ " H Wgt 3 lb
 Mntg: V2 "S" is 1"

ITEM 46. **Type No. OP2**
 Primary Z: 9000 ohms Plus 34db
 6V6 pp Class AB1 15 watts
 Sec. Z: 12 ohms tap at 8.4 and 2 ohms.
 Base: $3 \times 3\frac{1}{2} \times 2\frac{1}{2}$ " H Wgt 3 lb.
 Mntg: V2 "S" is 1"

ITEM 47. **Type No. AP3**
 Primary Z: 8600 ohms Plus 37db
 6L6's pp Class AB1 or 807's
 Secondary Z: 500 ohm tapped 250 ohm.
 Base: $4 \times 4\frac{1}{2} \times 3\frac{1}{2}$ " H Wgt 6lb.
 Mntg: V10 "S" is 1"

ITEM 48. **Type No. OP3**
 Primary Z: 6600 ohms Plus 35db
 6L6 pp or 807's Class AB1 30 W
 Sec Z: 12 ohms tap at 8.4 and 2 ohms
 Base: $4 \times 4\frac{1}{2} \times 3\frac{1}{2}$ " H Wgt 6lb.
 Mntg: V10 "S" is 1"

ITEM 49. **Type No. AP4**
 Primary Z: 2500 ohms Plus 30 db
 6L6 (807) Class A, 6W 72 ma DC
 Secondary Z: 500 ohm Tapped 250 ohm.
 Base: $3 \times 3\frac{1}{2} \times 2\frac{1}{2}$ " H Wgt. 3lb.
 Mntg: V2 "S" is 1"

ITEM 50. **Type No. OP4**
 Primary Z: 2500 ohms Plus 30 db
 6L6 (807) Class A, 6W 72 ma DC
 Sec. Z: 12 ohms tap at 8.4 and 2 ohms.
 Base: $3 \times 3\frac{1}{2} \times 2\frac{1}{2}$ " H Wgt. 3lb.
 Mntg: V2 "S" is 1"

ITEM 51. **Type No. AP5**
 Primary Z: 5200 ohms Plus 40db
 807's Class B, 60W DC Balanced
 Sec. Z: 500 ohms tapped 250 ohm.
 Base: $4 \times 4\frac{1}{2} \times 4\frac{1}{2}$ " H Wgt. 6 lb.
 Mntg: V11 "S" is 2"

RED LINE EQUIPMENT PTY. LTD. TRANSFORMER ENGINEERS

WORKSHOP: Cent. 4773. CITY OFFICE: MU 6895
 2 Coates Lane, Melbourne (3 lines), 157 Elizabeth St., Melbourne.

KEEP THIS CATALOGUE
 Cut out and file for reference



VICTORIA:
 Homecrafts Pty. Ltd.
 Arthur J. Veall Pty. Ltd.
 Radio Parts Pty. Ltd.
 Howard Radio,
 and all leading whole-
 salers.
NEW SOUTH WALES:
 United Radio Distributors
 Pty. Ltd.

DISTRIBUTORS:
QUEENSLAND:
 A. E. Harold.
 B. Martin.
SOUTH AUSTRALIA:
 Gerrard & Goodman.
 Radio Wholesalers Pty.
 Ltd.
 Newton McLaren Ltd.

A GUARANTEE OF DEPENDABILITY

The Radio Enthusiasts Supply Store

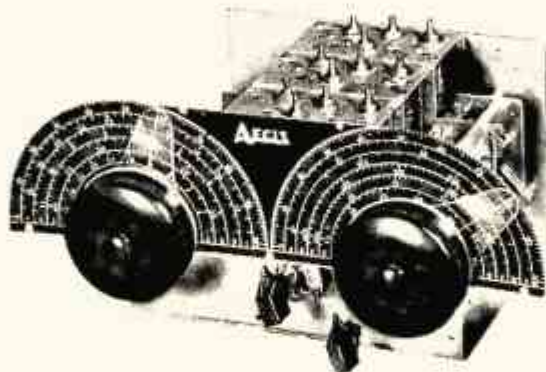
J.H. MAGRATH & CO

Special Prices!

To Members of the W.I.A.



AEGIS KC-1



Four band unit. Band spread on amateur bands. 6SK7 RF, 6AC7 mixer 6SK7 osc. Hot on all bands. Completely wired and tested. £21/13/4

Beautiful metal cases for above complete with panel chassis Chromium bars, etc. All prices plus tax. £4

YOUR ADVICE REQUIRED!

We are considering the manufacture of a Communications Receiver Kit Set. The idea is to supply the basic essentials only, but to punch the chassis and panel for the later addition of refinements such as "5" Meter, Crystal Filter, etc. Drop us a line and give us your ideas on the subject.

J.H. MAGRATH & CO

208 LITTLE LONSDALE STREET, MELBOURNE

Aphenol Connecto

for mike etc. Nickel plated and completely shielded. Type MC1F, 3/6; Type PC1M, 2/9. Plus tax

R. F. Transmission Line

New stocks have arrived of 75, 150 and 300 ohm Cable. Buy while it lasts. Price 75 and 150 ohm, 6d. yd., 300 ohm, 9d. yd. plus tax.

Meters

We are distributors for University Meters and Test Equipment. Shunts Scales and Test Leads, etc. available from stock.

Valves

We have a limited number of hard to get valves. Contact us regarding your requirements.

Chassis Punch

for new miniature socket. Price 13/4 each plus tax.

Electrolytic Condensers

Dugon 12 mfd 525 Volt, 2/3 each plus tax. All sizes available. Have you seen the new small size 25 mfd 40 volt, 1/10 each plus sales tax.

MINIATURE PLUGS and SOCKETS



for Speaker or other use. 4 pin plug 7d. 4 pin socket 6d. plus tax.



Power Transformers

TYPE PT1400

Universal type . . . 565 volts each side. Tapped 425 volts at 300 mls . . . plus a host of other heater windings. £3/17/6 plus tax.

Resistors I.R.C.

1% tolerance for Meters etc. Priced at 1/4 each plus tax.

AMATEUR RADIO

MARCH
1949

JOURNAL OF THE WIRELESS INSTITUTE OF AUSTRALIA

NOW AVAILABLE...



TYPE
830B
£1/2/3

TYPE
834
£1/8/9

LOW-PRICED PHILIPS VALVES

FOR TRANSMITTERS AND MODULATORS

That new rig you are planning or the re-building of your present set-up can be improved by using a pair of 834's in the final stage, while for modulation, of course, the answer is a pair of 830B's in class B.

TYPE 834 TRIODE.

A transmitting triode designed for use as RF amplifier and oscillator, with maximum ratings up to 100 Mc/s. It may be used at 50% rating as high as 350 Mc/s. Power output at 1000 volts anode supply is 60 watts. Filament voltage 7.5 at 3.1 amperes. Driving power 6 watts. The price is £1/8/9 (plus 2/- duty).

TYPE 830B TRIODE.

With 6 watts driving power, two 830B's in Class B audio service will deliver up to 175 watts. At 1000 volts H.T. Zero signal anode current is 20 Ma and maximum 280 Ma. Filament voltage 10 at 2 amperes. This valve is also applicable as RF power amplifier for telephony and telegraphy. The price ... £1/2/3 (plus 2/- duty).

There is a discount of 10% on both valves to licensed amateurs.

PHILIPS ELECTRICAL INDUSTRIES OF AUSTRALIA PTY. LTD. Sydney, Melbourne, Brisbane, Adelaide, Perth



FOR THE EXPERIMENTER & RADIO ENTHUSIAST

Registered at G.P.O., Melbourne, for transmission by post as a periodical

6d.

MARCH BARGAINS from HAM RADIO

Three Specials for the Month!

Switching unit American type. Crackle finished case 18 x 8 x 5 contains 24 Volt D.C. Motor and lots of useful gear. Few only. £1/10/- each. S.C.R.522 Genemotor Power Supply Input 28 Volt D.C. Output 300 Volt D.C.—150 Volt D.C. 13 Volt Filament Current Rating 300 M.A. Few only, £2 each.

Line Filters 12 volts at 30 amps inclosed in Duralium case. Air Core Chokes and Condensers. Each 7/6.

● CONDENSERS. English Block Type:

10 Mfd., 400 volts, Working	0 7 6
8 Mfd., 400 volts, Working	0 7 6
5 Mfd., 400 volts, Working	0 7 6
4 Mfd., 750 volts, Working	0 7 6
4 Mfd., 450 volts, Working	0 7 6
2 Mfd., 1000 volts, Working	0 7 6
5 Mfd., 750 volts, Working	0 5 0

● DUCON TYPE, Small Block:

4 Mfd., 600 volts, Working	0 5 0
----------------------------	-------

● AMERICAN SWITCHING RELAY BOXES: Contain good wrecking parts, Co-Ax. Connectors, etc. Each

0 5 0

● AMERICAN INTER-PHONE CONTROL UNITS, less Valves. Full of useful parts. Each

0 10 0

● A.T.5 TRANSMITTER KEY CLICK FILTERS. Full of useful Parts. Each

1 0 0

● GENEMOTORS.—A.T.5, A.R.8 (complete). Slightly-damaged Switches, 24 volt input, 550 and 300 volts output, at 250 mills. To Clear

3 0 0

● RECTIFIERS, Copper Oxide; 12 volt at 100 mills; S.P. Bridge. Ideal for Relay operations. 7/6 each. Also 4 to 5 volt, 100 mills.

0 5 0

● TRANSCIVERS. 109 VIBRATORS.

0 10 0

● TRANSMITTERS.—A.T.5, 50 watt, Phone or C.W. crystal or V.M.O. Tube line-up; 6V6 Osc., 807 Doubler, 2-807 in final. Ideal Ham Rig, covering 20, 40, 80 metres. Also Broadcast Band to 150 Kc. Meter for al stages; easily adapted to A.C. or D.C. power supply. (And we have cheaper models. Write us your requirements.)

8 0 0

● CARBON MICROPHONE INSERTS.—New. Each

0 2 0

● TRANSMITTER.—V.H.F.; easily adapted for 400 M/c. Band. Uses 2-15E's in final. Trombone Antenna. Each

3 0 0

● LOW IMPEDANCE HEADPHONE LEADS.—Standard Length. Ea.

0 1 0

● STANDARD NOTES FOR WIRELESS MAINTENANCE MECHANICS. Including Bendix, A.T.5, A.R.8, etc. Each

0 5 0

SEE OUR VAST RANGE OF CONDENSERS, METERS, FILTER CHOKES, RESISTORS (Variable & Fixed).

VALVES, New

807's	10/-
AV11's	10/-
6V6's	10/-
6J5	10/-
12J5	10/-
6SH7	10/-
6H6	10/-
3B24	10/-
1J6	10/-
1K4	10/-
OA4	10/-
879	10/-
12SQ7	10/-
957	7/6
VP41	7/6
V568	7/6
VR102	7/6
VR92 Diode	7/6
VR122	7/6
VR21	7/6
VR65	7/6
VR66	7/6
VU139	7/6
VU111	7/6
VU39	7/6

WRITE FOR ANY PARTS NOT LISTED

HAM RADIO SUPPLIERS

16 Swan Street . . . Richmond

Phone: JA 3827.

After Hours: Haw. 4465.

SPECIAL ATTENTION GIVEN TO COUNTRY MAIL ORDERS.

MARCH 1949

Vol. 17. No. 3

AMATEUR RADIO

Published by *The Wireless Institute of Australia,*
Law Court Chambers, 191 Queen Street,
Melbourne, C.1

EDITOR:

T. D. HOGAN, VK3HX,
Telephone: UM 1732.

MANAGING EDITOR:

J. G. MARSLAND, VK3NY.

TECHNICAL EDITOR:

J. C. DUNCAN, VK3VZ.

ASSISTANT TECHNICAL EDITOR:

A. K. HEAD, VK3AKZ

COMPILATION:

R. W. HIGGINBOTHAM, VK3RN.

CIRCULATION:

J. F. IRVINE, VK3TU.

ADVERTISING REPRESENTATIVE:

W. J. LEWIS,
20 Queen St., Melbourne, C.1.
Telephone: MU 5151.

PRINTERS:

H. HEARNE & CO. PTY. LTD.,
785 Latrobe St., Melbourne.

MSS. and Magazine Correspondence should be forwarded to the Editor, "Amateur Radio," Law Court Chambers, 191 Queen St., Melbourne, C.1., on or before the 15th of each month.

Subscription rate in Australia is 6/- per annum, in advance (post paid), and A7/6 in all other countries.

Wireless Institute of Australia (Victorian Division) Rooms. Telephone: FJ 6997.

— IN THIS ISSUE —

Notes on Double Conversion Receiver Design	3
What No Beacons?	4
Ionospheric Predictions for the Amateur Bands	5
Royal Australian Air Force Reserve	7
Eighty Metres and How!	9
Frequency Measuring Contest	10
Suggestions for use of Germanium Crystals	11
Series Screen Modulation of the Type 3 Mark II.	12
This F.M. and Television Business	14
Federal, QSL and Divisional Notes	15
Fifty and Up	23
Correspondence	24

EDITORIAL



TECHNICAL PROGRESS.

N.B.F.M.

Federal Executive has, on your behalf, sought from Chief Inspector (Wireless) permission for Australian Amateurs to use Narrow Band Frequency Modulation on 3.5 and 27 Megacycle Bands. We feel that the time has arrived for amateur exploitation of the new field opened up by this technique, particularly on 3.5 M/c band, where B.C.I. debar many amateurs from making full use thereof. It is hoped that when this privilege is granted, the 3.5 M/c band will be completely reactivated and re-explored, for herein lies our most useful medium for maintaining close contact between Country and City Members.

N.B.F.M. standards recommended by the Federal Executive were outlined in the editorial for October, 1947.

F.I.A.T.S.

The Federal Ionospheric and Tropospheric Sub - Committee has, with the aid of Dr. A. L. Green and his staff at A.I.P.S. —to whom we are extremely grateful—succeeded in providing for the magazine each month, a series of very simple charts whereby the Amateur Operator may spend every minute on the air in sure contact with the desired Zone, instead of sitting wondering why the band is dead. The Sub-committee is now investigating the possibility of making these charts useful for our New Zealand friends. The next step

will be, with the co-operation of Divisional Councils, to establish Liaison Officers in each State who will correlate for official broadcasts, Short Term Corrections and Interstate Propagation Forecasts.

50 M/c BAND.

The advances made in Equipment, Aerial Systems and increasing knowledge of propagation characteristics has resulted in consistent contacts over distances which were once regarded as a rare accomplishment. Undoubtedly when F.I.A.T.S. can get into action on Tropospheric Forecasts present day records will be eclipsed with ease. Naturally we will always be indebted to sporadic E. and T.I. for abnormal ranges; but our Tropospheric Forecasts will enable us to take full advantage of the vagaries of nature.

144 M/c BAND.

From a rickety start with the inevitable "Super-Regen" and "Wobulated Oscillator," we have in quick time reached the dizzy heights of "Double and Triple Conversion Super-Hets," and Multi-Stage Crystal Controlled Transmitters," with it we have developed a very blasé attitude and now regard this band more or less as the "Local Telephone Service"—In other words, it's time for the pioneers to move further afield to pastures new—So, why not follow the lead of those hardy members who are already blazing the trail on 576 M/cs.

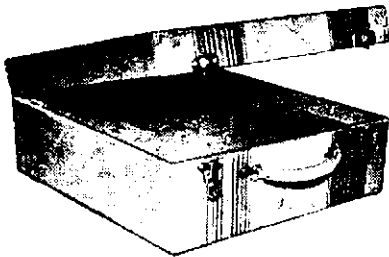
—G.G.

Homecrafts

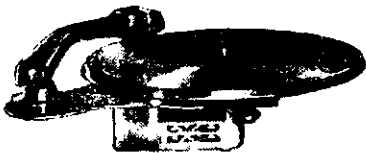
Same Day Service

PTY. LTD.

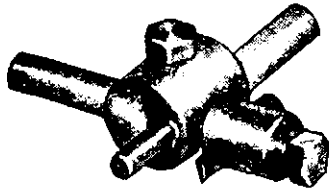
GREATER BARGAINS FOR THE AMATEUR!



Leatherette Covered Portable Gramo. Cases. As illustrated, with Brown Leatherette finish £4/5/-. With American Striped Fabric. £4/18/6.



English Collaro Electric Gramo. Motors. The new AC47 Electric Motor with Magnetic Pickup and Automatic Stop. As illustrated—£9/5/- complete.



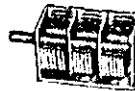
CHASSIS HOLE CUTTERS
Adjustable chassis hole cutters. Cuts holes from 1" to 3 1/2". Price 16/7.



The new Palac VCT2 valve and circuit tester. This outstanding instrument is now available for immediate delivery. 10,000 ohm. per volt. Will test 800 types of valves. Price complete £33/15/- plus sales tax. Easy terms £7/10/ Deposit, 13/6 weekly.



English Shefi High Fidelity Moving Coil Pick-ups. Complete with matching transformer. As illustrated. £4/19/-.



Bargain Midget Tuning Condensers. 2 gang with trimmers. Reduced from 19/- to 9/11. 3 gang with trimmers. Reduced from 24/- to 12/11.



Super Transmitting Tube Bargain. Brand new American Imported Eimac 100TH Tubes. As illustrated. Reduced from 8 gns. to 49/6.

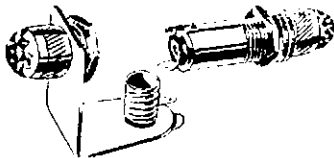


Z.M.A. Flexible Couplings. Polystyrene Insulated. Sizes 1 x 1 or 1 x 3. Price as illustrated. 4/6.

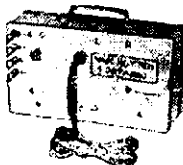
Country and Interstate Clients please add freight



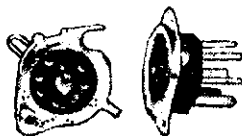
Insulated Mounting Strips as illustrated. 1 lug type, 2/- doz.; 3 lug type, 2/6 doz.; 4 lug type, 3/4 doz.; 5 lug type, 4/3 doz.; 6 lug type, 4/9 doz.; 7 lug type, 5/6 doz.; 8 lug type, 6/4 doz.



E.M.A. Type F (faceted) Jewels, wide vision type with nut and socket for 1 1/2 hole mounting, 1/9 ea. With back loading pilot light assembly, 3/9 ea. Front loading type 6/- ea. Colors: Red, Green. Finish, Nickel Plated.



THE NEW PORTA-PAC. Complete adjustable Low and High Tension supply to convert any portable battery radio to AC operation. As illustrated. £8/12/6.



MINIATURE SOCKETS
Moulded Bakelite 7-pin Sockets with silver plated contacts. Price 11d. Country and Interstate clients please add postage.



The New Capitol Extension Speaker. In steel Crackle Finish Cabinet with cord & switch. Colors available are cream, grey or black. Price complete as illustrated. Only 45/-.



Palac Vibrator Power Supply. A vibrator power supply from 6 volts. DC to 240 volts AC. Price complete as illustrated. £4/17/6 plus 1/6d. Freight 5/- plus 10 per cent sales tax.



ACORN TUBES
Type 954 and 955. As illustrated only 16/-.



The Collaro Microgram. Combined High Fidelity Amplifier speaker, electric motor and pickup in smart streamlined leatherette case. As illustrated. Only £29/19/6. Terms £6 Deposit; 10/3 weekly.

SPECIAL SNAP BARGAINS!

4 Bank D/W Switches. Reduced from 17/6 to 4/11. Electrolytic Condensers; 4mfd. 350 volt. 24mfd. 150 volt and 300mfd. 12 volt. Cut to only 9d. each. 5 valve steel drilled duocod chassis. Cut to only 1/11. Speaker Windings—Standard Type. Cut to only 1/11. English Crystal Pickup Cartridges. Cut to only 9/11. Pye Wound RF Chokes. Reduced from 4/6 to 2/6. Iron Cored Permature Coils. Aerial, RF and Oscillator. Cut to 8/11 per set.

290 LONSDALE STREET, MELBOURNE.

Cent. 4311

Notes On Double Conversion Receiver Design

BY D. R. AYRE,* VK3KP

C. C. Waring's article on a double conversion receiver ("A.R." June, 1948) should be read by all interested in this type of set. It is a most comprehensive description of a particular receiver, providing ample information on many phases of the design and construction of the type, and is therefore a considerable contribution to the literature relating to double conversion receivers. Little enough has been written about them in the past. The A.R.R.L. Handbook for 1944, for instance, contains a total of 10½ lines on the subject!

Although the writer proposes also to refer to a specific receiver, it is not so much for the purpose of providing a complete description together with constructional details, as to bring out several points of considerable interest and importance in the design of these receivers.

The receiver in question, which has proved most satisfactory at the writer's station, is shown in block diagram form in Fig. 1. It will be seen that the tube line-up is as follows:—

1st r.f.—6AK5
2nd r.f.—9003
1st mixer—9001
1st osc.—9002
High i.f.—6SK7
2nd mixer—6L7
2nd osc.—6J5
1st low i.f.—6SK7
2nd low i.f.—6SK7
Det., a.v.c., 1st audio—6R7
B.f.o.—6J5
Shunt noise limiter—6H6
Output—6K6.

The high i.f. is 3830.7 Kc. (for reasons mentioned below), while the low i.f. is 455.0 Kc.

CHOICE OF INTERMEDIATE FREQUENCIES

It is well known that the primary reason for accepting the complexity of a double conversion receiver is to achieve satisfactory image ratios for the higher frequencies, say from 14 Mc. up, while retaining the desirable selectivity and gain of the conventional i.f. chan-

nel working on 455 Kc., 175 Kc., or even lower. 1600 Kc. is often adopted for the high i.f. This gives a fairly satisfactory image ratio on 28 Mc., as Waring points out, but leaves something to be desired at higher frequencies. True, 1600 Kc. i.f. transformers are available. The writer feels, however, that the slight additional expense involved in procuring special higher frequency transformers is a drop in the bucket when compared with the cost of the complete receiver. Somewhere in the range 3 to 6 Mc. would seem satisfactory, although v.h.f. requirements may warrant going up to 10 Mc. For the low i.f., the writer prefers 455 Kc. in conjunction with a crystal filter. The exact high i.f. chosen—3830.7 Kc.—was finally arrived at for reasons dealt with below.

SPURIOUS SIGNALS

These are mentioned early in the article because they play a part in the selection of the frequency at which the second (fixed frequency) oscillator is to work, and hence, in the choice of the two intermediate frequencies—particularly the higher.

There are three common forms of spurious signal which can creep into the double conversion receiver (there are others, but they are either rare, or of the type found in a normal single conversion set; in either case, they are not considered here). The three forms are:—

- Harmonics of the second (fixed frequency) oscillator.
- Silent "carriers" caused by interaction between the first and second oscillators.
- Images due to oscillator harmonics.

Type (a) are readily understood. Suppose the second oscillator to be on 4000 Kc. Its harmonics will appear at 8, 12, 16, 20, 24, 28, 32 Mc., etc. They are the hardest of all the spurious signals to eliminate, because they are accepted by the input circuit of the first r.f. stage when it is tuned across them, and this stage is the most sensitive in the set. It is easy enough to suggest adequate decoupling of the second oscillator,

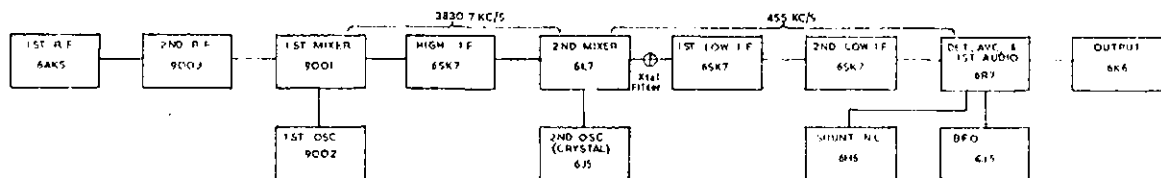
together with liberal shielding. It is, alas, very hard to get enough of either to suppress this type of spurious signal completely.

Unlike Waring, the writer sees little point in general coverage for a receiver of this type, and is interested only in Amateur band reception. One solution, therefore, is to pick a frequency for the second oscillator having harmonics which fall outside any band which it is intended to receive. The other—adopted by the writer—is to select a frequency whose harmonic coincides with the edge of a band, and acts as a marker. The second oscillator used is a low drift crystal type, and owing to the availability of a readily adjusted crystal, 4285.7 Kc. was chosen. The seventh harmonic of this frequency is 29999.9 Kc., which marks the h.f. end of the ten metre band. Other, and better, alternatives will suggest themselves—3500 Kc. for instance, which will mark the l.f. edges of 80, 40, 20, and 10.

Spurious signals of type (b) will surely appear in any but the best designed sets when they are first switched on and given a preliminary line up. They are caused by the fundamentals or harmonics of the two oscillators beating together to produce silent "carriers" which are picked up by the input circuit of the high i.f. stage or (this is less usual) by the input circuit of the first low i.f. stage. They are alarming when first noticed, as they appear closely spaced all over the dial. The reason for their multiplicity lies in the fact that even high order harmonics can be responsible. The writer, at one stage in the development of the receiver referred to, tracked down a few that were coming from harmonics of the order of 40th to 50th.

Fortunately, the input to the i.f. channels—especially the low i.f.—has to be higher than that at the first r.f. stage to produce the same effect. This is all to the good. The solution must be found; it will vary with each receiver and with different set-ups of a given receiver, but basically will comprise complete, elaborate shielding of one or both oscillators, and careful decoupling

(Continued on Page 10)



* 65 Kenmare Street, North Box Hill, E.12, Victoria.

What, No Beacons?

BY M. E. COLLETT,* VK2RU

We are fortunate in Australia to have the use of the Radio Ranges on 33.3 and 33.8 Mc., commonly referred to as beacons; they have proved invaluable, now that we have got the six metre enthusiasts using them to determine whether or not the band is open, and in what direction. Observations would indicate that their normal range is in the vicinity of 50 miles, at ground level, increasing upwards to 200 miles with suitable temperature inversion conditions. At this location, 40 miles north of Sydney, no ranges apart from SY are normally heard. All other ranges are heard here at various times apparently via E layer reflection, except in the case of PH which is also heard via F2 layer reflection as well as E layer (double hop). This was instanced on the 17/1/49 when VK6 and VK5 stations were heard and worked on and around the same time that PH and AD were audible on their respective frequencies. Normally DN and PH are heard during the daylight hours via F2 layer, m.u.f. permitting round the equinoxes.

One point of interest which appears to occur at most openings, is the intensity of the signals from the ranges rises to very high levels, prior to the appearance of signals on 50 Mc., decreasing considerably during the opening and rising again after the band closes, which would appear to indicate that the m.u.f. passes down through the frequency spectrum with the increase in ionisation.

During observation of sporadic E via Radio Ranges, contacts, etc., it appears that the "clouds" travel generally in a northerly direction. This can be observed very effectively early in the DX season when they cover a comparatively small area. For instance, BN has been heard for possibly five minutes, it fades out and shortly afterwards TV appears, as it fades out CS comes in and goes out, later on DN is heard. This performance was repeated on a number of occasions in the evenings in October, 1947. Comparing times and maps gave us approximately 300 m.p.h. This compared favorably with observations on AD to DN fade-out to fade-out during the same month.

1948-49 provided the first double hop contacts via E layer in VK. Multiple hop contacts appear to be indicated as evidenced by reported reception of ZS1ET by VK3 and VK6 stations, and VK6s and ZLs calling each other.

The next step in 50 Mc. DX in VK is apparently to work South Africa and South America. Days such as the 5/12/48, 18/12/48, and many others subsequently, when all States and ZL made contacts on and around the same time, appear to indicate that the "sporadic E"—for want of a better term—covers very large areas of the southern hemisphere. Multiple hops under these conditions appear very hopeful though, owing to the shortness of the skip, not particularly reliable.

With the end of the DX season approaching, it may be of interest to hold a post mortem and compare them with the previous year, though lack of activity in 1947-48 tends to mar the comparison. In 1947 and 1948 the Radio Ranges became audible with increasing regularity after the beginning of September in each year. Although during the winter months the ranges did come through and the band also opened mainly following the twenty-seven day cycle.

In 1947 the band opened with a bang on the 9/11/47 and remained open until the 15/11/47. It opened again on the 6/12/47 and closed on 3/1/48. That practically finished the season so far as VK2 was concerned, except for a few isolated contacts during the latter part of January.

In 1948, except for an odd contact, the band did not open properly until the 19/11/48, when it got away to a good start after which it remained open to various States until the big day when VK6 came on the map—5/12/48—so far as VK2 was concerned. After a slight lull it reopened again on the 11/12/48 and it remained so except for an odd day or so up to the time of writing—29/1/49—to all States and New Zealand. During this season ZLs have been worked from VK2 on 31 days. Double-hop contacts and reception reports indicate that the band has been open to VK6 on 12 occasions.

Daily observation has also been undertaken here of the m.u.f. but to date contacts per medium of F2 appear to be somewhat remote. However in March and again in October the m.u.f. did reach 50 Mc. and fading carriers were heard from a northerly direction. It would appear that so far as VK2 is concerned the periods March-April and September-October around 1100 to 1400 hours this coming year would bear watching.

In conclusion the writer would like to thank fellow six metre Hams for their solid co-operation. It was hoped at one stage—records having been kept for two years—to endeavour to line up sporadic E with other natural phenomena as weather, storms, etc., sunspots, conditions on lower frequencies, etc., etc. However conditions this year shattered all previous theories. Contacts were made under all weather conditions from as early as 0800 hours (VK3OD, on the 13/12/48) to 2020 hours (VK4BT, on 27/10/48) and Radio Ranges have been recorded at varying strengths at all hours of the day and night. Sunspot numbers varied from 85 on the 5/12/48—a very good day for DX—to 221 on the 19/12/48, which, apart from very sporadic ZL and Interstate contacts, provided nothing unusual.

As regards the other bands nothing was observed apart from the usual masking effect of sporadic E. Maps and charts on sporadic E observations by the N.P.L. Eng. covering from December 1940 to January 1942 were carefully

studied. These indicated intense activity during summer months, slight peak in mid-winter and fairly regular re-occurrences during other months following 27 day cycle. These charts covered the northern hemisphere and other than the fact that conditions appear to follow very closely the same pattern so far as VK is concerned nothing further was gleaned. However after analysing daily records of Ranges heard during the last two years some interesting features emerge, particularly so when they are correlated with various openings in VK and elsewhere. It would provide a basis for a further article if sufficient interest warrants it.

Australia's Largest Stock of All Radio Components

Chokes
Coils
Condensers
Dials
Intermediate Transformers
Morse Equipment
Potentiometers
etc., etc.
Resistors
Soldering Irons
Speakers
Test Equipment
Valves
Pick-Ups
Power Transformers
etc., etc.

Obtainable from

Bloch & Gerber Ltd.

with which is associated
the

WELDON ELECTRIC SUPPLY CO.

46-48 YORK STREET,
SYDNEY

G.P.O. Box 2282 M

Phones: MA 6291 (10 lines)

* 85 Mann Street, Gosford, N.S.W.

IONOSPHERIC PREDICTIONS FOR THE AMATEUR BANDS

MARCH, 1949

The accompanying charts have been prepared by the Ionospheric Prediction Service of the Commonwealth Observatory. The first set of the series was published in the November, 1948, issue of this magazine, together with an article explaining the nature of the forecasts and how to use them. Nine of the charts, prefixed by the letter "C" for Canberra, refer to forecasts for the South-Eastern Australian States. The remainder, prefixed by the letter "P" for Perth, are for Western Australia.

The Canberra charts refer to the following world zones:—

Zone	Region	Terminal
1	Western Europe	London
2	Mediterranean	Cairo
3	N.-West America	San Francisco
3a	N.-East America	New York
4	Central America	Barbados
5	South Africa	Johannesburg
6	Far East	Manila

The forecasts have actually been prepared for point-to-point circuits between Canberra and the overseas terminals mentioned in the above table. It is, however, to be expected that the charts will provide an approximate indication of ionospheric conditions for all Amateur contacts from South Eastern Australia to the various world zones.

The Perth charts are similar to those based on Canberra, except that the Far East terminal is Shanghai in chart P-Z6. No forecasts are given from Perth to Zones Z2 and Z4 for the current month. Chart P-Z2 would be essentially similar to P-Z1, while chart P-Z4 would be unreliable due to auroral activity in high northern latitudes.

USE OF CHARTS

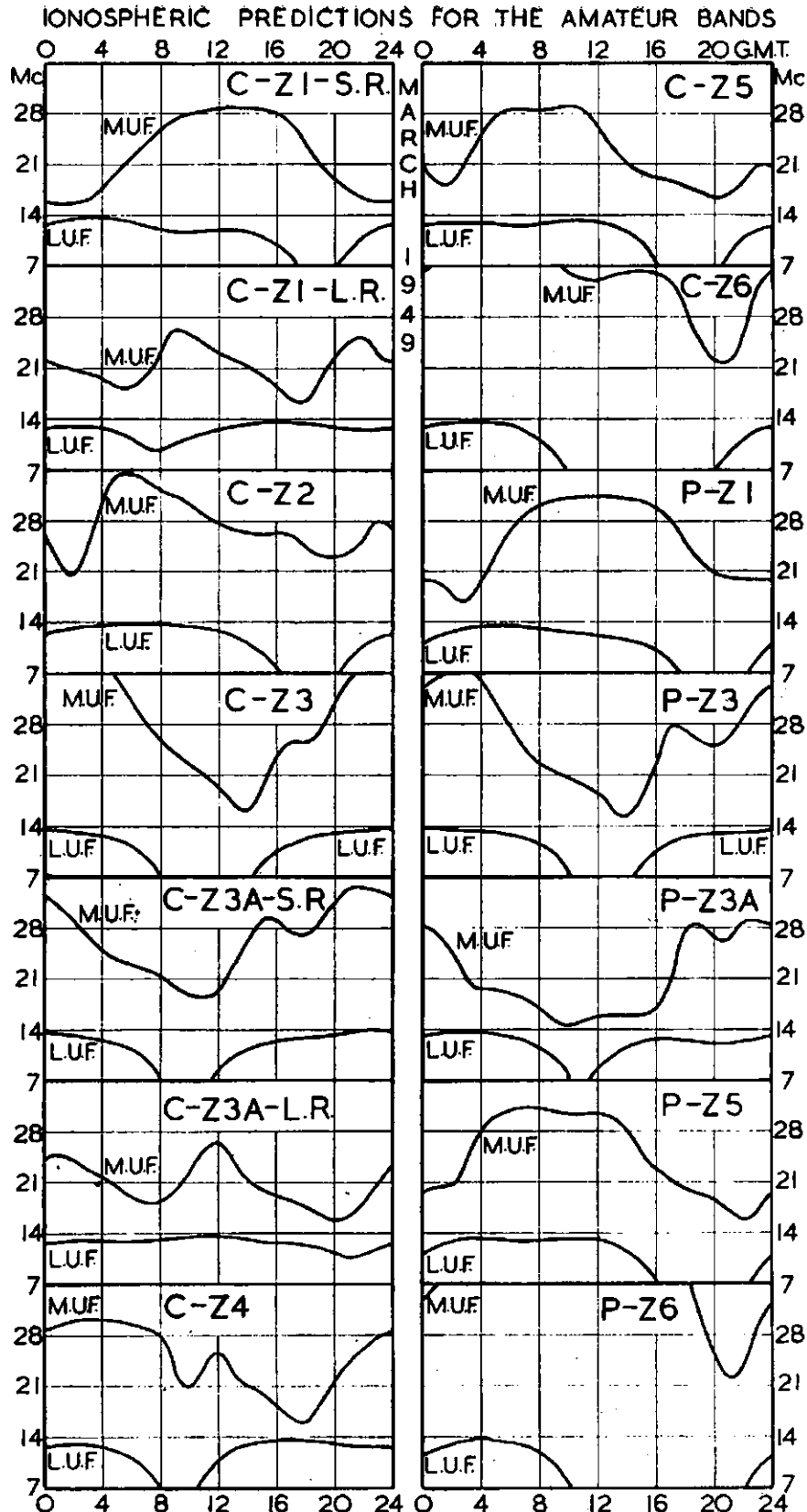
All that is necessary in using the charts is to select a time (G.M.T.) during which a specified Amateur band frequency is below the maximum usable frequency (m.u.f.) of the F region of the ionosphere but above the lowest useful frequency (l.u.f.) for the desired contact. In two cases, Zones 1 and 3a, it is necessary to consult both the short-route (s.r.) chart and the following long-route (l.r.) chart.

QUIZ

The Prediction Service welcomes comments on the accuracy of its predictions. In particular, answers to the following questions on the Canberra-San Francisco circuit would be most helpful:—

1. Was there a consistent break in the 28 Mc. band from 0700 to 1900 hours G.M.T.?
2. Was the 14 Mc. band open, but noisy around midnight G.M.T.?
3. Were conditions good on the 14 Mc. band from 0800 to 1600 hours or was there a break in the circuit soon after mid-day G.M.T.?

Answers to the Quiz should be sent to the W.I.A. and should, if possible, refer to consistent results obtained on the majority of days in the month.



VISIT VEALLS

for your March
Amateur Needs!

TYPE S14 Retail Price 5/-

TYPE S13 Retail Price 4/9

TYPE S12 Retail Price 2/6

TYPE S12A Retail Price 2/9

TYPE FT 4 Retail Price 6/9

TYPE FT 2 Retail Price 4/7

TYPE FT 1 Retail Price 3/9

TYPE GT 2 Retail Price 8/3

TYPE BH 2 Retail Price 5/10

AEGIS CERAMICS

Important little pieces of equipment these high-grade Aegis Ceramics are stocked in full range by VEALLS! Ham discount!

ROBLAN Silver mica midget 3 gang Condensers, 9-21 MMFD. 25/-.

UNIVERSITY TEST EQUIPMENT. The full range of this famous laboratory built Test Equipment is available at Vealls. University "Supertracer" £47 (plus 10 per cent tax).

TRANPRO Valve and Circuit Tester £32/19/6 (plus 10% tax).
VELCO Amplifiers and Microphones—full range for every purpose.

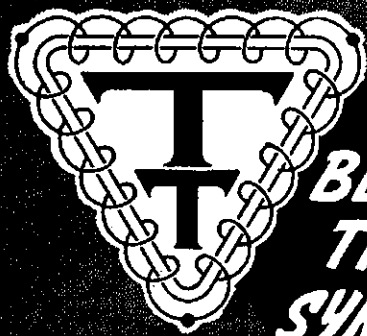
VEALLS Chassis Cutting Service.

Vealls cut any Chassis or metal box to the size and specifications you desire. Join the many satisfied Hams who are making use of this quick convenient and effective service.

VEALLS 243 Swanston St., Melbourne. FJ 3145.
299 Chapel St., Prahran. LA 1605.

Associated with ARTHUR J. VEALL Pty. Ltd. Established 1911

MAIL ORDERS, BOX 2141T, G.P.O. MELB.



**BEHIND
THIS
SYMBOL**

Every transformer looks to be simply coils of wire on a core . . . but the beauty of Trimax Transformers is more than skin deep! Long experience and high standards of technical ability ensure that the unseen parts of your Trimax Transformer will prove their reliability in every test.

TRIMAX Transformers

Division of CLIFF & BUNTING PTY. LTD. ~ 29-35 FLEMINGTON RD., NORTH MELBOURNE, VIC.

BRISBANE:
Chandlers Pty. Ltd.
Cnr. Albert &
Charlotte Sts.

INTERSTATE REPRESENTATIVES:
ADELAIDE:
C. N. Muller,
Woronda Bldg.,
Geenfall St.

PERTH:
R. D. Benjamin,
197 Murray St.

LAUNCESTON:
W. & G. Genders
Pty. Ltd.,
53 Cameron St.

ENQUIRE FROM YOUR NEAREST DEALER

Royal Australian Air Force Reserve

The Minister for Air (Mr. Drakeford) has said "The value of reservists can be judged from the fact that the R.A.A.F. Wireless Reserve in 1939 permitted the R.A.A.F. to man vitally important circuits without delay and to carry out a development plan which would have been considerably delayed without the able and loyal aid of the members of the Reserve."

Wing Commander J. Reddrop, Director of Telecommunications and Radar, gave a talk at the 1948 Annual Convention of the Wireless Institute of Australia in Melbourne and there has been a press release telling you of the broad plan to include an active radio component in the R.A.A.F. Reserve.

Wing Commander J. Reddrop tried to imagine that he is a possible member of the Radio Section of the Reserve and has asked himself some questions, and as it is his job to organise the Reserve, he was able to supply the answers. Here they are:—

What is the R.A.A.F. Reserve?

The conditions of service in the Royal Australian Air Force Reserve are fully covered in the July 1948 issue of "Amateur Radio," page 14.

The Permanent Air Force Reserve will include a Telecommunications and Radar Section. Reservists in the Telecommunications and Radar Section will be trained to such a standard so that when called up for service, they shall rank and be able to work with members of the Telecommunications and Radar Section of the Permanent Force without further training.

How will Telecommunications & Radar Section of the Reserve be Organised?

Squadron Leader F. C. Bibby has been appointed as Officer in Charge of the Telecommunications and Radar Section of the R.A.A.F. Reserve. Nearly every radio man who has been in the Active Force knows Squadron Leader Fred Bibby. He will be remembered as a most energetic, go-ahead officer and an active and enthusiastic Amateur. He trained a number of presently serving and ex-Signals officers and airmen. He has been out in the field and served with the U.S. Forces under General Akin. He was well thought of by the Americans and was awarded the American Bronze Star Medal for his work with them. He is now at Air Force Headquarters and is responsible for technical development and the frequency and ionospheric organisation.

The Telecommunications and Radar Section of the Reserve will be organised on an Area basis under the control of Air Force Headquarters. In the initial stages, the areas will be as follows:—

Southern—Victoria, South Australia, and Tasmania.
Eastern—New South Wales and Brisbane area.

North Eastern—Northern Queensland.

Western—Western Australia.

North Western—Northern Territory.

Southern will be under the control of the Chief Signals Officer, Southern Area Hqrs. (Address: Albert Park Barracks, Melbourne.)

Eastern will be under the control of the Chief Signals Officer, Eastern Area Hqrs. (Address: Albert Park Barracks, Melbourne.)

North Eastern Area will be under the control of the Chief Signals Officer, North Eastern Area Hqrs. (Address: Townsville, Qld.)

Western will be under the control of the Chief Signals Officer, Western Area Hqrs. (Address: Pearce, W.A.)

North Western Area will be under the control of the Chief Signals Officer, Western Area Hqrs. (Address: Darwin, N.T.)

In each area, the Chief Signals Officer will organise the activities of that area in conjunction with a Chief Reservist Officer.

What Training Will I Get?

In the initial stages, the training of Reservists will take the form of revision of what you had learnt and were engaged upon during service in the 1939-45 War. Following this initial stage, Reservists will be brought up to date with current practices in use in the Active Force.

How Will I Be Trained?

Training will be carried out along the following lines:—

(i) Home Training.

(a) For approximately the first 6-9 months, technical data will be supplied to Reservists so that in their spare time they can carry out revision and bring themselves up to the standard they attained whilst members of the Active Force.

(b) Reservists will be sent questionnaires which will require them to do some delving into their text books and notes to find the answers.

(ii) Lectures.

(a) Periodical lectures will be given at central points to all Reservists. These lectures will cover the whole field of the Active Force Telecommunication and Radar equipments, and where possible future developments and equipment on the design board. Reservists will know what is going on at home and abroad.

(iii) Practical Work.

(a) It may be possible to organise competitions, particularly in the field of efficiency in v.h.f. link transmission and reception. This will depend on yourselves and every possible assistance will be given.

(b) Organised group visits to R.A.A.F. units will be arranged to enable Reservists to see communica-

tion and radar equipments, and layouts in aircraft, single side band multi-channel equipment and high powered transmitters in transmitting stations, the operation of tape relay message handling, etc.

(c) Personal visits to R.A.A.F. units will be arranged for Reservists on leave at a Capital city or near a R.A.A.F. unit to enable them to work side by side with officers and airmen of the Active Force.

(d) Special arrangements will be made for Reservists visiting their Area Headquarters capital cities to personally present their ideas for improvements and to discuss their problems with Chief Signals Officers, and when visiting Melbourne with officers at Air Force Headquarters.

(e) Arrangements will be made for Reservists to visit factories in or near their district, or when they are on leave and to visit the Royal Australian Air Force Research and Development Unit and aircraft manufacturers.

(f) Working displays of equipment will probably be arranged in the capital cities or nearby Air Force units so that Reservists can spend as much of their spare time as possible to become experienced in the operation and maintenance of service equipment.

Will I Learn Anything New?

Every effort will be made to advance the technical knowledge of Reservists. The standard required of Reservists will be such that they, when called up for Service, can be absorbed directly into the Telecommunications and Radar Section of the Permanent Air Force.

Reservists will be taught single-side band multi-channel and frequency shift transmissions, and all other aspects of radio teletype transmission, v.h.f. and pulse techniques including relaying radar scope pictures, multi-channel links, aircraft instrument landing systems, such as SCS-51 and G.C.A.

Lectures and demonstrations and technical articles will be given on all the above subjects and others as they come to hand.

The merging of signals and radar commenced after the cessation of hostilities. It will be recalled that there were separate signals and radar organisations during the last War. It was realised that there was a very close relation between the functions of the two organisations and it was decided that they should merge and the resultant product "Radio" would cover all aspects of signals and radar.

All ex-Signals personnel will be trained in radar and all radar personnel will be trained in signals.

Is There Any Social Side?

All Reserve members will be afforded the facilities of the appropriate

(Continued on Page 10)

Important Announcement!

Due to Arrive — April

“A.R.R.L. HANDBOOK”

1949 EDITION

PUBLISHED BY AMERICAN RADIO RELAY LEAGUE

The most up to the minute book on Radio.

Avoid disappointment—book your order now

FROM

McGill's Authorised Newsagency

183-185 ELIZABETH STREET, MELBOURNE, C.I., VICTORIA.

(The G.P.O. is opposite)

M 1475-76-77



A large range of Transformers and Reactors, from Midget Microphone Transformers to 5 K.V.A. Power Transformers, is manufactured at the A. and R. Factory. In addition to our standard range, we specialise in a finish suitable and necessary for use in tropical and sub-tropical areas. Special plant is installed for this purpose, and enquiries are invited from manufacturers and Government Departments concerned with tropical equipment. Write or phone to-day for further information.

Write for the Latest Illustrated Catalogue

A & R *Electronic Equipment Co. PTY. LTD.*

I LITTLE GREY STREET, ST. KILDA, MELBOURNE, VICTORIA.

Phone : LA 3657

Eighty Metres And How!

BY J. E. DE CURE,* VK5KO

A study of the predictions, contained in the various graphs contained in the Radio Propagation Bulletin issued monthly by the Ionospheric Prediction Service of the Commonwealth Observatory, plus the graphs published in "Amateur Radio" in November, 1948, led me to believe that communication with European Amateur Stations should be possible on the 3.5 Mc. (80 metre) band, somewhere between 1800 and 2000 G.M.T.

As I had been subjected to considerable pressure from G6CJ during the past two years to initiate a series of tests on 80, a watch was kept on that band during late October and early November. At first results were not encouraging, but between 1930 and 2000 GMT on 9th November, 1948, the following stations were logged at reasonable strengths: G5RV, SM5TF, G3BRN, and GW3CDP.

Having established that the path was actually a possibility, I contacted G6CJ and arranged week-end schedules between 1900 and 2000 hours G.M.T. each Friday night, commencing on 3rd December, 1948. The first series returned a null return each way but on changing up to 7070 Kc. G6CJ was immediately contacted and further schedules were arranged.

Unfortunately G6CJ was unable to keep this schedule on 10th December, and thus missed the work done on that day. At 1850 G.M.T., European stations began to appear, and after some futile CQs, VK5KO was called by G13ECQ (Antrim, North Ireland) and HB9K in Switzerland on 3540 Kc. at 1920 G.M.T. Reports were exchanged with both these stations, but I was unable to raise any of the other numerous Europeans logged up to 2000 G.M.T. when the band faded out.

A daily schedule was then commenced, G2KO being worked on 11th December but in spite of countless CQs, no other station was raised until 1930 G.M.T. on 16th December, 1948, when G3ACC called and gave an RST 579 report. Margaret, very much alive, proceeded to wake Europe up to the fact that there was a VK on the band, and from then on it has been a matter of one QSO following another.

To condense, 187 Europeans have been contacted up to 20th January, 1949, reports ranging from RST 449 to 589—strengths under 4 are just not good enough to battle with the QRM situation. In addition to the above, ZS1M, FA8BG, and ZC8PM have been worked between 1900 and 2000 G.M.T. Several Ws including W7MVH and JA2KG, and numerous ZLs, have been worked around 1200 hours G.M.T. Reports from W2QHH in New York City indicate that levels of S7 to 8 are being received at that centre at 1200 G.M.T.

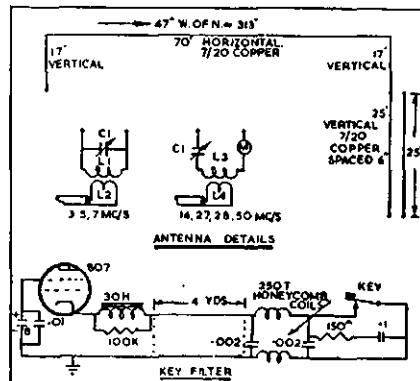
The foregoing has been written in an endeavour to sell 80 metres to the fraternity. It must be admitted that there

Here is the story of the recent regeneration of the 3.5 Mc. band, together with some random ideas on an antenna, which has been moderately successful on the various bands, as well as 3.5 Mc., the band in which the writer is most interested.

is not much wrong with a band that can yield over 200 DX contacts with five continents in a matter of six weeks. There has been a fair amount of discussion here regarding how long these conditions will be maintained. In my opinion, taking a line from previous experience of an almost identical nature on 7 Mc. band in 1930-31, I incline to the view that these contacts should be possible on most days throughout the year, around the local sunrise period—i.e. from about 15 minutes before, until approximately 30 minutes after sunrise—always provided the station you desire to contact is not in a sunlight area. This is of course an extremely broad general statement and would be subject to considerable adjustment, but activity is the only way to prove the point. In any case this band does provide some variety, and we should keep in mind the old axio "that what you don't use, you will eventually lose." The QRN bogey also appears to be a myth as it drops to very low levels when the DX is coming through.

DETAILS OF ANTENNA

So much for what you may expect to hear on 80 metres. Many will say, well, the difficulties of arranging an aerial system that is capable of performing with sufficient efficiency to enable this work are insurmountable in the average suburban location. A brief description of the antenna in use at VK5KO will, for that reason, be of



- L1—3.5 and 7 Mc.—14 turns, 3 1/2" diam.
- L2—3.5 and 7 Mc.—3 " 3 1/2" "
- L3—14 Mc.—6 " 2 1/2" "
- L4—14 Mc.—2 " 3" "
- L3—27, 28, 50 Mc.—4 " 3" "
- L4—27, 28, 50 Mc.—2 " 3 1/2" "

All coils are of 14 s.w.g. copper, and wound on air.

interest and perhaps encouragement.

This antenna is used on all bands, i.e. 50, 28, 14, 7, and 3.5 Mc. On 50 Mc. all Australian States and New Zealand have been worked with S9 reports, on 28 Mc. results appear to indicate that any station heard may be worked. The owners of various types of beam antenna never appear to hear anything not audible using this aerial, but on the contrary, appear to miss quite a lot. On 14 Mc. 135 different countries were worked between March and November, 1948. On 7 Mc. all continents except South America have been worked at least 50 times each, while on 3.5 Mc. twenty-three countries on five continents have been worked, during the past six weeks.

The system is used as an end fed hertz on 3.5 and 7 Mc., and as a zeppelin fed hertz on the higher bands. On 3.5 and 7 Mc. the coupling circuit is a parallel resonant circuit link coupled to the final amplifier by six feet of co-axial cable with the outer grounded at both ends. On the higher frequencies the feeders are series tuned, but results are much superior when the capacity is placed in the live feeder and the antenna current meter in the dead feeder side. The poles supporting the antenna are each 35 feet high but the one at the south east end is erected on ground approximately five feet higher than that at the north-west (fed end). This results in a tilt favoring the north-west paths, but results on all bands give no evidence of this.

At first glance you will wonder how it is possible to resonate 25 feet of twin (zepp) feeder with a series condenser to feed a flat top of 104 feet on the 14 Mc. band. It makes sense on 28 Mc., i.e. 1/4 wave feeders, but 3/4 feeders on 14 Mc. appear all wrong. I will not go into the theoretical reasons for the fact that the system is sharply resonant in this condition, but suggest that you try it. On 7 Mc. and 3.5 Mc. it would appear to be correct to leave the 25 feet dead feeder disconnected, results here indicate however, that it is better to leave it connected to the low voltage end of your parallel resonant coupling circuit.

Although it is realised that this system has many shortcomings, it is offered as the only system I have been able to evolve that is capable of really good results all round the compass on any of the six Amateur Bands—including 11 metres—normally used by Amateurs.

SYSTEM OF KEYING

It has been suggested that key clicks and-or b.c.i. may be a bug-bear on 80 metres; experience has shown that this is not so. The transmitter here is keyed in the centre tap of an 807 buffer stage using the filter shown in the accompanying diagram. With this arrangement it is possible here to plug a highly sensitive receiver into the transmitter power mains outlet and adjust it to maximum sensitivity tuned away from any station, i.e. no a.v.c. voltages, and it is not possible to determine whether or not the transmitter is being keyed.

* 25 Farrell Street, Glenelg, South Aus.

Frequency Measuring Contest

RULES

1. The Frequency Measuring Contest will be held on the 25th March and 1st April, 1949 (not 18th and 25th March as previously announced), commencing at 8.30 p.m., and will consist of five transmissions in the 7 Mc. band on each of these two nights, making 10 test frequencies in all.

2. The Contest is open to all States of the W.I.A. and Members, Associates, and Student Members are eligible to compete.

3. Prizes will be Orders for purchase of Radio Gear. 1st Prize, £3; 2nd Prize, £2; a Special Prize of £1 for the contestant who, in the opinion of the Judges, has made the best use of home built equipment.

4. Entrants will submit a minimum of four frequencies in the Contest, out of the ten transmitted, as competitors may find difficulty in obtaining accurate measurements on some of the transmissions, due to interference.

5. The approximate frequencies plus or minus 10 Kc., for purposes of location will be:—

1. 7010 Kc.	6. 7030 Kc.
2. 7050 "	7. 7070 "
3. 7090 "	8. 7110 "
4. 7130 "	9. 7150 "
5. 7170 "	10. 7190 "

6. **Judging.**—The error in cycles per second of each of the frequencies submitted to be totalled, and the average error in cycles per second determined. The lowest average error to be the winner.

7. The Judges will take the frequencies submitted by a Frequency Measuring Service, independent of the W.I.A., as being correct for this competition.

8. All measurements must be made at the Member's stated address, and the use of private or public institutions, or their equipment is prohibited.

9. Entries must be sent to the W.I.A. Victorian Division, 191 Queen Street, Melbourne, not later than 8th April, 1949, and marked "Frequency Measuring Contest," in the bottom left hand corner of the envelope.

10. The decision of the Judges will be final. Judges are VK3IK (Communications Manager), VK3VZ (Technical Editor), VK3JI (in charge of Frequency Measurements).

PROCEDURE

VK3WI will commence operation on phone at 2020 hours on 7196 Kc. with information on rules, etc., of the competition.

At 2030 hours (E.A.S.T.) VK3WI will change frequency to near the low frequency end of the band, calling on c.w. F.M.C. (Frequency Measuring Contest) No. 1 (three times) de VK3WI (three times), to be repeated for approximately three minutes, then key down for two minutes, followed by F.M.C. No. 1 (three times) de VK3WI (three times) QSY to F.M.C. No. 2.

The above procedure will then be repeated for the next frequency.

SAMPLE ENTRY

Name—Joe Brown.
Address—Marine Pde., Elwood, Vic.
Date—April 4. Call—VK3XYZ.
Frequency Meter Details—Class C
Wavemeter.

March 25—	April 1—
No. 1 —	No. 6 —
" 2 7049.42 Kc.	" 7 7069.90 Kc.
" 3 7092.64 Kc.	" 8 —
" 4 —	" 9 7150.55 Kc.
" 5 7170.02 Kc.	" 10 —

I declare that this entry was made on Frequency Measuring Equipment normally used for frequency measurement in my own station.

(Signed) Joe Brown.

DOUBLE CONVERSION RECEIVER DESIGN

(Continued from Page 3)

of one or both. The writer found that the best form of decoupling was a 0.02 uF. mica condenser from the actual last turn of the oscillator tank to the nearest chassis point.

At this stage it might be as well to urge all intending constructors of double superhets to isolate all stages by separate shield cans having double, rather than common, walls. It will pay them in the long run.

Troubles of type (c) are more particular in their nature. They are best explained by quoting in detail a case which occurred during the development of the writer's present receiver. Here are the clues: low i.f. 455 Kc., second osc. 4285.7 Kc., high i.f., the sum of these two, viz., 4740.7 Kc.; band being tuned, 20 metres; first oscillator on the low side of the signals, for stability; symptoms of trouble—all the stronger stations on 20 appeared twice on the bandspread dial, but the separation between their dual positions was greater toward each end of the band. For example, Station A, on 14000 Kc. might be heard on 14100 Kc. also; Station B on 14310 Kc. would be heard also on 14400 Kc.; but Station C, on 14200 Kc. would have its other spot much closer, at, say, 14205 Kc.

To save the reader hours of head-scratching which the writer put in before realising the cause of the trouble—yes, the cause was simple—the solution is offered forthwith: The tuning range of the first oscillator was 14000

— 4740.7 = 9259.3 Kc. to 14400 — 4740.7 = 9659.3 Kc. This meant that the second harmonic of this oscillator tuned from 18518.6 to 19318.6 Kc. Subtracting the high i.f. (4740.7 Kc.) from this range, one obtains 13777.9 to 14577.9 Kc.—conveniently covering the same band that the fundamental of the oscillator was designed to receive.

The effect of closer spacing of the two signals from a given station at the centre (roughly) of the 20 metre band was due to the fact that the change in frequency of the second harmonic was at twice the rate of the fundamental, and the two tuning systems were actually crossing in the centre of the band.

The cure for this trouble was to replace the 4740.7 Kc. i.f. transformers with 3830.7 Kc. transformers—the present frequency. This put the second oscillator on the high side of the high i.f., and necessitated adding $455 \times 2 = 910$ Kc. to the frequency of the first oscillator. The second harmonic of the latter then ceased to beat with Amateur Stations to produce the effect described. The normal selectivity of the front end of the set takes care of the possible troubles of a like nature which might be expected from commercials above the 20 metre band, as none of them are as strong as nearby Amateur Stations.

In all cases, careful design of the oscillators to reduce harmonic content in their outputs is also a help.

It is not the writer's intention to waste "A.R." space by dwelling at length on other phases of the receiver

discussed; almost every other part of the set is conventional, and the same precautions as to rigidity, ventilation, shielding, etc., are taken there as for any other receiver.

Should any reader be interested in further information about this particular receiver, the writer will be happy to provide it on request.

R.A.A.F. RESERVE

(Continued from Page 7)

R.A.A.F. messes, thus giving you the opportunity to get together with other Reservists and Permanent Members for discussions on technical and service matters generally.

How Can I Join?

Now that you have read this, and the conditions of service (set out in "A.R." July 1948, page 14), sit down and ask yourself:—

"Am I prepared to spend some of my own time to advance my knowledge of radio and its applications in the Royal Australian Air Force?"

The answer will most certainly be "Yes." Then write and ask for an enrolment form P/P. 49 to:—

Secretary, Air Board, Victoria Barracks, Melbourne, S.C.I.; or

Your nearest recruiting office; or
The Chief Signals Officer of your Area.

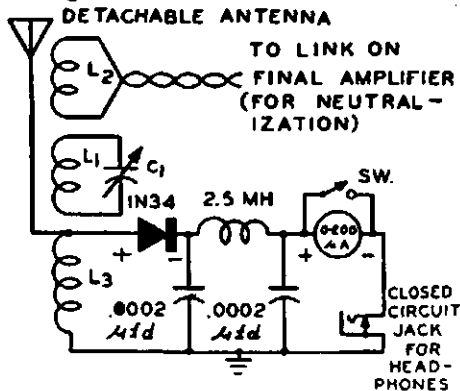
If you have some personal queries you would like to have answered before you make an official application, write a personal letter to S/Ldr. Fred Bibby, c/o. D. Tels. & Radar, R.A.A.F. Headquarters, Victoria Barracks, Melbourne, S.C.I.

SUGGESTIONS FOR USE OF GERMANIUM CRYSTALS

By courtesy of J. H. Magrath & Co., of 208 Little Lonsdale Street, Melbourne, we publish herewith two circuits featuring Germanium Crystals.

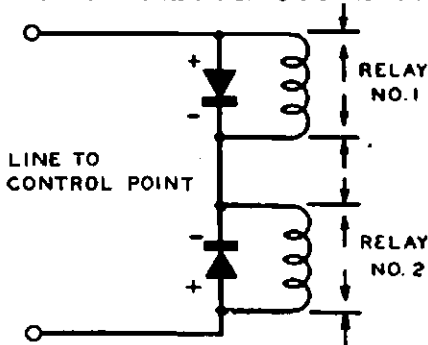
In both circuit diagrams showing the Germanium Crystal, the bar of the crystal symbol represents the cathode. On each Sylvania Germanium Crystal the cathode side is indicated by a green band and the label "Cath."

The B.T.H. British-made equivalent of the 1N34 is equally effective in the following circuits:—



TUNED FIELD STRENGTH METER

While this instrument has been designed specifically as a wide-range field strength meter, it may be employed also as an absorption wavemeter, listening monitor, and neutralisation indicator. L1 and C1 must resonate to the operating frequency of the transmitter under test. L2 consists of a few turns loosely coupled to L1. L3 should be about the same size as L1 and coupled fairly tightly to L1. All coils are wound with the same size wire on the same coil former.



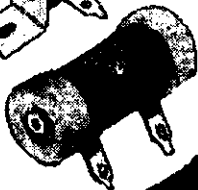
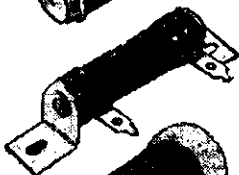
DUAL RELAY CONTROL

Employing crystal diodes, this control system makes it possible to operate either one of two distant relays over a single-pair line. The crystal diodes shunting the relay coils are connected to the line with one polarity, the diode whose anode is positively impressed passes highest current and picks up the relay across which it is connected. When the battery is reversed, the second relay picks up and the first drops out. A higher battery voltage must be employed to pick up the relay shunted by the back-connected diode.

Amateur Radio; March, 1949



BUT STILL SENDING



No mechanical or electrical device can avert an occasional sea tragedy, but modern electrical instruments have been the means of saving countless lives that, without them, would have been lost. With an automatic transmitter, an abandoned ship can continue to ask for aid: sending out name and position until the final plunge.

On ships that do not keep a continual wireless watch, an auto alarm will receive and record distress signals over long distances by International Code at close and regular frequencies. The proved efficiency of these life-saving electrical instruments is due to the designers and manufacturers—and I.R.C. Resistors play no small part in their make-up. YOU can rely on IRC for ALL your Resistor requirements.

**IRC
RESISTORS**

SOLE AGENTS FOR AUSTRALIA:

Wm. J. McLELLAN & Co.
BRADBURY HOUSE, 55 YORK ST., SYDNEY • BX 2508.

Series Screen Modulation of Type 3 MK. II

BY B. M. FERGUSON,* VK3FN

Here is a new method of modulating the Type 3 Mark II, which is in a class of its own for general use with this equipment and is ideal for portable operation. The modulator can be made to fit into the 3½" square coil compartment of the spares box.

Fig. 1 shows the audio line-up and method of connection to the transmitter. The circuit cannot be simplified any further and results obtained with it are really astonishing.

It is no exception to other systems of efficiency modulation in that it is critical as to grid drive and plate loading. Fortunately however, these adjustments are ridiculously easy—provided you follow the tuning instructions carefully.

Modification to the Transmitter.—A s.p.d.t. toggle switch is mounted about 1½" to the left of the power inlet cable and two insulated pin-jacks in the intervening space.

J1 is wired to one side of the switch and J2 to the 240 volt lug supplying the screen and oscillator. The screen resistor is removed from the valve pin and connected to the other side of the switch. The switch arm goes to the valve screen pin. **NOTE.**—Do not use shielded wire to carry the audio.

Modification to the Power Supply.—Two pin-jacks are fitted through the ventilation holes just below the a.c. power inlet. One is earthed and the other is wired to the 6 volt pin on the power outlet socket.

Modulator.—The modulator is constructed on a very shallow chassis. Valve pins are bent down flat and the chassis is made just deep enough to clear the wiring from the side of the spares box. It is bolted to the lid and the microphone jack and gain control fitted to the lid. The shaft of the latter is insulated from the lid. Three grommets provide outlet for (1) heater connection to supply, (2) lead to J1, (3) connector to J2, and an earth lead for connection to transmitter box, under corner screw. The latter was found to be desirable.

The modulator slides snugly into the 3½" square coil stowage compartment of the spares box, leaving the balance of the box available for other gear—small speaker, three-band monitor-cum-modulation checker, and the switching associated with the latter equipment.

The components are quite ordinary, the transformer for instance is from an old neutrodyne of 1927 vintage! To the critical ear the audio lacks "balance," and, strange as it may seem, it is the absence of some of the "highs" which is responsible. This condition is partly due to the by-passing effect of the screen condenser (0.002 uF.). A further contributory factor may be the "heater to cathode" capacity of the 6J5GT. The effect is not bad and you are assured that definitely none but the critical ear

will detect the weakness. It is a minor problem which critical individual users of the system must solve for themselves. Only those requiring to work DX through bad QRM would need to bother. The modulator is run "flat out" in order to fully modulate the carrier.

The features may be listed as under:

1. Modulator power is drawn from the transmitter 240 volt screen and oscillator supply; whilst this imposes an additional 6 Ma. on this particular circuit, the supply as a whole delivers much less current on phone than for c.w. The rectifiers are not endangered.
2. The fully modulated input—with linear output waveform—is twice that previously reported using other systems of modulation.
3. Phone is automatically available for a.c. or battery operation, thus making it ideal for portable operation.
4. No major modifications to the transmitter are necessary. Additions are very simple and easily made. Circuit constants are untouched and metering remains as is!

ADJUSTMENT PROCEDURE

- 1.—Meter in position 6, switch to c.w. and tune up in the usual manner to say one division over half scale (16 divisions).
- 2.—With meter still in same position, switch to phone and input should now drop to about 11 divisions.
- 3.—Now switch meter to position 3 and check grid drive to ensure that it is ample. It should be about 20 divisions. Two thirds full scale.
- 4.—Return meter switch to position 6.

increase loading by one or two divisions until it is 12 or 13 divisions.

5.—Meter switch is now put back to position 3 and recheck grid drive and bring up if necessary.

N.B.—The procedure outlined is not an academically correct method for the adjustment of efficiency modulation. However, if the foregoing instructions are faithfully observed, the result will be a fully modulated and perfectly linear output wave form. Also, for the sake of simplicity, all meter readings are given in small divisions of the scale (30 full scale).

No isolating transformer for 6J5GT heater is necessary.

From 3.5 Mc. crystals it is necessary to operate the 6L6 as a doubler on 14 Mc. in order to obtain sufficient grid current. The output will not suffer under these conditions—it is actually much greater because of the increased plate efficiency.

All gear has been built into one case, 15" x 18" x 5½".

AERIAL TUNING UNIT

The aerial tuning unit is simple, but effective, and provides facility for either parallel or series tuning of aeri-als. The normal aerial tuning may be used as desired. All coils have been cleaned and rewound with silver wire (except 3.5 Mc. coil L1A). They have all been provided with two turn links and arranged in the following order: L1A 3.5 Mc., L2A 7 Mc., L3A 14 Mc., L4A 28 Mc.

Operation is not intended on 28 Mc. but the unit can be used as an exciter. The links are connected to the centre pins and the corresponding connections on the socket feed through co-axial to two terminals just over the meter.

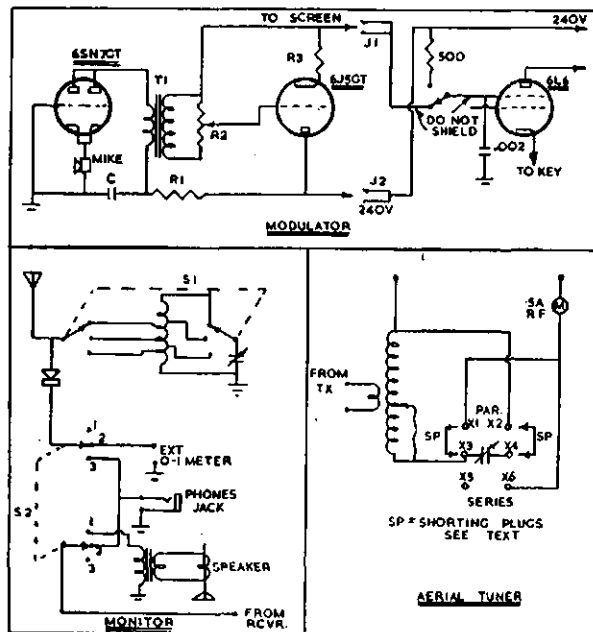
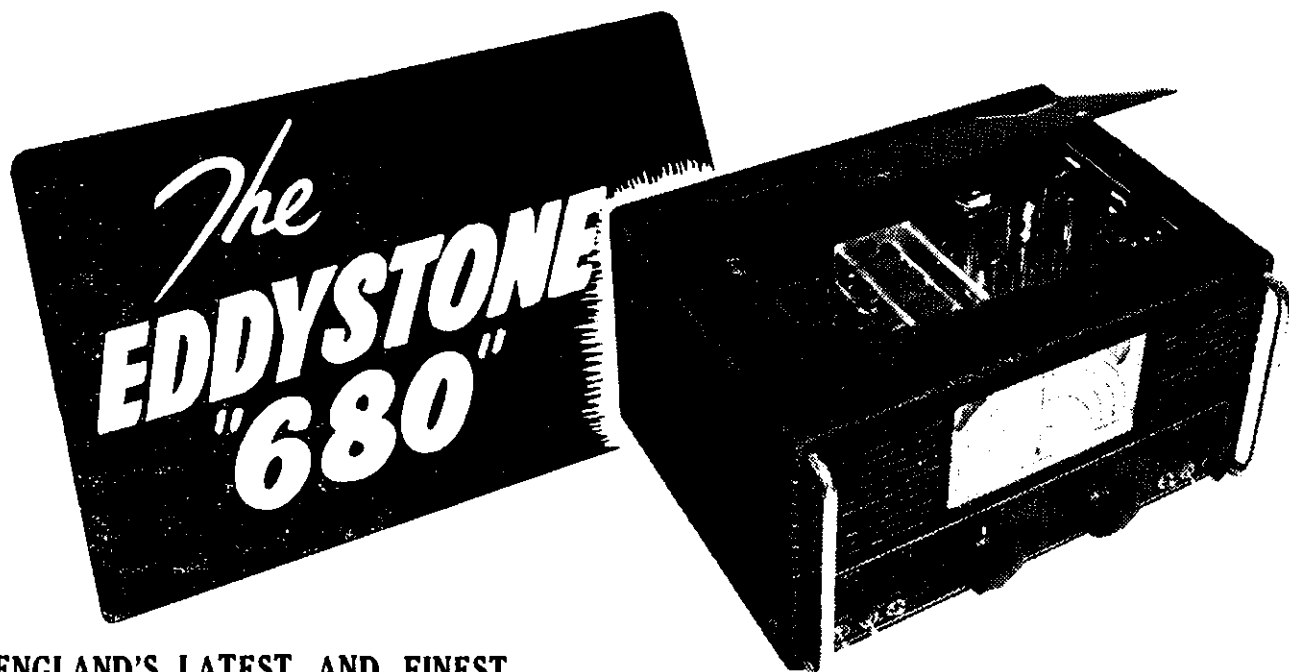


Fig. 1.—Schematic diagram of the modulator, monitor and speaker (bottom left), and aerial tuning unit (lower right). The series-parallel antenna switch could be a d.p. d.t. knife switch, or as used here for greater compactness, two shorted parallel type line plugs, made up of banana plugs; the sockets being spaced ¾" apart and are mounted on a micalex base 2½" x 1½".

- J1, J2—Insulated pin-jacks.
M—P.M.G. insert type carbon microphone.
T1—5:1 audio trans'fmer.
C—0.1 uF. 400v. paper condenser.
R1—5,000 ohms 1 w. carbon.
R2—0.5 Meg. carbon pot.
R3—1,000 ohm 1 watt.
S1—2 pole 3 pos. wafer.
S2—2 pole 3 pos. wafer.
Pos. 1 Receiver to speaker
" 2 Receiver to phones, and mon. to meter.
" 3 Monitor to phones.

* No. 2 Second Court, McGowan Ave., West Preston, N.18, Victoria.

BOTH PROFESSIONALS & AMATEURS WILL THRILL TO THE FAULTLESS PERFORMANCE OF



**ENGLAND'S LATEST AND FINEST
COMMUNICATIONS RECEIVER, Designed for PROFESSIONALS and Discriminating AMATEURS**

Technical Features :

TUNING RANGE 30.4 Mc/s to 490 Kc/s Continuous in five bands.

CIRCUIT. Two high sensitivity RF stages, frequency changer with separate oscillator for maximum efficiency and freedom from drift.

Two high gain 450 Kc/s I.F. stages with phased crystal filter. Double-diode detection with A.V.C. noise limiter and "S" meter. Two paraphase audio amplifiers. Push pull output stage. DIAL Gear driven fly-wheel controlled 140-1 reduction with mechanical bandsread.

Now available from your local distributor

- VICTORIA: J. H. MAGRATH & CO. 208 Little Lonsdale St., Melbourne.
- N.S.W.: JOHN MARTIN PTY. LTD., 116-118 Clarence St., Sydney.
- Q'LAND: CHANDLERS PTY. LTD., Cnr. Albert & Charlotte St., Brisbane.
- WEST AUST.: CARLYLE & CO. LTD., Hay St., Perth and 397 Hannan St., Kalgoorlie.
- S.A.: GERARD & GOODMAN LTD., 192-196 Rundle Street, Adelaide.
- TAS.: W. & G. GENDERS PTY. LTD., 53 Comeron St., Launceston.

Australian Factory Representative : R. H. CUNNINGHAM & CO. 420 William-st., MELB.

This F.M. And Television Business

At the present time f.m. and television are receiving considerable publicity in the Press, and therefore some comments from W0SGK, Kansas, U.S.A., in a letter to VK3FO, gives us a pointer on what we can expect in the future, when these services get under way.

He deals only with the broadcast listener's reaction to f.m., but nevertheless his comments are most interesting to the Amateur, as they affect us vitally. To quote—

"F.M. is by no means the big thing that you people seem to think it is. F.M. is somewhat better in town, where interference is higher, but the trouble is that f.m. receivers are expensive to maintain, to buy, and the big majority of people would much rather spend a small sum for the cheap b.c.l. sets, a.c./d.c. circuits, almost no sensitivity, less if possible selectivity, high distortion, and tune in the local broadcast station, go about their business, paying very little attention to the programme being transmitted. They don't notice or care for the better quality, by no means enough to pay the much higher price. F.M. range is short, 30 miles or so, which cuts into the market considerably. The people living away from the

town are more interested in radio, therefore the lions' share is for a.m. sets, small and cheap."

W0SGK has some interesting comments on television interference and gives some idea of what is to come. To quote—

"The front end of a television receiver is as wide open as a farmer's barnyard gate, the r.f. amplifier must respond to a channel some five megacycles wide with equal response, in the 45-90 Mc. region. Naturally the response outside the 5 Mc. band is plenty, at 2 times down, it will pick up over some 25 Mc. The i.f., also 5 Mc. broad, is located between 20 and 28 Mc., and has plenty of skirt response. The video channel is 5 Mc. wide, from zero to 5 Mc., and naturally to cut the selling price, shielding is almost non-existent, filtering likewise, also decoupling. The usual procedure is to sell sets as far out as possible, the fringe of the signal area takes in the largest number of customers naturally, and with the receiver having such a potential for trouble, trouble is the usual occurrence.

"An Amateur living some three doors down from such a set owner, running perhaps 200 watts on 80 metres, blots

out his picture, so he shifts to 40, instead of the 3.5 Mc. interference to the video amplifier, his third harmonic at 21 Mc., again blots the picture; he moves up to 14 Mc. or 28 Mc. and harmonics enter the front end; he goes to 6 metres, and adjacent channel interference shows up—you can't win.

"He shuts down entirely, and the set owner gets a fine herringbone pattern, and he finds that the interference is coming from every station on the air with fundamental frequency in video range, harmonics in the i.f. range, or from a band on either side of the r.f. channel, with a signal up to maybe 25% of the desired signal voltage. The best hope for progress at the moment seems to be to move the whole thing up into the 400-700 Mc. region—to get as far away from the lower spectrum as possible, which means throwing out the whole thing and starting from scratch."

W0SGK's views are perhaps on the black side, but it might be a blessing in disguise that we are behind in these latest developments, because, if we are wise, we can profit by their mistakes, and when television comes, as it most certainly will, we can start on frequencies which will eliminate, or at least reduce, the troubles which apparently beset it now.



- The ham specially catered for.
- Quality cards at economical prices.
- Prompt service.
- One, two or three colours if required.
- Interstate orders handled.

Dee Why Printing Works

67 Howard Avenue, Dee Why, Sydney.

Telephone: XW 8367.

QSL CARDS

The DEE WHY PRINTING WORKS is making available to the amateur experimenter a special QSL Card Printing Service. Knowing the requirements of hams, we are confident the service offered will be unsurpassed in Australia.

Cards can be printed to your own specifications, and if illustrations or blocks are necessary, our Art Department can produce these for you.



FEDERAL, QSL and DIVISIONAL NOTES



Federal President.—W. R. Gronow, VK3WG; Federal Secretary.—W. T. S. Mitchell, VK3UM, Box 2611W, G.P.O., Melbourne.

NEW SOUTH WALES

Secretary.—Dick Dowe (VK2RP), Box 1734, G.P.O., Sydney.
 Meeting Night.—Fourth Friday of each month at Science House, Corner Gloucester and Essex Sts., Sydney.
 Divisional Sub-Editor: H. F. Treharne, VK2BM, 5 Waimea St., Burwood.
 Zone Correspondents.—North Coast and Tablelands: P. A. H. Alexander, VK2PA, Hill St., Port Macquarie; Newcastle: E. J. Baker, VK2FP, 13 Skelton St., Hamilton; Newcastle, Coalfields and Lakes: H. Hawkins, VK2YL, 27 Comfort Ave., Cessnock; Western: G. J. Russell, VK2QA, 116 Bogan St., Nymong; South Coast and Tablelands: R. H. Rayner, VK2DO, 42 Pettit St., Yass; Southern: E. N. Arnold, VK2OJ, 673 Forrest Hill Ave., Albury; Western Suburbs: A. C. Pearce, VK2AHB, 48 Harrabrook Ave., Five Dock; Eastern Suburbs: H. Kerr, VK2AX, No. 4 Flat, 144 Hewlett St., Bronte; North Sydney: L. D. Cuffe, VK2AM, 779 Military Rd., Mosman, St. George; J. A. Ackerman, VK2ALG, 32 Park Rd., Carlton, South Sydney; V. H. Wilson, VK2VW, Cr. Wilson St. and Marine Pde., Maroubra.

VICTORIA

Secretary.—C. C. Quin, VK3WQ.
 Administrative Secretary.—Mrs. O. Cross, Law Court Chambers, 191 Queen St., Melbourne, C.I.
 Meeting Night.—First Wednesday of each month at the Radio School, Melbourne Technical College.
 Zone Correspondents.—North Western: B. R. Mann, VK3BM, Quambatook; Western: C. C. Waring, VK3YW, 12 Skene St., Stawell; South Western: B. Sactrine, VK3BL, 17a Raglan Street North, Ballarat; North Eastern: J. A. Miller, VK3ABG, "Erinvale", Avenel; Far North-Western Zone: Harry Dobbyn, VK3MF, 42 Walnut Ave., Mildura; Eastern Zone: J. D. Chilver, VK3DI, 20 Smith St., Leongatha.

WI BROADCASTS

All Amateurs are urged to keep these frequencies clear during, and for a period of 15 minutes after, the official Broadcasts.

VK2WI.—Sundays, 1100 hours EST, 7196 Kc. and 2000 hours EST, 50.4 Mc. No frequency checks available from VK2WI. Intra-State working frequency, 7175 Kc.

VK3WI.—Sundays, 1130 hours EST 7196 Kc. Individual frequency checks of Amateur Stations given when VK3WI is on the air.

VK4WI.—Sundays, 0930 hours EST simultaneously on 3750 Kc., 7190 Kc., 14,342 Kc., 52.4 Mc. and 144.138 Mc. Frequency checks are given two nightly weekly, and the times are announced during Sunday broadcasts. 7010 Kc. channel is used from 1000 to 1030 hours each Sunday as VK4 query service to 4WI.

VK5WI.—Sundays, 1000 hours SAST on 7196 Kc. Frequency checks are given by VK5DW on Friday evenings on the 7 and 14 Mc. bands.

VK6WI.—Sat. 2 p.m. Sun. 9.30 a.m. W.A.S.T between 7000 kc. and 7200 kc. No frequency checks available.

VK7WI.—Second and Fourth Sundays at 0930 hours EST on 7174 Kc. No frequency checks are available.

QUEENSLAND

Secretary.—G. G. Augustesen, Box 639J, G.P.O., Brisbane.
 Meeting Night.—Last Friday in each month at the State Service Building, Elizabeth St., City.
 Divisional Sub-Editor: F. H. Shannon, VK4SN, Minden, via Rosewood.

SOUTH AUSTRALIA

Secretary.—E. A. Barbier, VK5MD, Box 1234K, G.P.O., Adelaide.
 Meeting Night.—Second Tuesday of each month at 17 Waymouth St., Adelaide.
 Divisional Sub-Editor.—W. W. Parsons, VK5PS, 483 Esplanade, Henley Beach.

WESTERN AUSTRALIA

Secretary.—W. E. Coxon, VK6AG, 7 Howard St., Perth.
 Meeting Place.—Padbury House, Cnr. St. George's Ter. and King St., Perth.
 Meeting Night.—Watch the Monthly Bulletin.
 Divisional Sub-Editor.—VK6WT, Mr. D. Couch, Mary Street, Watermans Bay, W. Australia.

TASMANIA

Secretary.—J. Brown, VK7BJ, 12 Thirza St., Newtown, Telephone: W 1328.
 Meeting Night.—First Wednesday of each month at the Photographic Society's Rooms, 163 Liverpool St., Hobart.
 Divisional Sub-Editor.—T. Connor, VK7CT, 385 Elizabeth St., Hobart.
 Northern Correspondent.—C. P. Wright, VK7LZ, 3 Knight St., Launceston.

FEDERAL DX C.C. NOTES

In this month's notes we list the first three phone awards for DX C.C.—congratulations to each, with a special mention to "Morrie" Morris, VK3BZ, who has qualified for the three Awards.

Applications are also to hand from VK2AHM, VK3OP, VK3KB, VK2LIZ, and VK4RF and are being checked.

We wish to draw attention to the Rules governing the Award of these certificates which were printed in "Amateur Radio" for August, 1947, and amended under "Federal Notes" in "A.R." for April, 1948. All applicants must comply with these Rules, and it will greatly facilitate checking if cards are sorted in the order for countries as listed in January, 1949, "A.R."

PHONE

	Zones	Countries
VK4JD (26)	113	
VK6RU (27)	37	102
VK3BZ (28)	39	101

O.W.

	Zones	Countries
VK3CN (3)	40	138
VK3BZ (14)	39	127
VK3YW (12)	39	122
VK3EK (10)	38	117
VK2EO (7)	40	110
VK4EL (24)	39	110
VK4DA (20)	38	113
VK3QL (13)	40	112
VK4HR (22)	38	108

OPEN

	Zones	Countries
VK3BZ (5)	39	153
VK2DI (2)	40	131
VK3KX (1)	38	130
VK3HG (4)	38	130
VK3JC (18)	39	133
VK3MC (6)	39	132
VK6RU (11)	37	124
VK4HR (9)	38	123
VK3AL (19)	37	117
VK4EL (16)	38	118

New Awards—

VK2NS (25)	39	101
----------------------	----	-----

Stickers for DX C.C. certificates will be issued to those who contact every 20 additional countries. These will be issued in due course.

COUNTRIES LIST

Please amend the January list as follows:—
 For Basutoland substitute prefix Z88
 For Swaziland substitute prefix Z87
 Add the following new countries:—
 Norfolk Island (32) VK9
 Vatican City State (15) HV

FREQUENCY ALLOCATIONS

Listed below are the frequencies at present available for Australian Amateurs, and also types of emission that may be used:—

3.5 to 3.8 Mc.—A1, A3.
7.0 to 7.2 Mc.—A1, A3.
14.0 to 14.4 Mc.—A1, A3.
26.90 to 27.28 Mc.—A1, A8, FM.
28.0 to 30.0 Mc.—A1, A3.
50.0 to 54.0 Mc.—A1, A2, A8, FM.
144 to 148 Mc.—A0, A1, A2, A8, FM, Pulse.
288 to 296 Mc.—A0, A1, A2, A8, FM, Pulse.
576 to 586 Mc.—A0, A1, A2, A8, FM, Pulse.
1345 to 1425 Mc.—A0, A1, A2, A3, FM, Pulse.
2300 to 2450 Mc.—A0, A1, A2, A3, FM, Pulse.
5650 to 5850 Mc.—A0, A1, A2, A3, FM, Pulse.
10000 to 10500 Mc.—A0, A2, A3, FM, Pulse.
21000 to 22000 Mc.—A0, A1, A2, A3, FM, Pulse.
30000 Mc. and higher—A0, A1, A2, A3, FM, Pulse.

MORSE PRACTICE TRANSMISSIONS

By the time these notes appear, it is anticipated that Morse practice transmissions will have commenced from most Divisional WI stations. Listen to the Sunday broadcasts for details of the frequencies and times of these transmissions. The tentative frequency will be 8604 Kc.

AMATEUR CALL SIGNS

Due to the pending publication of a new P.M.G.'s Call Book, the list of changes, etc., to Australian Amateur Call Signs has been discontinued. The new book will have blank interleaves, so that amendments may be made more readily than in the past. It is further proposed to issue monthly lists from the Department of these changes.

COMMERCIAL INTERFERENCE

Since we first published our intentions in this matter of commercial stations' interference in our bands, we have had very meagre response to our plea for details of these stations. Unless we can have consistent reports coming in, we will be

obliged to cease supplying the proper authorities with lists. We again ask all Divisional Councils and individuals to send relevant details to the Federal Secretary. Help us to help you—the ball is in your court!

NATIONAL FIELD DAY CONTEST

The 1949 N.F.D. Contest is over for another 12 months, and already some of the keen portable boys are planning for next year's contest. Of those known to have participated, all are unanimous in their feelings of having had a most enjoyable time and look forward to the next. Those known to have taken out gear are VK2PA, VK3a ADB, AN, GK, LN, FF, UM, VK4s HR, JA, and VK7SK. We hope there were others and that logs are forthcoming. While the numbers were not very encouraging, this was offset by the enthusiasm by some of the entrants. It is understood that one baby car "had it" from the extra strain of the turning of the vec beam! Other parties had plenty of contacts with South America—mosQUITOS! Some of the boys even got the XYL interested enough to go cook the meals! (Now isn't that a good reason to go out to the next N.F.D.?) A little bird told us that some publicity is expected from a well-known pictorial magazine.

FEDERAL CONVENTION

Although it is too late at this time to give reminders for Federal Convention items, it is not yet too late to brief your delegate with last minute items for General Business. See that they have that item before they come down to Melbourne for Easter.

I.A.R.U. NEWS

The Radio Club of Argentina has requested the I.A.R.U. to accept on behalf of the Union and under certain conditions, a trophy donated by one of its members, Senior Jorge Delcasse, LU5CZ. The trophy, which is a bronze original by the sculptor Louis Narbondo, is on a base of granite and is in the form of a woman who emerges from a telegraph key, holding in her hands leaves of oak and laurel. The statue is slightly more than a metre in height. The trophy will be placed in the custody of KRUN, the United Nations station, for display. As at December 31, 1959, the trophy is to be awarded to the I.A.R.U. member-society which has been a member of the Union for more than ten years.

and which is adjudged to have contributed most to the advance of the Amateur communications art and to international understanding among Amateurs. All member-societies will ballot for societies nominated.

New member-societies are C.R.A.G. (Guatemala), H.K.A.R.T.S. (Hong Kong), P.A.R.A. (Philippines), R.C.P. (Peru). Proposed new member: L.P.R.A. (Parana).

In accordance with two motions at the last Convention, we have placed motions for membership ballot with the I.A.B.U. on the proposal to adopt a universal numbering system for Contests and the adoption universally of the Services Alphabet used during the War.

REMEMBRANCE DAY TROPHY

A majority of the Divisions have agreed to the proposed design and work is now in hand to complete the trophy and send to the N.S.W. Division as winner of the 1948 Contest. As the names of the Amateurs who lost their lives during the recent war are to be inscribed on the Trophy, we list herewith the final list we have prepared from advice received. We would appreciate information from members on the incorrectness of any of the details shown below. Please notify the Federal Secretary at the earliest.

VK2AJM—G. C. Curle	R.A.A.F.
VK2HQ—F. W. S. Easton	R.A.A.F.
VK2JV—C. D. Roberts	A.M.F.
VK2VJ—V. J. E. Jarvis	R.A.A.F.
VK2YK—W. Abbott	R.A.A.F.
VK3DJ—J. D. Morris	A.M.F.
VK3HN—J. McCandlish	A.M.F.
VK3IE—J. E. Mann	R.A.N.
VK3ON—N. E. Gunter	M.N.
VK3OR—M. D. Orr	R.A.A.F.
VK3OW—G. L. Templeton	R.A.A.F.
VK3PL—J. F. Colthrup	R.A.A.F.
VK3PV—R. P. Yeall	M.N.
VK3SF—S. W. Jones	A.M.F.
VK3UW—J. A. Burrage	R.A.A.F.
VK3VE—J. E. Snaddon	R.A.A.F.
VK4DR—D. A. Laws	A.M.F.
VK4FS—F. J. Starr	R.A.A.F.
VK4PR—R. Allen	R.A.A.F.
VK4AF—C. A. Ives	R.A.A.F.
VK5BL—B. James	R.A.A.F.
VK5BW—J. G. Phillips	A.M.F.
VK6GR—A. H. G. Rippen	R.A.N.
VK6JG—J. E. Goddard	R.A.A.F.
VK6KS—K. S. Anderson	A.M.F.
VK6PP—P. P. Paterson	R.A.A.F.

Does anyone have information on VK3GO, T. Stephens? Any additions to this list would be welcomed—this is the last chance.

W.A.P. AWARD

The "Worked All Pacific" (W.A.P.) Award has been instituted by the N.Z.A.R.T. to encourage interest in the Pacific area.

1. The W.A.P. Award for confirmed contacts with thirty (30) or more countries in the Pacific area is available to Amateurs everywhere in the world.

2. Confirmations must be forwarded direct to N.Z.A.R.T. HQ, P.O. Box 489, Wellington, New Zealand.

3. Confirmations must be accompanied by a list of claimed countries to aid in checking.

4. All contacts must be made with Amateur Stations working in the authorised Amateur bands or with other stations licenced to work Amateurs.

5. All stations contacted must be "land stations." Contacts with ships, anchored or otherwise, and aircraft, cannot be allowed.

6. All stations must be contacted from the same call area, where such areas exist, or from the same country in cases where there are no call areas. One exception is allowed to this rule: where a station is moved from one call area to another, or from one country to another, all contacts must be made from within a radius of 150 miles from the original location.

7. Contacts may be made over any period of years, dating post war (i.e. since November, 1945), provided only that all contacts be made under the provisions of Rule 6, and by the same station licensee; contacts may have been made under different call letters in the same area or country if the licensee for all was the same.

8. All confirmations must be submitted exactly as received from the station worked. Any altered or forged confirmations submitted for W.A.P. will result in the disqualification of the applicant.

9. Operating Ethics.—Fair play and good sportsmanship in operating are required of all Amateurs working for the W.A.P. award. In the event of any specific objections relative to continued poor operating ethics, an individual may be disqualified from the W.A.P. by action of the N.Z.A.R.T. Awards Committee.

10. A minimum readability report of 3 shall be recorded on each confirmation submitted.

11. A minimum signal tone report of T8 is required for all c.w. confirmations.

12. Decisions of the N.Z.A.R.T. Awards Committee regarding interpretation of the rules as here printed, or later amended, shall be final.

13. All applications must be forwarded to the N.Z.A.R.T. by registered mail. Sufficient postage for the return of the confirmations must be forwarded with the application.

14. All certificates will be consecutively numbered and an Honour Roll showing all those issued will be kept by the Secretary of the N.Z.A.R.T.

Note.—The Pacific Area, known also as the "Continent" of Oecania, includes countries with the following prefixes according to Zones:—

- Zone 27—DU, KG, RG.
- Zone 28—CR10, PK1 to 7, VK9, VR4, VS1, VS2, VS4, VS5.
- Zone 29—VK6, VK8, ZC2, ZC3.
- Zone 30—VK1, VR2, VK9, VK4, VK5, VK7.
- Zone 31—KB6, KH6, KJ6, KM6, KP6, KW6, KX6, VRI, VR8.
- Zone 32—FK8, FO8, FUR, KSG, VR2, VR5, VR6, YJ, ZK1, ZK2, ZL, ZM, VK9.

FEDERAL QSL BUREAU

RAY JONES VK3RJ, MANAGER

The following interesting information on the French expedition to Adelia Land comes from the Secretary of the Tasmanian Division:—Two French Hams are with the expedition, namely M. Marret and M. Harders, who will operate c.w. and phone under the call sign FB8AX. One rig is a BC610 and they possess a couple of smaller rigs for other work with power of 20 or 40 watts. They expect to get on the air about 1st April but, owing to the petrol position, their activity will be somewhat restricted. However, they expect to be on from 0900 to 1100 G.M.T. daily operating in the 3.5, 7, 14, and 28 Mc. bands with frequencies of 3520 and 3530 Kc. and their harmonics. They will listen initially near their own frequency. Any QSLs for contacts should be sent to: Expedition Polaire, 22 Avenue de la Grande Armee, Paris XVII. Cards in reply will not be sent out until the expedition returns to France in 1950. According to Australian press reports during the first week in February, it now looks as if the expedition may not get to Adelia Land before the ice pack closes in as their vessel, the Admiral Charcot, is having engine trouble. This may wash out the whole scheme. The Australian press however will probably continue to publish details of the progress of the expedition.

The Amateur personnel of the above expedition also state that another expedition to Greenland will be accompanied by F9LQ who will operate on Amateur bands using his own call sign. This is expected to occur around 1st May and any Amateur contacting F9LQ after arrival in Greenland is requested to arrange a sited with him for the Adelia Land expedition—FB8AX. No information regarding QSL arrangements for the Greenland expedition is yet to hand.

Jim Wetherell who operated from the Wairuna on trips to and from Australia during 1947 and 1948 under the call sign G5UB/P and who made many friends in Australia and New Zealand, ultimately married a New Zealand lass and has settled down temporarily in Vancouver where he expects to be on under his normal VE call sign. Jim has made a trip to G land in the meantime and visited his old stamping grounds and friends. The shore rig at his VE address includes a special Hammerlund receiver. Jim sends his regards to all VK friends and is trying hard to get another ship on the VK run. These Yorkshiremen certainly have itchy feet.

CR7BC, Manuel Pereira da Silva, Caixa Postal 812, Lourenco Marques, Mozambique, is still having trouble in obtaining reciprocal cards from many VK Amateurs. Manuel states he QSLs 100 per cent. and I can vouch for this fact. He has not yet received cards from the following: VKs 2VG, 2DA, 2ACX, 2RX, 2TH; 3BZ, 3CZ, 3ACS, 3BD, 3VJ, 3JE, 3XO, 3ZU, 3XP; 4DO, 4GB, 4TD, 4PK, 4KG, 4FC, 5AF, 5OB, 5JE, 5DG, 5KO, 5MO; 6FL, 6DX, 6FA, 6RU, 6SA. Although his list above includes a few tough men, the bulk of the calls are those of contentulous QSLers and it suggests that maybe something has gone amiss with the mailing arrangements. Although Manuel's card requests QSL either direct or via I.R.E.M., it is suggested that stations and QSL Managers use the direct address given above for a period so that Manuel may get some satisfaction. Cards routed via R.E.P. seldom reach him it appears.

Am Wilkey, VK6BJ, who has been holidaying around Melbourne for some weeks, must be reaching the end of his leave and commencing to wonder whether he will have to return to Papua or if a

more civilised and sophisticated location will be "arranged" for his future activities.

Noel Roberts, VK9NR (ex-VK6NR and VK6NR), Aeradio Station, Norfolk Island, is a much sought after station these days by hordes of Ws clamoring for contact with a new country. Noel claims that the posting to Norfolk Island for a couple of years suits him admirably as after a few weeks of city life after a couple of years at Katherine, N.T., he yearned for the solitudes again. Mail facilities to Norfolk Island are a little meagre with one air mail weekly alternately via Sydney and New Zealand and a surface mail at three monthly intervals. In January Noel's rig was powered by vibrator supplies but he is on the lookout for a suitable generator.

The writer spent the first fortnight of his long service leave camping solo in the Kinglake district with the pursuit of the yellow metal as his chief objective. Notwithstanding the hot weather and shortage of sluicing water, results were reasonably satisfactory. Further excursions to auriferous areas are to be undertaken during February, March and April, interspersed with periods at the home QTH to deal with the mountains of correspondence that accumulates.

NEW SOUTH WALES

The General Meeting of the Division was held at Science House, Sydney, on Friday, 28th January, under the chairmanship of the President, Mr. M. H. Meyers VK2VN. The meeting was devoted to general business and the sale of surplus disposal equipment. Among the visitors were G4AQ, VK2DO (Wagga). The ladies were represented by Mrs. Joyce Millen VK2MI, accompanied by her husband VK2LO; Miss Pat White, a commercial operator, and Mrs. Joyce Dent VK2AHU. Also present were VK4RN, VK2TH (Wagga), VK2TA, and VK4LP. Sympathy was expressed with Jim Corbin who is in hospital. Jim is doing excellent work as our QSL officer.

All are looking forward to the Convention on Saturday and Sunday, 19th and 20th May, when the City boys hope to meet all their Country cobbles.

WESTERN SUBURBS

Not so much local noise on the bands these days, due no doubt to the recent unpredictable conditions, especially on 20, although some report great DX activity. However as the l.u.f. and m.u.f. are inclined to rapid changes just now, operating times would appear to be the answer to the problem.

2PX Harold Ackling is working DX in the early early hours on 20. 2JT is working DX also with just 12 watts input. Charlie counts 'em every night to see none get lost! 2ALO is manufacturing a new beam for 20 and Jeff 2QC, tiring of 20, is now putting up a beam for ten metres. Ten is due for a break, especially in view of sunset activity and you don't need high power to work the world.

2FZ is building a new rig, 2QW at present is working on 144. 2OX is Assistant Chief Engineer at Tecnico and relinquished G6WB some time back; he is operating on 144 Mc. just at present. 2GY is trying out new receivers of his own design and trying to find the limit in noise-limiter design. Noise exterminators might be preferable in the case of a few miscreants, especially so on 40 metres.

The Experimental Radio Society of N.S.W. will hold meetings at the Greenwood Hall, Liverpool Rd., Enfield, on March 17 and 31. Noel 2MA and Jeff 2QC are doing good work for the Club. A new member is 2ALA who handles i.m. for the Fire Brigade. There is plenty of gear being made available for both r/t and c.w. The original club transmitter and a new receiver are in operation. An F8B transceiver and an AT5 have also been installed. The club work-benches and shack are on the verge of completion and this sounds like a good drawcard for wetting the enthusiasm of prospective members. Only qualification needed for membership is an interest in radio or allied subjects.

SOUTH ZONE

Now that the excitement of the V.H.F. Contest has died down, activity in this district is at a very low ebb. Most of the local Hams are mainly interested in the v.h.f. bands and they seem to be taking the opportunity to do a bit of re-building and trying out new ideas which they did not have time for during the Contest. Although the final place getters have not yet been published, it looks as though John Peell VK2WJ will carry off the combined band and also 288 Mc. sections. Congratulations John for a very fine effort. John is also to be congratulated for having worked three VK6s on 50 Mc.

A great deal of interest is being shown in portable v.h.f. equipment. The Kingsford Radio Club, operating under the call VK2AKG, has a 14 Mc. portable transmitter and receiver in operation and 2WV has 144 Mc. equipment installed in his car and 50 Mc. equipment is also under construction.

The 50 Mc. transmitter is already in operation and 2Ls and VK5s have been worked with it using 15 watts input. Bill 2UV is now active on 20 with 100 watts to a pair of 807s and is putting out a very nice signal. Alex 2ABU also works plenty of DX with a similar transmitter on 20. Jim 2AB is still busy re-building, time we heard something from you Jim. Fred 2ABC says he will stick to the v.l.f. bands with an occasional trip to 10 for a bit of DX. Fred has also threatened to come on 144 Mc. soon. Leo 2AC is pretty busy just now, but manages to get on occasionally. Berry 2ABB has just had a quick trip to England, but I have not seen him since his return so cannot report on his visit.

EASTERN SUBURBS ZONE

Not much activity in this zone this month although a few of the 20 metre gang are still active. 2HP heard inquiring about the merits of the Clapp gear again. 2AZH seems to be taking an interest in the game again. 2AZH active on 20 metre phone, also asking questions about the Clapp. 2YF has been having trouble with a commercial v.f.o., Frank nearly made some bad friends with it. 2QG mostly on 40 and 20 c.w., Ray is not taking any risks with his neighbours. 2AIG also keen c.w. man, and always welcomes a buzz on the key, can receive any old speed and send with either fist. 2QY has been having trouble with his 40 metre phone, all cleared up now and going great guns. 2OE has built car radio and very pleased with result; hope you can soon get the car OM.

2FJ has made a new start and aims at 100 watts on six. (The boys in the area wish to convey to you Jack their deepest sympathy in your recent sad bereavement.) 2WR heard on rare occasions, but busy shifting gear to new QTH. 2DV never heard these days, guess the re-build is not finished. 2CF working on band-switching receiver and transmitter. 2EZ heard working his share of DX on 20. 2AHJ active again after quite a spell. Still waiting to hear 2TN 2OV 2RH, 2VA and 2AHO; these boys seem to have given the game away. 2AJG still active on 20 and 40 phone and c.w. Don't forget fellows to shoot along any interesting dope on you or any other chaps doing; your scribe finds it very hard to get sufficient dope.

DX NOTES BY VK2ACX

Conditions generally are still far from good, but a few rare DX stations have put in an appearance on 14 Mc.

The most important DX news during the past four to six weeks, has been the opening of 3.5 Mc. for both European and North American contacts. VK2s RA, QL, and EO have been getting a good share of contacts.

On 7 Mc. I'm told that there are plenty of the Pacific islands represented. One in particular being KC6EA, ex-W6WEA/Truk.

On 14 Mc. Bill VK2HZ brings his total to 157 countries with PK6XZ (Celebes). Bill has been mostly on 3.5 Mc. and 7 Mc. and on the former band has got across to W.

Morris VE2VN is still off the air owing to the housing problem, but he tells me it won't be long now.

Mac VK2ZH, after having built all band equipment, can be heard most mornings knocking 'em over. From the 5th January to the 5th February he has worked 73 countries, which shows that the bug has bitten him in the right place. F.B. Mac and keep the good work up. VE2ZH is now 39 zones and approximately 120 countries.

Gordon VK2DI adds F38AD, 8V5UN, YK1AB and F8GP for 186 countries. He has about 160 of them confirmed which is very good when one considers how hard it is to get card returns these days.

Frank VK2QL adds F8GP bringing him to 149 countries. All Frank's work has been on c.w. and from a QTH which has about five sets of h.t. overhead (33,000, 50,000 and that sort of stuff), including the Western District electric train services alongside! F.B. Frank.

Here at 2ACX it's now 175 with EA9AI and F8GP. The latter one is located at GAO in the French Sudan. OX3M promises me an air mail QSL to overcome my W.A.Z. troubles!!!

From VK5JS to VK2QL to me, we learn that VK1FE (ex-VK4FE) and VK1VT (ex-VK3VU) both on Heard Island are on 14 Mc. c.w. looking for VK contacts.

Well fellows, this is my last DX note for some months. Frank VK3QL will keep the notes going, so please shoot them along to him at No. 18 Bridge Road, Homebush, N.S.W. or ring him at UM 6861 any evening or week-ends with any DX dope you may have. I do hope my notes have been of interest to some of you. Cheerio and good hunting, 73 de VE2ACX.

NEWCASTLE ZONE

2ANG active on 10 and 20 with new modulator. 2AGD chasing the few extra for a DX C.C. 2AFS' now back at home QTH, requires seven for DX C.C. 2AHA been on holidays, got some good fish and now fishing for DX. 2ADX has his beam working really well. 2AMM's voice has improved with the new crystal mike. 2CF heard often with nice quality phone. 2BZ been holidaying, congrats on a 50 Mc. W.A.S.

2PQ in the new shack, nice DX with QRP, ask him about the baby sitter. 2NX has a nice signal. on 20 and 40. 2ANA using a Clapp. 2CS broke the ice at last!! using driver stage on c.w. 2ZC heard occasionally, was visited by the ZO, a nice time had. 2FP has 101 up on 10 metre phone and will rebuild when the lazy fit wears off.

COALFIELDS AND LAKES

2EZ mostly on 50 Mc., worked VK2, 3, 5, 7 with 807 doubling, a two tube blooper, and three elements. 2KF also working 50, waiting for some gear from Sydney and guess it is then the big rebuild. 2YO nil heard. 2JZ on 10 and talking of 50 Mc. 2VU mainly on 10 and 50 Mc., the beam on the latter band to go up higher. 2AJB, a sticker for 40, may be talked into 50 Mc. by 2RU who recently spent a week with him. 2TY working 10 and interested in 144. 2MK heard on 40. 2EZ building a new receiver. 2ADT mainly on 50, repeated his contact with VK6, plans a new beam on 50 Mc.

2YL spent two months on 50 with indifferent results, a new feed line to antenna improved things. 2BZ, 2ADT and 2YL visited Sydney first week-end in February. Visited ten shacks; their thanks to 2RU and 2YL, 2AH and 2YL, 2ADK, 2NF, 2HO, 2HL, 2WJ, 2ABC, 2VW and 2YL, and 2NO, all helped to make the trip a big success. 2RU has worked all States on 50, building mobile gear. 2AEZ building receiver for 50 Mc., how is 20 DX Ern? 2AMU re-building 14 Mc. gear. 2ER getting started on 50 Mc.

WESTERN ZONE

2ACU has all his new gear working but QRL with hot weather. 2XE has a Clapp in front of his ATR2C, appears to work f.b. 2WH also working the above, keeping the AT20 for the DX bands. 2HC, 2JC and 2XO have returned from a fishing holiday, used portable gear with good results. 2JW appears to be the only Ham left in Orange, has the QRO rig working, also the usual breakdowns. 2NS has completed his high power rig band-switched turret, 813 in final. 2BE has abandoned radio and taken up singing. 2BT still chasing DX on 20 metres.

2AMR has push button transmitters on 10, 20, 40 and 80 with a separate outfit on 6 plus a mobile 6 outfit. 2QA very slowly getting some gear together for 6. 2LY won the 50 Mc. section of the V.H.F. Contest, nice work Stan. 2LZ did well in all sections of the Contest, working 144 and 288; made an appearance on 80 recently. 2HZ sent away for a DX C.C., working Ws on 80. 2EF got his first class ticket and will now have more time on the air. 2FH lost his beam and tower, but won't erect again, as expects a QTH change to Sydney.

SOUTH COAST AND TABLELANDS

2UK supplies news of a fire fighting communication system set up in Wollongong and district, organised by the local club (2AMW). The club's transmitter p.p. 807s was built by old-timer (ex-2CE) and son. A lot of good equipment and work went into the gear and the official opening is close by. 2WF is off the air re-building, an influx of visitors over the holidays kept him quiet. 2MT has 144 Mc. gear going and is looking out for Sydney stations, been bitten with the phone bug after years of c.w. 2WV re-building, active on 20. 2VH working 20 phone and c.w.

2ANW, a new one, should be on 40 soon with QRP. 2ON, at Dapto chasing 20 DX on c.w., no phone at the moment. 2AGZ left and now living in Sydney. 2DX keeps Woonoona on the map with 40 phone. 2UX has taken up recording and has learnt that the replaying of Ham transmissions is out. The Wollongong Club has a few lads doing the A.O.C.P. and there were some loud groans when the news of 4.m. phase and pulse going in the next examination.

2PI QRL but big re-build coming up, new panels on transmitter and receiver and new coil switching device. 2ALS and 2JQ heard from Coonamble, their signals sounded just the same as they do from here in Vass. 2AIR on again after the holiday, the 2YL has been in hospital, still taking things easily; doing a spot of hatching. 2ALN not heard, but has been servicing 2AIF's receiver. 2FY and 2EG called in here recently on trips through the latter met up with 2EZ in Sydney, though said. It was nice to meet up with all the Sydney gang, so 73 until the country convention.

VICTORIA

The lecture by Mr. Westo, of the Forestry Commission, which was to have been held on 15th February, is now to take place on 15th March at the I.R.E. meeting for that month. The title of the lecture is to be "Improving the Propagation Characteristics of the Window on Single Wire Line." Remember the I.R.E. has invited any W.I.A. member to attend this fine lecture on 25th March, instead of 15th February as announced previously.

The Annual General Meeting of this Division will be called for the date co-inciding with the general meeting for 8th April, 1949. Keep this date in mind for attention to election of new officers for Council. Look around now and fill in your form when it comes along for office-bearers for the ensuing 12 months. Due notice of this meeting will be sent to all financial members.

Mr. Ken McTaggart VK3NW gave a very interesting lecture on his tour overseas. Many general interest items were brought forward by Ken, main

Low Drift Crystals

FOR

AMATEUR BANDS

ACCURACY 0.02% of
STATED FREQUENCY

3.5 M/C and 7 M/C

Unmounted .. £2 0 0

Mounted .. £2 10 0

12.5 and 14 M/C Fundamental Crystals, "Low Drift" Mounted only £5.

Spot Frequency Crystals

Prices on Application

Regrinds .. £1 0 0

THESE PRICES DO NOT
INCLUDE SALES TAX.

Maxwell Howden

15 CLAREMONT CRES.,

CANTERBURY, E.7.

TECHNICALLY in the know

TO-DAY more than ever before, it is essential to keep fully informed on electronic matters.

RADIOTRON offers a technical service on valve applications that is unique in the radio world.

RADIOTRON TECHNICAL PUBLICATIONS INCLUDE:

I. "Radiotronics"—quarto size—20 pages per issue—sections devoted to DESIGN, THEORY, CIRCUITS and VALVE DATA—published every other month. Handy filing covers are supplied with available back issues to "Radiotronics" subscribers.



II.

Data Book—octavo size—150 sheets in loose leaf binder—comprehensive data on all Australian-made receiving types—new and revised sheets released periodically.

III.

Valve Charts—quarto size—36 pages covering characteristics, classification tables, socket connections—special section on Australian-made types—comprehensive substitution directory.



plus

first-hand knowledge on power valves and allied types, cathode ray tubes, the miniature range, circuits and associated components, as released. This information is just another service offered you by Radiotron.

keep posted

on the latest developments in electronic research. Arrange for Radiotron Technical publications to reach you regularly through the mail. Full particulars are available on enquiry.

AMALGAMATED WIRELESS VALVE CO. PTY. LTD.
SALES PROMOTION AND ADVERTISING
47 YORK STREET (BOX 2516, G.P.O.), SYDNEY, N.S.W.

ones of which are as follows. Temperature inversion and Sporadic E made conditions on the higher frequencies favourable for contacts between England and the Continent. Ken simply presented his Australian A.O.C.F. Licence to the authorities and was automatically granted a G licence. R.S.G.B. meetings were held at the local Tavern in Cumberidge and the log fires and refreshments made these meetings very informal.

It was surprising to see such a wide range of equipment at the Manufacturers' Exhibition. A visit to the Continent only meant keeping a weather eye out for beams, as Ken found to his pleasure. "QST" came in handy for making contacts in America—simply looking up the appropriate notes and consulting the American Call Book in conjunction with the phone book. American Hams, thus contacted, proved very sociable and Ken had a good time visiting shacks and inspecting aerials. 60 to 90 foot self-supporting masts are quite common in California and one at least has a telephone at the top to assist in tuning adjustments, etc. A Convention was visited at Boston at which some 3,000 Hams were present, 3,000. Gear donated by manufacturers makes wild interest when the draw is made of the lottery. Factory built apparatus has produced a dearth of home constructors.

Ken also visited A.R.R.L. Headquarters and was very interested in the activity and amount of apparatus in evidence. All items of equipment described in "QST" are kept on hand for about three years in a special place and can be inspected by visitors. The wide range of power supplies and test equipment takes up quite a lot of room. The station is remotely controlled from Headquarters and it is very impressive to see all rigs (one of each on the communication bands) with 1 k.w. input being keyed together in their news broadcasts. Disposals apparatus on the eastern side of America was very reasonably priced and mostly in good condition.

Television is now getting good use, even a co-ax link from East to West also is used for relay work. A.M. is used in England and F.M. in America where car ignition noise does not interfere with transmission as in England. F.M. is used quite a lot in the States as a means of reducing interference on the lower frequency bands. All gear described in "QST" is tested on the air for at least a month and it takes some three months from compilation of article until it actually appears in print.

STANDARD FREQUENCY TRANSMISSION

This transmission took place on 26th January and the frequency of the seven transmissions was measured by the P.M.G. The actual frequencies were:—
7000 Kc. transmission was 7000 Kc. plus 6 cycles.
7010 " " " 7010 " " 50 "
7020 " " " 7020 " " 80 "
7030 " " " 7030 " " " "
7040 " " " 7040 " " 80 "
7050 " " " 7050 " " 100 "
7060 " " " 7060 " " 60 "

SECOND ANNUAL STATE CONVENTION

The business side of the Convention was opened by the President of the Victorian Division who, in welcoming representatives of each of the six zones in Victoria, expressed the desire that this present Convention would herald great things for the Institute in the near future. After confirmation of the minutes of the last Convention, items of general business were accepted and discussion of the Agenda continued until the lunch break, when 32 members partook of welcome refreshments. The afternoon session saw our numbers increased considerably, and proceedings went so well that a photographer had to get three "pigeons" before he was satisfied. Owing to shortage of time, all the items of general business could not be dealt with, however the Agenda items produced some interesting points and the Federal Convention, to be held in Melbourne at Easter this year, will reap the benefit.

Amongst those present were: 3BM, 3WE, 30A, 3QZ, 2SS, 3XU, 3HP, 3BE, 3UT, 3GZ, 3WG, 3AG, 3XJ, 3VX, 3RR, 3WZ, 3GS, 3HP, 3YS, 3GW, 3ARR, 3CH, 3ACE, 3LY, 3IK, 3JA, 3RN, 3ACS, 3TJ, 3PW, 3ABS, 3XB, 3DF, 3AKZ, 3OK, 3OO, 3SI, 3RV, 3TU, 3SX, 3XT, 3UN, 3KN, 3JO, 3IE, 3AKA, 3EL, 3ZA, 3TF, 3XO, 3ACS, 3RI, 3AFM, 3ML, 3WQ, and Jack Groves, with Mrs. Cross the only lady. 2ALW and 5FL were present from Interstate.

Saturday evening provided the chance for the Country and City Members to visit a number of the metropolitan shacks after which a Barbeque at Harry Kinneer's (3KN) was voted a huge success and very much appreciated by all. Ninety-five people were counted after which time the gate-keeper lost count for several reasons, one being the beam.

Sunday at Yarra Bend National Park started off with the boys competing for DX with portable rigs, and meeting quite a few more who were unable to

attend on Saturday. Len Moncur (3LN) provided the aeroplane to keep the kiddies interested and several types of aeriels to keep the boys interested, while he went ahead and won the competition. After lunch you could hardly see the ground for the huge crowd, and the local kiosk reported the biggest business they had had for years, if ever. The p.a. was provided by Bert Scterrine 3BI and he is to be congratulated on its flexibility and excellent carrying power. Eric Wardle 3OO drew things out of hats and all odd corners to keep grown-ups and kiddies amused for a time, and a competition for the best piece of home-made apparatus provided a prize for Bill Walls 3AWW. The Maryborough Laundry was represented by Bill Holland 3XC and others whose attire drew the attention of the "Age" photographer, whilst our worthy President Bob Cunningham 3ML provided the answers for the wire recorder from 3AW.

The weather was very good and must have been specially arranged for us by the Committee organising the Convention, as they seemed to have everything else looked after. This committee comprised 3ML ground, Jack Groves organising, 3AKB catering and accommodation, 3OK transport, 3LN novelty events, and radio contests, etc. 3KN barbeque and sircraft, and 3WQ business of Convention and publicity. They are to be congratulated for their effort and if this is a sample of their work, the next State Convention should be world famous.

Mrs. Cross, our Administrative Secretary, also deserves special mention as, due to her efforts and the members of the ladies' committee who had several meetings, the country members' wives spent Saturday afternoon together, being entertained by the city members' wives.

Look forward to the date of our next State Convention and make it a must as soon as you know the date.

EMERGENCY COMMUNICATIONS—NORTH EASTERN DIVISION

At 1630 hours on 27th January, VK3HP called "OQ Emergency," when he attended a fire raging in the Chiltern area, and was immediately in contact with VK3KR. A station was required in Wangarratta so that communications could be sent to the Forestry Commission, VK3YV was enlisted. When the Postmaster at Benalla was advised that a circuit existed for clearing urgent fire traffic he passed on the information that a serious fire was also located at Glenrowan, this was passed on to 3HP.

At 1715 hours 3EP advised 3KR that he was shifting location to a spot 2 1/2 miles away from the Yackandandah turn off, when contact was again established at 1820 hours, the operating spot was located at the Golden Bar Mine where conditions were very poor, due to thick smoke which limited

visibility to approximately 200 yards. At this time 3YV contacted 3HP direct and Henry (3HP) requested that 3YV pass on a message to the Forestry Commission at Beechworth asking if they could pin point the head of the fire from their lookout tower. This information was supplied to 3HP and at 1850 hours the fire was reported as headed off and that the operating position was now to be changed to Lancashire Road.

From 1930 hours on, communication between 3KR and 3HP was severely interfered with by Amateur c.w. and phone stations operating on 3HP's frequency. However 3KR managed to copy 3HP in communication with 3YV at 2100 hours, when Henry reported the fire was under control and that he was closing down.

VICTORIAN DIVISION LADIES' COMMITTEE

A musical afternoon has been arranged by the Ladies' Committee to be held at the Rooms, 191 Queen Street, on Friday, 18th March, at 2 p.m. If you are able to come along and bring a friend, please ring Mrs. Cross at FJ 6997 by 16th March.

You are also reminded of the meeting called for Wednesday, 30th March, at 2 p.m. to make plans for the entertainment of visitors during the Federal Convention at Easter.

SOUTH WESTERN ZONE

An interesting thing happened when Phil 3APG/3WC operated his Type 3 Mark II. portable from the train bound for Melbourne; he was in contact with 3ALG and 3ABK, and when passing Laverton 3ASD was QSOed, good work Phil. Andy 3BE still puts out fine signal on 40, and 3AKR has new modulator, going very good now. Heard that 3VA and 3GR with XYIs went to see 3RE, 3II and 3AGD, had a good trip but got no dope. Have not heard 3II on of late, must be cooling off in duck pond Leigh. Vern 3YE has new antenna up now for 14 Mc. and Murray 3AMP comes on when tired of wire recorder. 3AGV Gordon gave a song on New Year's eve, was told he has a fine voice. 3HW has scrapped his receiver for a new SX28 as he cannot hear enough DX. Heard other day that Bob 3GR has unfolded his 1 1/2 Mc. folded dipole with better results, but Bob can be found working the boys on 7 Mc. just the same. Had a yarn to 3AKE other night on 40, but Ed has trouble with power leaks; has a vertical 7 Mc. aerial up with better results.

Jack 3JA still finds time to work some DX on 20 and 10, when not working on farm. Norm 3EQ has not been on much of late so I have been told and the same goes for Ted 3PS, but Frank 3ZU has added more contacts with new antenna. 3QC Bruce is busy with mobile rig when not fixing up radios. Hear that Geelong gang has new Ham, 6AAT

LET

GLO-RAD

SOLVE your remote control and automatic protection problems.

NO problem is too big or too small for **GLORAD'S** Engineers.

Write or Call—

Glo-Rad Engineering Services

186A Riversdale Rd., (Cr. Robinson Rd.)

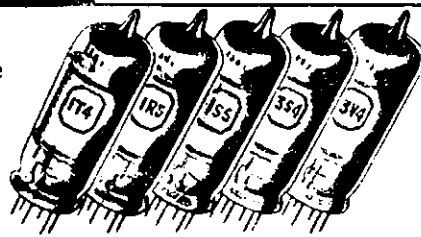
HAWTHORN — VICTORIA

Phones: **DAY—WA 3819. Night—WX 3340**

Australian-made Radiotrons maintain their leadership



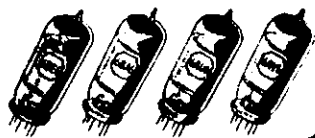
1947 saw the release of the first Australian Miniature battery series—employing entirely new technique in valve construction—and establishing higher standards in receiver performance, at considerably reduced costs.



1948 provided the testing period during which their unquestioned reliability ensured for them a permanent place as valve complement to Australian receivers—a fact exemplified by the following unsolicited testimonial :

“It is now the considered opinion of all who are concerned with valves in our factories that the Radiotron Miniature series are superior to any other type of our experience.”

TO-DAY



A.W.V. is justly proud to announce the release of their Australian-made range of A-C Miniatures comprising :
Types 6BE6, 6BA6, 6AU6, 6AV6



This new series will keep “set” manufacturers abreast of modern trends and make practical —

NEW DESIGN ★ NEW EFFICIENCY ★ NEW PERFORMANCE

Tom; Alex 3ABE is working DX on 20 phone. Bill 3ABU had holiday at Lorne with a Type A Mark III, with phone, and 3BW is on 80, what is b.e.t. like Archie. Bruce 3YF is back on 40 phone, but have not heard. Bill 3WT, on for some time, what's the matter Bill?

Don't forget chaps, the monthly zone hook-up on 7 Mc. the first Sunday of each month at 10 a.m., hope we get a good muster next zone hook-up (3BE chief caller).

Geelong Amateur Radio Club.—At the first meeting of the above club for 1949 members used the call sign VK3ATL. Alf Forster 3AJF brought along to this meeting a v.h.f. transmitter in which some of the members were interested. At the next meeting Mr. Dick Highway 3AHK gave a lecture on "Radio and A.C. Frequencies" and had his Type 3 Mark II, a Class C Wave-meter, and an Oscilloscope to illustrate his lecture. Mr. Alex Bell 3ABE, the President of the Club, welcomed Bill Kinsella 3AKW, John McConnell 3SW, and Jack Clay 3AJC who were visitors to the club. At a later meeting Mr. Alf Forster gave a talk on Transceivers used by the Army during the War and used the black-board to illustrate his talk which took up quite a bit of the evening. Intending members to the club should get in touch with the Secretary, Mr. Bob Wookey, 3IC, at 158 Kilgour St., South Geelong.

EASTERN ZONE

The new Ham at Maffra 3ALA is using c.w. on his AT5/ARS set-up to work ZL and other Maffra Hams, one of which is to move to Melbourne for a P.M.G. course. 3AJL will take a Type A Mark III. to work the boys when he isn't studying; good luck, Jack. 3AHK is temporarily inactive as he is building a new modulator unit incorporating a pair of 807s. 3SS took a Type 3 Mark II. with him when holidaying at the Gippsland Lakes, but had not much to report except bad QRN; was there QRM from fishermen, Keith?

The Zone was pleased to hear 3ABO of Mornington in the hook-up on 6th February. He has a 7193 as a modulated oscillator on 144 Mc., but has not been heard yet. Keep at it, Max, your turn will come. 3LY expects to move from Trafalgar South shortly, we hope you stay in the Zone Len; he has been working 14 Mc. c.w. on 8 watts. 3ACL is active on 6. 3CI was out on the 144 Mc. Field Day, but did not have many QSOs, as his r.f. stage on the receiver was not working; however, he did work 3ANW who was portable at Mt. Donna Buang, with the antenna coupled to the mixer.

CENTRAL WESTERN ZONE

3TY is a most unusual type of bloke, he sent in a "screed of notes." Bill has been very busy in that little wheat town, besides keeping the snare-drums going of the local harvesters, he took time off and built himself a new 12 tube double-conversion super with all the necessary openings and shuntings. He also built himself a nice new and natty trans-mitter inside an AT10 case, a v.f.o. job using a 9042 osc. 9003 buffer driving a 43 pa. Thinking of doing some QRP work, he rashly went on the air with the 9092 and 9003 and with an input of 0.135 watt was given RST 579 from VK6 (good receiver at the other end Billy), so work that out you QRO merchants.

For those who don't hear the W.I.A. broadcasts and missed it in the last month's magazine, the zone hook-up has been changed back to its original time of 10 a.m. on 7120 Kc. on the second Sunday in the month.

NORTH EASTERN ZONE

3HP, 3KR, and 3YV handled messages during the recent bushfire at Chiltern. Associate Ken Sloper, when not working or chasing YLs, is chief operator on Avoncliff Fire Brigade's mobile station. 3ABE, under call sign VL3QA, is base. Four fires attended to date. 3ARG/Portable has been operating from Mangalore Ammunition Dump, using a Type 3 Mark II. 3YV is still in poor health. 3DG put up a mast and vee beam, then received transfer to Luncefield. Dick is the third Ham to leave this zone since this writer took over the notes. 3UI has been embarrassed by the YL report, as even his VK6 friends asked him when the wedding was to be. Alan denies the rumours, but his friends tell him it is time he did something about it anyway. 3APF still running-in the M.G., so has not broken his neck yet. 3AGW putting-up antennae and improving the rig; Chas heard a pirate using his call. Jack Ansett, an old timer of the coherer days, is making a come back in the radio game. He built one of the stations for fire brigade use, and made a beautiful job. 3KR, after what he did with the Convention records, will not be worth mentioning in these notes.

QUEENSLAND

Our apologies to VK4 members for no notes from this Division in the February issue, January being the holiday period there was very little activity by Council and no general meeting was held in December.

January general meeting was held on the 30th inst. The President 4AW welcomed visitors 4UK, 4EM, Mr. Ross and VK2ART. Nominations were received for office-bearers for the coming year. Voting will take place at the February general meeting and the results will be announced in the notes for April. Country members will receive postal votes.

The resignation of 4EN as QSL Officer was received with regret by all present. The Country Representative, 4SN, spoke of the excellent work done by the retiring QSL Officer and expressed the thanks and appreciation of all country members to 4EN for the very efficient manner in which Eric carried out his duties. 4SN moved that the Queensland Division show its appreciation by conferring on 4EN honorary life membership. This was unanimously supported. Congratulations Eric!

Certificates were received for the following awards: Trans-Tasman Award—1st C.W. Section 4RC and 4JF; 1st Open Section 4XJ. DX C.C.—Telegraphy 4DA. Remembrance Day Contest (Qld.)—1st 4XJ, 2nd 4CG, 3rd 4NO.

For some months past this Division has been sending to England food parcels and from time to time has received letters of thanks from English Amateurs. During January a letter of thanks was received from the Bradford Club and members of that club sent a recording of personal greetings and thanks to the VK4 Division. The record was played over 4WI on the 23rd January but unfortunately conditions on the 7 Mc. band were so bad that very few heard very much of it.

Members and non-members who purchased Gibson Girls from Disposals are asked to remove the automatic disc from the tuning shaft to eliminate the possibility of SOS signals. Transmissions from these sets have been causing considerable QRM to coastal stations.

An old timer heard on the 7 Mc. band was 4IR, Bill reports being very active on 14 Mc. Another 14 Mc. man who has been working on 7 Mc. lately is 4PD. We believe Tom has something out of the ordinary in rotary beams. The angle iron tower is a solid job.

We cannot leave this section of the notes without congratulating the operator of 4WI who has at last added a daughter to his family.

ZONE NEWS

Townsville Zone (4GD).—4ER was again active on 14 Mc. and was heard working an old timer 4GG who has bobbed up on that band after many years absence.

Maokay Zone (4KW).—4KR building beam for 14 Mc. 4MA back from holidays and re-building. 4AM operating c.w. but getting modulator built for use on 14 Mc. phone. 4BQ uses two antennae, each two half waves in phase; Bill has worked seventy countries, some of the recent catches being VQ4, HLI, YV5, HK1, VP5, CT, and HJ. 4FH uses a grounded grid pre-selector and a Q5er and now has 82 countries.

Gympie Zone (4HZ).—4RA using Command Set working c.w. 4XR working 14 Mc. DX and said he is using QRP, only 50 watts now. 4HZ active once again now that the housing problem is nearly solved, for Jim at any rate. 4CR—"beginner's luck," was how Col described his finding recently of a gold nugget worth approximately £150. And how was your luck when you started chasing DX. Col? 4HD very active on 6, Max reports that band was wide open every day during January and most of December also. Max uses Dettol bottles as insulators on a series of vee beams, reckons he'll have "lunns" free carriers from now on. Congratulations Max on gaining W.A.S. on 50 Mc.! Visitors to 4HD during the Xmas holidays were 4GH, 4SN, 4UK, and 4BJ. 4BJ didn't see much of the mountain rig as reports have it that he was too busy eating bananas.

South West Zone (4ER).—4LD using a new antenna, probably a 4GG special. 4EK very active on 8 metres and with 4OU has opened up a channel between Milmeran and Clifton. 4TY having trouble with 50 Mc. transmitter. 4UX has a new receiver. Claude now using a certain well known communication kit in a receiver of "home brew." Does it come up to the 4UX revamp of the AR7 Claude? 4XN active on 6 metres. 4DA heard in the Sunday morning 4WI round-table.

That is all for this month, 73 and don't forget to send your Zone Manager news of your activity.

SOUTH AUSTRALIA

The February general meeting was held to a capacity gathering, and all present were given a very interesting and instructive lecture on "Beam Antennae" by Mr. D. Robinson (5RN). Dave not only gave the low-down on various types of beams, but he demonstrated his remarks by means of portable beams and suitable indicating apparatus. A vote of thanks, proposed by that champion puller-down and putter-up of aerials, Jim Sullivan (5JR), was received with acclamation.

Among the visitors were Messrs. B. Perkins, P. Rumbelow, R. Cassidy, W. Dempsey, R. Burton, and S. Clark (V8ICW). W.A.C. Certificates were presented to 5GD and 5LB, congratulations to George and Lionel.

The resignation of Dr. Ross Adey (5AJ) from the Council was accepted with regret, although we all realise that Ross is very QRL, and his projected trip overseas finally decided him. It's been a pleas-

NOW AVAILABLE

TECHNICAL TOPICS RADIO HANDBOOK

2nd Edition

With its 368 pages of highly informative material and cross indexing for easy reference Tec. Topic Radio Handbook is a valuable aid for any radio work bench.

(Note: The 2nd edition does not repeat any material contained in the 1st edition).

A radio manual dealing with all aspects of modern radio theory and practice Tec. Topics Radio Handbook is designed to assist all radio servicemen, amateur operators and radio experimenters in overcoming the problems with which they are confronted during the course of their radio work and experiments.

Technical Topics Radio Handbook



Price 15/- plus 1/- reg. post from

MINGAY

Publishing Co. Pty. Ltd.
Box 3765, G.P.O., Sydney, N.S.W.

we working with you Ross, although you don't seem to have much respect for my physique.

It was announced at the meeting that more than the required number of nominations had been received for the Council and therefore a ballot would be necessary. This is good news and augurs well for the future of the VK5 Division. It is not right that the same handful of members should year after year be placed in office simply because of the apathy of the rest. Here's hoping for a real fighting vote, and may the best men win. Nobody will be allowed to bring any eggs or tomatoes inside the hall as one or two of the candidates will offer a bigger target than others, and what's more I have only one pair of pants!

The question of larger meeting rooms also came up again and the President explained that it was extremely difficult to secure any sort of rooms for so reasonable a rental as we were securing the present one. Some "good fairy" then rose to his feet and said that he could put a suitable room at the disposal of the Division and he was cordially invited to meet the Secretary, Treasurer and President after the meeting, so here's hoping.

It is remarkable how the boys roll up to the meetings these days, and whenever any of the old-timers happen to stroll in, the first thing they allude to is the difference between the present day attendances and the days when a dozen and a half was a full house. Don't forget however that this state of affairs has not come about by accident, but by good and careful management, and a good deal of tolerance, because there's no doubt about it, we have our share of "dillpots." Yes, I know that I am one of them.

The question of the ionospheric prediction charts being further published in "A.R." came up for general discussion at the meeting and some were for, and some against. It was finally decided to suggest that they be deleted, the deciding factor being the fact that the predictions do not arrive until too late to be of any use to VK5. It seemed to me that many of those who were in a position to use the predictions were loth to rise to their

feet and support them. This is a pity when one considers that the privilege of free speech took so much fighting for.

The proposed rules for the V.H.F. W.A.S. Certificate did not meet with too good a reception at the meeting also. Papua and Norfolk Island, etc., did not seem quite in order, and as for divorcing the Northern Territory from VK5, well that takes some understanding, especially as the P.M.G.'s Department do not see fit to allot a separate prefix. Of course we could be wrong.

5KR (Vic. to you) will take unto himself a partner on 9th February and by the time you read these remarks will have decided if it is to be "skeds or dishes." Be firm Vic, the first six cracks with the rolling pin are hardest. Anyway, best wishes for the future from all the gang to you and your charming YF (that should get me a piece of wedding cake to sleep on), and also don't forget Gordon (5XU) will be sending you a series of CQs on his organ in the Church, so you won't be lonely. I tried to arrange an arch of crossed 807s at the Church but couldn't get any starters.

We hate to boast, but VK5 has the two outstanding six metre records, Clarrie Castles (5RL) and Bob Manuel (5RT). Only modesty prohibits us from saying that if there are any more coming up we will probably have them. Not bad for a "hick" State, eh!

As punctual as a clock that sits on the shack table of 5BZ, along comes the latest budget of doings from the South East way. 5JA is very busy on v.h.f. and beams and everybody was amazed to see how fast a windmill had grown in John's backyard (must have watered it well). With a 10 metre beam on top and before these notes are read a 6 and a 2 metre up there also, he sure will get results. 5MS had his modulation tranny go up in smoke the other day (too much a.c. these days Stewart?). By the way how is the 8JK? 5CH is fairly active on 20 and 40 and is still slowly rebuilding, but as he has been acting manager at

the local watt factory, there is very little time for any re-building. Do you give away any samples from the factory Claude? 5TW has been having a quiet but happy time on 10 metre c.w. "I dips me lid to you Tom."

5FD, one of the newcomers, has been working on 20 and 40, but is handicapped to the extent that he is living in Mt. Gambier and his gear is out at his parents' house in the country. A little bird has whispered to me that ere these notes are read John will be installed in a larger house with his gear alongside him and a.c. installed (I repeat, how do they do it?). 5KIJ ("Erg" to you), the other newcomer, is on 40 c.w. and is using a reception set No. 4 as a receiver. 5CJ should hang his head in shame, not one contact for the month, but as he looks around and sees a new shack, a nice tidy garden, rows of vegetables which will bring in more money for gear, well probably that odd contact won't be missed. Has the new YF become resigned to sharing you with Amateur Radio Col?

If you fellows smell a fairly high odor down there, it will probably be Wick Bayly's pipe (5MW) as he hitch-hikes his way to Melbourne through Mt. Gambier. If any of you can manage to bury the said pipe you will be doing the boys here a good turn as it has to be smelt to be believed. At the last general meeting I arranged with the Editor of "Splatter" to forward me a copy of that publication and he was more than willing, but somebody has fallen down on the job. You whistle and I will point.

A good many of the gang in VK5 have been throwing a lot of mud at me because I was a member of the January 1949 Jury in the Criminal Court at Adelaide. They called me the "hanging Judge," "a good man and true," "Your Honor," and it was even suggested that I had "been called to the bar." Anyway, on my first day at the courts whilst all the preliminaries were getting under way, a very criminal looking type walked into the court, and I was amazed to see that such a desperate looking person was not under guard. Taking a

TRANSFORMERS, CHOKES, ETC.,

Manufactured to order. Following stock sizes available:

SOLVE YOUR MAINS TROUBLES WITH AN AUTO TRANSFORMER

Bendix Frequency metres complete with original crystal and calibration book. Perfect order. £35.

A few more oil filled T.C.C. and CHANEX Condensers are now available in the following sizes.

2 MFD 3000 volt working	£1/12/6	10 MFD 1500 volt working	£1/7/6
2 MFD 2000 volt working	£1/5/0	2 MFD 500 volt working	5/-
4 MFD 1500 volt working	17/6	1 MFD 400 volt working	3/-

B.T.H. 10 HENRIE 250 M.A. 1000 volt CHOKES £1/5/-.

Crystals as illustrated, 40 or 80 metre, AT or BT cut. Accuracy .02% of your specified frequency £2/12/6 each
 20 metre Zero Drift £5/0/0
 Large, unmounted, 40 or 80 metre £2/0/0

Special and Commercial crystals. Prices on application.
 CRYSTALS REGROUND .. £1/0/0 each

BRIGHT STAR CRYSTALS may be obtained from the following interstate firms:—

Messrs. A. E. Harrold, 123 Charlotte Street, Brisbane; A. G. Healing Ltd., 151 Pirie Street, Adelaide; Atkins (W.A.) Ltd., 894 Hay Street, Perth; Lawrence & Hanson Electrical Pty. Ltd., 120 Collins Street, Hobart.

A.W.A. SPLIT STATOR TRANSMITTING CONDENSERS, high voltage ... £2/15/0 each
 SCREW TYPE NEUTRALIZING CONDENSERS (National type) to suit all triode tubes, Polystyrene Insulation ... 19/6 each

Prompt delivery on all country and interstate orders.

Satisfaction Guaranteed

BRIGHT STAR RADIO. K. G. Allen (late R.A.N.)

1839 Lower Malvern Road, Glen Iris, S.E. 6, Victoria.

Phone: UL 5510



PERSONALITIES

GKU has only been on the air a few weeks and has a big list of countries to his credit already. Ray is running 30 watts phone and c.w. on 7, 14 and 28 Mc. and putting out a really f.b. signal. 6AQ has found himself with an a.c. supply at last. There's 50 volts ripple on the town's d.c. supply so we shall be hearing Leo any day now—he is winding a special transformer! 6FB was down town recently. Frank likes the a.c. so he may be deserting Mullaeva to live in our cold climate. 6WH recently suffered a sad bereavement. Please accept our deepest sympathies Ted. We are glad to hear you back on the W.I.A. news broadcast once again.

6WZ heard pounding the brass both night and day on 7 Mc. Have you scored any Europeans yet Harry? 6M0 is back on the air again after power supply troubles up there at Watheroo. He came on in time to catch the worst of the sunspot activities. How's DX now Alan? 6HM seems to be representing the Goldfields on 50 Mc. He has had over 100 QSOs on that band. A very good show Chas. 6AZ paid us a hurried visit from Forrest. Harry was anxious to get home again where there is no QRM. 6KE whilst on holidays at Rottnest was heard on 7 and 14 Mc. with his portable rig. We heard the ZLs coming back to him so he must have done well in the Field Day Contest. 6HR heard working a HB9 on 14 Mc. phone. F.B. Lew your v.f.o. is proving its worth.

6MR is putting out a nice 14 Mc. phone signal. Tom is getting his share of the DX too. 6CN has mastered his v.f.o. There were quite a few alterations and we hope it has been worth all the trouble Cyril. 6MW is giving Frank (ex-VK3AFL) lessons on how to run a rig. Very pleased to see you back Frank and we are looking forward to the regular f.b. contacts. 6DX has just about recovered from the 1948 Christmas Party and is keeping things moving in the Goldfields district. 6MY—we wonder what Mal is up to now? He has only been on the air once in six weeks. It's about time we heard him again.

TASMANIA

I seem to have missed out on the notes recently due to pressure of business and at the moment am badly out of touch with all the Ham doings in this fair Apple Isle.

The first field day of the 1949 series was held a couple of weeks ago, having been postponed from the previous week due to inclement weather. The honours of the day went to our worthy Secretary 7BJ. The transmitter was located at Blackman's Bay under the care of 7AF who had picked a good position and tricked several of the searching parties. By the way Lou, what happened to you!

I haven't listened very much lately but have heard one or two locals "batting the breeze" on the 7 Mc. band.

The VK7 Division has been asked to maintain communication for the Royal Hobart Regatta Committee, between the starter's launch and the judge's box for the rowing events. A similar set-up was used last year and proved very effective.

The next big event in VK7 is the Annual General Meeting and Dinner which is to take place early in March. Hope they have more tonsil lubricant than they had last year, one just got nicely started and then it was announced that the barrel had passed out. It was after 10 o'clock too, worst luck.

It is hoped to arrange a field day for the Sunday following the Dinner and as there will be some visitors from the Northern end of the Island, we anticipate a good day's outing.

7LJ's gear looks very nice these days, what with lots of lovely meters and 813s and what have you. Do all those meters mean something Lou? Saw ex-TKV in Hobart a few days ago. Keith was a very active Ham in the pre-war days and is now living in Canberra and has given radio away temporarily.

The A.G.C.P. class has started again for the year with a bunch of aspirants for the good old ticket. What about it some of you Associates? Time you had your tickets. We are looking for some new blood on our Divisional Council at the General Meeting. The Council has been the same for the last two years and several members, including yours truly, feel that a change would do a lot of good and are not seeking re-election. I guess ere this goes to print the new Council will have been elected.

One of our councillors, and incidentally our Treasurer, has left the State for New Guinea on transfer from the P.M.G. Department. We all wish him well in the job up there. It is a peculiar thing, that the last two members who have left the State have both gone to New Guinea. Can't say I blame them after our recent experience of summer down this way.

Conditions on the 50 Mc. band were remarkably good through January and early February, especially as regards Sporadic E work, although conditions were also good for contacting country stations via tropospheric bending.

Openings to VK2, VK4, and occasionally VK5 occurred almost daily and on the 25th of January the band was open from 1900 hours until 0205 the next morning to ZL, all districts being worked by VK3s. The signals were for the main part S8 to S9 with a few stronger, and considerable QRM showed up in the first 300 Kc. of the band.

On the 27th VK4BT was heard working VK6FC at 1200 hours and in the evening between 2120 and 2330 VK6EC, 6GB, 6GS, and 6DW were worked by Melbourne stations. The next day 6FC was heard from 1100 to 1230 by VK3RR and VK3IE but no contact was made; that evening at 2100 VK3RR worked VK6GW. Next VK5 opening was on the 4th of February when VK3PG worked VK6GW and VK3BQ had a partial contact with htm.

The band was open from 0845 until 1225 on the 6th of February for VK2 and VK4 so conditions seem to be holding longer for this type of work than they did last year.

VICTORIA

Several new channels have been opened to the country stations; on the evenings of the 5th and 6th February VK3RR at Melbourne had contacts with VK3OD in Horsham, a distance of 188 miles, with signals up to S9. VK3OI was heard in Melbourne on both nights and on the evening of the 7th he worked VK3EH and VK3PG, 168 and 178 miles respectively.

VK3TH at Yinnar and VK3LV at Trafalgar South have also worked Melbourne stations and run skeds with VK3EK at 2020 Mondays and Thursdays. VK3ACL at Red Hill is putting a tremendous signal over the 45 mile path to Melbourne. Eric is in a good location and has a four element w.s. beam 50 feet high.

144 Mc.—The writer must apologise for not being able to cover the doings on this band very fully this month as he is not very well established yet, but this should be remedied in a couple of weeks when a beam is made to work properly (the present one has a loss of two S points over a dipole).

There appears to have been a fair amount of activity around the suburbs, although on this band also there is plenty of room for newcomers. Most of the transmitters in use are crystal controlled, although some are using simpler gear quite successfully. Band-pass converters, as described in March 1948 "QST", are popular and several chaps have them giving good results.

VK3ZL in Ballarat is active on the band, using a 522 driving a 3ST, a converter, and a three element beam. He has worked 3ABA and 3EH in Melbourne. 3QK on Churchill Island, near San Remo, is also very active and works quite a number of Melbourne stations. The signals from both of these country stations suffer from fading, some nights worse than others. 3VL at Red Hill is now on the band using a parallel rod oscillator and super-regen receiver, he has worked 3ABA and possibly other Melbourne stations.

The 144 Mc. Field Day was held on Sunday, the 6th of February. The weather was warm and perfect for this type of activity. Stations out were 3ABA at Mt. Macedon, 3ANW at Mt. Donna Buang, 3VL at Red Hill, 3XM in the Mt. Eliza area, and 3CL at Mt. Fatigue. Many contacts took place during the afternoon but it is understood that no records or new ground were broken. 3ANW worked through to the Geelong area, about 35 miles, and 3ABA heard 3CL, approximately 120 miles.

576 Mc.—It was decided at the February meeting of the V.H.F. Group that there should be some activity on this band. VK3RR already has a push pull oscillator using RL18s working; and others have promised to get receiving and transmitting gear built with a view to holding a field day.

The main difficulty is in obtaining tubes suitable for the band. RL18s work very well, so anyone having these tubes is practically in business. Receivers may also cause some trouble, once again the RL18 is the preferred type in either a self or separately quenched super-regen., the latter type may be easier to get going. Antennae of course offer a great deal of scope as arrays giving high gain can be constructed in a very small space.

seat, he casually glanced in my direction and gave me a leering smile of recognition. I nearly collapsed from shock, and a fellow jurymen said to me "Do you know him?" I hastily said "no," and trying to hide my red face I said "who is it?" "An official of the gao!" he said. Well! They nearly had to get the "Doctor" to me, I felt so upset. It just shows how an environment will change the appearance of even the most upright of Amateurs, doesn't it. I must be going Crackers.

The new members of the Advisory Committee for 1949 are Ross Kelly (5LW), Ross Harris (5FL), George Ramsay (5GD), and a "dark horse" Warwick Parsons (5PS). A thumbnail biography of these estimable gentlemen is I think called for, so here goes. Ross Harris—representative in VK5 for a prominent Interstate wire and cable company—is prepared at shortest notice to talk upon c.w. operating standards; hobbies are Amateur Radio and Amateur Radio. Ross Kelly—big butter and egg man for a prominent insurance company—is prepared to talk upon anything at shortest notice; has broken all the rules and regulations at some time or other, and is thus fitted exceptionally well for the committee; hobbies are Amateur Radio and Amateur Radio. George Ramsay—is a member of the well known firm of Ramsay Brothers—is prepared at shortest notice to talk about anything connected with radio; has always been a good boy and should be able to keep the rough element on the committee in order; hobbies are Amateur Radio and Amateur Radio. Warwick Parsons—is a down and going engineer on the pay roll of the leading commercial broadcasting in VK5 (you beaut.)—is prepared at the shortest notice to just talk—is never on the air so cannot break any rules or regulations; is one of those strong, well-built, rippling muscle types (yes, I know you call it fat, but it is my muscle); hobbies are snooping, spying, and slandering with a dash of Amateur Radio and Amateur Radio.

Noticed in a recent R.S.G.B. booklet a photo of a slap-up shack, and recognised it as that of my recent sparring partner Cee Baseby (5BZ). I hunted high and low to see if I could find the electric clock but it was too well hidden for me.

The simple but effective frequency meter propounded recently by Amigo Ralph Turner (5TR) is achieving great popularity in VK5, and quite a large number of successful jobs are reported. I am luckier than most, because Ralph is personally making up my capacitance and inductance, and checking it against a known standard. A fine chap Ralph, one of the best (I'll get on).

In my enthusiasm to become a radio Dorothy Dix I did not think for a moment that I would receive any letters, but I did, and I have forwarded it to the Editor (whether he prints it or not remains to be seen). It was signed Lucy Connection, and in reply I would like to say that I am very sorry for you Lucy, but you are what is known as a radio widow, and believe me that you are not on your own. I can only say that apparently you have not got what it takes to win him back from that siren "Amateur Radio"; have you tried chopping down his antennas?

Another XXL who signs herself "Fed Up" wants to know how she can stop her husband from eating peanuts in bed. Well that's a question that takes a bit of cracking (pardon me), but all I can say is that as eating peanuts will give anyone RALditosis (bad breath to you), even his best pals will eventually tell him.

Doc (5MD) was in his element out in the back room during "smoko" at the general meeting. He was shearing all the sheep of their wool to pay for their disposals gear and seemed to revel in the job.

On "ten" the other day 5AJ was heard to tell 5LR that he should get 5PS to help him lay some bricks, as this would improve the figure of 5PS. I would be quite willing to help Jack, but it is too much of a strain for me to lay bricks!

WESTERN AUSTRALIA

The January meeting was held on the 18th at Paddy Buildings. It was a very hot and humid evening, and not really inviting to many new members and visitors. The usual business was dealt with and VE2NI donated the VK5 Division two transmitting valves to be allotted as competitive trophies. The meeting formally closed at 9 p.m., but 2NI gave us a very interesting demonstration of the radio gear in his van, in which he had crossed Australia from Sydney.

Much rag-chewing and QRM continued in the street. A local P.C. came along to see what was doing. One of the lads nearly talked him into joining the W.I.A. Still hot and muggy, the gang gradually dispersed to their respective transporters before the midnight rush.

in it, should be admired. We know the great "GP" listen to our broadcasts but don't forget that the "GP" also suffer from the lack of erudition pro rata.

You can't be very active or you would notice the term "handle" is fast falling out of favour. Perhaps you didn't see that little par in "QST" that started it on its way.

TXN FR NCE NOTES ON ABS I WL HPE TT UR IDEAS GIT CHNGD SN OR U WL IIVE US SPELLING BCNU—CUNJL I really like it, a bit of a change from the mundane conversations of every day.

I hope "Old Hombre" in the interests of Amateur Radio and possibly you yourself, that you take off the school tie, orientate yourself and see if you can't see the brighter side. This game of ours is not nearly as bad as you will have us believe. 73 OUL YRS,

—"CANAILLE."

[The Editor reserves the right in all cases to publish or withhold any unsigned correspondence.]

APPRECIATION

Editor "A.R.," Sir,
P.O. Box 127, Geraldton, W.A.

Allow me to pass on my thanks and appreciation to VK3PS for his bright and entertaining VK5 notes.

The Hams of whom he writes are, naturally, strangers to me, but the way he writes makes his contribution the second thing I look for each month, the first obviously being the VK6 Divisional Notes.

VK5 is fortunate in having as its Divisional Sub-Editor a man with a natural flair for Ham journalism which puts him, in my estimation, way up among some of the world's best as found in the pages of British and American journals.

This letter implies no disregard of the sterling efforts of Dave, (6WT) in reporting W.A. activities but is simply intended as a compliment to someone who seems to have been born with a gift.

—R. H. ATKINSON, VK6WZ.

As reported elsewhere activity on this band during the past two months has been very great. We are pleased to announce that this State can now boast of W.A.S. on 50 Mc. Members who have achieved the honour are 4HD, 4ES, 4BT, 4RY, 4HR.

4CU reports that on Thursday, 3rd February, at 8.10 p.m. a carrier was heard on 50.3 Mc. From 8.15 p.m. to 8.45 p.m. orchestral music was heard and after two items an announcement was made. The speech, however, could not be copied. The station had a carrier of 87 and transmission was very good quality. Charlie's beam was pointed due west of Clifton at the time. Can anyone help in identifying this station?

During the period 20th November to 31st January 4CU reports working the following stations:—2BW, 3QU, 3OP, 3IM, 3LV, 3ABG, 3CI, 3AKM, 3DI, 3HT, 3IK, 3EH, 3CR, 3RR, 3OD, 3MN, 3ZM, 3BQ, 3TS, 3ZL, 3BW, 3ZD, 3YJ, 3KC, 4HR, 4KK, 4RT, 4BT, 4AW, 5PQ, 5OU, 5RR, 5RV, 5WH, 5KG, 5WL, 5ME, 5QL, 5QR; 7AB, 7DH, 7AJ, 7XL—in all one hundred and eight QSOs with forty-two different stations.

During January 4HD has worked the following 2IY, 3IM, 3CR, 3VD, 3OD, 3DQ, 3HD, 3ZL, 3AKN, 3IY, 3HG, 3ADT, 3GN, 2AD, 3VL; 4HR, 4BT, 4RT, 4JP, 4AW; 5OU, 5RG, 5CR, 5CG, 5OQ, 5GP; 6PC, 6LW, 6GS, and 6HM also heard, 7AD and 7HL; ZLIDE, ZLIET, and heard ZLIMM and ZL2OS.

We are sorry that we cannot give more details concerning activities of other VK4s active on this band as no further details have been supplied to the writer of these notes.

WESTERN AUSTRALIA

The 50 Mc. band was very active again during January and these observations were made from Perth. At the end of the first week in the month it was noticed that the radio ranges on various Eastern States airfields again became audible at increasing strength as the days passed. Up to the 16th January, Perth was experiencing electric power restrictions, power being supplied to consumers every alternate hour. It is possible that because of this, openings of the band may have been missed during the periods when power was cut off, although 3LW had power when 6FC did not, and vice versa. However, on the evening of the 17th, at 1830 hours, Perth time, 2LY, 3RI, and 2LZ were worked by 6FC; the band closing at about 1845 (6FC now using three element wide spaced rotary beam.) These signals suffered from severe QSB. Varying from S6 to zero, violently.

On the 26th 6LW worked 5QR. 6LW reported that although several VK4s were heard in Perth, conditions were so bad that only 5QR was worked. He said that 6QR had worked 6EC and heard 6DW, both country Amateurs.

On the 27th at 1000 hours Perth time 6FC worked 4BT, followed by 4HD, then 4ES and then 2ADT. During the middle of QSO with 2ADT, the band closed down, the time then had advanced to 1115. During the whole of this 1½ hours, signals were much more solid, some QSB, but never fell to zero, while peaking S8 at times, average about S4 to S6. Undoubtedly, F2 propagation. I believe this was first VK4/VK6 contact on 60 Mc.

Nothing more until the 28th at 0920 when 6FC worked 5QR again, but only Q2 S4, QSB very bad. Ten minutes later the band had gone out. (6LW reported that on the night of the 27th, VK3s were heard in Perth, and one worked by 6GS portable Perth. 3DW at Bruce Rock is reported to have heard VK3 working ZL some time.) Later, on the morning of the 28th, at 1042, 6FC heard 4HR on c.w. RST 538, not readable on phone—QRT. This QSO was a real battle, finally making it on c.w. both ways (RST 549), after battling for over an hour.

At 1159 6FC worked 4RY also c.w. RST 449. This also was a battle at first but improved later, concluding at 1220 when the band seemed to close down. This seems to be the final closing of the band, for nothing has been heard in Perth since. I have no details from country Amateurs of their experiences during this period. GHM of Kalgoorlie later told me on 40 metres that on 3 he had made 131 contacts with 41 different stations to date (29/1/49). No news from 6WG of Albany or from 3DW Bruce Rock, but I'll warrant they did equally as well as we did in Perth. Perth seems a difficult place for 6 metre DX somehow.

Princes Highway, Harrisfield, Vic.

Editor, "A.R.," Sir,

Could I be given a little space to give my heartfelt thanks to all those Hams and friends who turned up to my shack on 29th January to erect my tower and beam.

As you know I am now partly invalided with heart trouble, and the real Ham Spirit once more rose to the occasion and did what was impossible for me to do. All did a great job and I thank each and every one.

—CHAS. R. WHITELOW, VK3BH.

WARNING

Largs Bay, Sth. Aust.

Editor "A.R.," Sir,

I had brought to me today a portion of a letter, written by some person overseas, which had sent the addressee seeking the call sign ("figures and letters" said the writer) of the owner of a "Ham set" in the vicinity who might be able to arrange for some members of the family to gather at his station and hold conversation "through my boss' station—you can talk for hours."

As the party approaching me was in ignorance regarding the provisions of Para. 33 of the Handbook, I pointed out, at length, what would be the result if any licensee started doing this.

Possibly a general reminder to all licensed Amateurs to remember the first five lines of Para. 33 would not go amiss and not, in an endeavour to do a kindness, penalise themselves (and others) by permitting their equipment to be used as a public telephone channel—even if "you can talk for hours" (presumably free gratis and for nothing).

I did not enlighten the enquirer that, being a c.w. exponent, I could not possibly oblige her; but I don't think any further approaches will be made in this regard to others to seek a free telephone channel.

—T. LAIDLER, VK5TL.

REPLY TO "OLD HOMBRE"

Dear "Old Hombre,"

I hesitate to cross pens with such a critical, and I am sure, cantankerous old gentleman. I say old, because I feel that reactions such as yours towards our hobby, could only be acquired after a lifetime of knocks and you yourself without a vestige of a sense of humour.

You are possibly a very old timer literally toothed on an A.R.R.L. Handbook, you may have bitten deep into the back pages but missed the first few, missed that small saga of Amateur Radio, missed the Amateur's Code, and missed the word tolerance between every line.

"The King's English" was written to be mutilated, mutilated in Amateur Radio by those whose education was not as complete as yours "Old Hombre." A few "aints" or mutilations will do a lot less harm to our hobby, than a gripping, intolerant attitude such as yours.

Education is a curse to many, a credit to some, but any Amateur who has obtained his ticket lacking

FOR SALE, EXCHANGE, WANTED

8d. per line, minimum 2/-

Copy must be received by 15th of month. Remittance must accompany advertisement. Calculation of cost is based on an average of six words per line.

FOR SALE.—Bendix Frequency Meter, complete with built in a.c. supply, calibration charts, and complete set of spare valves, in new condition and is accurate; what offers? Also one 1,100 volt aside 150 Ma. power transformer with filament windings, £4. VK4UX, Stanthorpe.

FOR SALE.—Brand New VCR139A 2½" C.R.O. with socket, 39/6; 1" 913 C.R.O.; 108 brand new, less valves; No. 11 Transceiver, brand new with supply and valves. Apply G. Laver, Fish Creek, Victoria.

FOR SALE.—Main printed scale Dials for AMR200, 5/- each. VK3RN, R. Higginbotham, 43 Eleanor Street, Ashburton, E.13.

FOR SALE.—Radio Mast two-piece tapered Oregon 60 feet. J. Metcalfe, 83 Hotham St., South Preston, JU 2380.

FOR SALE.—Valves tested as new, 807, 6AC7, 6H6, 6J7, 6K7, 6C5, etc., 10/6 each. VK3AFM, Phone UY 6871.

FOR SALE.—3 Mk. II., A Mk. III., new and complete with spares, one used; 109 Receiver; 902. VK3ALT, Wright, 78 Queensville Street, West Footscray, Victoria.

RECEIVER and Transmitter Racks 19", built to order; AR7 types 50/-, standard drilling. L. Frith, MX 1004.

TRANSFORMERS OF DISTINCTION

HIGH FIDELITY OUTPUT TRANSFORMERS.

(DESIGNED SPECIFICALLY FOR NEGATIVE
FEEDBACK APPLICATION)

The "AF" series of output transformers are super-high quality units designed for minimum phase shift, and are intended for use in the types of negative feedback circuits using gain reduction of the order of 20 to 35 db and in which the transformer itself is included in the feedback loop. A very large sub-division and interleaving of primary and secondary coils confines leakage inductance to the phenomenally low values shown, while the open circuit inductances are designed to have a signal attenuation not greater than 3 db at 3.3 cps. Upper frequency attenuation is not more than 3 db at 40 KC.

ITEM 52. TYPE No. AF8

Primary Z: 10000 ohms pp.	Plus 34 db
Secondary Z:	8 ohms VC
Insertion Loss	0.5 db
Primary L: 125 Hys.	Leakage L: 22 mHY
Freq. Resp: +/- 0.2 db 20 cps to 30 Kc/s.	Wgt. 7 lbs.
Base: 4 x 4 1/4 x 4 1/4" H	"S" is 1 1/2"
Mntg: VII	

ITEM 53. TYPE No. AF10

Primary Z: 10000 ohms pp.	Plus 34 db
Secondary Z:	500 and 125 ohms
Insertion Loss	0.4 db
Primary L: 125 Hys.	Leakage L: 17 mHY
Freq. Resp: +/- 0.2 db 20 cps to 30 Kc/s.	Wgt. 7 lbs.
Base: 4 x 4 1/4 x 4 1/4" H	"S" is 1 1/2"
Mntg: VII	

ITEM 54. TYPE No. AF15

Primary Z: 10000 ohms pp.	Plus 34 db
Secondary Z:	15 and 3 1/2 ohms VC
Insertion Loss	0.5 db
Primary L: 125 Hys.	Leakage L: 19 mHY
Freq. Resp: +/- 0.2 db 20 cps to 30 Kc/s.	Wgt. 7 lbs.
Base: 4 x 4 1/4 x 4 1/4" H	"S" is 1 1/2"
Mntg: VII	

The "AW" range of output transformers listed in this section comprises units designed specifically for high fidelity audio systems. Their features are multiple interleaving of coils to confine leakage reactance within the limits permissible consistent with the upper frequency range covered; adequate primary open circuit inductances to maintain low frequency amplification; and comparatively large core structure of high quality transformer steel to reduce iron distortion by the use of low flux inductances at the MAXIMUM R.M.S. signal frequency voltages incurred.

OCL values are measured at 5v AC at 50 cycles per second, representing an extremely low signal level. The actual inductance at -3 db from rated output would be many times that given.

ITEM 55. TYPE No. AW1

Primary Z: 3000 ohms pp.	Plus 33 db
Secondary Z:	8 ohms or 2 ohms
Insertion Loss	0.44 db
Primary L: 80 Hys.	Leakage L: 85 mHY
Freq. Resp: +/- 1 db 30 cps to 12 Kc/s.	Wgt. 6 lbs.
Base: 4 x 4 x 4 1/4" H	"S" is 1 1/2"
Mntg: VII	

ITEM 56. TYPE No. AW2

Primary Z: 3000 ohms pp.	Plus 33 db
Secondary Z:	500 ohms and 125 ohms
Insertion Loss	0.36 db
Primary L: 85 Hys.	Leakage L: 70 mHY
Freq. Resp: +/- 1 db 30 cps to 12 Kc/s.	Wgt. 6 lbs.
Base: 4 x 4 x 4 1/4" H	"S" is 1 1/2"
Mntg: VII	

ITEM 57. TYPE No. AW3

Primary Z: 3000 ohms pp.	Plus 34 db
Secondary Z:	8 ohms or 2 ohms
Insertion Loss	0.5 db
Primary L: 40 Hys.	Leakage L: 55 mHY
Freq. Resp: +/- 1 db 30 cps to 12 Kc/s.	Wgt. 6 lbs.
Base: 4 x 4 x 4 1/4" H	"S" is 1 1/2"
Mntg: VII	

ITEM 58. TYPE No. AW4

Primary Z: 3000 ohms pp.	Plus 34 db
Secondary Z:	500 ohms and 125 ohms
Insertion Loss	0.5 db
Primary L: 40 Hys.	Leakage L: 50 mHY
Freq. Resp: +/- 1 db 30 cps to 12 Kc/s.	Wgt. 6 lbs.
Base: 4 x 4 x 4 1/4" H	"S" is 1 1/2"
Mntg: VII	

ITEM 59. TYPE No. AW5

Primary Z: 12,500 ohms pp.	Plus 39 db
Secondary Z:	500 ohms and 125 ohms
Insertion Loss	0.9 db
Primary L: 100 Hys.	Leakage L: 150 mHY
Freq. Resp: +/- 1 db 30 cps to 15 Kc/s.	Wgt. 9 lbs.
Base: 4 x 4 1/2 x 4 1/2" H	"S" is 2 1/2"
Mntg: VII	

ITEM 60. TYPE No. AW6

Primary Z: 12,000 ohms pp.	Plus 33 db
Secondary Z:	500 ohms and 125 ohms
Insertion Loss	0.6 db
Primary L: 100 Hys.	Leakage L: 140 mHY
Freq. Resp: +/- 1 db 30 cps to 12 Kc/s.	Wgt. 6 lbs.
Base: 4 x 4 x 4 1/4" H	"S" is 1 1/2"
Mntg: VII	

ITEM 61. TYPE No. AW7

Primary Z: 12,000 ohms pp.	Plus 33 db
Secondary Z:	8 ohms or 2 ohms
Insertion Loss	0.5 db
Primary L: 100 Hys.	Leakage L: 140 mHY
Freq. Resp: +/- 1 db 30 cps to 10 Kc/s.	Wgt. 6 lbs.
Base: 4 x 4 x 4 1/4" H	"S" is 1 1/2"
Mntg: VII	

ITEM 62. TYPE No. AW8

Primary Z: 1500 ohms pp.	Plus 37 db
Secondary Z:	500 ohms and 125 ohms
Insertion Loss	0.6 db
Primary L: 35 Hys.	Leakage L: 28 mHY
Freq. Resp: +/- 1 db 30 cps to 12 Kc/s.	Wgt. 6 lbs.
Base: 4 x 4 1/2 x 4 1/2" H	"S" is 2 1/2"
Mntg: VII	

ITEM 63. TYPE No. AW9

Primary Z: 6000 ohms pp.	Plus 37 db
Secondary Z:	500 ohms and 125 ohms
Insertion Loss	0.6 db
Primary L: 75 Hys.	Leakage L: 85 mHY
Freq. Resp: +/- 1 db 30 cps to 10 Kc/s.	Wgt. 7 lbs.
Base: 4 x 4 1/2 x 4 1/2" H	"S" is 1 1/2"
Mntg: VII	

ITEM 64. TYPE No. AW10

Primary Z: 10,000 ohms pp.	Plus 39 db
Secondary Z:	500 ohms and 125 ohms
Insertion Loss	0.5 db
Primary L: 80 Hys.	Leakage L: 100 mHY
Freq. Resp: +/- 1 db 30 cps to 10 Kc/s.	Wgt. 8 lbs.
Base: 4 x 4 1/2 x 4 1/2" H	"S" is 2 1/2"
Mntg: VII	

RED LINE EQUIPMENT PTY. LTD.

TRANSFORMER ENGINEERS

WORKSHOP: Cent. 4773. CITY OFFICE: MU 6885
2 Coates Lane, Melbourne (3 lines), 157 Elizabeth
St., Melbourne.

KEEP THIS CATALOGUE
Cut out and file for reference



DISTRIBUTORS:

VICTORIA:
Homecrafts Pty. Ltd.
Arthur J. Veall Pty. Ltd.
Radio Parts Pty. Ltd.
Howard Radio Ltd.
A. G. Healing Ltd.
Healings Pty. Ltd.
Lawrence & Hanson
Electrical (Vic.) Pty.
Warburton Franki
(Melb.), Ltd.

NEW SOUTH WALES:
United Radio Distributors
Pty. Ltd.

QUEENSLAND:

A. E. Harold,
B. Martin,
Denradio Industries
(Maryborough),
J. Michaelmore & Co.
(Mackay).

SOUTH AUSTRALIA:
Gerrard & Goodman,
Radio Wholesalers Pty.
Newton McLaren Ltd.

TASMANIA:
Noyes Bros. (Aust.) Pty.
Lawrence & Hanson
Electrical Pty. Ltd.

The Radio Enthusiasts Supply Store

J.H. MAGRATH & CO.

Signal Strength Meter



Improve that home made receiver with a signal strength meter. In black crockle case the meter is calibrated in "5" unit and to 60DB over "5" 9. Plugs into octal socket on receiver. We supply circuit of modification enclosed.

Wire Wound Resistors

Gifford 5 watt 10d. ea. 5 watt 1/4 ea. 11s tax.

Germanium Crystals

English type Germanium Crystals C.G.I. Price 20/- plus tax.

Soldering Irons



Quick heating electric soldering irons for Servicemen! Complete with metal cover, 75 watt, 16/6 re. plus tax.

University Meters

Ersin Multi-Core Solder

Multimeter, MV A/2, more ranges than competitive meters. £11/5/- plus tax.

4s more dry joints, available in 1 lb. reals. 5/2 lb. plus tax.

Band Spread Dial



NEW from England. Band spread dial with two speed drive for direct calibration. 28/- ea. plus tax.

Ample Stocks Available!

300 Ohm RF Transmission Line



Available in 100 yard lengths.
8d per yard.
Cut Lengths,
9d per yard.

Plus Tax

Aegis Kit Set

Type K54B, 4 valve super set. Kit Set. Complete with cabinet & valves. £12/3/6 including tax.

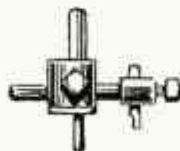
Qddments

Dial card, nuts and bolts, drive spindles, grommets, solder lugs, everything for the amateur.

Meter Scales



For all sizes of university Meters, Multimeters, or Signal Strength Meters 3/3 plus tax.



Circle Cutters

Cuts holes from 1 inch to 3 1/2 inches in sheet metal etc. Best grade tool steel. 12/6 plus tax.

METER REPAIR SERVICE

WE CAN REPAIR ALL TYPES OF METERS — PROMPT SERVICE REASONABLE PRICES — ALL WORK DONE BY EXPERTS.

J.H. MAGRATH & CO.

208 LITTLE LONSDALE STREET, MELBOURNE

AMATEUR RADIO

APRIL
1949

JOURNAL OF THE WIRELESS INSTITUTE OF AUSTRALIA

COMPACT WITH HIGH EFFICIENCY AT H.F. OR V.H.F.



Only five inches long and 2½ inches in diameter, these new Philips valves have a power output of more than 200 watts at 100 Mc/s. or 300 watts at lower frequencies. These valves embody entirely new techniques and offer unequalled efficiency. Their construction minimises internal insulation. Base-pins are sealed by fusion of powdered glass. Zirconium-coated anode gives complete freedom from secondary emission. Base pins fit the standard 5-pin socket.



PHILIPS

TRANSMITTING VALVES

PHILIPS ELECTRICAL INDUSTRIES OF AUSTRALIA PTY LTD.
Sydney • Melbourne • Brisbane • Adelaide • Perth



FOR THE EXPERIMENTER & RADIO ENTHUSIAST

Registered at G.P.O., Melbourne, for transmission by post as a periodical.

6d.

APRIL BARGAINS from HAM RADIO

Three Specials for the Month!

Switching unit American type. Crackle finished case 18 x 8 x 5 contains 24 Volt D.C. Motor and lots of useful gear. Few only. £1/10/- each. S.C.R.522 Genemotor Power Supply Input 28 Volt D.C. Output 300 Volt D.C.—150 Volt D.C. 13 Volt Filament Current Rating 300 M.A. Few only, £2 each.
Line Filters 12 volts at 30 amps inclosed in Duralium case. Air Core Chokes and Condensers. Each 7/6.

● CONDENSERS. English Block Type:

10 Mfd., 400 volts, Working	0 7 6
8 Mfd., 400 volts, Working	0 7 6
5 Mfd., 400 volts, Working	0 7 6
4 Mfd., 750 volts, Working	0 7 6
4 Mfd., 450 volts, Working	0 7 6
2 Mfd., 1000 volts, Working	0 7 6
5 Mfd., 750 volts, Working	0 5 0

● DUCON TYPE, Small Block:

4 Mfd., 600 volts, Working	0 5 0
----------------------------	-------

● AMERICAN SWITCHING RELAY BOXES: Contain good wrecking parts, Co-Ax. Connectors, etc. Each

0 5 0

● AMERICAN INTER-PHONE CONTROL UNITS, less Valves. Full of useful parts. Each

0 10 0

● A.T.S TRANSMITTER KEY CLICK FILTERS. Full of useful Parts. Each

1 0 0

● GENEMOTORS.—A.T.5, A.R.8 (complete). Slightly-damaged Switches, 24 volt input, 550 and 300 volts output, at 250 mills. To Clear

3 0 0

● RECTIFIERS, Copper Oxide; 12 volt at 100 mills; S.P. Bridge. Ideal for Relay operations. 7/6 each. Also 4 to 5 volt, 100 mills.

0 5 0

● TRANSCEIVERS. 109 VIBRATORS.

0 10 0

● TRANSMITTERS.—A.T.5, 50 watt, Phone or C.W. crystal or V.M.O. Tube line-up; 6V6 Osc., 807 Doubler, 2-807 in final. Ideal Ham Rig, covering 20, 40, 80 metres. Also Broadcast Band to 150 Kc. Meter for all stages; easily adapted to A.C. or D.C. power supply. (And we have cheaper models. Write us your requirements.)

8 0 0

● CARBON MICROPHONE INSERTS.—New. Each

0 2 0

● TRANSMITTER.—V.H.F.; easily adapted for 400 M/c. Band. Uses 2-15E's in final. Trambone Antenna. Each

3 0 0

● LOW IMPEDANCE HEADPHONE LEADS.—Standard Length. Ea.

0 1 0

● STANDARD NOTES FOR WIRELESS MAINTENANCE MECHANICS. Including Bendix, A.T.5, A.R.8, etc. Each

0 5 0

SEE OUR VAST RANGE OF CONDENSERS, METERS, FILTER CHOKES, RESISTORS (Variable & Fixed).

VALVES, New

807's	10/-
AV11's	10/-
6V6's	10/-
6J5	10/-
12J5	10/-
6SH7	10/-
6H6	10/-
3B24	10/-
1J6	10/-
1K4	10/-
879	10/-
12SQ7	10/-
957	7/6
VP41	7/6
VS68	7/6
VR102	7/6
VR92 Diode	7/6
VR122	7/6
VR21	7/6
VR65	7/6
VR66	7/6
VU139	7/6
VU111	7/6
VU39	7/6

WRITE FOR ANY PARTS NOT LISTED

HAM RADIO SUPPLIERS

16 Swan Street . . . Richmond

Phone: JA 3827.

After Hours: Haw. 4465.

SPECIAL ATTENTION GIVEN TO COUNTRY MAIL ORDERS.

AMATEUR RADIO

EDITOR:

T. D. HOGAN, VK3HX,
Telephone: UM 1732.

MANAGING EDITOR:

J. G. MARSLAND, VK3NY.

TECHNICAL EDITOR:

J. C. DUNCAN, VK3VZ.

ASSISTANT TECHNICAL EDITOR:

A. K. HEAD, VK3AKZ

COMPILATION:

R. W. HIGGINBOTHAM, VK3RN.

CIRCULATION:

J. F. IRVINE, VK3TU.

ADVERTISING REPRESENTATIVE:

W. J. LEWIS,
20 Queen St., Melbourne, C.1.
Telephone: MU 5154.

PRINTERS:

H. HEARNE & CO. PTY. LTD.,
285 Latrobe St., Melbourne.

MSS. and Magazine Correspondence should be forwarded to the Editor, "Amateur Radio," Law Court Chambers, 191 Queen St., Melbourne, C.1., on or before the 15th of each month.

Subscription rate in Australia is 6/- per annum, in advance (post paid), and A7/6 in all other countries.

Wireless Institute of Australia (Victorian Division) Rooms. Telephone: FJ 6997.

*Published by The Wireless Institute of Australia,
Law Court Chambers, 191 Queen Street,
Melbourne, C.1*

EDITORIAL



INSTITUTE MEMBERSHIP

A recent survey of Divisional membership returns reveals some interesting facts which are of importance to the growth and development of the Institute.

Whilst the proportion of full members to A.O.C.P. holders is still maintained at its usual high level, there is nevertheless an indication that some Divisions are not fully cognisant of the desirability of enlisting in our ranks many of those who were trained in radio factories and signals or radar units during the War. Apart from the need for attracting these people into the Institute, there is the national asset aspect to be considered, as all those with an up-to-date knowledge of the electronic art provide a vital nucleus in times of emergency.

There is also a large proportion of existing members who are not A.O.C.P. holders who should be encouraged at the earliest opportunity to qualify for this certificate and thus become full members of the Institute.

The figures under review further reveal that while some of the smaller Divisions are show-

ing marked improvement in recruiting, the larger Divisions are not maintaining the high level of new members recently attained. It is desirable that all concerned investigate this question to ascertain whether proper and effective efforts are being made to attract and assist those interested in the radio art. We look to the larger Divisions to set the lead in this respect as their prospective members are more plentiful than in the smaller Divisions.

The objects of the Institute shall be to encourage and assist all persons interested in any or all aspects of Amateur Radio and allied techniques and to promote the extension of interest and active participation and co-ordination in such pursuits as the above.

We are naturally anxious that all Divisions should always bear these important objects in mind, and by their activity in this direction, strengthen our membership throughout the Commonwealth.

—Federal Executive.

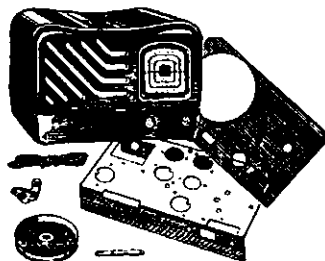
— IN THIS ISSUE —

High Stability V.F.O.	3
Rewinding D.C. Relays	4
Ionospheric Predictions for the Amateur Bands	5
Parallel Cathode Modulation	7
Crystal Controlled Transmitter for 144 Mc.	8
1949 Trans-Tasman Contest	10
Results of 1949 National Field Day Contest	10
Federal, QSL, and Divisional Notes	12
Fifty and Up	19
Correspondence	20

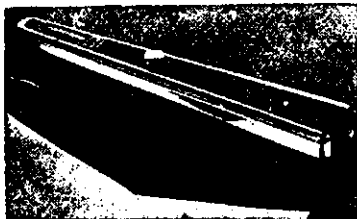
Homecrafts

PTY. LTD.

**GREATER
BARGAINS
BETTER
SERVICE**



DON'T MISS THIS BARGAIN
Set Builders! Foundation Kit, Bakelite Cabinet, Chassis, Front mounting Plate and Dial Assembly. As illustrated. Only 45/- complete. **AVAILABLE FOR IMMEDIATE DELIVERY.**

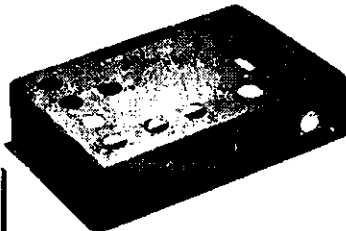


Super Bargain. Ethertone Magnetic Pickups, brand new in original carton—21/- complete.



Available for Immediate Delivery

English Collaro Electric Gramo Motors. The new AC47 Electric Motor with Pickup and Automatic Stop. Complete as illustrated. £7/5



Black Crackle Finish Steel Chassis as illustrated Switches for up to an 8 valve Console Set, Size 14" x 9" x 3 1/2" Price 15/9

Mantel Chassis for 4 or 5 valve set, Steel drilled Chassis measuring 12" x 6 1/2" x 2". Price 8/6

Portable Chassis for 4 valve portable. Steel drilled Chassis measuring 8" x 5 1/2" x 2 1/2". Price 8/6

5 Valve Console Chassis Steel drilled Cadmium Plated. Measuring 12" x 9" x 3 1/2". Price 13/9

ALUMINIUM CHASSIS.

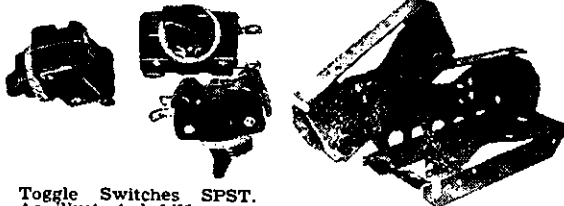
(Undrilled)

- 12" x 7" x 2 1/2" without ends 8/9
- 13" x 7" x 2 1/2" with ends 9/9
- 13" x 7" x 2 1/2" without ends 9/-
- 13" x 10" x 2 1/2" without ends 11/6
- 7" x 5" x 2 1/2" with ends 6/6
- 6" x 4" x 2" without ends 12/3
- 13 1/2" x 10" x 2 1/2" with ends 12/3
- 8" x 5" x 2 1/2" with ends 7/2
- 10" x 6" x 2 1/2" with ends 8/4
- 17" x 10" x 3" with ends 17/5

Chassis for Popular Kits Sets.

Black Crackle Finish Steel drilled Chassis, available for immediate delivery.

- Springtime Portable 11/6
- Fireside Five 12/9
- Minovox 10/6
- 2 J. U. Williamson Amplifier Chassis. Price 18/6
- Multi Talkie Receiver 12/6
- Multi Talkie Power Supply 9/6
- Multi Talkie Vibrator Box 9/9
- Multi Talkie Sub Chassis 4/6

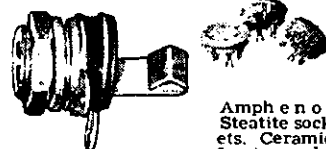


Toggle Switches SPST. As illustrated 1/11.

Special chassis bargain. Steel drilled duocoed chassis for 4 or 5-valve set. As illus only 1/11.

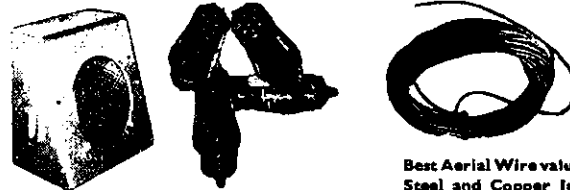


English B.A.I genuine Sapphire Trailer type Needles. Guaranteed 2,000 playings. Only 9/9 each.



Single Circuit phone Jacks. As ill. 2/11.

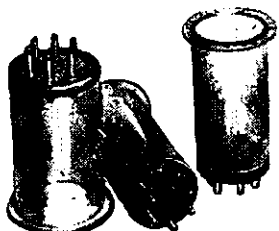
Amphenol Steatite socket etc. Ceramic 5 pin sockets. Suitable for 807's etc. As illus 1/11.



Streamlined steel speaker boxes with brown crackle finish. Suitable for up to 8" speakers. As illus. 28/6..

SUPER VALVE..... BARGAIN.
Type 6K7G Valves (equivalent to 6U7G) Electrically perfect, loose base, only 4/11 each. As illustrated.

Best Aerial Wire value Steel and Copper Insulated Aerial Wire. 50ft. Coils, 1/4 per coll. 100ft. Coils, 2/6 per coll. 1 or 2-mile Drums, £5 per mile.



Polystyrene Pin Formers 6-pin 1 1/4" diam 3/3 6-pin 1 1/2" diam. 3/5.



While They Last! The new English Shefi High fidelity moving coil pick-up, complete with matching transformer as illustrated. No Pre-amplifier required. Price only £4/19/-.

Polystyrene test probe- for vacuum tube voltmeter. As illus. 9/6. Type EA50 Diode for use with probe 16/-

GR type knobs as illustrated 3" diam. 7/6; 2" diam. 2/6

You will need this valve for your Television Set. Type EF50 as illus. 16/-ea.



Ceramic Imported 9-pin lockal sockets for EF50 valves, as illus. 3/- ea

Country and Interstate clients add freight or postage



Brass 1/4" to 1/2" extension shafts. As ill. 10d.

290 Lonsdale Street, Melb. Cent. 4311

A HIGH STABILITY, V.F.O.

BY ERN MARSTELLA,* VK2AEZ

Some months ago a new type of oscillator, known as the "Clapp," was featured in "QST," for which very high stability was claimed, and as this oscillator appeared to have good possibilities, the Writer decided to build up a v.f.o. incorporating it, and check its performance.

On completion of the v.f.o., and with the necessary adjustments, it was found to be equal, and in some cases better than some crystals for stability, staying in zero beat with a local b.c. station for four hours. It was then decided the unit was the "answer to a Ham's prayer"—variable frequency with crystal stability, that is not an idle boast.

Another feature of the oscillator is that after allowing a minute or so for tube warm up, it can be used immediately, without any trace of drift. This is an important point, if the Transmitter is put on the air at short notice, when chasing that elusive new country.

Only one fault appeared when the v.f.o. was first put into operation. A faulty 6J5 caused the frequency of the oscillator to jump and drift, but on replacing the tube the trouble vanished.

It is important to remember there is more in building a v.f.o. than putting the necessary components together, so a word of warning to those who wish to build a v.f.o. for the first time.

Variable condensers tuning the oscillator must be good, no backlash, end play, slackness in the bearings, etc. Coils should preferably be air wound, and held together with cemented strips. If formers are used, they should be ribbed and the material used in their construction should be non-porous. Fixed condensers should be silver mica, but these are not readily available here. Mechanical and electrical stability are vitally important, and all wiring should be in heavy gauge wire, and all components rigidly mounted. If we all took more trouble to watch our components, wiring, etc., we would benefit much from it.

The Writer was fortunate in having an American "Cardwell" condenser, with straight line tuning, which had very good bearings, and was double spaced, the plates being of very heavy gauge aluminium.

Referring to the schematic diagram, it will be seen that the oscillator resembles that of the Colpitts, feedback being controlled by the ratio of C4 to C5, and differs from normal methods of

feedback inasmuch as the circuit uses capacity instead of inductance. Frequency is determined mainly by L1, C1, C2, C3 in series, in parallel with the resultant of C4 and C5 in series.

To locate the band, use all wave receiver, and leaving L1, C4, and C5 unaltered, find its frequency of operation. Then bring the frequency to 3.5 Mc. by adjusting C2 and C3.

The inductance L1 is 16½ turns of 22 gauge enamelled wire, slightly stretched, and close wound on a 1½" ribbed former. Make sure the inductance and condensers are mounted in such a way that they are not effected by heat from nearby components. The grid circuit resonates in the 3.5 Mc. band.

The rest of the circuit is self explanatory. V1, the oscillator, is a 6J5, but a 6SJ7, triode connected, or a 6AC7 also triode connected, operate just as well, although calibration will alter if the valves are changed. It might be a good idea to use a small variable condenser across C1, C2, C3 to adjust for difference in frequency. The output of the oscillator is taken from the cathode to minimise loading effects, thereby reducing the output somewhat. Coupling can be done from the plate in the normal manner, but the cathode method of taking the output was found to be the best.

The second stage uses a 6SK7, or equivalent, and functions as an isolator. It is needed to isolate the oscillator from the power stages, which would react on the frequency of the oscillator if coupled

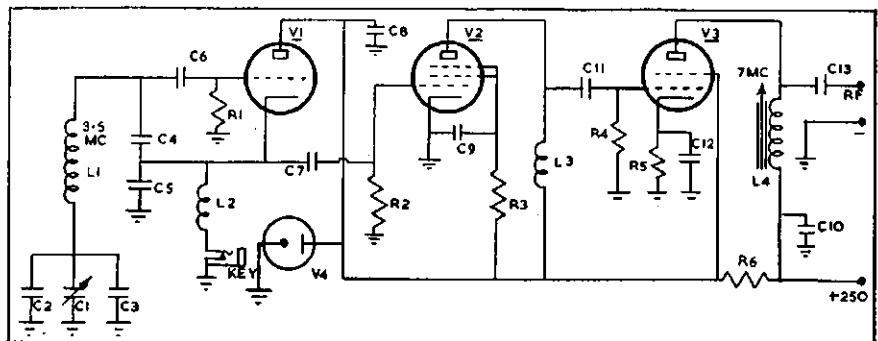
directly to it. Two isolating stages may be used for complete isolation if desired, by adding another identical 6SK7 stage. The output from such untuned stages is small but lessens the chances of frequency change.

The third stage uses a 6V6G as a doubler, doubling from the fundamental frequency of 3.5 Mc. to 7 Mc. The output is tuned by a perma-tuned coil, which has a diameter of 9/16ths, and was originally a short wave coil. The old windings were removed, and the former wound with 34 turns of 32 gauge enamel, close wound, and so placed that the movable iron slug can be varied from right out, to right through the coil. The resonant point is very broad, and when found adjust to the centre of the band. If you care it can be arranged to have normal tuning with a condenser, by bringing the shaft through the front panel, and reducing the turns on the coil slightly so that the circuit will tune to 7 Mc.

Output of the v.f.o. is fed to the crystal socket if a 7 Mc. crystal is used. If the crystal is 3.5 Mc., it would be better to have the plate of the 6V6G untuned (the same as the isolator stage), and feed to the crystal socket in the normal manner. It is advisable to see that the r.f. chokes are different in both plate circuits, otherwise oscillation may occur.

Voltages for the 6J5 plate, 6SK7 plate and screen, and 6V6 screen, are voltage regulated by a VR150/30, but will work quite well without a regulator, as voltage has very little effect on frequency. The voltage on the screen of the 6SK7 should not exceed 80 volts for best results. The supply voltage to the plate of the 6V6G is 250, and the r.f. output compares favourably with the average crystal.

(Continued on page 7)



- C1—100 pF. variable (see text).
- C2—100 pF. silver mica.
- C3—150 pF. " "
- C4—0.001 uF. " "
- C5—0.001 uF. " "
- C6—0.0001 pF. " "
- C7—0.0001 pF. mica.
- C8—0.05 uF. paper.
- C9—0.01 uF. " "
- C10—0.1 uF. " "
- C11—0.0001 pF. mica.
- C12—0.01 uF. paper.
- C13—0.0001 pF. mica.

- R1—100,000 ohms, carbon.
- R2—50,000 " "
- R3—3,000 " w.w., 10 watts.
- R4—100,000 " carbon.
- R5—400 " w.w.
- R6—2,500 " 10 watts.
- R7—VR150/30.
- V1—6J5 (or 6SJ7 as triode).
- V2—6SK7.
- V3—6V6G.
- V4—VR150/30.
- L1—See text.
- L2—2.5 mH. R.F.C.
- L3—2.5 mH. " "
- L4—See text. " "

* Terrigal Road, Erina, N.S.W.

REWINDING D.C. RELAYS

BY A. K. HEAD,* VK3AKZ

If you have collected a variety of relays, working on different voltages, then it is rather difficult to find an economic way of energising them. One way is to have a small metal rectifier per relay and provide the various a.c. voltages necessary. This is quite feasible with the present availability of 100 Ma. rectifiers at a few shillings each in disposals.

A more satisfactory way is the re-wind the relays so as to all work on the same voltage. Then one big metal rectifier can supply the lot; and to make the rewinding easy there is a simple rule for calculating the new winding. All you need do is:—

- (i) Measure the gauge of wire used in the old winding.
- (ii) Mark the depth to which the bobbin is filled by the old winding.
- (iii) Rewind the bobbin to the same depth with the new wire (the gauge of which is worked out as described later). No need to count turns, just wind on

wire until the new winding occupies the same volume as the old.

(iv) The gauge of the new wire can be found from the rule: To double the operating voltage rewind with wire three gauges thinner than the old wire; to halve the operating voltage rewind with wire three gauges thicker than the old wire.

Or if you want to change the voltage in some other ratio, then change the wire gauge as in the following table:—

Voltage Ratio	Change in Gauge
1.3	1
1.6	2
2	3
2.5	4
3.2	5
4	6
5	7
6.3	8
8	9
10	10

(v) When a relay has been rewound by this rule, the current it draws will change inversely as the voltage ratio, e.g., if a 24 volt 50 Ma. relay is rewound to operate on 12 volts, then as the

operating voltage has been halved, the new operating current will be double, i.e. 100 Ma.

To illustrate this method, suppose a 24 volt, 480 ohm relay is to be rewound for 12 volt operation. The wire of the old winding is measured and found to be 28 B. & S. Since we want to halve the operating voltage, it must be rewound with wire three gauges thicker, i.e. 25 B. & S. So the old winding is stripped off and the bobbin rewound to the same depth with the new wire. Originally it drew 50 Ma. so with the new winding it will draw 100 Ma.

If you want to change the voltage in a ratio which is not given in the table, then the nearest entry will be good enough, e.g. in rewinding from 18 volts to 6 volts, changing the wire gauge by five will do.

These rules are only true for enamelled wire—so don't try to use them for silk or cotton covered wires. This is because of the larger volume taken up by these insulations. They also only apply strictly when the gauges are measured in B. & S., but for practical purposes they also apply to S.W.G.

* Assistant Technical Editor, 12 Peverill Street, Balwyn, Victoria.

ELECTRONIC
A&R
EQUIPMENT

QUALITY

A large range of Transformers and Reactors, from Midget Microphone Transformers to 5 K.V.A. Power Transformers, is manufactured at the A. and R. Factory. In addition to our standard range, we specialise in a finish suitable and necessary for use in tropical and sub-tropical areas. Special plant is installed for this purpose, and enquiries are invited from manufacturers and Government Departments concerned with tropical equipment. Write or phone to-day for further information.

Write for the Latest Illustrated Catalogue

A&R Electronic Equipment Co. PTY. LTD.

1 LITTLE GREY STREET, ST. KILDA, MELBOURNE, VICTORIA.

Phone : LA 3657

IONOSPHERIC PREDICTIONS FOR THE AMATEUR BANDS

APRIL 1949

The accompanying charts have been prepared by the Ionospheric Prediction Service of the Commonwealth Observatory. The first set of the series was published in the November, 1948, issue of this magazine, together with an article explaining the nature of the forecasts and how to use them. Nine of the charts, prefixed by the letter "C" for Canberra, refer to forecasts for the South-Eastern Australian States. The remainder, prefixed by the letter "P" for Perth, are for Western Australia.

These charts refer to the following world zones:—

Zone	Region	Terminal
1	Western Europe	London
2	Mediterranean	Cairo
3	N.-West America	San Francisco
3a	N.-East America	New York
4	Central America	Barbados
5	South Africa	Johannesburg
6	Far East	Manila

The forecasts have actually been prepared for point-to-point circuits between either Canberra or Perth and the overseas terminals mentioned in the above table. It is, however, to be expected that the charts will provide an approximate indication of ionospheric conditions for all Amateur contacts from South-Eastern Australia and from Western Australia to the various world zones. No forecasts are given from Perth to zones Z2 and Z4 for the current month. Chart P-Z2 would be essentially similar to P-Z1 while chart P-Z4 would be unreliable due to auroral activity in high northern latitudes.

USE OF CHARTS

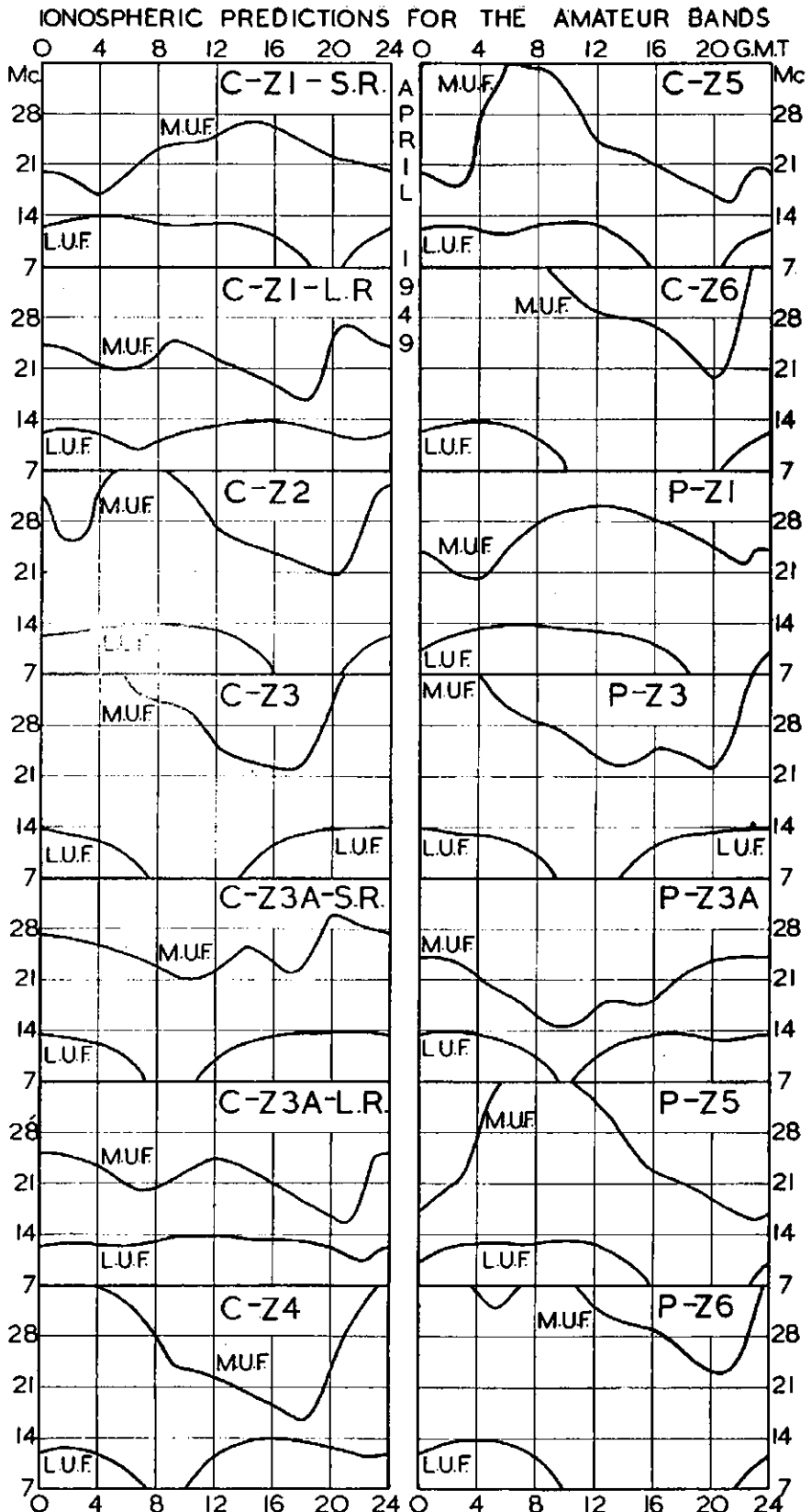
All that is necessary in using the charts is to select a time (G.M.T.) during which a specified Amateur band frequency is below the maximum usable frequency (m.u.f.) of the F region of the ionosphere but above the lowest useful frequency (l.u.f.) for the desired contact. In two cases, zones 1 and 3a, it is necessary to consult both the short-route (s.r.) chart and the following long-route (l.r.) chart.

QUIZ

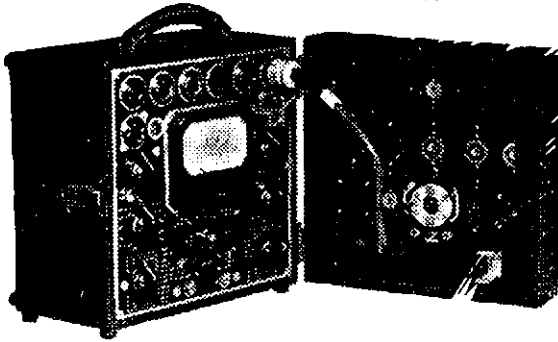
The Prediction Service welcomes comments on the accuracy of its predictions. In particular answers to the following questions on the Canberra-Cairo circuit for April would be useful.

1. Was the 28 Mc. band open consistently during the periods 0400 to 1200 hours and 2200 to 0100 hours G.M.T.?
2. Was the 14 Mc. band open, but noisy, from midnight to noon G.M.T.?
3. Were conditions good on the 14 Mc. band throughout the period 1500 to 2300 hours G.M.T.?

Answers to the Quiz should be sent to the W.I.A. and should, if possible, refer to consistent results obtained on the majority of days in the month.



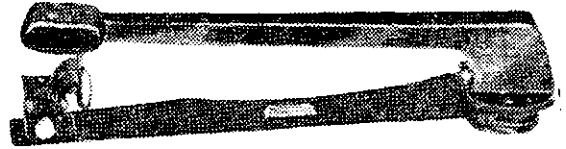
VEALLS for All Radio Requirements



TRANPRO VALVE AND CIRCUIT TESTER.

The compact convenient Tester for Radio Servicers and Experimenters Reads milliamperes, D.C. and A.C. volts, output volts and tests resistors, condensers and valves. £32/19/6 (plus tax). Easy terms available.

PRODUCE AND RECORD YOUR OWN SHOW with the BRS Junior Home Recorder! Just imagine the fun producing and recording your own radio show at home. The "BRS" Home Recorder enables you to cut your own recordings or record your favourite radio programme direct from the receiver. At Vealls NOW, £48.



LEXINGTON PICK-UPS

This English moving coil pick-up gives full reproduction of the total audio frequency range. Complete with transformer screening box and sapphire needle. Attractively priced at: 12in. £11/8/10; 16in. £12/10/10.

"TECNICO" LOW-PRESSURE CRYSTAL PICK-UPS

Model FL 48. Replaceable needle pick up for general use, £5/4/-.
Model FP 8. Crystal pick-up with built-in sapphire stylus £6/9/-.
B.A.1 Sapphire Play-back Needles. Give 2,000 playings! 9/9 each.
BLANK DISCS available! 10in. 6/6; 12in. 8/6.

VEALLS

243 SWANSTON ST., MELBOURNE. FJ 3145.

299 CHAPEL ST., PRAHRAN. LA 1605.

Associated with ARTHUR J. VEALL Pty. Ltd., Est. 1911.

FOUNDATION OF A GOOD AMPLIFIER

TYPE	CT	WINDING	IMPEDANCE
LINE	10	20	1000
LINE	10	30	1500
LINE	10	40	2000
LINE	10	50	2500
LINE	10	60	3000
LINE	10	70	3500
LINE	10	80	4000
LINE	10	90	4500
LINE	10	100	5000
LINE	10	110	5500
LINE	10	120	6000
LINE	10	130	6500
LINE	10	140	7000
LINE	10	150	7500
LINE	10	160	8000
LINE	10	170	8500
LINE	10	180	9000
LINE	10	190	9500
LINE	10	200	10000

Acclaimed by users everywhere, Trimax Transformers are constructed from finest materials — and feature high Permeability, Nickel Iron Alloy heat treated for optimum results. Available in Line to Line, Line to Grid, Plate to Line, Interstage, Single and Push Pull types.

TRIMAX Transformers

29-35 FLEMINGTON ROAD, NORTH MELBOURNE VIC.
(DIVISION OF CLIFF & BUNTING PTY. LTD.)

PARALLEL CATHODE MODULATION

Some Light On A Little-Known System

BY GORDON N. HARLEY,* VK4GH

The Modulator here described has aroused very favourable comment from stations contacted and so many requests for detailed information have been received, that it was thought best to present it through the pages of "Amateur Radio."

This method of modulation is of particular interest to the c.w. man who wants to use phone occasionally, for no expensive equipment is needed and most of the parts will be found lying idle in any Ham shack. At the same time it is worthy of permanent installation in a purely phone transmitter, for excellent quality is obtainable with ample percentage of modulation.

CIRCUIT The system gets its name from the fact that the modulator tube and the r.f. tube are in parallel across the modulation choke. It is, in effect, an application of the familiar "cathode follower" system of coupling, and possesses two outstanding advantages. Firstly, because the cathode impedances of the two tubes are almost the same, no matching transformer is needed; all that is required is a good audio choke capable of carrying the sum of the plate currents.

Secondly, because the cathode coupled modulator tube operates with approximately 100 per cent. degenerative feedback, distortion in this stage is greatly reduced. Because of this degenerative feedback the grid swing needed on the modulator tube is quite high, and an extra stage of voltage amplification may be needed. This slight disadvantage is more than offset, however, as the cost of a voltage amplifier is well below that of a 25 to 50 watt modulator.

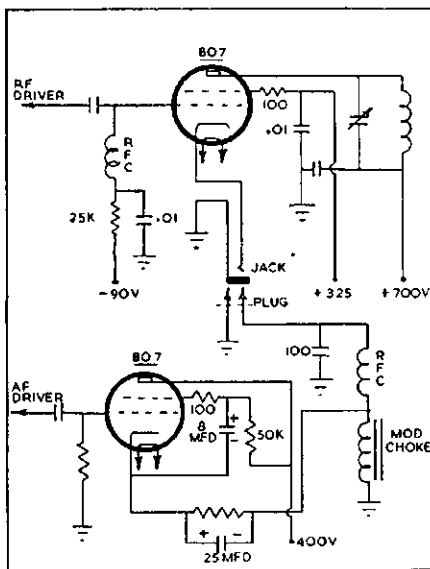
There is a further advantage—the modulator may be used with any of several final stages, simply by plugging it into the keying jack in the cathode circuit.

OPERATING DATA For greatest efficiency the r.f. stage should be run at the maximum plate voltage set down for Class C telegraphy. Grid bias, which should be at least three times cut-off for the plate voltage used, may be obtained from batteries, grid-leak, cathode resistor, or any combination of these. The total bias must be by-passed for audio; here the by-pass condenser is 0.01 uF. mica type.

In deciding the safe plate input for a single tube, take the maximum rating given for plate dissipation for any class of service (usually class-B r.f. amplifier or grid modulated conditions) and multiply by 2.2; permissible plate current is then easily calculated. This input assumes correct adjustment throughout the r.f. final stage; preliminary tuning should always be done at reduced plate voltage.

R.F. excitation power should be at least 5 per cent. of the final plate input. The power supply of the r.f. driver must be well filtered; failure to achieve this result will cause grid modulation of the final at the ripple frequency.

Audio power required is 10 per cent. of the r.f. final input. Here an 807 is used, as shown in the diagram, but any



triode, tetrode or pentode (or several in parallel) may be used, provided the power output is sufficient. If a tetrode or pentode is used, the 8 uF. by-pass condenser from screen direct to cathode (NOT earth) must be included.

In tuning it will be found that comparatively heavy antenna loading is needed, or the positive modulation capability of the r.f. stage will not be sufficient when excitation is increased until the tube draws calculated plate current. If the antenna loading is too heavy for a given plate current, the efficiency will suffer with consequent overheating. Antenna coupling should be increased until 100 per cent. modulation capability is obtained with normal plate current, but not beyond this point. Grid current will vary according to the type of tube used as r.f. final. Modulation capability may be improved in some cases by reducing grid drive.

PRACTICAL APPLICATION The maximum plate dissipation of the 807 is given as 30 watts, which multiplied by 2.2 gives 66 watts as the permissible plate input; maximum plate voltage for Class-C telegraphy is shown as 750 volts. However, it was decided to keep below these limits, and the following are operating voltages and currents as used here.

R.F. Final—Plate volts 700, plate

current 85 Ma., screen volts 325, control grid volts —175, grid current 2.5 Ma. The bias is made up of 62.5 volts from grid leak, 90 volts from batteries and 22.5 volts from drop across the modulation choke. The screen voltage is a little high, but no overheating occurs.

Modulator—Plate volts 400, plate current 32 Ma., screen volts 225, control grid volts —22.5 (drop across choke).

As used here the cathode resistor for the modulator is not necessary, as the drop across the choke holds the plate current down. Should greater modulator bias be found necessary, a resistor of appropriate value may be inserted as shown to make up the difference between the drop across the choke and the required voltage.

The r.f. choke and by-pass condenser in the "hot" lead from the modulator were found necessary here because quite a lot of r.f. was coming in via this lead.

Should any reader have queries, the Writer will do his best to assist on receipt of a stamped envelope.

A HIGH STABILITY V.F.O.

(Continued from page 3)

If you have taken every care with the building of this unit, you should have no trouble from instability, and after it is adjusted, allow to run for a period against some crystal oscillator of known stability, adding positive or negative co-efficient condensers across C1, C2, C3, if necessary, and finally check the tone of the note compared to the crystal. If break-in keying is preferred, this unit will follow very nicely. Insert the key in the cathode lead of the oscillator, from the bottom of L2 to earth. The final step is to resonate the 6V6G plate tank.

This v.f.o. has been in use on 14 Mc. since November, 1948, and over 200 DX contacts have been made, and except for the period when the oscillator tube was faulty, every report has been T9 and T9X; to sum up, the Writer is more than pleased with the performance of the unit.

Now for a word of warning for newcomers to v.f.o. operation:—

1. Make sure you are always in the band.
2. When you have finished a DX QSO, shift your frequency if you have called that station.
3. Never wander over every Kc. of the band if you are not getting out unless you are sure you are being QRMed—it may be conditions.
4. Never put the whole transmitter on the air when "v.f.o.-ing" near the DX station's frequency. Use a separate power supply for the v.f.o., and adjust the v.f.o. to frequency only.

* 208 John St., Maryborough, Qld.

Crystal Controlled Transmitter For 144 Mc.

BY J. COULTER,* VK5JD

This transmitter should find favor with those interested in v.h.f. and who failed to draw an SCR522 from the disposals "lucky dip."

With the exception of the 832, all parts are readily available and reasonably cheap. Quite good results may be had without the 832. Substitute a pair of RL7s and it is still possible to put a very respectable signal on the band.

Very little information regarding the RL7 was available. The circuit values specified are the result of "cut and try." It is possible that further experiment would result in greater efficiency. However, neither tube is working above the recommended plate dissipation rating.

Inspection of the circuit diagram will show that it is quite a straight forward four stage transmitter but careful construction is necessary if optimum results are to be obtained.

The chassis measurements are 17" x 6" x 6". Neither knobs or dials are used—all tuning being done with a screw driver, to ensure a compact layout.

The crystal oscillator is located on the left hand end of the chassis, with

* 49 Farnham Rd., Ashford, South Aus.

both cathode and plate coils mounted below. Whilst the circuit diagram shows the suppressor at a positive potential, this may not be necessary. (This arrangement is the remains of early efforts to take off the sixth harmonic and delete one stage.) Tuning is quite normal and is adequately covered in the Handbook. Crystals used are in the 8 Mc. to 8.2 Mc. region. The plate circuit of the 6AC7 oscillator being tuned to the third harmonic of the crystal.

The RL7 tripler stage follows, being placed as closely as possible to the oscillator plate tank as "lead length," or rather the lack of it, becomes important at these frequencies. No difficulties should be experienced with this stage.

The doubler stage, which also employs the RL7, gave the most trouble. The coupling between stages is most critical. Optimum spacing of grid circuit and previous plate appears to be about 1½", and the grid current will be 6 Ma. The Eddystone r.f. choke is also critical. The actual inductance is 5.32 uH. and they are readily available and should be used if best performance is to be obtained. Plate tank and condenser are mounted above the chassis but this is mainly for convenience in further experiments. There should be no reason against

mounting below as the plate circuit is at twice the frequency of the grid circuit.

The p.a. is mounted on a vertical shield which, together with the recommended socket, provide adequate isolation between the plate and grid circuits. Should another type of socket be used, it will be necessary to space the socket from the shield. The spacing must allow the tube to protrude through the shield to the level of the tube's internal shield to obtain the same degree of circuit isolation. This appears to be the only constructional precaution.

Having completed the wiring of the transmitter, filament voltage should be applied to all stages and checked. Commencing with the oscillator, apply h.t. and tune, stage by stage to the grid of the p.a. With the p.a. grid drawing 3 or more milliamps, apply reduced plate and screen voltage to the 832. If the grid current drops, the shielding is insufficient or the stage needs neutralising. The latter is easily accomplished with two pieces of wire, fed through the shield from grids to opposite plates. The wires may be cut or spaced until neutralisation is effected. With the tube

McGILL'S (Est. 1860)

OVERSEAS AND LOCAL POPULAR MAGAZINES
OBTAINABLE ON SUBSCRIPTION

AMERICAN . . .

Audio Engineering, £1/12/-; C.Q., £1/12/-; Communications, £1/4/-; Electronics, £7/6/-; Popular Science, £1/5/-; Popular Mechanics, £1/8/-; Q.S.T., 33/6; Radio News, £1/12/-; Radio Electronics, 29/6; Science Digest, 24/-; Science and Mechanics, £1; U.S. Camera, 26/-.

ENGLISH and AUSTRALIAN . . .

Australian Radio World, 16/-; Amateur Radio, 6/-; Electronic Engineering, £1/12/6; Radio and Hobbies, 12/-; Radio and Science, 12/-; Shortwave Magazine, £1/7/6; Wireless World, £1/12/6; Wireless Engineer, £2.

(Add exchange to country and interstate cheques.)

Large Range of Technical Books, Stationery and Novels on Display.

Mail Orders by Return Post.

McGill's Authorised Newsagency

183-185 ELIZABETH STREET, MELBOURNE, C.I., VICTORIA.

(The G.P.O. is opposite)

M 1475-76-77

stabilised, the plate input may be run up to the rated value of the 832 or 832A.

Whilst the transmitter is mainly used for telephony, it has been keyed for c.w., quite satisfactorily. Screen keying of the two RL7s was the method used, with a small battery to bias the 832 (45 volts).

Coupling to the antenna will vary with the type of feed line in use. It is recommended that the coupling be tuned as outlined in "QST," August 1947. This is far superior to the method usually adopted—"poke a piece of flex in until she draws."

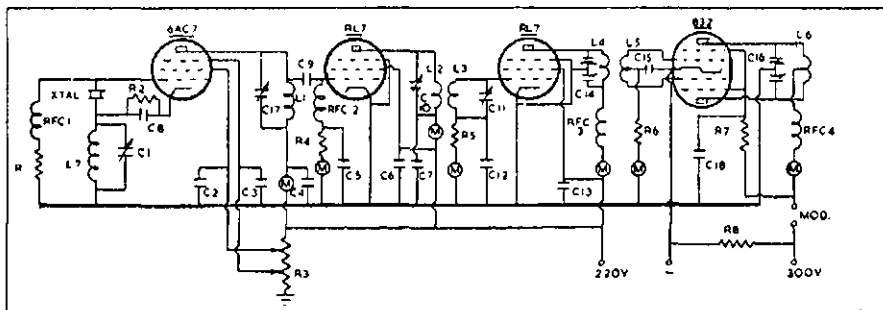
Voltages and currents of the various stages are:—

	Volts	Ma.
Oscillator plate	220	10
Tripler plate	220	—
Tripler grid	—	4
Doubler plate	220	24
Doubler grid	—	6
P.A. plate	300	42
P.A. grid	—	2.5

Note.—RL7 screens are operated at the same potential as the plate. In the final set-up the oscillator and tripler plate currents are not read. They are adjusted to manufacturer's rating and the meter removed. Grid current of the following stage is checked to indicate resonance.

The screen by-pass C18, shown in the diagram, is not always necessary at 144 Mc. A small screen by-pass is built into the 832 to obtain symmetry and minimum of lead inductance, and will be adequate in some cases (e.g. 522 transmitter). The R.C.A. socket UT107 has screen and filament by-passes as an integral part of the socket, or if this socket is not available, an ordinary socket with a by-pass of 500 pF., wired directly across the socket pins with the shortest possible lead length, would be satisfactory.

VK5GF has commissioned a similar transmitter, but is using EF50s in place of the RL7s with equally good results. The coil data given would probably vary slightly with the change of tubes, however.



- C1—75 pF. variable.
- C2, C3, C4, C5—0.01 uF.
- C6, C7—0.0009 uF.
- C8—0.001 uF.
- C9—50 pF.
- C10, C11—25 pF. variable.
- C12, C13, C15—500 pF.
- C14—25/25 pF. split stator.
- C16—9/9 pF. split stator.
- C17—40 pF.
- C18—See text.
- R1—50,000 ohms.
- R2—200 ohms.
- R3, R8—20,000 ohms V.D.
- R4, R6—20,000 pF.
- R5—16,000 ohms.
- R7—20,000 ohms, 2W.
- RFC1, RFC2, RFC3—Four pie, R.C.S.
- RFC3, RFC4—Eddystone v.h.f. type.

- L1—10 turns 14 g. bare copper, 3/4" diam., 1 1/8" long.
 - L2, L3—3 turns 14 g. bare copper, 3/4" diam., 3/4" long.
 - L4—Hair-pin, 3" long, 1 1/2" wide.
 - L5—Hair-pin, 3" long, spacing adjusted to obtain required grid Ma.
 - L6—4 turns 10 g. copper, 3/4" diam., 1 1/2" long.
 - L7—11 turns 18 gauge enamel, 3/4" diam.
 - RL7 Socket Connections†—
 - 1, 7, 8—Earthed to one side of socket mounting bolt.
 - 2—Plate.
 - 3—Screen by-passed to 4 and 5.
 - 4, 5—Earthed to other mounting bolt.
 - 6—Grid.
 - 9—Filament.
- Key-way in line with pin No. 1.
- † For further details on RL7 refer to "Amateur Radio," November, 1946, page 8.

HARMONIC REDUCTION WITH STUBS

Hams who are having trouble with harmonic radiation sometimes can make a substantial reduction in the amplitude of even-harmonic radiation by connecting the open end of a shorted quarter-wave stub to the antenna feeders or transmission line.

The function of such a stub is to present a short-circuit to all even-multiple harmonics of the transmitted frequency, while presenting a high impedance to the fundamental. Thus the stub causes no detuning or power loss, but eliminates the even-multiple harmonics.

The stub may be connected at any point along tuned or untuned transmission lines of either the parallel wire

or the co-axial type. A "T" connector will be necessary for tapping into co-axial lines.

If the transmission line is being used for more than one frequency band, the stub line may be made long enough for the lowest-frequency band used, and a shorting bar may be used to set the stub length to the proper position for each band. Continuous protection from lightning and static charges may be obtained by grounding the shorted end of the stub, and it will not be necessary to remove this ground during operation. —"QST," December, 1948.

Low Drift Crystals

FOR

AMATEUR BANDS

ACCURACY 0.02% of STATED FREQUENCY

3.5 M/C and 7 M/C

Unmounted .. £2 0 0

Mounted .. £2 10 0

12.5 and 14 M/C Fundamental Crystals, "Low Drift" Mounted only £5.

Spot Frequency Crystals
Prices on Application

Regrinds .. £1 0 0

THESE PRICES DO NOT
INCLUDE SALES TAX.

Maxwell Howden

15 CLAREMONT CRES.,
CANTERBURY, E.7.

1949 Trans - Tasman Contest

RULES

1. The Contest will commence at 0400 hours G.M.T. on Saturday, 4th June, and continue until 0200 hours G.M.T. on Sunday, 5th June.

2. The Contest will be divided into three sections, namely, Phone, C.W. and Open. The Open Section will be a combination of both Phone and C.W. operation. A contestant may enter for each or all sections provided a separate log is submitted for each section entered.

3. Operation may be on any of the licenced Amateur bands, but transmissions will be in accordance with the Regulations existing in each country.

4. A six number serial group must be exchanged before any points can be claimed. The first three numbers, chosen by the entrant station, shall be retained throughout the Contest. The second three numbers will commence with 001 for the station's first contact, 002 for the second contact and so on.

5. A station may be operated by more than one operator, provided a separate log is entered by each operator.

6. SCORING.—Three points can be claimed for each complete exchange of numbers. The total points will be multiplied by the number of ZL districts worked on each band in the case of VK stations, and the total number of VK districts worked on each band in the case of ZL stations. For the purpose of this contest, the prefixes VK2, VK3, VK4 etc. will constitute districts, except VK5s in Darwin which will not constitute a separate district. ZL prefixes will likewise count as multipliers for VKs.

7. LOGS.—A log showing, in the following order: the Date, Time (G.M.T.), Station Worked, Band Used, Number Sent, Number Received, and Points Claimed and a Summary at the end must be forwarded to Box 2611W, G.P.O., Melbourne, to reach the Contest

Committee not later than the 4th July, 1949. The envelope should be endorsed "Trans-Tasman." The log must be signed by the operator and include a statement that he has complied with the Regulation of his country. The input to the final stage of the transmitter will also be shown.

8. AWARDS.—Attractive Certificates will be awarded in each Section to the outright winners in Australia and New Zealand, and also to the winners of each Section in each District of Australia and New Zealand. The outright winners will not be eligible for the District awards. Further District certificates in each Section may be awarded at the discretion of the Contest Committee.

9. Notwithstanding anything contained in the Rules, the Contest Committee of the W.I.A. shall have the power of final decision in all matters of dispute or breaches of these Rules.

Results of 1949 National Field Day Contest

It is pleasing to note that this year greater interest was shown in this Contest and the comments of those who went out with portable equipment augers well for the 1950 Contest. However, still more interest could be taken, for it is an effective way of trying out that portable gear that may be required for some sudden emergency. Congratulations to the Section winners this year, who in most cases did a good job under somewhat trying conditions.

The C.W. Section winner, VK3UM/3UH, did the trick for the second year in succession and ran up the best score of the Contest. They journeyed to the same location again. One Tree Hill in the Dandenongs and equipment consisted of a Type 3 Mark II. with 15 watts on 7 and 14 Mc. and a 6J5-6L6 rig with 30 watts on 28 Mc. Unfortunately 28 Mc. was not open and no contacts were made. The Eddystone S640 no doubt, contributed largely to their good score, as well as the long wire and 3 element rotary for 28 Mc. Continents worked were Oceania, North America, Europe and Africa on 7 Mc., and Oceania, Europe and Asia on 14 Mc.

The Phone winner, after a difficult start in a gale, ran up a very good score with only 7 watts into a four stage rig ending in a 1625. This party VK7SK/SJ, used a Phillips' bandswitched receiver and a 120 feet per leg. vee beam which helped them to contact the greatest number of stations. They worked Oceania, North America and Asia on 14 Mc.

The Open winner, party VK4HR/RT

(old hands on v.h.f. field days), went properly prepared complete with three stage transmitter using an 832 with 18 watts c.w. and 14 watts phone on 14-28-50 Mc., and a BC459 with 30 watts on 7 Mc. The receivers were a BC348 on 7-14 Mc., 10 valve home-built on 14-28 Mc., and a modified SCR522 on 50 Mc. Antennae consisted of dipoles on 7 and 14 Mc., folded dipole on 28 and two element rotary on 50 Mc. They worked Oceania on 7 Mc.; Oceania, Asia, Africa, and North America on 14 Mc.; and North America on 28 Mc.

There is some talk among the N.F.D. boys of hiring caravans next year! It would appear they may need them to keep up with Tibby. To the other entrants, we say "Thank You" for forwarding the logs.

SCORES

C.W. Section

VK3UM/3UH	2	28	7	269	Pts.
VK4HR/4RT	3	20	6	224	"
VK2PA/2SH/2ASF	3	21	6	219	"
VK4JA/4RC/4EL	2	20	5	178	"
VK3ADB/3YS	3	13	4	133	"

Phone Section

VK7SK/7SJ	1	53	3	224	Pts.
VK3ADB/3YS	3	31	5	185	"
VK3AN/3VC	3	23	4	157	"
VK3LN/3TF	2	13	3	103	"
VK4HR/4RT	3	7	2	77	"

Open Section

VK4HR/4RT	4	27	6	251	Pts.
VK2PA/2SH/2ASF	3	27	6	243	"
VK3ADB/3YS	3	43	5	218	"

Figures above represent in the following order: Bands worked, contacts, continents worked, and total score.

AMATEUR RADIO

For the Experimenter
and Radio Enthusiast.

RADIO SERVICEMAN WANTED

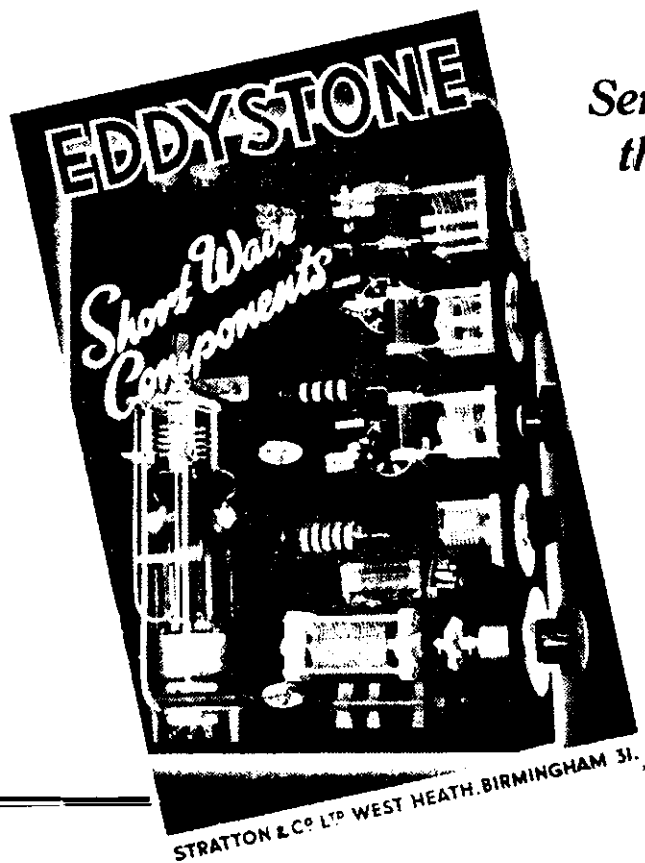
Competent with Electric and
Battery Sets

A good position for keen man
in good town

HARDINGE BROS. Pty. Ltd.

Box 201, HORSHAM

FREE - NEW 1949 CATALOGUE OF WORLD-FAMOUS EDDYSTONE COMPONENTS



Send NOW for your copy of this invaluable Catalogue

This new 1949 Eddystone Catalogue will prove of great assistance to all experimenters. It provides full details of world-famous Eddystone Components — those precision-built components that give you the best service possible for as long as possible, without any trouble, without any further cost.

Now Available from your local Distributor

- VICTORIA: J. H. MAGRATH & CO., 208 Little Lonsdale St., Melbourne.
- N.S.W.: JOHN MARTIN PTY. LTD. 116-118 Clarence St., Sydney.
- N.S.W.: GEO. BROWN & CO. PTY. LTD., 267 Clarence St., Sydney.
- N.S.W.: PRICES RADIO, Angel Place Sydney.



- Q'LAND: CHANDLERS PTY. LTD., Cnr. Albert & Charlotte Sts. Brisbane
- WEST AUST.: CARLYLE & CO. LTD. Hay St., Perth & 397 Hannon St., Kalgoorlie.
- S.A.: GERARD & GOODMAN LTD., 192-196 Rundle Street, Adelaide.
- TAS.: W. & G. GENDERS PTY. LTD. 53 Cameron St., Launceston. (Also at Hobart).

N.S.W. Factory Representative :

J. B. CHANDLER Pty. Ltd., 116-118 Clarence St., Sydney.

Australian Factory Representative: R. H. CUNNINGHAM & CO., 420 William St., Melb. C.I.

FEDERAL, QSL and



DIVISIONAL NOTES

Federal President.—W. R. Gronow, VK3WG; Federal Secretary.—W. T. S. Mitchell, VK3UM, Box 2611W, G.P.O., Melbourne.

NEW SOUTH WALES

Secretary.—Dick Dowe (VK2RP), Box 1734, G.P.O., Sydney.

Meeting Night.—Fourth Friday of each month at Science House, Corner Gloucester and Essex Sts., Sydney.

Divisional Sub-Editor: H. F. Treharne, VK2BM, 5 Waimea St., Burwood.

Zone Correspondents.—North Coast and Tablelands: P. A. H. Alexander, VK2PA, Hill St., Port Macquarie; Newcastle: E. J. Baker, VK2FP, 13 Skelton St., Hamilton, Newcastle; Coalfields and Lakes: H. Hawkins, VK2YL, 27 Comfort Ave., Cessnock; Western: G. J. Russell, VK2QA, 116 Bogan St., Nyngan; South Coast and Tablelands: R. H. Rayner, VK2DO, 42 Pettit St., Yass; Southern: E. N. Arnold, VK2OJ, 673 Forrest Hill Ave., Albury. Western Suburbs: A. C. Pearce, VK2AHH, 42 Harrabrook Ave., Five Docks, Eastern Suburbs: H. Kerr, VK2AX, No. 4 Flat, 144 Hewlett St., Bronte, North Sydney; L. D. Cuffe, VK2AM, 779 Military Rd., Mosman, St. George; J. A. Ackerman, VK2ALG, 32 Park Rd., Carlton, South Sydney; V. H. Wilson, VK2VW, Cr. Wilson St. and Marine Pde., Maroubra.

VICTORIA

Secretary.—C. C. Quin, VK3WQ.
Administrative Secretary.—Mrs. O. Cross, Law Court Chambers, 191 Queen St., Melbourne, C.1.

Meeting Night.—First Wednesday of each month at the Radio School, Melbourne Technical College.

Zone Correspondents.—North Western: B. R. Mann, VK3BM, Quambatook; Western: C. C. Waring, VK3YW, 12 Skene St., Stawell; South Western: B. Sestrine, VK3BI, 17a Reglan Street North, Ballarat; North Eastern: J. A. Miller, VK3ABG, "Erinvale," Avenale; Far North-Western Zone: Harry Dobbyn, VK3MF, 42 Walnut Ave., Mildura; Eastern Zone: J. D. Chilver, VK3DI, 20 Smith St., Leongatha.

QUEENSLAND

Secretary.—W. L. Stevens, VK4TB, Box 638J, G.P.O., Brisbane.

Meeting Night.—Last Friday in each month at the State Service Building, Elizabeth St., City.

Divisional Sub-Editor: F. H. Shannon, VK4SN, Minden, via Rosewood.

SOUTH AUSTRALIA

Secretary.—E. A. Barbier, VK5MD, Box 1234K, G.P.O., Adelaide.

Meeting Night.—Second Tuesday of each month at 17 Waymouth St., Adelaide.

Divisional Sub-Editor.—W. W. Parsons, VK5PS, 483 Esplanade, Henley Beach.

WESTERN AUSTRALIA

Secretary.—W. E. Coxon, VK6AG, 7 Howard St., Perth.

Meeting Place.—Padbury House, Cnr. St. George's Ter. and King St., Perth.

Meeting Night.—Watch the Monthly Bulletin.

Divisional Sub-Editor.—VK6AWT, Mr. D. Couch, Mary Street, Watermans Bay, W. Australia.

TASMANIA

Secretary.—J. Brown, VK7BJ, 12 Thirza St., Newtown, Telephone: W 1328.

Meeting Night.—First Wednesday of each month at the Photographic Society's Rooms, 163 Liverpool St., Hobart.

Divisional Sub-Editor.—Capt. E. J. Cruise, VK7EJ, Anglesea Barracks, Hobart.

Northern Correspondent.—C. P. Wright, VK7LZ, 3 Knight St., Launceston.

WI BROADCASTS

All Amateurs are urged to keep these frequencies clear during, and for a period of 15 minutes after, the official Broadcasts.

VK2WI.—Sundays, 1100 hours EST, 7196 Kc. and 2000 hours EST, 50.4 Mc. No frequency checks available from VK2WI. Intra-State working frequency, 7175 Kc.

VK3WI.—Sundays, 1130 hours EST 7196 Kc. Individual frequency checks of Amateur Stations given when VK3WI is on the air.

VK4WI.—Sundays, 0930 hours EST simultaneously on 3750 Kc., 7190 Kc., 14,342 Kc., 52.4 Mc. and 144.138 Mc. Frequency checks are given two nightly weekly, and the times are announced during Sunday broadcasts. 7010 Kc. channel is used from 1000 to 1030 hours each Sunday as VK4 query service to 4WI.

VK5WI.—Sundays, 1000 hours EAST on 7196 Kc. Frequency checks are given by VK5DW on Friday evenings on the 7 and 14 Mc. bands.

VK6WI.—Sat. 2 p.m. Sun. 9.30 a.m. W.A.S.T between 7000 kc. and 7200 kc. No frequency checks available.

VK7WI.—Second and Fourth Sundays at 0930 hours EST on 7174 Kc. No frequency checks are available.

FEDERAL

DX C.C. NOTES

By the time this appears in print, most of the DX C.C. stickers endorsing additional confirmations of 20 countries, will have been issued to those entitled to them.

PHONE

	Zones	Countries
VK3JD (26)	33	121
VK6RU (27)		109
VK3BZ (28)		101
VK6KW (34)		101

O.W.

	Zones	Countries
VK3CN (8)	40	186
VK3VW (12)	39	127
VK3HZ (14)	39	127
VK3EK (10)	39	122
VK2EO (7)	40	116
VK4EL (24)	39	116
VK4DA (24)	38	113
VK3DL (18)	40	112
VK4HR (22)	38	106
VK3KB (33)		104

OPEN

	Zones	Countries
VK2DI (2)	40	160
VK3EZ (5)	39	153
VK3EK (1)		136
VK3BG (4)	38	136
VK3RU (11)	37	135
VK3JE (18)	39	133
VK3MO (6)	39	132
VK4HR (9)	38	126
VK6KW (18)	39	120
VK4EL (16)	39	116

NEW OPEN MEMBERS

29	VK2HZ	108
30	VK2VN	104
31	VK3OP	108
32	VK2AHH	100

COUNTRIES LIST

Until further notice, the only official prefixes issued in Germany are as follows:—
DL2 instead of D2 (British Zone)
DL4 instead of D4 (American Zone)
DL5 instead of D6 (French Zone)

SILENT KEY

VK2GR

During February New South Wales lost one of its old timers in the passing of Alex Robinson VK2GR. Alex had been sick for many months, but despite this fact, was a very active 20 metre phone man until his untimely end. He will be best remembered for the assistance he gave to the many beginners in the Western Suburbs of Sydney and many Amateurs today owe their tickets to his efforts. A member of the Gladsville Radio Club, his main diversion was to contact his Q friends and bring back memories of his youth in England.

Things are still very confused regarding officially licensed stations and as far as is known DA and DK calls are being used by ex-D stations and pirates. It is proposed to issue the other DL prefixes at a later date to these ex-D Hams.
Substitute YK for AR1 prefix for Syria.

SWISS CONVENTION

The following are extracts from a letter from Mr. J. Dobbyn, of the P.M.G.'s Department, who is the Australian representative on the Frequency Board at present sitting at Geneva, Switzerland:—
"I attended the 20th Anniversary of the Swiss Section of the I.A.R.U. which was held at Frieborg on Sunday, 30th January. At the invitation of the International Relations Officer of the Union Suisse des Amateurs (U.S.K.A.), I represented both the P.M.G.'s Department and the W.I.A. as a member of the original committee. It is of interest to mention that five continents were represented at the meeting, and after dinner at the Hotel Suisse, 'VK' was called on for a talk on Amateurs in Australia, which was very well received and great interest was shown in the W.I.A.'s history and development. I was asked to convey the best wishes of the U.S.K.A. to the President and members of the W.I.A."

TRANS-TASMAN CONTEST

Elsewhere in this issue appears the rules of the 1949 Trans-Tasman Contest, a contest held to pro-

mote closer friendship with our near neighbours, the ZLs. This Contest has been put back to the first week in June so that it does not follow too closely on other International Contests. It is only a short contest and does not require endurance or a constitution of iron! We enjoy all VKs that take an interest in Contests to enter, and make it a huge success this year for yourselves and your brother Amateurs in ZL.

FEDERAL CONVENTION

The Annual Federal Convention is being held in the Institute Rooms at 191 Queen Street, Melbourne, commencing at 1400 hours Good Friday, 15th April and concluding at midday Easter Monday, 18th April (we hope!). Any local Amateurs or Interstate visitors are cordially invited to attend any of the sessions during this period, as they will have an opportunity to hear a few of the problems involved in the administration of our Institute.

W.A.S. RULES

We regret that we are at present unable to publish the Rules of the W.A.S. Award due to delays occasioned within the Divisions in preparing for the Federal Convention. The rules, as approved by Federal Council, will be published as soon as possible. Credit will be strictly given in order of the date of working W.A.S., so don't feel you will be not given due recognition of your achievements.

F.I.A.T.S. CHARTS

As a result of a motion put by Federal Council to the Divisions, it has been decided to continue the publication of these charts. How long they continue is up to you as an individual—please let your Federal Council hear your views or suggested improvements. Dr. Green would be deeply appreciative to receive your comments also, so please send them in.

AMATEUR CALL SIGNS

The following list will be the first supplementary list to the new Call Book when it is available. December and January amendment lists will be included in the new publication, which should be easy to amend with its blank interleaves. The P.M.G. are to be complimented on making this facility available to enable members to keep their books up-to-date.

New Issues—

VK1ADS—R. W. Sterrett, National Antarctic Expedition, Macquarie Island.
 1FE—A. R. BURTON, National Antarctic Expedition, Heard Island.
 1VU—R. G. F. Gatt, National Antarctic Expedition, Heard Island.
 VK2AFD—D. J. Fisher, 156 Albany Rd., Petersham.
 2AJR—J. O. Turner, 26 Roberts St., Jannall.
 2AJT—K. F. Pulling, Post Office, Coffs Harbour.
 2AKJ—J. S. Kemp, 34 Irvine Cres., Ryde.
 2AMA—O. L. Weiser, 31a Salisbury Rd., Kensington.
 2AMJ—Miss J. L. Jira, 87 Second Ave., South Liddcombe.
 2ARV—C. H. Archbold, Chittaway Point, via Wyong.
 2ASR—S. W. Graves, 109 Clovelly Rd., Randwick.
 2ATM—T. W. Marks, 11 Woods Street, Manly.
 2AWB—W. J. M. Baillie, 85 Harrow Rd., Bexley.
 2AWF—W. F. Long, 26 Parkham St., Moore Park.
 2AWZ—D. Andrews, 61 Cox's Rd., North Ryde.
 2AYC—Portable of VK2YC.
 VK3ACH—C. W. Smyth, 689 Bell St., W. Preston.
 3ACY—R. C. Fisher, Etiwanda Ave., Mildura.
 3AMD—A. M. Doble, 206 Poath Rd., Hughesdale.
 3AVN—T. F. Webb, 2 Eliza St., Black Rock.
 3AWC—W. J. Currie, 12 Stevedore St., Williamstown.
 3MG—K. W. Jane, 20 Coolgardie Ave., East Malvern.
 VK4BP—A. L. Berry-Porter, Grant St., Atherton.
 4FP—J. F. Pickles, 61 Liverpool St., Clayfield.
 4GA—C. E. Goodall, Cook St., Atherton.
 4JH—J. F. Hanran, 28 Macrossan St., South Townsville.
 4NF—N. F. Berkman, c/o Mrs. Sandall, River Park, Fairfield.
 4PO—P. R. Oliveri, Jatoom, via Innisfail.
 VK5ER—E. J. Risely, 45 Edward St., Brighton.
 51P—L. J. Piessie, 55 Halsbury Ave., Kingswood, Inley.
 51H—R. J. Strachan, Hospital Rd., Port Augusta.
 5RD—B. D. Robertson, 21 North St., Frewville.
 5RY—R. Burgess, c/o Salisbury Hotel, Salisbury.

VK6KU—R. H. Campbell, 16 Doonan Rd., Claremont.
 VK7KA—K. E. Millin, Cr. Minallo Ave. and Lockner St., West Hobart.
 VK9RO—R. M. Ellison, Papuan Missionary School, Bantama, via Port Moresby, P.T.
Alterations—
 VK2ABS—J. W. Howes, 61 Oatley Park Ave., Oatley.
 2ABV—L. Scotland, 28 Figtree Ave., Randwick.
 2ACM—M. Cowan, 35 Dillon St., Paddington.
 2ADB—D. C. Caldwell, 1 Fletcher St., Strathfield.
 2ADG—E. J. Dark, 109 Arbutus St., Canley Vale.
 2ADI—J. B. Williams, 82 Auckland St., Bega.
 2ADK—E. G. Pugh, 308 Morrison Rd., Ryde.
 2AIL—K. L. Finney, Flat 6, "Connell Court," Connell's Point Rd., Sth. Hurstville.
 2AMA—O. L. Weiser, 31a Salisbury Rd., Kensington.
 2AMZ—H. S. Young, Kardella Cres., Narwooc.
 2AOF—H. C. Freeman, 5 Canterton St., Hurlstone Park.
 2AWW—A. W. White, 41 Cahill St., Beverley Hills.
 2EA—L. Martin, Lower Kangaroo Creek, via South Grafton.
 2LC—N. Glasscock, 95 Beaconsfield Rd., Chatswood.
 2OU—A. S. Littlejohn, 3 Emmerick St., Leichhardt.
 2QI—F. T. Hine, 18 Bridge Rd., Homebush.
 2QM—S. C. Broadbent, Cr. Jamieson & Granger Ave., North Curl Curl.
 2RO—A. R. Gray, Lot 65, Jean St., Chullora.
 2SA—W. E. Salmon, 100 Flora St., Kirrawee.
 2ST—W. C. Hall, Oriental Hotel, Cook's Hill.
 2TG—A. T. Goldie, Public School, Mummulgum, via Casino.
 2TT—J. T. Todd, Alan St., Rydalmere.
 2VN—M. H. Meyers, 20 Kardinia Rd., Clifton Gardens, Mosman.
 VK3AAW—A. W. H. Wright, Air and Ground Radio School, R.A.A.F., Ballarat.
 3AC—H. G. Chandler, 6 Carrington St., Pascoe Vale.
 3ADR—A. R. Roy, 23 Pine Ave., Elwood.
 3AFL—F. C. Lambert, 281 Main St., Balmnsdale.

3AFW—R. C. Treson, 36 Yaldwin St., Kyneton.
 3AKC—G. J. Griffiths, 56 Holmes Rd., Moonee Ponds.
 3AMK—H. W. Hannam, "Amfield," Bernborough Ave., Balwyn.
 3ANL—E. L. Blackmore, 240 Auburn Road, Auburn.
 3ARY—R. J. Birks, 706 Main St., Ballarat.
 3AWM—W. R. Moffatt, 2 Maroora St., East Malvern.
 3OW—K. J. Millbourn, 5a Melville St., Hawthorn.
 3DN—D. Newton, O'Shannessy St., Nunawading.
 3DP—J. M. Farrer, Deep Lea, via Stawell.
 3DW—D. W. Tacey, c/o Woodend Theatre, Woodend.
 3IV—E. K. Ridgway, 44 Inkerman St., Ballarat.
 3JX—J. S. Sydow, 23 Fosbery Ave., Caulfield North.
 3KK—E. T. J. Kerby, 17 Bayview Ave., Auburn.
 3KQ—G. T. Benwell, 33 Draper St., Ormond.
 3OE—G. A. Oxley, 392 Riversdale Rd., Surrey Hills.
 3PB—P. C. Bennett, 58 Shady Grove, Nunawading.
 3QK—E. H. Jenkins, Churchill Island, via Newhaven.
 3QR—R. L. White, c/o Rev. White, "Paralia," Esplanade, Dromana.
 3PW—H. P. Webber, 37 Lucerne Cres., Alphington.
 3RG—J. H. Jones, 36 Harnsel St., Box Hill.
 3ST—J. L. Coghlan, 438 Dorcas St., South Melbourne.
 3WP—P. V. Inglis, Jeffrey St., Bentleigh.
 3WS—P. G. Scown, 9 Kinane St., Brighton Beach.
 3XF—L. R. McIntyre, 62 Chotwynd St., West Melbourne.
 3YG—G. E. Smith, 10 Hornby St., East Brighton.
 3YN—L. R. Naylor, c/o J. Steffen, The Boulevard, Maribymong.
 3ZY—W. F. Borgeest, 3 Curzon St., Ivanhoe.
 VK4AT—A. F. Kearnay, 602 Kent St., Maryborough.
 4CF—G. G. Cairns, Lundsowne Ter., Newmarket, Brisbane.
 4FH—J. F. Bull, King St., Box 33, Nth. Mackay.
 4FL—F. L. Silver, "Lawbell," Junction Rd., Morningside.



QSL CARDS

The DEE WHY PRINTING WORKS is making available to the amateur experimenter a special QSL Card Printing Service. Knowing the requirements of hams, we are confident the service offered will be unsurpassed in Australia.

Cards can be printed to your own specifications, and if illustrations or blocks are necessary, our Art Department can produce these for you.

- The ham specially catered for.
- Quality cards at economical prices.
- Prompt service.
- One, two or three colours if required.
- Interstate orders handled.



Dee Why Printing Works

67 Howard Avenue, Dee Why, Sydney.
 Telephone: XW 8367.

Proprietor: GEOFFREY BOWER

43W—J. H. Varnes, Hope St., Cooktown.
 43L—L. E. H. Mallinson, c/o Mrs. Baxter, "Edybaston," Waterview St., Dutton Park.
 41P—L. N. Page, 16 Terrade St., Paddington.
 41T—A. E. Carter, Coominya.
 4PX—A. Johnson, Gadara St., Hendon.
 4RI—R. L. Guttormsen, 61 Manilla St., East Brisbane.
 4RU—W. W. Newman, Cope St., Stuart, via Townsville.
 4WL—W. J. Cromie, 482 Squadron, R.A.F., Amberley.
 4ZS—C. E. Ryan, 143 Talford St., Rockhampton.
 VK5BK—J. Grivell, 15 Adelaide Ter., Magill.
 5BP—W. M. Rice, 29 North St., Collinswood.
 5CD—C. A. Doddridge, c/o 5AU Port Augusta.
 5CI—W. J. Middleton, c/o Dept. of Civil Aviation, Katherine.
 5FR—W. R. Franzi, Mosely St., Glenelg.
 5GS—G. E. Mathews, 22 Ninth Ave., St. Peters.
 5IK—L. L. Griffin, Robert St., Moonta.
 5KH—K. M. Ring, 15 Garden Ave., Burnside.
 5MA—A. J. Martens, Minocks St., Berr.
 5RC—R. Bennett, 27 Tenth St., Port Pirie.
 5RE—H. H. Hobcroft, 16th St., Renmark.
 VK6NW—N. F. Wilson, 55 Samson St., Mosman Park.
 62N—E. E. Grey, Lukin St., Wagin.
 VK7BM—W. S. Morrison, 41 Arthur St., N. Hobart.
 7GO—G. P. D. Clarke, 36 Clare St., Newtown.
 7JP—L. J. Durkin, Or Leprena & Blawena Rds., Montague Bay, Hobart.
 7YE—F. W. Hamel, c/o TNT Private Mail Bag, Kelson.

Cancellations—

VK1AA—E. McCarthy, H.M.A.S. Wyatt Earp, National Antarctic Expedition.
 VK2IR VK3GP VK5OX
 VK2WO VK6SU

HEARD ISLAND ON 50 Mc.

A message received by VK4BT from VK1FE at Heard Island reports on a QSL card as follows:—"Heard QSO on 50 Mc. date (apparently early in February in view of VK1FE's arrival late January and mail 5/2/49 received—VK4BT). Your signals R2 S3, weather stormy, your signal was the only one I could copy even though the surge was very bad. It took a long time to get your call. Could not get whom you were working, 73 Arthur VK1FE."

This news should be of great interest to all the v.h.f. boys and looks as if VK1 will soon make contact with Australia.

NEW SOUTH WALES

The February general meeting of the Division was held at Science House, Sydney, on Friday, 26th February. The lecture given by Mr. A. Williams, B.E. (VK2FH), on "The Design of Towers for the Support of Beam Antennae" was much appreciated as being the type of intensely practical discourse that is of maximum help to Hams generally. The notes distributed were of great assistance in making a permanent impression on those present and this idea could well be followed by future lecturers. Congratulations Alan on giving the boys "just what the doctor ordered."

VK2QW will continue with the "Continuous Rotation of Beams." These two lectures should solve many of the problems that confront us today.

We were pleased to see VK2CI, from Newcastle, having a snoop around Sydney shops.

SOUTH ZONE

As usual this month I don't know where to start with these notes. Either all the Hams in this district are defunct or else are engaged in experiments which are "top secret." One last appeal, if you want these notes to continue, please give me something to write about. 2WJ is still active on 50 Mc. and 144 Mc. with an occasional trip to 288. At present busy looking for a mysterious noise coming from his power supplies. 2ABC on 50 occasionally. 2VA not heard for quite a while now, we miss that signal on 20 and 10. 2ABB again on a trip to England but manages to put out a very nice phone signal when he is home. 2RT also busy flying between Australia and U.S.A. Those two boys certainly get around.

2AB still re-building, a long job Jim! 2UV active on 20 and putting out a solid signal with a pair of 807s. 2YC back on the job after a spell in hospital. Hope you are feeling fit again Jim. Heard 2AO on 10 again recently. Leo will be on 50 Mc. again soon with a new transmitter using a 6J6 into a 982 as the driver to probably a pair of 834s. 2VW completing mobile gear for 50 Mc. using a two stage transmitter with a 6J6 c.o. on 25 Mc. doubling to 50 Mc. and an 815 final. That circuit in November QST is worth looking at. Almost

any crystal will work as a harmonic oscillator and sufficient fifth harmonic output can be obtained from the second triode of a 6J6 to fully drive an 807.

EASTERN SUBURBS ZONE

2WR has tower and gear for his beam assembled ready to move off to new QTH. Alan isn't losing any time. 2FJ active on 20 phone, also aims to do some work on six. 2YF not so active as usual, spends more time building and arranging gear. 2KH heard on ten with nice quality phone, he is one of the few using ten in this area. 2AIG using QRP on 40 phone, getting good reports from all States; rig is 58 c.e.o. and 6 watt amp. 2WO not heard much these days due to pressure of work. 2HF heard inquiring on the merits of types of v.f.o.'s. Harold active on 20 phone. 2OE divides his time on the air between 20 and 40. 2CF heard once during the last month.

2QV had a little trouble with his phone, OK again. 2VA active on 20 c.w. 2ABD keeps skeds with West Coast Ws. 2ADW not very active, would like to hear some of your Saturday morning transmissions again Frank. 2AIG active on 20 and 40 phone and c.w. 2BV, the Waverley Club, not heard for months. 2AHJ holidaying, playing plenty of golf. 2DV, 2AHQ, 2TN, seemed to have quit radio. 2ASR, a new chap in the area, active on 40; give me a buzz someday OM, will be pleased to make your acquaintance. 2QG active on 20 c.w., working plenty of DX; Ray says his v.f.o. now working fine. Don't forget, give me a buzz 40 or 20 phone and let me know your doings.

NORTH SHORE ZONE

2ADY has taken a new lease of life, and is back in the swim. He is suffering from a pirate, incidentally. So am I, for that matter. To call them "dingoes" is praising them! 2ZH very active on 20, running a DX marathon with himself, complete with self-awarded prizes. 2TL mad with shortened beams, contra-rotating propellers, direction indicators and all the works. 2VN operating at anything between 15 and 30 per cent efficiency at his new location, antennae being the snag. 2NG has built a "Clapp" and joined the rest of the foot-loose gang. 2QQ smashing through the QRM with his fly-powder rig and very nice quality phone. 2JX now proud daddy with new YL op., and engaged in serious research as to whether she shows aptitude for key or mike. Congratulations, Mr. and Mrs. 2JX! 2BG inactive for past month—his beam doesn't. Old "Dud," 2LQ, reported to be diving into the six metre field. 2PB is a new one on this band also, I hear.

2AMB now up to 31 and 71 which, with his antenna, is f.b. indeed. He's busy building a new modulator to slay the DX with spitch. 2XM recently back from N.Z. He's heard frequently under his mobile marine call of 2XS, on the "Suva." Les Page (ex-4LP, 3BS, 2YQ, 3ALP, etc.) is now permanently back in N.S.W.—says he has taken out citizenship papers and is awaiting new call. 2JY heard now and again giving ten a hiding. 2ARG appearing on forty and six and smagging some nice QSOs. 2AND has his new receiver working f.b., and has so far designed 473 different transmitters using 807s in the final, but is still not sure which one to build. Use a single 45, Brian, it'll work some good DX if you can find a rhombic to hitch it to.

WESTERN SUBURBS ZONE

It is sad news to hear of the passing of one of our old timers, Alec Robinson VK2GR. Alec was an enthusiastic Ham right up to the last and was operating on 20 metre phone. He had been in ill-health for some years.

2OQ was heard discussing b.c.i. the other day. The other fellow had 90 b.c.i.'s to contend with so Harry reckons he is fortunate by way of comparison. 2AGT is rolling up the DX and currently has 57 countries and 30 zones. 2BF should have his quadruple conversion super going on 144 by now. 2AER is on infrequently. What's cooking Max? 2QC is going strong with his f.m. work. 2TD has removed to the Penshurst area; no Ham Radio Ray? 2DW, haven't heard Joe on of late. 2BG is doing some work on 20 metres. 2AHU, have you got that pole up yet Curley? 2GY, how goes that 14 tube receiver?

DX NOTES BY VK2QL

Well, gang, a new scribe has taken this Section for a period, so here's hoping we can hold your interest. Remember, it is your column and it can only be made as interesting as you DX hounds like to supply the gen. To date, it mainly has shown the doings of the VK2 DX gang, but other States also have their DX hounds, so let's have your dope per letter, over the air, or by telephone. Two DX contests have been under way since the last notes by 2ACX, the first week-end of A.R.R.L., and the B.E.R.U. Conditions for the B.E.R.U. contest were not good and there did not

appear to be the rarer Empire Stations participating. ZL1MB and ZL2FA were bowling them over. A new call in contests appears to be VK6PH, who was very active. VK2EO, VK2DI amongst the top. VK2EO had over 800 contacts for the first week-end, of A.R.R.L. contest. 2QL made 31 contacts on 3.5 Mc. for that week-end, and hoping that band comes out of its lethargy for the second week-end. My latest 3.5 DX is CR9AG and KV4AA. Band is poor at present. Stations operating during the month on 14 Mc. which are worth watching for, are: HS1SS (new licensee), AC4YN, MP7YP, HP1PL (Pearl Island), VP9AA. On 7 Mc. MF4BAC is heard around 5 a.m.

Cards are being received from C3EA and VK9NF and shortly it is hoped cards will be arriving from FUSAA, supplies of which have now been organised.

Latest scores and new ones are: ZL2FA 40 zones and 181 countries; VK2DI 187 countries (MD4GC); VK2ACX 178 countries (VPBAK in Shetlands, VP2AP Antigua, UP2AA. Arthur going to swim to Zone 40 for that card he needs); VK2HZ 161 (also waiting for two cards for W.A.Z.); VK2QL 149 and W.A.Z. certificate on way.

A certificate which is original, and worth having, is the Canal Zone Radio Society, originally for 10 KZ contacts, but now raised to 25.

Noel Mortensen VR5PL advises that his new address is Box 47, Nukualofa, Tonga Island. He anticipates being in Tonga for at least another three years and possibly permanently.

Well, gang, that's about the lot for now, but let's have your DX gen for these notes. My telephone is UM 8661. Here's hoping the bands improve and good hunting.

NORTH COAST AND TABLELANDS

The "old man's band," 80 metres, is becoming popular in the northern zone. 2ASF and 2ZS have recently migrated. 2DK completed new rig with p.p. 807s in final and cathode modulation, still uses PS6 receiver, will be inactive whilst away in VK7. 2DX recently licenced and active on 20 only, will make 40 shortly.

The North Coast gang intend to hold a hamfest and convention on 24th and 25th of April at Urunga, the most central portion of the zone. 2XO has donated use of his week-end for the occasion, a large roll up is expected. Huntin', shootin', and fishin' and a lazy nine or two. Those who have any distance to come are assured of accommodation. C U N Urunga. 2HC has installed a small 4 tube receiver in the car, transmitter to follow no doubt. 2SH operating 20 and 40, beam not yet completed. 2ARJ and 2JK seldom on 40 these days but getting their share of 20 DX. What has happened to 6 metres chaps? 2ADN back on 40 with improved phone and has chased the gremlins. 2AER is in the North Coast area with a mobile forestry unit and is operating portable, will be with us for sometime. 2WC batching while YF and family are on holidays and is working the DX on 20. 2PA having better luck on 6 with contacts to Sydney and Newcastle consistently. What about some news to 2PA chaps?

NEWCASTLE ZONE

2AGY has improved his signals, the quality on phone is excellent with the new mike, he is also amongst the DX in fine style. 2AGD still high fidelity, can hear the crickets and the sparrows f.b. and seems to collect the rare DX at anytime. 2AFS is "Clapp happy," it really does work and the signal is f.b. 2BZ surprised everyone by coming back on 10 from the v.h.f.'s., same old good signal. 2PQ on 10, 20, 40, really amongst it from the new shack. 2ADX, 2FX, say Jack and Frank where have you been? (ADX has been seen in Sydney, muttering about mobile and carrying large generators). 2TE been trying out xtal insert mikes, they are all different, so Bert says to watch your step on inserts. 2AHA and 2ZO been doing a bit in the contest line, can they rattle it out. 2CI heard on 20 and 40, what about 10 Gordon? It's improving. 2FP doing lots of listening on 10 for new countries on telephony, 101 up on 10 phone post-war and wants more!

2CS in one of the greatest post-war efforts has at last worked several stations on c.w., it's pleasing to hear of a real old timer making a comeback, but it really is about time. 2XQ working 10, 20 40 and 80, gives the boys some fast Morse on 10, has been heard at 3 a.m. on 20, the bug is biting. 2KZ and 2KF made a hurried visit to Newcastle and ended up in 2AFS' shack with 2FP, 2CI, and 4KW.

COALFIELDS AND LAKES

Thanks to Len 2AMU for a monthly note from Gosford. 2RU busy building mobile and portable gear, very compact and puts out a fine signal on 50 Mc. 2AEZ working on new rig but manages to collect a few new countries. 2AMU with limited time on 50 Mc. has managed VK2, 3, 4, 5, and 7, and ZL1, 2, 3, and 4 all with a power of 12 watts. 2KF has a "Olapp" oscillator going and getting

fine results on 10. 2KZ working 10 and 8, trying new stacked array 4 over 4, but hard to judge results as conditions have been indifferent. 2TY after a session on 10 has started up on 6 and hopes to get a beam going.

2JZ no news of Alex. 2VU was last heard of re-building for 50 Mc. and hoped to improve the signal. 2AJB still chewing it on 40, but the boys are trying hard to talk him down to 6. No news of 2YO, 2PZ or 2MK what about some? 2ADT not as active in past month, domestic chores before DX is the order. Nevertheless manages to work all bands 20 to 80 plus 6 and 10 in the spare time. 2YL is right off the air, a re-build from scratch is the order.

SOUTH COAST AND TABLELANDS

A field day was held in Wollongong recently to test the 144 band for contacts to Sydney. Using a CVG oscillator feed into 4 elements. Location was on the side of a mountain but no contacts were made. Another attempt will be made from the top of Keira at a later date. The gang at the "Gong" are gradually populating 144. 2AMW of Balgownie has been on 44 but no contacts to date. 2IK has a couple of 50 footers ready to go up but busy with odd jobs around the house—chief cook also and recommends steak fried in Martini cocktail! The Goulburn gang have gone receiver happy, 2OY and 2AJP included. 2ALS has discarded his ARS/baby rig and has built up a new one using "Clapp" osc. and ending with an 807—25 watts. 2AJS in Junee has been heard often with a good solid signal.

2AKE heard during one Sunday, do believe a type A Mark III is responsible for the fine c.w. signal. 2OW Temora building a new modulator using xtal insert finishing with 6V6s ABI to cathode modulate an 807. 2PN, 2TA and 2TC not heard on the civilized bands, but are very active on 6. 2PI has a new antenna same as the one used here for a couple of years. New receiver planned but sickness has kept the OM QRL. 2JQ hasn't been heard for ages. 2AIK, 2ANL and 2AFV all heard at good strength, the latter mostly with his brother 2LT. 2AIK still batching and 2ANL has not been heard.

WESTERN ZONE

Z.O. 2QA is at present in Sydney holidaying and so accepts no responsibility for the following. Activity in Bathurst was great during mid March and we expect to read all about it in the papers. 2WH has been heard at length with 2DQ on vee beams, so it looks as if the WH vee is shortly to be really excited. 2ACT has been getting some disposal gear for the Division. 2BT is still in fine form and still holds the first class ticket for EBS. 2LY in Katoomba resting, talking of recorders and doing the 50 Mc. 2WV broadcast. 2LZ not very active but can work all bands 288 to 3.5 Mc. 2HZ just a DX crank but building portable for 80. 2MN is changing his QTH. 2EF should shortly make 144.

SOUTHERN ZONE

Zone officer Noel Arnold VK2OJ of Albury has been forced to resign the position due to increasing business problems and it is hoped to appoint his successor in the near future.

VICTORIA

Quite a few members were present at the March general meeting of this Division, including many visitors from the country and some from Interstate. After dealing with general business, a short discussion, conducted after an address by Charlie Quin 3WQ, looked into the various types of relays and their practical application to Amateur gear. Quite a few practical points were proposed for operation of the relay, no matter where it is inserted in the apparatus, and Charlie appeals to those who mentioned these several points, to write a short note on it, so that he can compile an article for "Amateur Radio."

A general quiz session was held after this and some of the members brought forward their pet worries, which were promptly answered. If you desire this feature to be included at future general meetings please acquaint the Secretary.

This Division commenced the Morse Code Practice Transmissions on 3504 Kc. on Sunday, 6th March, commencing at 1100 hours. This is to be a regular feature at this time each Sunday morning and reports on its reception would be greatly appreciated.

Following the Slate Convention, when a resolution was passed that a special drive should be made regarding commercial station interference in Amateur bands, more data would be appreciated by your Federal Councillor at once. Remember both Student and Associate Members can assist in this regard.

EASTERN ZONE PORTABLE CONTEST

The Eastern Zone Portable Contest will be held during the last week-end in April. The frequencies used will be 40 and 80 metres, with the object of

fostering the construction of portable equipment suitable for emergency work. The Eastern Zone invites other Zones to assist in this contest, and suggests that they might use the same week-end for a similar contest of their own.

Conditions—

- Three prizes, a pair of 807s, six only aerial-stay bronze turnbuckles, and an EF50, have been donated by 3PR, 3ALS, and 3AEP respectively, as 1st, 2nd, and 3rd prizes for the Eastern Zone portable stations.
- Times of operation will be from 1 p.m. to 5 p.m. on Saturday, 30th April, and Sunday, 1st May.
- Intending competitors will be required to furnish the Zone Secretary (SQZ, G. Colley), by the 9th April, with particulars of the locality in which they expect to operate as in accordance with pages 6 and 7 of the P.M.G. Operators' Handbook, items 38-49.
- All equipment used must be operated from a portable power supply and must not be implemented in any way from power mains.
- Points for operation will be allotted for one contact per day per band as follows:—
 - (a) Zone portable to outside portable 4 points
 - (b) Zone portable to Zone portable . 3 "
 - (c) Zone portable to Zone fixed . 2 "
 - (d) Zone portable to outside fixed . 1 "
- Contacts may be made by phone or c.w. Stations will exchange the usual 6-figure combinations.
- Phone stations shall prefix each call with the words "Eastern Zone Portable Contest." C.W. stations may abbreviate this, or mention it in the text of the message. All stations must give their location.
- For the purposes of judging, each station will be required to furnish a copy of their logbook to the Zone Secretary by the 9th May, 1949.

NORTH EASTERN ZONE CONVENTION

Owing to the great activity of this zone both before and after the Convention, the zone correspondent 3ABG was not able to compile these notes. His culinary activities in preparation for the Convention no doubt had something to do with this also. Upon arrival of the Melbourne gang in 3BM's car, the Convention got under way and dismissed the business just in time to dash along to 3ACW's shack to hear the broadcast from 3WL. Mrs. Welch, his XYL, provided morning tea, helped by Lorna and Joyce Sloper. The YLs kept well in the background after seeing the types present (I wonder if this means 3IK—Editor) but the tea was more successful than the W.I.A. news.

The lunch provided by mine host the Bollard family went down well with the help of the local brew and 3KR may be able to meet the bill, but he was warned beforehand about certain gentlemen, and kept a good eye on the beer tap and had the

Secretary shadowed. Associate Jim Harrington brought his XYL, family and a blonde, but the interest was somewhere else.

After a quick visit to 3ABG's shack 3ABA/YS, 3UI, and 3ABG got cracking and established 144 Mc. stations on the surrounding hills and mobile working at fast speed was demonstrated. Arrangements were co-ordinated by a base station and four mobiles, with mobile to mobile working, which gave the necessary signal to out-stations to return to John's place for an excellent afternoon tea. The Miller's are to be congratulated on their excellent effort, and the boys want to know the recipe for the lamingtons, but John won't come clean.

3UI was elected President of the Zone after acting as President for the last few months, 3KR couldn't get out of being Secretary, while 3ABG was re-elected Zone Correspondent and fell down on his first job. Remember the zone hook-up on the first Sunday in the month on approximately 7050 Kc. at 1330 hours.

Following is a list of those who attended the Convention: 3UI, 3KR, 3ABG, 3ACW, 3ACK, 3TS, 3AFP, 3JK, 3FD, 3HZ, 3ARC, 3IK, 3BM, 3WQ, 3LS, 3AN, 3AG, Alex Dixon, Bryce Lazarus, James Harrington, Ken Sloper, Graham Shelton, Jack Ansett, Mr. Woodward, Mr. Hearnes, also representatives of the Country Fire Brigades (Mr. Carboon and Mr. Ford).

3KR has worked on 20 c.w. lately contacting Ws, VKI, G, D, VP6, KR6, UA4, OKI, etc. Ken hasn't stopped talking since he worked VK1VU, being the first VK6 contact and the second VK for VK1VU. Anyway he has the QSL to prove it. 3JK attended the Convention so maybe he is running short of petrol or perhaps short of worms or ammo. Is that right Jim? 3YV has been a bit off colour but his DX is mounting so Howard must be getting better now. Hope to see you in the hook-ups soon. 3ABG has got a big book filled with instructions and diagrams on how to throw the right switch and light the correct panel lamp, how does Marion get on with that set-up John? 3AFP still looking for the B switch and dashing madly around the countryside in his MG, just managing to bring up the rear. 3TS has been out amongst the ducks; the ones you shoot we mean, anyway Tom reports a pleasant time. 3HZ still QRL with broadcast programmes, etc., and hopes to break into Ham Radio in time to keep up the interest.


FAR NORTH WESTERN ZONE

Members in this Zone have been rather inactive over the past three months. Secretary 3MF spent some time on the sick list. He has now recovered and from all accounts has managed to get to the shack and blow some dust off the rig. 3FC has been in his element with the old Type 3 in operation once again. He has managed to work the odd W on 40. 3AFC in Ouyen has been heard on from

THIS

G L O - R A D

SYMBOL IS YOUR GUARANTEE OF WELL
ENGINEERED PRODUCTS



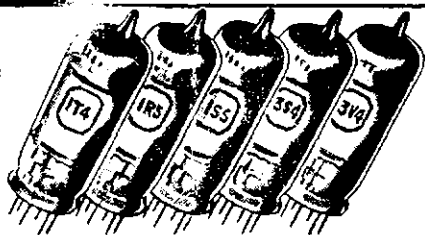
YOU WILL FIND IT WHEREVER DEPENDABILITY
IS PARAMOUNT

G L O R A D ENGINEERING SERVICES
186a Riversdale Road (Cr. Robinson Road)
HAWTHORN — VICTORIA
Phones DAY: WA 3819 NIGHT: WX 3440

Australian-made Radiotrons maintain their leadership



1947 saw the release of the first Australian Miniature battery series—employing entirely new technique in valve construction—and establishing higher standards in receiver performance, at considerably reduced costs.



1948 provided the testing period during which their unquestioned reliability ensured for them a permanent place as valve complement to Australian receivers—a fact exemplified by the following unsolicited testimonial:

“It is now the considered opinion of all who are concerned with valves in our factories that the Radiotron Miniature series are superior to any other type of our experience.”

TO-DAY



A.W.V. is justly proud to announce the release of their Australian-made range of A-C Miniatures comprising:
Types 6BE6, 6BA6, 6AU6, 6AV6



This new series will keep “set” manufacturers abreast of modern trends and make practical—

NEW DESIGN ★ NEW EFFICIENCY ★ NEW PERFORMANCE

time to time with a phone signal on 40. Frank Fisher, a new member to the gang here, recently received his ticket; congratulations Frank, hope to hear you soon. 3AGF has closed down and dismantled his gear. Tom hopes to leave the district in the near future and will be heading for New Guinea or parts round there. 3NG is busy with the harvest and guess he is not busy trying to save the crop. 3CZ keeps the skeds with 3WI each week-end and also the mid-week one. 3AUG is gradually gathering bits and pieces together and will have a signal on 14 Mc. band in the near future. His receiver is working quite well on 28 Mc. Noel will be the 50 Mc. man for this area when he gets settled down.

CENTRAL WESTERN ZONE

The zone's thanks go to 3XU for his able representation at the recent State Convention in Melbourne, and his detailed report forwarded to the Secretary. 3AKW has all the bits and pieces assembled for the vee beam, so it should not be long now. 3ARM was caught napping at the last zone hook-up and turned up four hours late, never mind Bob you will be OK next time. Keith has the phone going now at 3AKP and as soon as some hum has been ironed out, all should be well. 3EP has turned away to fishing, what's the DX per cost and how many get away? Ted also has laid the old kerosene heater aside, so we will miss the background next winter. Old George at Ararat has much more time on his hands these days and 3GN is heard at unusual hours.

3IQ (that breaker of skeds) has at last managed to put a 50 Mc. signal over the hill into Maryborough and is now looking for bigger game. Willie is so small, and we believe carried himself in his usual manner at the State Convention. What Willie wants to know is who powdered the shack while he was away? It's sure to catch up with you sometime Bill. Allan decided that Callawadda had been silent long enough, so after chasing rabbits out of the rig, got back into business on 14 Mc. See you next zone hook-up. **SECOND SUNDAY** in month, 7120 Kc., at 10 a.m., control station 3YV.

EASTERN ZONE

Eastern Zone business will be conducted after the first round, approximately 8.30 p.m. This will replace the old time of 2100 hours. The hook-up will commence at 8 p.m. as usual.

3QZ and 3PR have been busy arranging the Eastern Zone Portable Contest. Ron went on 20 for the first time in months and worked 3LV. He hasn't got the power on yet. 3LV is building a rig to operate of a.c., ready for his projected move from the hills of Trafalgar to somewhere in the suburbs. 3ANC of Trafalgar was heard on 40 trying out a "Clapp" oscillator as a v.f.o. We were pleased to hear you in the hook-up on 19th February, Norm. 3BB has a new junior op and a new rig. The rig works well on 80 and 40. Bert was running 77 watts when he was in the last hook-up.

Our worthy President reported receiving a phone call from "Snowy" 3MR recently. He is located at Clyde, but unfortunately is too busy bringing the farm up to scratch to come on the air. Don't forget the Sunday night hook-ups on 3650 Kc. when you do come on, "Snowy." 3CI lost another tranny on the 19th February; rain again? Syd expects a visit from 3UI and 3APP week-end of the 12th. 3DI has completed his c.r.o., and is checking up on his modulation. 3AHR's new modulators are working well. 3AKP has been steadily improving his phone. 3SS has mounted the 1.5's on the receiver he has been building for the last 12 months. It's coming on, Keith, should be good when it is finished; will it work on 6? We are sorry to hear that 3AEI has returned to VKG. Hope you enjoyed your stay in Victoria. Frank 3AKM has returned from a long holiday in Tassy. 3ACL found his roof leaking during recent heavy rains, hope there was no damage Eric. 3VI/US have their beam tower finished at last, and can actually turn the beam from inside. They recently had a visit from 3BM.

SOUTH WESTERN ZONE

The following zone members were seen at the State Convention held in Melbourne: VKs 3BI, 3BE, 3JA, 3HF, 3SE, and self 3UT. Your scribe had his eyes opened to find that Jack arrived about two hours late on the Friday night, but was up at 4.30 a.m. next morning to pick up 3BE and 3BI. The other Ballarat boys were not out of bed, so we were told; they made the grade at 11 a.m.

3ZU is on three weeks' leave and has a 108 re-vamped for 6 volt tubes. 3BB is holidaying in VK5 land, what's the YLs like over there Andy. Heard Kevin working some DX on 20 other night, also Gordon 3AGV coming in here on 20 metres at 56. 3VA got tangled in the DX contest numbers, but the W chap put him OK. 3HW called his head off one night on 20 just a few Kc. higher than 3HF with no success, while Harry was just working them one after the other, that's vee beams for you John.

Heard the other day that 3VA and 3GR are planning a trip to VK4 very soon; 3HG is also going on holidays within next few weeks. 3BI, at time of writing, this, is in bed with eye trouble, let's hope Bert you will be up soon. 3BU was on 40 for a rag chew with some cheery voice, also 3WT is putting out fine signal with his little rig. 3YE has new antenna up for 20, but came on 40 other night to meet the boys on the "gentlemen's" band once more. 3PS still busy at shop and 3EQ has a fly at 20 with good results, working Gs on phone.

3JA finds time to work a little on 80, with 3HG on same band, when not walking the floor with new junior op. Have not heard 3II on for some time now, but 3AGD (his brother-in-law) puts in good signal here on 40, so what about getting Leigh to come out of his shell John for a QSO on 80 some night. Please remember chaps next zone hook-up is on the 3rd April at 10 a.m. on approx. 7150 Kc. so roll up as we still want more in our hook-ups, don't let our zone down fellows.

Geelong Amateur Radio Club.—There was a good attendance at the Geelong Amateur Radio Club when 3ALG gave a lecture on "Receivers I Have Built." Fred drew circuits of these receivers on the black-board and explained their advantages and disadvantages. He finished with a practical demonstration of his 6-tube home-built "1946 Amateur Junior" receiver. At the following meeting members welcomed two visitors, namely, John Watson VK3ARM, who operates mobile marine on the S.S. Kooralya, and Alan Cheal. 3APG explained the construction of his d.f. loop. 3AKE outlined his Bl4 15-tube high frequency receiver and explained how it could be adapted for use on 144 Mc. On Sunday, 6th March, members of the club set out to find the hidden transmitter. The first to find it was 3AKE and 3ABK, who were together.

NORTH WESTERN ZONE

3TL is building a new 90 foot stick to replace the 80 footer that crashed; he is putting steps up it! 3LU is back at Sea Lake and putting out the usual f.b. sig. 3HR has rewound his alternator and is heard occasionally on our hook-ups. Charlie is worried that the alternator output drops 10 volts under load. 3OA has w.s. 4 element rotary on 8 metres and KS converter working OK. Ian is now building a 6 metre transmitter. He tried a 4 element c.s. beam, but no good without pruning, so built the w.s. job using ordinary conduit with the seams soldered; center fed with 50 ohm co-ax, cut and spaced as per A.R.R.L. Handbook, and it worked right off with 3 S points gain over his dipole. Ian attended the State Convention and last general meeting, while on holidays caravanning at Rosebud.

3AWK puts out nice quality phone using TA12D, modulated by 4 1625s in p.p.p., all run off 240 volts d.c. mains. When he moves into his permanent home in a few weeks he will erect a decent antenna. 3AIT of Sea Lake puts out nice phone with low power. See you in our hook-ups more often Ian? 3ACE and 3CH, who are well known on 40 metres phone, also attended the State Convention, making a total of four N.W. Zone members present. It takes enthusiasm as well as a lot of petrol to bring fellows 100 miles to a meeting. 3CE has made tentative enquiries about v.f.o. design. I could fancy a 6 metre rotary atop Roy's 80 foot tower!

3JG has advertised his rig for sale. We don't know yet whether Johnnie has gone cold on Ham Radio or is merely re-building. 3BM has had a busy month's holiday, attending State Convention, Avoncl Convention, General Meeting, Mornington Sub-Branch meeting, and V.H.F. Group meeting, also visiting many Ham shacks and is going home with further ideas for six. Intends to replace three element series phased array with four element w.s. rotary, and 300 ohm ribbon (which has blown to bits) with 45 ohm co-ax.

QUEENSLAND

At the seventeenth Annual Meeting of the Queensland Division held on 25th February, 1949, the election of office-bearers for the coming year was completed, with the following results:—

President: Mr. A. Walz (4AW); Vice-Presidents: Messrs. V. Jeffs (4VJ) and P. J. Kelly (4KB); Secretary: Mr. W. L. Stevens (4TB); Treasurer: Mr. J. F. Farnell (4WJ); Traffic Manager: Mr. A. J. Greenham (4AG); Sub-Editor to "A.R.": Mr. F. H. Shannon (4SN); QSL Officers: Messrs. R. Campbell (4RC) and E. Lake (4EL); Station Manager: Mr. F. M. Nolan (4FN); Country Representative: Mr. F. H. Shannon (4SN); Student's Representative: Mr. Elliott; Librarian: Mr. W. Faher (4WF).

A ballot taken on the advisability of raising Membership Fees to 30/- per annum resulted in 48 for No and 29 for Yes.

Membership at the end of last year showed 71 country and 78 city. In addition to these trans-

mitting members, the Division has 62 Associates in the city and 13 in the country. During the past year 85 food parcels were sent to Britain, and all but one reached its destination safely.

Students will be pleased to hear that 4WI will, in the near future, transmit code practice at slow, medium and fast speeds on a frequency of 3504 Kc. between the hours of 1930 and 2000 on Tuesday.

Plans for the setting up of an Emergency Network are well in hand, and all members interested should contact 4FN immediately, giving details of portable equipment available. You are advised to listen to the 4WI broadcasts on 7196 Kc. and 14,342 Kc. on Sunday mornings for further details. Members who are holding Library Books are asked to remember that other members would like to read those magazines. So please, fellows, play the game!

Speaking of h.f. bands—what's all this we hear of trying to make out that VK9 in a STATE for W.A.S. on 50 Mc. Since when was New Guinea a State of Australia? If we want to make "all VK" the requirement for W.A.S., why not tose in VKL.

**NOW
AVAILABLE**

TECHNICAL TOPICS RADIO HANDBOOK

2nd Edition

With its 368 pages of highly informative material and cross indexing for easy reference Tec. Topic Radio Handbook is a valuable aid for any radio work bench.

(Note: The 2nd edition does not repeat any material contained in the 1st edition).

A radio manual dealing with all aspects of modern radio theory and practice Tec. Topics Radio Handbook is designed to assist all radio servicemen, amateur operators and radio experimenters in overcoming the problems with which they are confronted during the course of their radio work and experiments.

**Technical Topics
Radio Handbook**



Price 15/- plus 1/- rep. post

from

MINGAY

Publishing Co. Pty. Ltd.

Box 3765, G.P.O., Sydney, N.S.W.

There are VK stations in Antarctica. Sorry for the grouchy OMA, but quite a number here in VK4 consider the latest move a bit over the fence.

Bundaberg Zone (4BJ).—The Annual General Meeting of the Bundaberg and District Radio Society was held in the Club Rooms on 22nd Feb. The election of new officers for the next 12 months resulted in President, 4PG; Vice-President, 4CW; Secretary and QSL Officer, 4HE; Treasurer, 4UK; Zone Manager and Publicity Officer, 4BJ. The President gave a very inspiring address on the Society's activities over the last twelve months. It was decided to move to new Club Rooms in Bourbong St. It is expected that 4BD will be on the air again very soon. Club meets every Tuesday night.

QUEENSLAND QSL BUREAUX

Outward.—R. Campbell (4RC), 30 Prospect Terrace, Kelvin Grove, Brisbane.

Inward.—E. Lake (4EL), Old Cleveland Road, Camp Hill, Brisbane.

4HE is erecting a new 10 metre antenna and is now building a new shack with separate workshop. 4PG re-building r.f. channel, has a nice v.f.o. incorporating xtal calibrator. 4CW re-building and expects to move to a new QTH where he will try out some f.b. gear bought from G land. 4XJ has moved to Gympie, and before this reaches print, will be a married man. Congrats Les! 4BJ playing with 28 Mc. receiver, doing a bit on 7 and 14 Mc.

Gympie Zone (4HZ).—4CR QRL with gold foxing and appears on 7 Mc. occasionally. 4LN now erecting a 10 metre beam on the chimney. 4XR has fixed 20 metre beam on South America. 4KT a new Ham in Gympie, ex-4JR of Papua. 4HZ has at last moved into his new house and hopes to do big things with the good old 50 feet aside.

South West Zone (4ER).—Still no sign of 4UX's new beam. 4RJ believed to be on holidays. 4GG building 20 and 10 metre converters. 4CG now one of the regulars in the Sunday morning hook-up.

4TY is believed to have up a good score in the B.E.R.U. Contest. 4ER and 4LD still keeping Laidley on the map.

Mackay Zone (4KW).—4FH still working South Americans, John uses fixed beams, one on North America and the other on the South. 4KW holidaying in VK2.

No news this month from the Townsville, Cairns and Hinterland zones, managers are requested to contact the writer. The Country Representative would like to hear from members in Rockhampton and district with a view to forming a zone in that area. In conclusion we again appeal to members for articles suitable for publication in "Amateur Radio."

SOUTH AUSTRALIA

The monthly general meeting was held once again at 17 Waymouth Street and a very representative gathering were present. The guest speaker was Mr. Ferrar, and his subject "Overseas Impressions." Mr. Ferrar did a particularly fine job, and his inherent sense of humour did much to entertain his listeners. He gave an interesting description of his air trip from Australia to England and topped it off with his own impressions of television. The number of questions asked of him at the conclusion of his talk was a sure indication of how absorbing it had been, and a vote of thanks proposed by Mr. E. Barbier (5MD) was received with the acclamation it deserved. This type of lecture is always welcome, as it breaks away from Amateur Radio, which is all to the good at times.

Among the visitors were Messrs. J. Trembath, G. Read, R. Burton, and T. Martyn. Quite a contingent of VK3 boys bobbed up out of the blue in R. Cunningham 3ML, A. Lord 3BE, and last but not least L. Taylor 3TG. Mr. Cunningham addressed the meeting on several points of interest, such as the magazine, and was bombarded with questions at his conclusion. It speaks volumes for his finesse and ability that he was able to satisfy all of his questioners, as one or two of the questions were decidedly controversial.

The result of the election ballot for Council Members was announced toward the close of the meeting and turned out to be "no fight," as all of the old Council Members were voted back into office, much to the surprise of the said Council, if not to the meeting. Apparently the Council has the support of most members despite the "helicopter dust" floating around before the voting day, such as "the S.A. Division is run by a clique" and "we want live wires on the Council." I would like to have seen a v.h.f. representative on the Council, but as they nominated three candidates, all they did was to "split their votes" and defeated themselves. This was surprising to me, as that canny campaign leader Jack Coulter (5JD) should have been a wake up to that one. Anyway it is all over now, and the new, or old Council (whichever you like to call it) will continue to carry on doing what it thinks is best for the majority, and if any of the minority wants to put on a buck, well there is always the floor of a general meeting to voice a protest. Just in passing, there was one or two new voices heard with proposals and counter-proposals at the meeting, which is all to the good. Keep it up fellows. The names of the Council for 1949 are Messrs. (no, not messers) Hal Austin (5AW), Edward Barbier (5MD), Frank Wreford (5DW), Joe McAllister, Tom Laidler (5TL), George Ramsay (5GD), Gordon Bowen (5XU), and that athletic looking "he-man" Warwick W. Parsons (5PS, the W stands for work).

I noticed Norm Colman sitting at the cash receiving table at the meeting with the Treasurer Gordon Bowen (5XU) and judging by the strained look on Norm's face he was having trouble in balancing, but Gordon seemed satisfied so all must have been well. If I had only thought of it I could have helped the Treasurer and might have made enough to buy myself an electric clock!

Bill Baker forwards his sub from Sydney, but still under the call of 5BQ, so apparently he will be back. Was wondering where you were Bill, nice to have heard from you. My spies tell me that Ross Kelly and Max Farmer (5AW and 5GP) are doing

TRANSFORMERS, CHOKES, ETC.,

Manufactured to order. Following stock sizes available:

SOLVE YOUR MAINS TROUBLES WITH AN AUTO TRANSFORMER

Bendix Frequency metres complete with original crystal and calibration book. Perfect order. £35.

A few more oil filled T.C.C. and CHANEX Condensers are now available in the following sizes.

2 MFD 3000 volt working £1/12/6
 2 MFD 2000 volt working £1/5/0
 4 MFD 1500 volt working 17/6

10 MFD 1500 volt working £1/7/6
 2 MFD 500 volt working 5/-
 1 MFD 400 volt working 3/-

B.T.H. 10 HENRIE 250 M.A. 1000 volt CHOKES £1/5/-.

Crystals as illustrated, 40 or 80 metre, AT or BT cut. Accuracy .02% of your specified frequency £2/12/6 each
 20 metre Zero Drift £5/0/0
 Large, unmounted, 40 or 80 metre £2/0/0

Special and Commercial crystals. Prices on application.

CRYSTALS REGROUND . . . £1/0/0 each

BRIGHT STAR CRYSTALS may be obtained from the following interstate firms:—

Messrs. A. E. Harrold, 123 Charlotte Street, Brisbane; A. G. Healing Ltd., 151 Pirie Street, Adelaide; Atkins (W.A.) Ltd., 894 Hay Street, Perth; Lawrence & Hanson Electrical Pty. Ltd., 120 Collins Street, Hobart.

A.W.A. SPLIT STATOR TRANSMITTING CONDENSERS, high voltage £2/15/0 each

SCREW TYPE NEUTRALIZING CONDENSERS (National type) to suit all triode tubes, Polystyrene Insulation 19/6 each

Prompt delivery on all country and interstate orders.

Satisfaction Guaranteed

BRIGHT STAR RADIO. K. G. Allen (late R.A.N.)

1839 Lower Malvern Road, Glen Iris, S.E. 6, Victoria.

Phone: UL 5510



NORTHERN ZONE

There has been only limited activity in this zone since the New Year and although the routine skeys have been kept by the 144 Mc. enthusiasts and intermittent operating by the DX boys nothing spectacular has happened.

On 28 Mc. the European break-throughs, predicted by the ionospherics, did not eventuate in Tasmania, however during the late afternoon of 27th February, South African stations broke through intermittently at excellent strength as did odd Europeans. W.A.C. was heard on this band from 11 a.m. until evening. It is fairly unusual for us to hear such a variety of DX on this band.

The Annual Meeting and Dinner of the W.I.A. was held in Hobart over the March long week-end. Two cars carrying six members from this zone made the trip. On the Sunday a State-wide field day was held, as only one of the northern cars was fortunate enough to procure d.f. gear the remaining car opened their envelope at the starting point and then followed 7LJ's car. Fortunately Lou had the direction correct and no petrol was wasted. Luck rode with us because the only time Lou made a wrong move we found a hotel on the corner of the road and we were able to wait for him. Anyway we are not blaming Lou as it is doubtful if we could have got past anyway.

On the Sunday evening various shacks were visited and little time was wasted in sleeping, in fact 7RK and 7DS grabbed forty winks on the way home.

On behalf of those making the trip, I would like to thank the various Hobart members for their hospitality.

FIFTY AND UP

NEW SOUTH WALES—Compiled by VK2NP

We have much pleasure in announcing the winners and participants of the recent V.H.F. Contest conducted by the N.S.W. Division V.H.F. Section:—

All Band—	
1st	VK2WJ 174,575,709 points
2nd	VK2VW 318,987 "
3rd	VK2ABZ 71,595 "
50 Mc.—	
1st	VK2LY 3,140 points
2nd	VK2WJ 1,928 "
3rd	VK2ADT 1,887 "
4th	VK2RU 1,809 "
144 Mc.—	
1st	VK2WJ 698 points
2nd	VK2ABZ 645 "
3rd	VK2VW 257 "
288 Mc.—	
1st	VK2WJ 131 points
2nd	VK2ABZ 111 "

Others who participated were: VKs 2ADT, 2HZ, 2BZ, 2ADW, 2ABC, 2FN, 2NP, 2AJA, 2MQ, 2LZ. We congratulate the winners of each Section and would like to specially mention the performance of 2WJ who made such a colossal score due to the advantage of working three bands, thereby taking full advantage of the multiplier.

The Contest was very successful and achieved the object for which it was conducted and that is to stimulate interest in v.h.f. bands. However one disappointing feature was noticeable and that was the absence of new stations which might have been attracted to v.h.f. by the fact of the Contest. However those who participated enjoyed every minute as was evidenced by the remarks and comments forwarded to the Contest Committee on request. From these, the Committee was able to gather many useful suggestions for the proper running of such another during summer of 1949.

The general opinion seems to be thought that F.E. should sponsor something on similar lines and to be conducted as an all VE affair which could also include ZLs who were so interested in our activity and who helped the N.S.W. fellows gain many more points. If F.E. should so decide favourably on this subject, the N.S.W. Section would only be too pleased, I am sure, to let them have a copy of their Rules and Regulations.

Talking of Contests, the N.S.W. Section are holding another V.H.F. Contest during May, from 1st to 31st inclusive on 144 Mc. Points score as follows: up to 80 miles 3 points, up to 100 miles 6 points, over 100 miles 12 points. Full rules will be available in April monthly Bulletin.

A field day was conducted on 27th February by members of the Gladesville Radio Club on 288 and 144 Mc., around some of the high spots of Sydney.

6WT explained the late arrival of the December issue of the magazine and 6GM, our Federal Councillor, will try for a more equitable distribution of the magazine when he represents us at the Easter Convention.

Our councillors for 1949 were announced. They are as follows:—6RO, 6KW, 6AG, 6WH, 6GM, 6JS, 6MY, 6JW and 6RU.

6QP told us that there was a certain amount of dissatisfaction among our country members, and it has been decided to circularise all members in VK6 to gather suggestions which can help country Hams to derive more benefits from the W.I.A.

PERSONALITIES

ZS6OR is on his way back to VK land. We'll be looking forward to more regular QSOs now Len. OELAH gladdened the hearts of a host of VK6s on a recent Sunday. Ida and Larry worked about a dozen of us, one after the other, while conditions were at a peak on 28 Mc. Among those looking for her QSL card are: 6NL, 6MB, 6AP, 6LM, 6LL, 6KU, 6HS, 6FT, 6JW and 6WT and they're coming by airmail! 6NL and 6LM both hooked HK5MO the following day. Lionel was particularly proud of his effort with only 50 wats.

6DF has done an efficiency check on his rig. Maurice was surprised at some of the figures and now he is finding it much easier to contact that elusive DX. 6FA has been in contact with the new Expeditions now on Heard Island. He is expecting a QSL from VE3ACD any day now. 6RS and 6GD, two members of the "Carlisle Crew" have gone v.i.o. When are we going to hear you two boys on 7 Mc. again?

6TX back from a holiday to Geraldton. Jack had a wonderful time up there, but he has forgotten how to switch his own rig on. Hasn't been on since he came back. 6ZO says we may hear him around the bands again soon. Hope he is fair dinkum! 6GC has ideas of getting the rig on 7 Mc. phone. Good show Bob. We will be looking for you. 6CK has a nice signal on 7 Mc. Colin is building a rotary turret receiver and that has been taking up most of his spare time. 6MX putting out a really solid c.w. signal on 14 and 28 Mc. bands. Milo is getting a good shave of DX. Thought he would have had a go at the 1949 B.E.R.U. Contest.

6JB has been too quiet too long. What's happening there Alan? 6DD is wearing a frown since he learned that 6FW will be living just across the river. Someone was talking about canoes, axes, and chopping down masts! 6ND has a re-building programme well in hand. What about putting up 7 Mc. antenna again Neville? 6NC now has a nice phone signal on the air. The only trouble Neil, is that we don't hear enough of it. Did you get the use of 6DJ's modulator? 6HL not heard quite so frequently these days. They say there's a W.A.C. for Worked All Claremont. Is that right Harry?

TASMANIA

The transfer of Mr. Terry Connor (7CT) to Huonville and his subsequent retirement from active participation in Institute affairs has made it necessary for him to give up writing these notes in favour of 7EJ, so before you go Terry, the writer would like to take this opportunity to thank you on behalf of fellow members for all you have done, and wish you good luck in your new job.

The March meeting was, as you know, our Annual General Meeting and election of officers. Quite a lot of new names appear in the reshuffle and it will be interesting to see how things shape in the future—not that there were any complaints with the old gang. The dinner that followed the Annual General Meeting was pronounced a huge success by all who attended—someone said that the lemonade was flat, but I noticed that both barrels were empty when we pulled the big switch.

A field day with the usual d.f. hunt was held on Sunday the 6th March. The transmitter was in the hands of 7SK and 7SJ and they chose a spot just outside Kingston. Crosby Walsh 7OW was first home with Dave Hillyard 7DH and Barney Watson filling the minor placings. By the way Syd., how did you wash the battery acid out of your trousers when there wasn't any water for miles around?

7GJ and 7AF are busy building beams and by the times these notes are in print they should be in operation. 7AJ built a three element close spaced array but it is believed a big wind blew it down. 7LE has been heard on 7 Mc. conducting experiments with low power single side band transmissions, nice work Len; how about writing up the results for "A.R." Guess I must have the most tolerant XYL ever. We have just changed QTH and I had a long wire up before I had the carpets down—still there is a lot of gardening looming up.

so good with the elusive crayfish at Cape Jaffa, but apparently Ross still retains his sense of humour, because as they passed a couple of the big fishing boats he leant over the side of the cockle-shell boat he was in and said in a very high pitched voice, "me velly velly solly, this is way to Australia, yes?" to the evident amazement of all the crew and fishermen.

The increase in the annual subscription was received very well, everyone apparently realising that the increase was justified. It was expected that one member would oppose it and we were not disappointed (good old Leith) and the Treasurer in an exclusive interview after the meeting said that the members had all rallied around to pay their subscriptions real early and they will all receive a good mark stamp from Gordon. I have not paid as yet, so expect that I will receive the "stick" (six handers).

The two representatives from VK5 to the Federal Convention are Eddie Barbier (5MD) and Halbert Austin (5AW). I am not too sure of that Halbert, but I could be right, nevertheless and not withstanding, the choice is a good one as both have had plenty of experience at the Convention, and can be relied upon to keep the best State in the Commonwealth well to the front! There is no truth in the rumour that they won't take me on account of there being no frits in Melbourne. They call it sausage over there.

5AH is looking younger and younger every day, in fact he is getting so young that he specialises in youngsters' complaints. You said it, mumps. Sorry Fred, but it was too good to miss. 5JA has his beams working very well on 10, 6 and 2 metres. They are all three element wide spaced and motor driven. John has a crystal controlled transmitter on 6 and 2. 5MS is still not satisfied with his beam but the rest must be OK as he manages to work the Gs on phone. He is using an 815 at 50-60 wats. 5KU working on 7 Mc. c.w. mainly, but has built a modulator during the last month. 5FD will be on a.c. before these notes are printed. He is building a "push" transmitter.

5CH has been busy on the bushfire frequency coupled with a business trip to Adelaide. 5TW has been on 10 metre c.w. and is also experimenting with fixed beams. 5CJ still finds that the state of married bliss leaves him very little time for Ham Radio although he is making slow progress with his v.h.f. gear. 5PX now holds the undisputed earbash championship of VK5. I clocked him at two and a quarter hours with a VK2 the other night and blow me down if he didn't put a stranglehold on a VK4 the next night and for all I know he is still going. 5XO is building a new beam. Appears that he is sick of aiming the beam at the moon since the last storm bent it up. Dame Rumour reports that 5JB has had it and sold all his gear. He has also resigned from the W.I.A., so it seems only too true.

One way to get QSOs is to be like 5QP. Ken is sojourning in bed at his home at the moment and cannot use the mike (Doctor's orders) but boy those two announcers of his, Rosemary and Beryl, yoo hoo. Anyway, lay off gang, Ken can still use an Owen gun. Leith Cotton (5LG) made up a microphone head as described in "A.R." but ran out of his proverbial "French" trying to fit said microphone into place, and believe me he has a remarkable stock of the language of France.

Who was the Ham in an Eastern suburb who spent the Saturday afternoon digging in the garden, and strangely enough picked up quite a number of sixpenny pieces as he turned over the soil, only to find that he had a hole in his pants' pocket and had been picking up the same sixpence all the afternoon. You Beaut. In closing might I ask who was the Ham who was locked out of the Church just recently at his own wedding and why? Also what were the thoughts of the organist when he woke up that a fellow Ham was out in the cold cold world instead of being a blushing bridegroom. A leather belt and a couple of rabbits will be awarded to the first correct answer received between now and 1952.

WESTERN AUSTRALIA

The March meeting was held on the 15th. It was a General Meeting, followed immediately by the Annual Meeting.

The Ionospheric Prediction Charts appearing in "Amateur Radio" were subject to discussion. Because of the late arrival in VK6 of the magazine, the charts were of little or no benefit as forecasts of conditions that could be expected on the bands. Nevertheless, some members had compared logs with the prediction charts and found that the charts had been particularly accurate. Steps are being taken in an endeavour to have the magazine delivered earlier.

Portable stations were at Mangrove Mountain, Mt. Kuringal and Kurrajong and ZAMP, 2MH and Mr. Atwood operated independently from Bringley, 20 miles west of Sydney. The Gladsville Club are holding another day's outing on 8th May on 144 Mc. and a competition in direction finding of portable stations will be carried out. The enthusiasm of this virile club is to be admired and could be very well followed by other such societies around Sydney who apparently just hold business meetings once a week and run a QSL bureau for the benefit of members. How about it Kingsford, N.S.W. Experimental Society, and Waverley? Perhaps we are a little harsh because we have it on authority that there is another very active club at Hurstville who do cater for the social side and have carried out successful field days recently on 50 and 144 Mc. and also do have an enthusiastic management committee. Nice idea for Gladsville and Hurstville to get together and arrange a combined v.h.f. field day before the winter sets in!

The last meeting of the N.S.W. V.H.F. Section was held on 11th March at Science House and Mr. Bird VK2QW, an engineer of A.W.A. Ltd., delivered a most interesting lecture on "Methods of Coupling Beam Antennae to Feed Lines to Cater for full 360 Degrees Rotation." Mr. Bird covered his subject thoroughly and applied involved mathematics which proved very simple when worked out on the black-board. Mr. Bird was thanked for his fine effort in the usual fashion and promised to publish this talk in a future "Amateur Radio." The next meeting of the V.H.F. Section in May will include a lecture to be arranged and the annual election of officers.

At this stage we would welcome 2PB and 2LQ to v.h.f.s. and judging by their conversation on this and that, they should feel at home almost immediately. From memory both are using 807s in final and converters for receiving.

Country activity on 50 Mc. is increasing and ZGU, 2TA, 2TC, 2PA, 2RU, 2ADT, 2BZ, 2KQ, 2AHA are contacted regularly and we believe 2ACP will shortly be operating from Katoomba on low power.

The weekly broadcast of news and activities to members and enthusiastic non-members of the W.I.A. has, up till recently, been transmitted by 2NP but this station, for domestic reasons, has had to relinquish this important job. 2LY Katoomba kindly volunteered to carry on with the good work, therefore 2WI can be heard on Sunday nights at 8 p.m. on a frequency of 50.15 Mc. until further notice. 2LY has excellent coverage from Newcastle to Canberra and listeners will have no difficulty whatsoever in hearing him. This transmission is also relayed by several on 144 Mc. to cater for those who inhabit this band.

That completes the notes for this month and would like to thank those who co-operated by supplying news of activities on the various bands; not forgetting 2FK who can operate on 576 Mc. and is looking for more contacts. Such enthusiasm!

It is possible that these notes in future will be written by a different hand and if such is the case we would earnestly request that the same co-operation be extended to the new scribe whoever he may be. It helps a lot to make up a decent story devoid of Q signals and too much personal "ivodde" which is evidenced on occasions in other columns. What we want is real news and descriptions of any new and interesting equipment for v.h.f.s. that you may have in use or contemplate building. So with these thoughts in mind we leave you to it and may 1949 be as successful as 1948 on frequencies above 50 Mc.

VICTORIA

50 Mc.—There is not a great deal to report this month. With the cessation of Sporadic E, for the time being at least, activity has dropped somewhat although the band has by no means been dead and contacts with country stations have continued. 5HK's skeds with 3ZL and 3FH help keep the country boys interested. 3UI at Tatura has worked 2ACL at Red Hill, a distance of 137 miles with very good signals both ways. 3OD at Horsham is still looking for Melbourne contacts and is on the band nightly from 8 p.m. onwards; he has not broken through since the occasion reported in the last issue.

3VL at Red Hill now has his beam 42 feet high and is getting much better results, he can now work the Ballarat stations fairly easily. The usual gang has been keeping the band going in Melbourne. 3BD has had the bad luck to get renewed b.c.i. and is not on as much as of yore, however by using n.b.f.m. he is able to keep in touch with the band.

144 Mc.—Activity has been at a fairly high level during the month, with newcomers to the band in 3UJ, 3JD and 3LN. Some interesting portable mobile work was done on the evening of 20th

February by 3YS on Pretty Sally Hill, returning from the N.E. Zone Convention. He contacted 6BQ and 3CP from the top of the hill and then worked them mobile coming down, when the signals began to rise and actually became stronger than they were on the top. It looks as if the hill must act as a reflector and this may explain anomalous results obtained by certain stations on both 50 and 144 Mc.

3OD of Horsham should be on the band looking for contacts by the time this appears. His rig is 6J5 c.o., two 6P50s as doublers, 832 tripler, 928B final, and the converter is a band-pass 6AK5-6AK6-6J6 job. 3ZL of Ballarat is now driving a 26T from his 522 and using up to 60 watts input. His converter is interesting, it uses trough line circuits and gives very good results. He is building a replica which he is going to lend to Melbourne stations to obtain comparisons. 3ZL works 3ABA at 9 p.m. on Thursdays and Saturdays and then looks for other Melbourne stations.

3BW at Portarlington now has his 6AK5-6AK5-6J6 band-pass converter going well and is much more active on the band. 3AKI is also getting good results from a band-pass converter. 3IM at last has a beam giving good gain, it consists of two four element v.s. beams stacked half wave apart and fed with 300 ohm line.

A field day was held on Sunday, 6th March. 3ABA, at One Tree Hill near Christmas Hills, worked six stations including 3ANW, 3VL and 3VF. 3ANW was portable on Mt. Buninyong and had eight contacts (3ZL and 3ARJ in Ballarat, 3VF in Drysdale, and the rest were with Melbourne stations). 3VL was also portable in the Red Hill district but complete details are not available of results achieved.

580 Mc.—An interesting demonstration of 580 Mc. gear was given at the March V.H.F. Group meeting. 3NW had a transceiver using a 955 with a half wave line, and also had a corner reflector antenna. 3AKZ also used a half wave line 955 transceiver. 3RR had a push pull oscillator using RL18s with plate and cathode lines, and 3IM had a transceiver using a single RL18 with a quarter wave line.

Others who have been experimenting with the band are 3XA, who has been trying out a 6J6; 3CR who has a 15E working; and 3QO who has push pull RL18s with cathode and plate lines, the plates being tapped down the line. This set-up can be used as a receiver by changing the grid leak. 3IM and 3QO have worked cross band 50 to 580 Mc. both ways so a two way contact is possible on the band.

The V.H.F. Group would like to thank John Belcher for his prompt action in obtaining a number of RL18s that he found available for the members. This should enable quite a few more chaps to get gear going on this very interesting band.

WESTERN AUSTRALIA—Compiled by VK6FC

The 50 Mc. band seems to have packed up for February. The activities of November, December and January were just absent. Metropolitan Amateurs, 6LW and 6FO, etc., heard nothing. 6WG at Albany likewise. No news from 6HM Kalgoorlie, but it is fairly safe to say that if 6WG at Albany heard nothing, neither did 6HM at Kalgoorlie.

Townsville, Cairns and Brisbane Radio Ranges have been heard during February at good strength from time to time in Perth, but no sign of any signal on 50 Mc. even by Sporadic E propagation. We are wondering what March holds in store for us. 6EO at Minding had his share of excitement, having worked five VK6s, three VK3s, heard a VK2 and VK4. I understand that 6DW at Bruce Rock still needs to work a VK6 before he can qualify for W.A.S.

CORRESPONDENCE

GENTLEMAN'S AGREEMENT

862 Anzac Highway, Morningson, S.A.
Editor "A.R.," Sir,

With the temporary absence from Ham Radio of VK5JE, it is up to someone else to wield the battle axe against the phone QRM on the low frequency end of the 7 Mc. band. Many a time Ted got to his feet at VK5 meetings and "went to town," verbally, on the previously mentioned offence and each time the blame was washed from the VK5's faces and put on to the chaps in the Eastern States.

But whatever the State, you will hear the phone down that end of the band, blotting out the DX. I won't say rnr DX, because when the c.w. band is left clean, the DX is there and you only need a little integrity to get it.

There is argument for and against it. Admittedly it is a gentleman's agreement, to keep out phone,

but what about the chap who wants to try a new modulator and has only one crystal, and all the other exceptions. Really to be fair to all, no perfect agreement can be reached, but surely 30 Kc. out of 200 could be spared for the chaps who want that elusive ZS for 7 Mc. W.A.C.

The story goes again, "I work on 20." But although I can't remember hearing phone on the c.w. end, I pity the chap whose phone gets cut about by c.v. The division of bands by "Gentlemen's Agreement" must be international, but how can it be internationally successful, if we can't keep the agreement here in VK, so what about it chaps.

—ROB. S. GURR, VK5RG.

FOR SALE, EXCHANGE, WANTED

9d. per line, minimum 2/-

Copy must be received by 15th of month. Remittance must accompany advertisement. Calculation of cost is based on an average of six words per line.

FOR SALE.—Bendix BC221 Frequency Meters complete with spare set valves, crystal, and calibration book containing operating instructions, but less carrying case, as new condition and to arrive from England shortly, £25 f.o.r. Melbourne. Brand new and tested in England 832A valves also to arrive, £3 each f.o.r. Melbourne. Sockets for 832 at 14/6 each also arriving. Order early to ensure delivery. Terms: half deposit, balance on arrival. R. H. Cunningham, 62 Stanhope St., Malvern, Vic.

FOR SALE.—Pair 30v. Selsyns 25/-; pair 110v. Selsyns 52/6; BC342 receiver, perfect, fully modified as per "QST", with 110v. trans., £40; BC453 for Q5'er, perfect cond., £5; Biley 455 Kc. Crystal, £1; 0-0.5 amp. r.f. meters, 13/6; Ceramic butterfly condensers, 750v., 12/6; 1N34s, 11/-; following tubes new and boxed 829B £3/10/-, 815 £2/10/-, 832 £2, 6J6 14/6, 6C4 9/6, 2C43 25/-; Call at 4 Kenilworth Grove, Glen Iris, or ring UY 6256 (evenings), K. McTaggart VK3NW.

FOR SALE.—S20R Hallicrafters Receiver, excellent order, £40; Palec 2" C.R.O. complete, £20; FS6 Transceiver, new valves, no power pack, £6; Palec V.C.T. Valve Tester, new, £20; Weston 695 Mod. Osc., needs attention £10. VK7WT, R. A. Milledge, 8 Montagu St., Newtown, Tas.

WANTED.—One 18-pin cable connector, one co-ax. connector for Bendix 522. Please write direct and state price to VK6WG, Box 42, Albany, W.A.

WANTED.—455 or 465 Crystal. J. Murphy, 41 Forsyth St., West Ryde, N.S.W.

3BZ TRANSMITTER (or similar type) wanted, either a.c. or d.c. operation. Write, stating price, particulars to G. Laver, Fish Creek, South Gippsland.

TRANSFORMERS OF DISTINCTION

LINE TO VOICE MATCHING TRANSFORMERS

The transformers described in this section are complementary to those listed in the previous month, and are intended to match 500 or 250 ohm output lines to any number of speakers from one to twenty inclusive.

They are high efficiency units with interleaved cores and low insertion loss. Although in many cases their nominal specifications appear suitable for direct coupling of valves to speaker voice coils, no provision has been made to prevent saturation due to superimposed direct current, and they should not be used for this application.

ITEM 65. Type No. LV10

Primary Z: 3000 ohm tapped 500 ohm-5w
 Secondary Z: Speaker B-Coil 2 ohms
 Base: 2 5/8 x 2 3/4 x 2 1/4" H Wgt. 1lb 3 ozs
 Mntg: MH1B "S" is 7-6"
 Base plate fits standard 8" speakers.
 No. Speakers matched: 500 ohm—1 or 2.
 No. Speakers matched: 250 ohm—2 or 4.

ITEM 66. Type No. LV20

Primary Z: 2000 ohms tap 1500 ohm, 5W
 Secondary Z: Speaker V-Coil 2 ohms
 Base: 2 3/4 x 2 3/4 x 2 1/4" H Wgt. 1lb 5 ozs
 Mntg: MH1B "S" is 7-6"
 Base plate fits standard 8" speakers.
 No. Speakers matched: 500 ohm—3 or 4
 No. Speakers matched: 250 ohm—6 or 8.

ITEM 67. Type No. LV30

Primary Z: 3000 ohms tap 2500 ohm, 5W
 Secondary Z: Speaker V-Coil 2 ohms
 Base: 2 3/4 x 2 3/4 x 2 1/4" H Wgt. 1lb 8 ozs
 Mntg: MH1B "S" is 7-6"
 Base Plate fits standard 8" speakers.
 No. Speakers matched: 500 ohm—5 or 6.
 No. Speakers matched: 250 ohm—10 or 12.

ITEM 68. Type No. LV40

Primary Z: 4000 ohms tap 3500 ohm, 5W
 Secondary Z: Speaker V-Coil 2 ohms
 Base: 2 5/8 x 2 3/4 x 2 1/4" H Wgt. 1lb 8 ozs
 Mntg: MH1B "S" is 7-6"
 Base Plate fits standard 8" Speakers.
 No. Speakers matched: 500 ohm—7 or 8.
 No. Speakers matched: 250 ohm—14 or 16.

ITEM 69. Type No. LV50

Primary Z: 5000 ohms tap 4500 ohm, 5W
 Secondary Z: Speaker V-Coil 2 ohms
 Base: 2 5/8 x 2 3/4 x 2 1/4" H Wgt. 1lb 8 ozs
 Mntg: MH1B "S" is 7-6"
 Base Plate fits standard 8" Speakers.
 No. Speakers matched: 500 ohm—9 or 10.
 No. Speakers matched: 250 ohm—18 or 20.

The correct value of primary impedance for parallel arrangement for equal distribution of the output of an amplifier is found by multiplying the number of speakers by the line impedance. Take, for example, a 30 watts amplifier feeding six speakers from a 500 ohms line. The required primary impedance is equal to the number of speakers in parallel multiplied by the line impedance, i.e. 6 x 500, which equals 3000. Thus, Type LV30 would be selected, as this unit has a primary impedance of 3000 ohms, and the six speakers would be served from the 500 ohm tapping of the output transformer, as 3000 divided by 6 equals 500.

Type LV 30, however, will also serve for 12 speakers, if required, but they would then be placed in parallel across the 250 ohm tapping on the transformer, as 3000

divided by 12 equals 250 ohms, and the reflected load would still be correct.

In many installations, however, owing to varying noise levels and other modifying factors, each speaker may be called upon, deliver different amount of power. In these circumstances, the primary impedance may be determined by applying the following formula—

$$Zx \text{ equals } \frac{W}{W_s}$$

where Zx equals the primary impedance to be determined
 W equals the value of line impedance to be used.

W equals the power in watts from the amplifier.
 Ws equals the required power for each speaker.
 As an example, a 30 Watts amplifier using 500 ohm line output is to have 5 speakers, and each speaker is to have the following power distribution—

Speaker No.	Watts Each	Method of Calc'n	Impedance	Type No.
1	10	300 x 30 ÷ 10	1500	Use LV20
2	8	300 x 30 ÷ 8	1125	Use LV28
3	3	300 x 30 ÷ 3	3000	Use LV20
4	5	300 x 30 ÷ 5	1800	Use LV40
5	5	300 x 30 ÷ 4	2250	Use LV50

Substituting LV20 (2000 ohms) for speaker No. 2 and LV40 (1500 ohms) for speaker No. 5 means that standard units may be used, with a slight decrease in power to speaker No. 2 and a slight increase in power to speaker No. 5.

These five transformers when wired in parallel would present a terminal impedance of 515 ohms approximately which is a negligible degree of mismatching.

HIGH FIDELITY LINE TO VOICE COIL TRANSFORMERS

The following high level line to voice coil or recording head input transformers are complementary to the "AF" and "AW" series shown last month. These transformers are high fidelity units with an individual insertion loss of not greater than 0.5 db and a frequency range +/- 0.5 db 25 cps to 15 Kc/s.

References to their dimensions will indicate the large core structures adopted to keep iron distortion to negligible proportions by the use of low flux inductions at the maximum signal voltages incurred.

ITEM 70. Type No. VW15

Primary Z: 500 ohms 34db, 15 Watts
 Secondary Z: 15 ohms Voice Coil
 Base: 2 1/4 x 2 1/8 x 3 1/4-10" H Wgt. 3lbs
 Mntg: V14 "S" is 1 1/4"

ITEM 71. Type No. VW 126

Primary Z: 500 ohms 39 db, 42 Watts
 Secondary Z: 12 ohms tapped 6 ohms
 Base: 4 1/2 x 4 x 3 3/4" H Wgt. 3 lbs
 Mntg: VS10 "S" is 2 1/8"

ITEM 72. Type No. VW84

Primary Z: 500 ohms 39 db, 45 Watts
 Secondary Z: 8 ohms tapped 4 ohms
 Base: 4 1/2 x 4 x 3 3/4" H Wgt. 3 lbs
 Mntg: VS10 "S" is 2 1/8"

ITEM 73. Type No. VW 205

Primary Z: 500 ohms 39 db, 45 Watts
 Secondary Z: 2 ohms tapped 0.5 ohms
 Base: 4 1/2 x 4 x 3 3/4" H Wgt. 3 lbs
 Mntg: VS10 "S" is 2 1/8"

RED LINE EQUIPMENT PTY. LTD.

TRANSFORMER ENGINEERS

WORKSHOP: Cent. 4772. CITY OFFICE: MU 6855
 2 Coates Lane, Melbourne (3 Lines), 157 Elizabeth St., Melbourne.

KEEP THIS CATALOGUE
Cut out and file for reference



DISTRIBUTORS:

VICTORIA:
 Homecrafts Pty. Ltd.
 Arthur J. Veal Pty. Ltd.
 Radio Parts Pty. Ltd.
 Howard Radio
 A. G. Healing Ltd.
 Healings Pty. Ltd.
 Lawrence & Hanson
 Electrical (Vic.), Pty.
 Warburton Franki
 (Melb.), Ltd.

NEW SOUTH WALES:
 United Radio Distributors
 Pty. Ltd.

QUEENSLAND:

A. E. Harold,
 B. Martin,
 Denradio Industries
 (Maryborough),
 J. Michaelmore & Co.
 (Mackay).

SOUTH AUSTRALIA:
 Gerrard & Goodman,
 Radio Wholesalers Pty.
 Ltd.

TASMANIA:
 Noyes Bros. (Aust.), Pty.
 Lawrence & Hanson
 Electrical Pty. Ltd.

A GUARANTEE OF DEPENDABILITY

"The Radio Enthusiasts'
Supply Store"

MAGRATHS HAVE THEM..

RESISTORS



Paper tubulars Mica and black type from 1/4¢ plus tax 10%.

COIL UNITS

AEGIS TYPE K3 2 short wave band 13-42 meters 40-80 meters and B/C band complete assembly with switch and condensers. 126/9 plus tax 10%.

CONDENSERS



I. R. C. and Chacon. Wire wound and carbons from 5¢ plus tax 10%.

TAYLOR JUNIOR AC/DC MULTIMETER



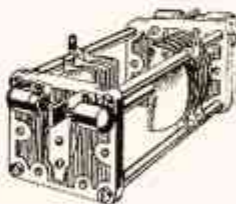
Model 120A-21 Ranges-Sensitivity 1000 ohms per volt. Weight with battery 14 ozs. High grade shock-proof moulded case measures 4 1/2" x 3 1/2" x 1-15/16 ins. deep. Provided with three plug-in test leads two with crocodile clips and one insulated test prod. A special device connected across the meter gives instantaneous overload protection on all ranges. Internal battery easily accessible and "adjust ohms" control compensates battery voltage variations. Extremely accurate on all ranges.

DC Volts	DCmA	AC Volts	Resistance
0-0.25	0-1	0-10	0.5-20 -2000ohms
0-10	0-10	0-50	50-2000-200,000ohms
0-50	0-50	0-250	±500 - 200,000-2 Meg. ohms
0-250	0-500	0-500	±5000 - 200,000 - 20 Mcg. ohms
0-500		0-1000	
0-1000		0-2500	
0-2500			

PRICE ... £9/17/6

EDDYSTONE TRANSMITTING CONDENSER

Identical in construction—length only varying according to capacity value—the condensers listed have ceramic end plates 2 1/2" square—Single point rotor earthing connection prevents circulating RF currents. Lugs on the stators permit either the direct fixing of the associated coil or for connections to stand-off insulators, etc. Alternative contact points available. Vane spacing 5"—adequate for high voltages, provided D.C. is removed by insertion of blocking condenser between rotor and earth. Metal parts, including spacing pillars, supplied for three point chassis fixing. Standard 1" spindle. Each condenser of the split stator type, directly applicable to balanced circuits. For aerial tuning and single-ended circuits, one section may be used singly or both can be connected in parallel. A wide range of working capacities thus becomes available.



No. 611 57/- Plus Tax
No. 612 50/6 Plus Tax
No. 614 68/3 Plus Tax

RF CHOKES

AEGIS obtainable in 1 to 4 Pyc including tapered 2.5 inductance.

NOTE:

R.F. Chokes are available to any inductance of specification supplied.

CRYSTAL FILTER COILS

AEGIS TYPE M22 IN-PUT 455KC M 22A OUT PUT 455KC. Price 8/3 plus tax 10%.

TERMINALS

Philip Type Heavy duty Price 1/6 plus tax.

SOLDER

English Ersin multi-colored. 8/3lb. plus tax.

GERMANIUM CRYSTALS

Crystal type C.G.1. Price 20/- ea. plus tax.

TAG STRIPS

2" wide 12 lugs a side. 2/4. ea. plus tax

J. H. MAGRATH & Co.

208 LT. LONSDALE ST., MELBOURNE *Phones: CENT. 4414* **3688**

AMATEUR RADIO

MAY
1949

JOURNAL OF THE WIRELESS INSTITUTE OF AUSTRALIA

NOW AVAILABLE...



TYPE
830B
£1/2/3

TYPE
834
£1/8/9

LOW-PRICED PHILIPS VALVES

FOR TRANSMITTERS AND MODULATORS

That new rig you are planning or the re-building of your present set-up can be improved by using a pair of 834's in the final stage, while for modulation, of course, the answer is a pair of 830B's in class B.

TYPE 834 TRIODE.

A transmitting triode designed for use as RF amplifier and oscillator, with maximum ratings up to 100 Mc/s. It may be used at 50% rating as high as 350 Mc/s. Power output at 1000 volts anode supply is 60 watts. Filament voltage 7.5 at 3.1 amperes. Driving power 6 watts. The price is £1/8/9 (plus 2/- duty).

TYPE 830B TRIODE.

With 6 watts driving power, two 830B's in Class B audio service will deliver up to 175 watts. At 1000 volts H.T. Zero signal anode current is 20 Ma and maximum 280 Ma. Filament voltage 10 at 2 amperes. This valve is also applicable as RF power amplifier for telephony and telegraphy. The price ... £1/2/3 (plus 2/- duty).

There is a discount of 10% on both valves to licensed amateurs.

PHILIPS ELECTRICAL INDUSTRIES OF AUSTRALIA PTY. LTD. Sydney, Melbourne, Brisbane, Adelaide, Perth



FOR THE EXPERIMENTER & RADIO ENTHUSIAST

Registered at G.P.O. Melbourne, for transmission by post as a periodical.

6d.

ALL PRICES SLASHED!!

See Below and Page 14

To Commemorate the opening of new premises at 5a Melville St., Hawthorn, "HAM" RADIO have pleasure in offering this month Disposal Stocks at unheard of prices. Apart from many drastically cut bargains listed here, see page 14, for many other lines at prices that will truly astound you. Many of the items are in short supply and cannot be repeated, so order now and avoid disappointment.

Note New Address—5A MELVILLE STREET, HAWTHORN, VIC.

American Transceivers HI Frequency I.F.F. Tube line up 3—7193S, 7—6SH7S, 3—6H6S, 4 Relays Genemotor 18 Volts input at 3.2 amps output volts 450 at 60 mile amps chockful of useful parts. To clear, £4. Be early!

Bendix Power Supply and Modulator Unit for TA. 12B transmitter. Valve line up 6N7, 6F6, into a pair of 807s. Bendix 50-watt Modulator transformers transformer relays, interstage transformer genemotor 28 volts input at 14 amps, output 540 volts at 450 mills. Two only at £7 each.

S.C.R.522 Genemotor Power Supply Input 28 Volt D.C. Output 300 Volt D.C. — 150 Volt D.C. 13 Volt Filiment Current Rating 300 M.A. Few only, £1 each.

Line Filters 12 volts at 30 amps inclosed in duralium case. Air Core Chokes and Condensers. 5/- Rectifiers, Copper Oxide, 12 volt at 100 mills; S.P. Bridge. Ideal for Relay operations. 2/6 each. Also 6 volt at 50 mills. 1/-.

Command type Modulators as used with Command Transmitters. Valve line up 1625, 12J5 and VR 150. Complete with genemotor £4/10/-.

DUCON TYPE, Small Block. 4Mfd, 600 volts, Working, 5/-.

AMERICAN SWITCHING RELAY BOXES: Contain good wrecking parts, Co-Ax connectors, 5/- AT5 Ariel Coupling units, 2 only at 30/- each. One less Meter, £1.

TRANSMITTER.—V.H.F. easily adapted for 400 M/s. Band uses 2-15E/s in final. Trombone Antenna. Each £3.

Command Type Transmitters. 4 to 5.3 M/c. Line up 2—1625, 1—1626, 1—1629. Checkpoint xtal. Few only at £5 each.

TRANSMITTERS:—A.T.5, 50 watt, Phone or C.W. crystal or V.M.O. Tube line-up; 6V6 Osc., 807 Doubler, 2-807 in final. Ideal Ham Rig, covering 20, 40, 80 metres. Also Broadcast Band to 150 Kc Meter for all stages; easily adapted to A.C. or D.C. power supply. Slightly damaged. Secondhand, £7.

Command Type Receivers. Frequency 3-6 M/c. £5. Command Type Receivers. Frequency 6-9.1m/c £5 Valve line up 3—12SK7, 1—12K8, 1—12SR7, 1 12A6. A few only in stock.

Switching Unit American Type housed in crackle-finished case 18 x 8 x 5, contains 24 volt D.C. motor and lots of useful gear. Each £1.

Brand new dual Audio Units. Containing two 12 A6 in Grey crackle finished containers. These units offer many purposes. Pre Amplifiers, Inter Communication Units or for wrecking. Units are mounted on rubber stands. These are bargains at £2 each.

"HAM" RADIO SUPPLIERS

(KEN. MILLBOURN, PROP.)

5A Melville Street, Hawthorn, Victoria

(East Kew Tram Passes Corner)

(Phone—Hawthorn 3465)

Special Attention Given to Country Mail Orders

AMATEUR RADIO

*Published by The Wireless Institute of Australia,
Law Court Chambers, 191 Queen Street,
Melbourne, C.1*

EDITOR:

T. D. HOGAN, VK3HX,
Telephone: UM 1732.

MANAGING EDITOR:

J. G. MARSLAND, VK3NY.

TECHNICAL EDITOR:

J. C. DUNCAN, VK3VZ.

ASSISTANT TECHNICAL EDITOR:

A. K. HEAD, VK3AKZ

COMPILATION:

R. W. HIGGINBOTHAM, VK3RN.

CIRCULATION:

J. F. IRVINE, VK3TU.

ADVERTISING REPRESENTATIVE:

W. J. LEWIS,
20 Queen St., Melbourne, C.1.
Telephone: MU 5154.

PRINTERS:

H. HEARNE & CO. PTY. LTD.,
285 Latrobe St., Melbourne.

MSS. and Magazine Correspondence should be forwarded to the Editor, "Amateur Radio," Law Court Chambers, 191 Queen St., Melbourne, C.1., on or before the 15th of each month.

Subscription rate in Australia is 6/- per annum, in advance (post paid), and A7/6 in all other countries.

Wireless Institute of Australia (Victorian Division) Rooms. Telephone: FJ 6997.

— IN THIS ISSUE —

Using the BC375E Transmitter Coil Units	3
A High Stability Frequency Meter	5
Federal, QSL and Divisional Notes	10
Fifty and Up	19
Correspondence	20

EDITORIAL



AMATEUR ADVISORY COMMITTEES

In all spheres of life there is some system of maintaining orderly conduct, and in this regard Amateur Radio is no exception. We could recall the statement by the noted American statesman Abraham Lincoln who once said, "Government of the people, by the people and for the people."

The Amateurs in Australia are able to govern themselves by the Amateur Advisory Committees which have been created in each State and under its control by the Postmaster General's Department and, as the name implies, the Committee functions in an advisory rather than a disciplinary capacity.

So that every licenced Amateur may have representation on this Committee its membership is composed of W.I.A. and non-W.I.A. personnel.

Each Committee, with the authority of the Department, whenever necessary, issues a notification to any licensee who has transgressed by a breach of the regulations or whose emissions are considered to be below the standard required by the Department. In cases where this notification is ignored the Committee refer the matter to the Department.

In instances where it is necessary to issue a "please explain" the recipient is asked to accept it in the "amateur" spirit and make endeavours to remedy the trouble by consulting the Handbook especially prepared for

the Amateur's guidance so that he may become more familiar with the regulations.

You, no doubt, will appreciate that the task of the observers is one requiring mature judgment and it should be understood that a "please explain" is not forwarded as a result of personal animosity. The Chairman, who is a Departmental representative, ensures that no such discrimination is shown by any member of the Committee towards any Amateur licensee.

The value of the activities of these Committees is fully appreciated in the work which they are doing in assisting to help maintain good operating practices, particularly in the heavily congested bands. Certain of this congestion is caused by key clicks and thumps, spurious emissions which include harmonic radiations and splatter. See that you, as an Amateur, are doing your share by emitting a good clean signal. An application of the golden rule will help clean up the bands.

Besides the foregoing there are other breaches which are committed primarily through thoughtlessness. Amongst these are out of band operation and third party messages. These are viewed very seriously by the Department.

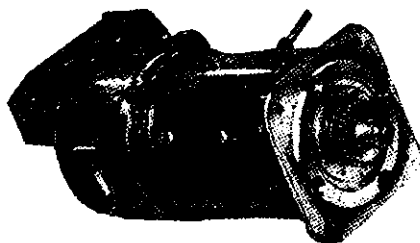
Amateur Radio has been in existence for the past 36 years — what a wonderful record to be proud of. Are you doing your share to maintain this good record? Play the game, please.

—Federal Executive.

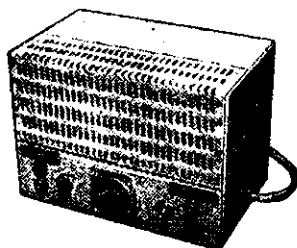
Homecrafts

PTY. LTD.

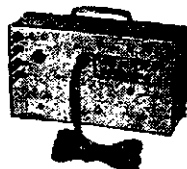
GREATER BARGAINS BETTER SERVICE



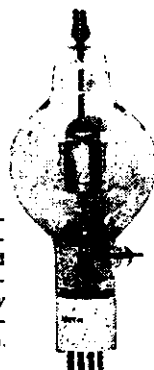
R.A.A.F. 24 Volt, 1,500 Watt, High Charging Rate Generators. Super Disposal bargain. Originally cost over £60. Our price only £13/15/-.



The New Mini-Amplifier Kit. Kit for compact High Fidelity Amplifier with over 4 Watts undistorted output. Incorporates many new features — inverse feed-back, etc. Price complete with circuit Diagram and Instructions—£12/10/- (less speaker and volume control.



THE NEW PORTA-PAC. Complete adjustable Low and High Tension supply to convert any portable battery radio to AC operation. As illust. £8/12/6.



The Collaro Microgram. Combined High Fidelity Amplifier, Speaker, Electric motor and pickup in smart streamlined leatherette case. As illustrated. Only £29/19/6. Terms £6 deposit; 10/3 wkly.



Insulated Mounting Strips as illustrated. 1 lug type, 1/7 doz.; 2 lug type, 2/7 doz.; 3 lug type, 3/7 doz.; 4 lug type, 4/7 doz.; 5 lug type, 5/7 doz.; 6 lug type, 6/7 doz.; 7 lug type, 7/7 doz.; 8 lug type, 8/7 doz.



The New Collaro RT49 Rim Drive Electric Gramo Motors With magnetic pickup—£5/7/6 With crystal pickup—£7/1/-



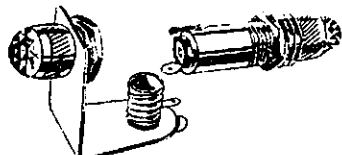
Battery Charger Kit. Kit of parts to build a 6 volt, 4 amp. Battery charger. Kit includes a 6 volt, 4 amp. English selenium rectifier, transformer, black crackle-finish metal case, 2 terminals, hook-up wire, and circuit blue-print instructions. Price complete. £4/10/-.

Super transmitting tube, bargain. New American imported Eimac 100TH tubes. As illustrated. Reduced from 8 gns. to 49/6.

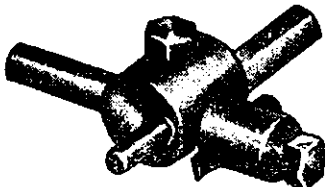


SUPER VALVE BARGAIN

Type 6K7G Valves equivalent to 6U7C. Electrically perfect, loose base only, as illus., 4/11 each.



E.M.A. Type F (faceted Jewels, wide vision type with nut and saccer for 1/2" hole mounting 1/9 ea. With buck loading pilot light assembly, 3/9 ea. Front loading type 6/- ea. Colors Red, Green finish, Nickel Plated.



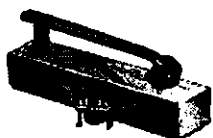
Chassis Hole Cutters. Adjustable Hole-Cutter, cuts holes from 1 in. to 3 3/4 in. diameter. Price only 16/7.



ACORN TUBES Type 954 & 955. As illustrated, only 16/-.



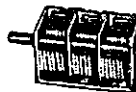
The New PALEC VET2 valve and circuit tester. This outstanding instrument is now available for immediate delivery. 10,000 ohm per volt. Will test 800 types of valves. Price complete £33/15/-, plus sales tax. Easy terms £7/10/- deposit; 13/6 weekly.



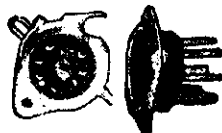
English Shefi High Fidelity Moving Coil Pickups. Complete with matching transformer. As illustrated. £4/19/-.



TEST PROBES. Available in Pairs, Red and Black, Insulated, with Chromium Brass Probes. Only 2/9 per pair.



Bargain Midget Tuning Condensers. 2 gang with trimmers. Reduced from 19/- to 19/11. 3 gang with trimmers. Reduced from 24/- to 12/11.



Miniature Moulded Bakelite 7-pin Sockets with silver plated contacts. Price 11d.

Country and Interstate Clients please add Freight or Postage

SPECIAL SNAP BARGAINS

4 Bank D/W Switches. Reduced from 17/6 to 4/11. Electrolytic Condensers; 4mfd. 350 volt. 24mfd. 150 volt and 300 mfd. 12 volt. Cut to only 9d. each. 5 valve steel drilled ducoed chassis. Cut to only 1/11. Speaker Windings — Standard Type. Cut to only 1/11. English Crystal Pickup Cartridges. Cut to only 9/11. Pye wound RF chokes. Reduced from 4/6 to 2/6. Iron Cored Permeature Coils. Aerial, RF and Oscillator. Cut to 8/11 per set.



E.M.A. Flexible Couplings. Polystyrene insulated. Sizes 1/4 x 3/4 or 1/4 x 1/4. Price as illustrated. 4/6.

290 LONSDALE ST., MELB. Phone — Cent. 4311

Using the BC375E Transmitter Coil Units

BY J. DUNCAN,* VK3VZ

The BC375E Transmitter was used in great numbers during the war for communication between Liberator aircraft and ground stations, and for various other jobs where the U.S.A. Army required a medium power transmitter with an input to the power amplifier of about 150 watts.

Frequency changing was accomplished by means of plug in coil units, which contained the necessary condensers and inductances for coverage between 150 and 12,500 Kc. and it is these plug in coil units which we are to deal with in this article.

For those who are interested in the conversion of the whole transmitter in its entirety, it is suggested that they study the excellent article in "QST," December 1946, page 38.

Before the coil units are discussed it will be necessary to have a brief picture of the r.f. line-up of the transmitter.

The transmitter consists of only two stages on the r.f. side, a 211 master oscillator, driving another 211 as a power amplifier. This latter stage being modulated by Class B 211s. The r.f. side being shown in the functional diagram Fig. 1. The master oscillator is a plate tuned Hartley, the grid drive for the p.a. being obtained by tapping off the oscillator tank as shown, and feeding it via the blocking condenser to the p.a. grid. Neutralisation in the p.a. is achieved by taking another tap off the master oscillator tank, the same number of turns on the other side of the oscillator h.t. connection, and feeding it back to the plate of the p.a., neutralisation being achieved by adjustment of the variable condenser located in this lead. It will be seen that as h.t. is present on both the master oscillator and power amplifier tanks, they will be insulated from ground, which may be handy in some of the applications to which the coil units could be put.

COIL UNITS There are seven plug in coil units to each transmitter, the one covering the lower frequency range 200-500 Kc. not being of much use in our case. This unit is the TU26B, the other six units being numbered TU5B to TU15B respectively.

Each of these units is housed in a duralumin case 16 $\frac{3}{4}$ " long, 7-15/16" high, and 7-13/16" deep, finished in black crackle. This case is only used to protect the coil box when not in use, the inner case and front panel being removed by releasing snap fasteners.

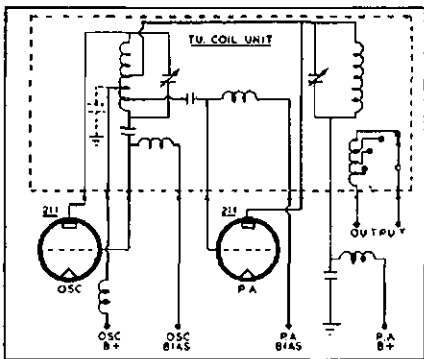
The inner case is divided into two equal sections, the left hand section housing the master oscillator inductance and condenser, and the right hand compartment, the power amplifier inductance, condenser, and ceramic tapping switch for adjustment of loading to the separate antenna loading unit. Also in

the master oscillator section is the neutralising condenser, r.f. chokes, and by-pass condensers.

The master oscillator condenser is constructed of Invar to reduce capacity changes due to temperature variations, is double spaced, and mounted on ceramic blocks—a beautiful condenser for a v.f.o. This condenser is driven through a ceramic flexible coupling, from a 50:1 worm drive. The drum dial is graduated 0 to 100 degrees for a complete revolution, and the scale on the condenser shaft 0 to 25 for a half revolution, giving 2,500 degrees for the full sweep of the condenser. This dial mechanism is spring loaded, has no backlash, and also has a dial lock incorporated.

The master oscillator inductance is tension wound on a ceramic ribbed former, and is fitted with a temperature compensating device inside the former. The neutralising condenser in this compartment is also double spaced, and insulated from the chassis, and is fitted with an insulated knurled disk, which can be set and locked, by removing the calibration chart on the front panel.

The various by-pass condensers in this section are all 3,000 volt types of excellent manufacture.



The right hand compartment contains the p.a. tank circuit and antenna switch, the condenser being double spaced, ceramic insulated, and in all units except the TU8B, which has a smaller value of capacitance, can be changed to split stator by cutting the stator bar on each side of the centre plate with a metal fretsaw. The centre stator plate can then be removed. The condenser is driven through a ceramic flexible coupler by a National type velvet vernier movement of about 5:1 ratio, this drive being fitted with a lock. The p.a. inductance is wound on a ribbed ceramic former, and has housed inside it the output coupling coil, which is taken through a heavily constructed ceramic tapping switch of six positions.

All connections to the remainder of the transmitter from the m.o. and p.a. compartments are brought out to a series of sockets located on an insulated strip running the full length of the coil box.

In the TU5B and TU6B Units frequency coverage is obtained in four and two steps respectively. This is done by switching fixed capacities across the master oscillator and power amplifier inductances. These ceramic switches being ganged by a metal bar. Each of the inductances switched into circuit in the master oscillator compartment, has a special temperature compensating condenser across it. These condensers consist of two round disks which act as the plates, the distance between them being varied by a bi-metal strip.

SUGGESTIONS FOR USE

From the above description it can be seen that the components are of particularly high quality and ideal for our use, and it is difficult to suggest any one particular use for a unit of this kind, as no two Amateurs think alike in that regard, however several ideas come to mind, and are given as a guide.

Firstly the unit can be dismantled for its components which are of very high quality and cannot be obtained elsewhere. The outer dural case only needs a front panel and you have a nice cabinet for receiver, v.f.o., etc. The ceramic coil forms, high voltage fixed condensers and switches all have places in the Ham shack.

Secondly by utilising the master oscillator condenser, and inductance in its existing position, and arranging a small chassis for oscillator and isolator tubes in the left hand compartment, removing all components in the right hand compartment, and installing a buffer amplifier and power supply, the unit can be made into a very nice v.f.o. If an external power supply is to be used, the inductance and condenser originally used for the p.a. could be used for the plate circuit of the buffer amplifier.

Because of the high quality of the condenser and inductance, the "Clapp" oscillator is particularly suited to this unit.

Fourthly the TU5B which has a range of 1.5 to 3 Mc. would make an ideal frequency meter and is discussed in detail later in the article. Because of its 2:1 frequency range, complete coverage of the short wave spectrum up to the highest harmonic audible on a receiver is obtainable.

To determine the bandspread, and capacities required to bring the various units into the Amateur bands, an oscillator and isolator stage was built up, the oscillator being the familiar electron coupled type. In all tests the frame of the oscillator condenser was grounded,

* Technical Editor, 23 Parkside Ave., Balwyn, Victoria.

and the taps on the inductance, other than the centre one, were removed. The remaining tap was used for the cathode. The following data was obtained, and it should be noted that the values of capacity do not apply to the "Clapp" oscillator, but only to the electron coupled circuit, used for the tests.

TU5B.—Range 1.5-3 Mc. Osc. cond. 20-135 pF., p.a. cond. 20-156 pF.

Remarks.—This unit was not available for tests.

TU6B.—Range 3-4.5 Mc. in two steps; (1) 2.85-3.65 Mc., (2) 3.45-5.2 Mc. Osc. cond. 15-75 pF., p.a. cond. 19-116 pF.

Remarks.—No change in oscillator fixed capacities necessary, only necessary to disconnect fixed capacity connected to cathode tap of inductance.

Bandspread on 3.5 to 4 Mc.—925°.

TU7B.—Range 4.5-6.2 Mc. Osc. cond. 23-111 pF., p.a. cond. 19-116 pF.

Remarks.—Parallel capacity required to tune 3.5 Mc. band, 50 pF. zero drift, and 3-30 pF. air trimmer.

Bandspread on 3.5 to 4 Mc.—1471°.

TU8B.—Range 6.2-7.7 Mc., osc. cond. 14-66 pF., p.a. cond. 15-81 pF.

Remarks.—No alterations required, although 3-30 pF. air trimmer

could be added to bring 7 Mc. band to low end of scale, thereby increasing bandspread. P.A. cond. not suitable for alteration to split stator, (all other ranges suitable). Temperature stability excellent.

Bandspread on 7 Mc. band—183°.

TU9B.—Range 7.7 to 10 Mc., osc. cond. 15-77 pF., p.a. cond. 19-116 pF.

Remarks.—Parallel capacity required to tune 7 Mc. band, 3-30 pF. air trimmer. Remove 400 pF. fixed condenser between cathode tap and ground.

Bandspread on 7 Mc. band—281°.

TU10B.—Range 10-12.5 Mc., osc. cond. 14-62 pF., p.a. cond. 19-116 pF.

Remarks.—Parallel capacity required to reach 7 Mc. band 100 pF. zero drift, and 3-30 air trimmer. Remove 400 pF. condenser from cathode tap to ground.

Bandspread on 7 Mc. band—512°.

General.—The value of the neutralising condenser in all ranges is 8-26 pF.

Any of the v.f.o. circuits described in "Amateur Radio" could be built into one of these units, and if the normal electron coupled oscillator circuit is used a suitable circuit would be the one described in "Amateur Radio," August 1947, which gives details of the method for locating the cathode tap for voltage

stability, quite an important adjustment in an oscillator of this type. If a "Clapp" oscillator is used some adjustment may be necessary to the inductance to locate the Amateur bands correctly, as it is not permissible to use fixed condensers across the inductance in this oscillator.

All screws in these units have been fixed in with an adhesive, which can be softened with paint thinner thereby making them easy to remove.

The condenser which it is necessary to remove, between centre tap and ground, is shown dotted in Fig. 1. Obviously from one side of the inductance grounded, this capacity will be connected between the cathode tap and ground of the electron coupled oscillator.

Finally the following articles describing various conversions possible with these units, are listed below.

1. "What about the BC375E?," "QST," December 1946, page 38.
2. "A surplus parts Bandswitching Transmitter," "QST," September 1948, page 11; Part 2, "QST," October 1948.
3. "Transitron V.F.O. Unit," Short Wave magazine, June 1948, page 235.
4. "TU5B as Frequency-checked V.F.O. Driver," Short Wave magazine, page 464.
5. "TU5B as TU5B," Short Wave Magazine, November 1948, page 624.

ELECTRONIC A & R EQUIPMENT

QUALITY

From the Production lines of the A & R Plant, stream Transformers and Reactors of unequalled quality. Over Three Hundred Types ranging in size from Midget Microphone Transformers to 5 K.V.A. Power Transformers are produced. Only the finest insulating, impregnating materials, and filling compounds are used in A & R products; all completed units, too, must pass a rigid test bench examination before issue to the customer.

Write for the Latest Illustrated Catalogue

A & R Electronic Equipment Co. PTY. LTD.

I LITTLE GREY STREET, ST. KILDA, MELBOURNE, VICTORIA.

Phone : LA 3657

A High Stability Frequency Meter

BY R. HIGGINBOTHAM,* VK3RN

One of the most essential pieces of equipment necessary in the Amateur shack, and one which is required by the P.M.G., is a good, stable frequency meter. With the great popularity of v.f.o. operation these days, an accurate means of checking the frequency transmitted is imperative, and even where crystal control is used, it is necessary to check the frequency of crystals to see that they fall within the Amateur bands. It is also a great help in finding a station who finds it necessary to change frequency. Imagine the saving in time if you can use your frequency meter to narrow down the field of search to a few kilocycles, instead of searching aimlessly up and down the band.

Although this article is written around one of the BC375E coil units described elsewhere in this magazine, with a little extra work and careful adjustments, especially that of temperature compensation, a similar frequency meter could be built up using some of those good parts that are lying around the shack.

After viewing the TU5B tuning unit from the BC375E, the idea came to mind that a stable frequency meter could be constructed, using the oscillator tuning components, and with the dial capable of being read to one part in 2,500, quite a high degree of accuracy could be obtained, especially as the 1.5 to 3 Mc. range is covered in four steps. Further thought revealed that by removing all the p.a. tuning parts, there would be sufficient room in the p.a. compartment to include the necessary valves and power supply.

Upon laying out the parts it was found that there was ample room, so it was decided to add an electron eye and crystal, also a means of modulation, to make the frequency meter more versatile. These two units were added, and during the process of testing, it was realised that the electron eye only gave one check point over the whole range of the meter, which was 2,500 Kc. with the disposals crystal used. As the meter had four switched ranges, this meant that some of the ranges would not have a check point.

The system used in a commercial frequency meter came to mind. Why not replace the electron eye with a straight crystal oscillator? This was done, and resulted in a large number of check points being obtained throughout the four ranges from 1.5 to 3 Mc., due to the beating of the fundamental and harmonics of the two oscillators.

CIRCUIT The final set-up is shown in the schematic diagram. A 6SJ7 is used as an electron coupled oscillator, utilising the original capacity and inductance, dial movement, etc. The output from this oscillator feeds to the output terminal, and also the grid of the 6K8 mixer. The triode section of the 6K8 is connected in a conventional

crystal oscillator circuit, with a slug tuned broadcast coil ("Aegis" osc. M11 with plate coil removed) in the plate circuit of the oscillator tuned to the frequency of the crystal, in this case 2,500 Kc. This crystal was used simply because it was easier to get than a 1,000 Kc. crystal, and apart from the disadvantage of not providing band edge markers, does the job just as well, and at much less cost.

The output of the 6K8 mixer feeds into a triode connected 6SJ7 which serves the dual purpose of audio amplifier for normal frequency meter operation, and audio oscillator for modulation purposes.

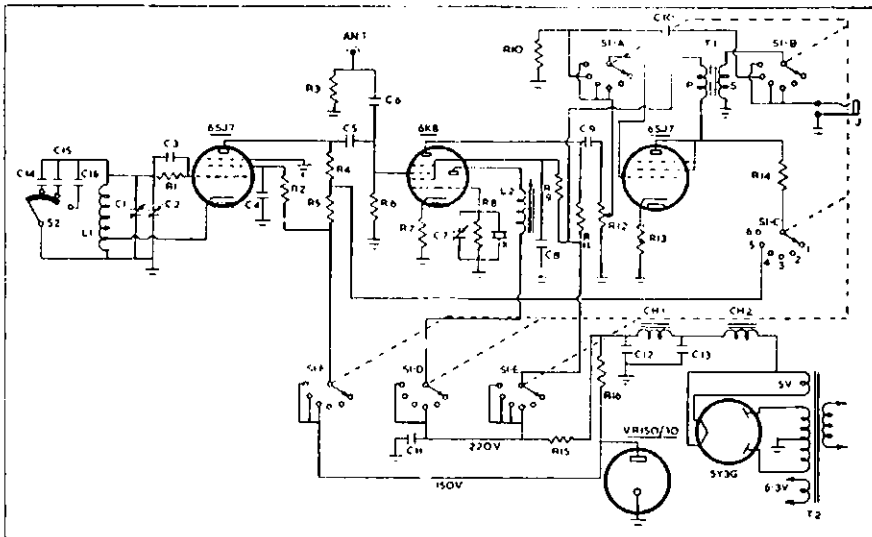
A function switch is used to change the circuit for the functions required, and consists of three banks of two poles with six positions. Although a six position switch is used—to correspond with similar markings on the front panel of the old antenna coupling switch—only four are used. The six positions

operate as follows:—

1. Warm up—all filaments on.
2. Warm up—all filaments on.
3. Crystal—Crystal oscillator only.
4. Operate—E.C.O. only.
5. Modulate—E.C.O. amplitude modulated by 6SJ7 audio oscillator.
6. Check—E.C.O. and Crystal on, 6SJ7 connected as audio amplifier.

The transformer T1 is an ordinary 3 : 1 interstage job, which happened to be on hand. If the audio oscillator fails to work when switched to position 5, reverse the connections to either the primary or secondary. The frequency of the audio note is controlled by the condenser C10, smaller values raising the pitch.

The power supply is conventional, with the voltage regulator controlling the voltage to all essential points. A two section filter with high value of filter capacity ensures that the note will be clean.



- C1—Original osc. tuning condenser.
 C2—5 pF. variable (Corrector).
 C3—15 pF.
 C4—0.001 uF.
 C5—50 pF.
 C6—25 pF.
 C7—15 pF. variable trimmer.
 C8—0.1 uF.
 C9—0.02 uF.
 C10—0.01 uF.
 C11—0.1 uF.
 C12, C13—16 uF. electrolytics.
 C14, C15, C16—Existing condensers in coil unit.
- R1—250,000 ohm 1/2 watt.
 R2—10,000 " 1/2 "
 R3—5,000 " 1/2 "
 R4—50,000 " 1/2 "
 R5—20,000 " 1/2 "
 R6—500,000 " 1/2 "
 R7—150 " 1 "

- R8—1 megohm 1/2 watt.
 R9—10,000 ohm 1/2 watt.
 R10—50,000 " 1/2 "
 R11—50,000 " 1/2 "
 R12—500,000 ohms pot.
 R13—1,000 ohms 1 watt.
 R14—20,000 " 1/2 "
 R15—2,500 " 20 "
 R16—7,500 " 20 "
- L1—Original oscillator coil.
 L2—Aegis broadcast osc. coil (M11) with plate winding removed.
 CH1, CH2—6 H. 60 Ma. Rola chokes.
 T1—Standard audio transformer.
 T2—385-0-385 v., 60 Ma., 5v., 6.3 v. transformer.
 J—Phone jack.
 Sw1A-F—3 bank, 2 pole, 6 position switch.
 Sw2—Existing band switch in coil unit.
 X—Crystal, 2.5 Mc.

* 43 Eleanor St., Ashburton, E.13, Vic.

TEMPERATURE COMPENSATION

The present oscillator inductance has an inductance loop inside the former which is varied axially by two metal rods, one constructed of a metal having a low co-efficient of expansion, and the other a high co-efficient of expansion, thereby varying the inductance with a change of temperature.

A small additional amount of temperature compensation was found necessary, and a negative co-efficient condenser was connected across the tuned circuit. A suitable condenser is made by Ducon, and is a ceramic 3-30 pF. type, with the plates silver sprayed onto the ceramic. The type should be the N500, the one marked N.P.O. is a zero drift and is not suitable. The capacity of the negative co-efficient condenser should be increased in steps, and the lumped capacity decreased in the remainder of the circuit, until correct compensation is obtained. If the above type of condenser is not obtainable a fixed ceramic of 50 or 100 pF. (N750) in series with an air trimmer will also serve the purpose.

The e.c.o. and crystal should be made to beat preferably on about the 1.875 Mc. check point, and temperature compensation adjusted there, this will ensure that the greatest stability will be in the Amateur bands where it is most needed.

A large number of check points are audible throughout the range 1.5 to 3 Mc. covered by the meter, but only the

main ones are used. When the meter is calibrated they should be noted in a similar manner to the BC221 Frequency Meter.

CONSTRUCTION

All components in the p.a. section were removed, and also those in the oscillator compartment except the variable condenser, inductance, range switch, and temperature compensated condensers controlled by this switch. Some of the screws holding the components are glued into position and can be removed by softening the adhesive with paint thinner.

The height of the new chassis fitted to the p.a. section must be governed by the components used. In the Writer's case the function switch (which replaced the antenna output switch) was mounted, and the chassis then placed in position so that there was sufficient clearance between the two. Another point to watch is that there is still enough room above the chassis for the valves. Metal valves were used for obvious reasons. The VR150/30 regulator tube rises above the rear wall by about half an inch, so the perforated metal cover was cut to allow the valve to project. When the unit is placed in its case there is still clearance between the top of the regulator and the case.

The oscillator valve socket is mounted on the partition wall, and the valve protrudes above the chassis in the old p.a. compartment. The 6K8, 6SJ7, and crystal are mounted vertically in front

of the power transformer, with the regulator tube and rectifier to the right of the power transformer, and in front of the latter two tubes are placed the audio transformer and the crystal oscillator coil.

The antenna terminal is mounted at the top-centre of the front panel, with the phone jack in line at the bottom of the panel. The corrector condenser is located in the bottom of the oscillator section, this condenser being used to bring the crystal check points to the predetermined dial reading.

CALIBRATION

Calibrating the frequency meter is best done by using a frequency divider giving 10 Kc. points. If the output of the frequency meter is tuned in on a receiver at five times the fundamental, 7.5 to 15 Mc., and beat against the 10 Kc. points at this frequency, readings will be obtained every 2 Kc. on the fundamental. A calibration book can then be drawn up, and the crystal check points noted at the bottom of each page.

Alternatively a graph could be prepared covering the four ranges, and the crystal check point readings listed.

With due care in construction and adjustment of this frequency meter, extremely accurate results can be obtained, which will be more than ample for our requirements, and you will have virtually "the poor man's Bendix."

The writer wishes to thank Mr. J. Duncan (VK3VZ) and Mr. J. Groves for their assistance and suggestions in the conversion of this tuning unit.

FOUNDATION OF A GOOD AMPLIFIER

POWER	C.T.	WINDING	WINDING
1.5	1	12	12
1.5	1	12	12
1.5	1	12	12
1.5	1	12	12
1.5	1	12	12
1.5	1	12	12
1.5	1	12	12
1.5	1	12	12
1.5	1	12	12
1.5	1	12	12

Acclaimed by users everywhere, Trimax Transformers are constructed from finest materials — and feature high Permeability, Nickel Iron Alloy heat treated for optimum results. Available in Line to Line, Line to Grid, Plate to Line, Interstage, Single and Push Pull types.

TRIMAX Transformers
29-35 FLEMINGTON ROAD, NORTH MELBOURNE VIC.
(DIVISION OF CLIFF & BUNTING PTY. LTD...)

IONOSPHERIC PREDICTIONS FOR THE AMATEUR BANDS

MAY, 1949

The accompanying charts have been prepared by the Ionospheric Prediction Service of the Commonwealth Observatory. The first set of the series was published in the November, 1948, issue of this magazine, together with an article explaining the nature of the forecasts and how to use them. Nine of the charts, prefixed by the letter "C" for Canberra, refer to forecasts for the South-Eastern Australian States. The remainder, prefixed by the letter "P" for Perth, are for Western Australia.

These charts refer to the following world zones:—

Zone	Region	Terminal
1	Western Europe	London
2	Mediterranean	Cairo
3	N.-West America	San Francisco
3a	N.-East America	New York
4	Central America	Barbados
5	South Africa	Johannesburg
6	Far East	Manila

The forecasts have actually been prepared for point-to-point circuits between either Canberra or Perth and the overseas terminals mentioned in the above table. It is, however, to be expected that the charts will provide an approximate indication of ionospheric conditions for all Amateur contacts from South-Eastern Australia and from Western Australia to the various world zones. No forecasts are given from Perth to zones Z2 and Z4 for the current month. Chart P-Z2 would be essentially similar to P-Z1 while chart P-Z4 would be unreliable due to auroral activity in high northern latitudes.

USE OF CHARTS

All that is necessary in using the charts is to select a time (G.M.T.) during which a specified Amateur band frequency is below the maximum usable frequency (m.u.f.) of the F region of the ionosphere but above the lowest useful frequency (l.u.f.) for the desired contact. In two cases, zones 1 and 3a, it is necessary to consult both the short-route (s.r.) chart and the following long-route (l.r.) chart.

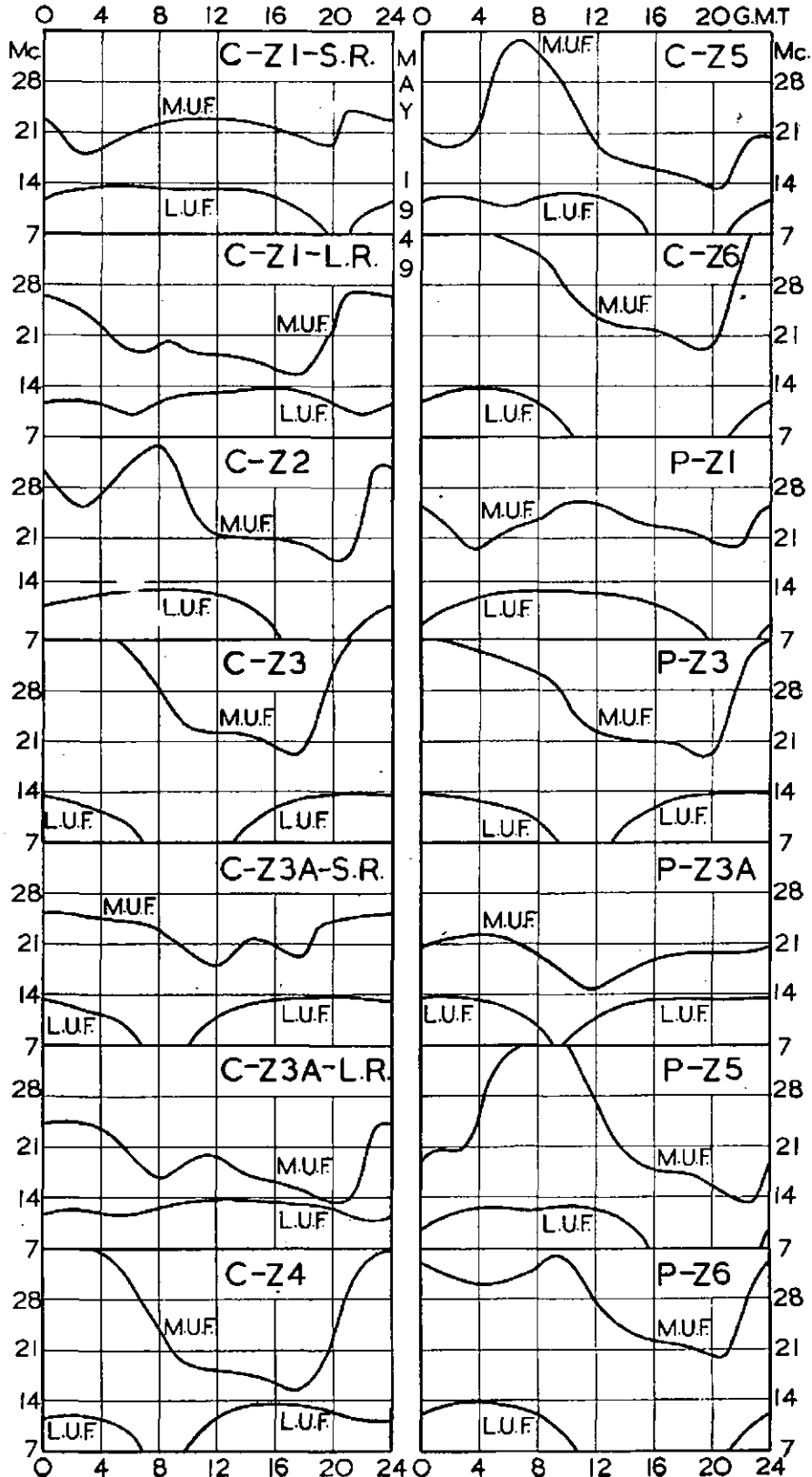
QUIZ

The Prediction Service welcomes comments on the accuracy of its predictions. In particular answers to the following questions on the Canberra-Far East circuit for May would be useful:—

1. Was the 28 Mc. band available from a few hours before midnight to a few hours before noon G.M.T.?
2. Were conditions noisy on 14 Mc. for several hours in the early morning, but good for the rest of the Greenwich day?
3. Were best conditions experienced on 7 Mc. from 11 hours to 21 hours G.M.T.?

Answers to the Quiz should be sent to the W.I.A. and should, if possible, refer to consistent results obtained on the majority of days in the month.

IONOSPHERIC PREDICTIONS FOR THE AMATEUR BANDS



Results of Frequency Measuring Contests

The following are the results of the Frequency Measuring Contest, held on 25th March and 1st April:—

1st Prize—VK3BB A. E. Budge, 33 Papyrus Street, Morewell, Vic. (£3 order for radio gear).

2nd Prize—VK3YS F. G. Bail, 62 Shannon Street, Box Hill (£2 order for radio gear).

Special Prize for best use of home-built equipment—VK3ACM C. R. Mackenzie, 34 Orange Gve., Camberwell.

The full list of entrants, in order of accuracy are appended, the second figure being the average error in cycles per second. The figure in brackets is the number of frequencies submitted by the Competitor.

As was expected commercial frequency meters were very much to the fore, BC221s being used by competitors in 1st, 2nd, 3rd, 7th, 8th, 10th, and 15th places. VK2RA used a commercial permability tuned v.f.o. which was the I.F. unit of the AT13 transmitter, and calibrated it against a 200 Kc. crystal oscillator. VK2QL hand calibrated an SCR211 and used it to win 5th place.

The most meritorious use of home-built equipment was judged to be VK3ACM, whose equipment was a home-built v.f.o. (e.c.o. 6SJ7, 1852 un-tuned class A amplifier, with a regulated power supply). Ten entries were submitted by this entrant, and his average error was 189 c/s.

VK5RR had an unusual set up, to quote: "Home constructed receiver, permanently tuned to 5KA at 1200 Kc., single tube v.f.o. with L/C constants at

50 Kc., adjusted exactly to this frequency by zero beat with 5KA at its 24th harmonic, and a heterodyne frequency meter on the broadcast band which can be corrected at any time by zero beat with 5KA, the 6th harmonic of which is 7200 Kc., with check points by means of the 50 Kc. standard at 7150, 7100, 7050, and 7000 Kc."

The remaining entrants' home-built equipment in brief was:—

VK2GU.—Home-built frequency meter, with 200 Kc. crystal, and 20 Kc. multi-vibrator.

VK3XB.—Home constructed frequency meter using single 1D8GT with pentode as 3.5 Mc. band osc., triode audio amp.

VK2ZC.—100 Kc. oscillator, 10 Kc. multi-vibrator, and calibrated b.f.o. oscillator to interpolate 10 Kc. spots.

VK3ADF and VK3ADG used Class C Wavemeters. VK3GS used a BC348 receiver calibrated against 100 Kc. crystal in Hammurlund Frequency Oscillator Unit.

As will be seen from the results, 15 of the 17 entrants obtained an accuracy of under 400 cycles which is excellent measuring, and the entry of VK6DD who measured all 10 frequencies and had an error of only 286 cycles was remarkable.

For the information of entrants, the frequencies given by the Standard Frequency Service are appended, and the Judges wish to thank all concerned for their entries, and especially to the Measuring Service which co-operated so fully.

DETAILED RESULTS OF CONTEST

Call Sign	Error in c/s.	Frequencies Submitted
1—VK3BB	121	(7)
2—VK3YS	141	(5)
3—VK3PW	146	(5)
4—VK2RA	157	(8)
5—VK2QL	170	(5)
6—VK3ACM	189	(10)
7—VK2ZB	197	(10)
8—VK3AWW	220	(4)
9—VK5RR	235	(5)
10—VK6DD	286	(10)
11—VK2GU	287	(10)
12—VK3ADF	294	(6)
13—VK3XB	310	(6)
14—VK3GS	331	(5)
15—L. D. Sykes	393	(10)
16—VK2ZC	646	(4)
17—VK3ADG	1176	(10)

OFFICIAL FREQUENCIES

1—7003.744 Kc.
2—7049.700 Kc.
3—7094.065 Kc. (7093.826 Kc.)
4—7132.320 Kc. (7132.261 Kc.)
5—7163.120 Kc. (7163.091 Kc.)
6—7024.810 Kc.
7—7066.240 Kc. (7066.454 Kc.)
8—7107.520 Kc. (7107.391 Kc.)
9—7144.525 Kc. (7144.695 Kc.)
10—7192.878 Kc. (7192.869 Kc.)

The frequencies submitted by the winning entrant are in brackets alongside each Official Frequency.

C.W. Ratings for Several Radiotron Receiving Valves

Valve Type	Max. Plate Volts	Max. Screen Volts	Max. Grid Volts	Max. Plate Ma.	Max. Screen Ma.	Max. Grid (Note 1)	Max. Plate Dissipation (watts)	Max. Screen Dissipation (watts)	Power Output (watts) (Note 2)	Max. Freq. in Mc. (Note 3)	Grid-Screen Amp. Factor (approx.)
6AG7	375	250	—75	30	9	5	9	1.5	7.5	30	22
6AK6	375	250	—100	15	4	3	3.5	1	4	60	9.5
6C4	300	—	—100	25	—	8	5	—	5.5	60	18
6F6	400	275	—100	50	11	5	12.5	3	14	30	7
6L6	400	300	—125	100	12	5	21	3.5	28	30	8
6N7	350	—	—100	30†	—	5‡	5.5‡	—	14.5§	30	35
6V6GT	350	250	—100	47	7	5	8	2	11	30	9

Note 1: 100,000 ohms maximum grid resistor.

„ 2: Based on 70% plate efficiency.

„ 3: Maximum frequency for full power output and input.

† Per Plate.

‡ Per Grid.

§ Total.

Publication of this data should not be taken as an indication that all types mentioned are available from stock. Amateurs possessing any of these types will find the above chart a useful guide to maximum operating conditions. It should be noted that metal tube ratings given above do not necessarily apply to G and GT equivalents.—"Radiotronics," March-April, 1949.

VK'S ABROAD

Recently we have received letters from two VK3s who are at present in Great Britain. As their letters are interesting, it is thought that readers would be interested to know what is going on in other parts of the world.

The first is from Elgar Treharne (VK3AFQ, now G3CST). He says: "I was very pleased to receive the invitation to attend the 6th Annual Exhibition of the R.C.M.F. Exhibitions, Fairs, and Conferences are very fashionable in London and one is continually amazed at the splendid display of components, especially at this show at the Grosvenor. There has been great emphasis on technical components from perspex lenses for the optical enlargement of the c.r.t. screen to high capacity electrolytics for e.h.t. supplies.

"For the Amateur a very wide range of co-axial cables, modulation equipment, transmitting condensers and other wanted components. There seems to be a score or more makers of loud speakers from 2½" diameter to the huge so called reflexed sound projectors. And there are just as many makes of pick-ups to stimulate these speakers.

"An interesting development of the thermistor is the 'Brimister'—a current surge resistor. The large negative temperature co-efficient characteristics of this device are exploited in this new component, one type of which has a resistance of 3,000 ohms at 20°C. and a resistance of 200 ohms when passing 0.1 Amp. Miniature components were represented, perhaps, not as much as I would have expected. There seems a great need for standardisation, espec-

ially with tubes—there is not only a multiplicity of almost comparable types, but the nomenclature seems to be designed with the express purpose of foxing the young player.

"Please convey my congratulations to 'Amateur Radio'—the journal is really first-class these days, especially the technical articles on the conversion of service equipment to Amateur use."

The second is from W. H. Algar who had requested some W.I.A. information.

"GREMLIN"

In the twelve months that this feature has been absent from the columns of "A.R.," signals emanating from Amateur stations, sloppy operating, the misuse of v.f.o.'s., etc., have gone from bad to worse.

Many requests for the return of "Gremlin" have been received by the Magazine Committee, and it has been unfortunate that the "Gremlin" has not been in a position to carry on with his good work.

However with the June issue this feature will re-commence. It will be written by a new "Gremlin," but will appear under a different name. The person responsible is one I have known for many years, whose interest is solely for the betterment of Ham Radio. He is an active transmitting member on all bands, and has been for many years.

—THOMAS D. HOGAN, Editor.

REVIEW

We have received from R. H. Cunningham & Co. a copy of the new 1949 Eddystone Component Catalogue, which as usual offers a most attractive range of components to the Ham. In addition to the lines already available, there are quite a few new lines which will have an immediate appeal to experimenters and these include Cat. No. 678 Modulation level indicator and field strength meter. Cat. No. 717 145 Mc. beam aerial kit and No. 709 145 Mc. tuning unit. Cat. No. 690 is a crystal calibrator containing two G.E. 1000 and 100 Kc. vacuum mounted crystals and is ideal for spotting down to 60 Mc.

The range of transmitting and receiving condensers has been expanded and offers many useful types for application up to 500 Mc. and above.

Copies of this Catalogue are available immediately from authorised Eddystone distributors.

LOCATION of RADIO RANGES

The location of the Radio Ranges mentioned in the article, "What No Beacons," in March "A.R." may not be known to readers.

We are therefore indebted to Mr. F. Hanham (VK3BJ) for supplying the following information:—

AD	33.8	Parafield, Adelaide.
AS	33.8	Alice Springs, N.T.
BN	33.3	Archerfield, Brisbane.
CS	33.3	Cairns, Queensland.
CB	33.8	Canberra.
DW	33.8	Daly Waters, N.T.
DN	33.3	Darwin, N.T.
ML	33.8	Essendon, Melbourne.
TV	33.8	Garbutt, Townsville, Q.
PH	33.8	Guildford, Perth.
HB	33.8	Cambridge, Hobart.
HK	33.3	Holbrook, N.S.W.
KM	33.8	Kempsey, N.S.W.
MN	33.3	Mangalore, Victoria.
SY	33.3	Mascot, Sydney.
NH	33.3	Nhill, Victoria.
LT	33.3	Western Junction, Tas.

His letter reads: "Thank you very much for the pamphlet describing the activities of the Victorian Division of the W.I.A. It is very much appreciated as the Hams here are very interested in Amateur Radio in Australia.

"Since I've been in Coventry—since January—I've made quite a lot of good friends amongst the Hams here, and have joined the local radio society—Coventry A.R.S. They are a very enthusiastic and energetic body, holding their meetings every second week. I have recently taken out a licence for this country and hope to be on the air as soon as I am allotted a call sign."

Low Drift Crystals

FOR
**AMATEUR
BANDS**

ACCURACY 0.02% of
STATED FREQUENCY

3.5 M/C and 7 M/C

Unmounted .. £2 0 0

Mounted .. £2 10 0

12.5 and 14 M/C Fundamental Crystals, "Low Drift" Mounted only £5.

Spot Frequency Crystals
Prices on Application

Regrinds . . . £1 0 0

THESE PRICES DO NOT
INCLUDE SALES TAX.

Maxwell Howden

15 CLAREMONT CRES.,
CANTERBURY, E.7.

FEDERAL, QSL and DIVISIONAL NOTES



Federal President.—W. R. Gronow, VK3WG; Federal Secretary.—W. T. S. Mitchell, VK3UM, Box 2611W, G.P.O., Melbourne.

NEW SOUTH WALES

Secretary.—Dick Dowe (VK2RP), Box 1734, G.P.O., Sydney.
 Meeting Night.—Fourth Friday of each month at Science House, Corner Gloucester and Essex Sts., Sydney.
 Divisional Sub-Editor: H. F. Treharne, VK2BM, 5 Waimea St., Burwood.
 Zone Correspondents.—North Coast and Tablelands: P. A. H. Alexander, VK2PA, Hill St., Port Macquarie; Newcastle: E. J. Baker, VK2FP, 13 Skelton St., Hamilton, Newcastle; Coalfields and Lakes: H. Hawkins, VK2YL, 27 Comfort Ave., Cessnock; Western: G. J. Russell, VK2QA, 116 Bogan St., Nyngan; South Coast and Tablelands: R. H. Rayner, VK2DO, 42 Pettit St., Yass; Southern: E. N. Arnold, VK2OJ, 673 Forrest Hill Ave., Albury. Western Suburbs: A. C. Pearce, VK2AHB, 48 Harrabrook Ave., Five Docks. Eastern Suburbs: H. Kerr, VK2AX, No. 4 Flat, 144 Hewlett St., Bronte. North Sydney: L. D. Cuffe, VK2AM, 779 Military Rd., Mosman. St. George: J. A. Ackerman, VK2ALG, 32 Park Rd., Carlton. South Sydney: V. H. Wilson, VK2VW, Cr. Wilson St. and Marine Pde., Maroubra.

VICTORIA

Secretary.—C. C. Quin, VK3WO.
 Administrative Secretary.—Mrs. O. Cross, Law Court Chambers, 191 Queen St., Melbourne, C.I.
 Meeting Night.—First Wednesday of each month at the Radio School, Melbourne Technical College.
 Zone Correspondents.—North Western: B. R. Mann, VK3BA, Quambatook; Western: C. C. Waring, VK3YW, 12 Skene St., Stawell; South Western: B. Sechrine, VK3BI, 17a Raglan Street North, Ballarat; North Eastern: J. A. Miller, VK3ABG, "Brinville" Avenue; Far North-Western Zone: Harry Dobbey, VK3MF, 42 Walnut Ave., Mildura; Eastern Zone: J. D. Chilver, VK3DI, 20 Smith St., Leongatha.

QUEENSLAND

Secretary.—W. L. Stevens, VK4TB, Box 638J, G.P.O., Brisbane.
 Meeting Night.—Last Friday in each month at the State Service Building, Elizabeth St., City.
 Divisional Sub-Editor: F. H. Shannon, VK4SN, Minden, via Rosewood.

SOUTH AUSTRALIA

Secretary.—E. A. Barbier, VK5MD, Box 1234K, G.P.O., Adelaide.
 Meeting Night.—Second Tuesday of each month at 17 Waymouth St., Adelaide.
 Divisional Sub-Editor.—W. W. Parsons, VK5PS, 483 Esplanade, Henley Beach.

WESTERN AUSTRALIA

Secretary.—W. E. Coxon, VK6AG, 7 Howard St., Perth.
 Meeting Place.—Padbury House, Cnr. St. George's Ter. and King St., Perth.
 Meeting Night.—Watch the Monthly Bulletin.
 Divisional Sub-Editor.—VK6WT, D. Couch, Mary Street, Watermans Bay, W. Australia.

TASMANIA

Secretary.—J. Brown, VK7BJ, 12 Thirza St., Newtown, Telephone: W 1328.
 Meeting Night.—First Wednesday of each month at the Photographic Society's Rooms, 163 Liverpool St., Hobart.
 Divisional Sub-Editor.—Capt. E. J. Cruise, VK7EJ, Anglesea Barracks, Hobart.
 Northern Correspondent.—C. P. Wright, VK7LZ, 3 Knight St., Launceston.

WI BROADCASTS

All Amateurs are urged to keep these frequencies clear during, and for a period of 15 minutes after, the official Broadcasts.

VK2WI.—Sundays, 1100 hours EST, 7196 Kc. and 2000 hours EST, 50.4 Mc. No frequency checks available from VK2WI. Intra-State working frequency, 7175 Kc.

VK3WI.—Sundays, 1130 hours EST 7196 Kc. Individual frequency checks of Amateur Stations given when VK3WI is on the air.

VK4WI.—Sundays, 0930 hours EST simultaneously on 3750 Kc., 7196 Kc., 14,342 Kc., 52.4 Mc. and 144.138 Mc. Frequency checks are given two nights weekly, and the times are announced during Sunday broadcasts. 7010 Kc. channel is used from 1000 to 1030 hours each Sunday as VK4 query service to 4WI.

VK5WI.—Sundays, 1000 hours SAST on 7196 Kc. Frequency checks are given by VK5DW on Friday evenings on the 7 and 14 Mc. bands.

VK6WI.—Sat. 2 p.m. Sun. 9.30 a.m. W.A.S.T on 7196 Kc. No frequency checks available.

VK7WI.—Second and Fourth Sundays at 0930 hours EST on 7174 Kc. No frequency checks are available.

FREQUENCY ALLOCATIONS

Following representations to the P.M.G.'s Department by the Federal Executive, the following changes have been made with effect as from the 1st May, 1949. Two new types of emission have been added, namely, n.b.f.m. (narrow band frequency modulation) type 6F3, and a.s.a.c. (single sideband suppressed carrier) type A3a. A substitution has been made for the old 1345 to 1425 Mc. band and we now have the Atlantic City allocation of 1215 to 1300 Mc. The list below is the up-to-date one for Australian Amateurs:—

3.5 to 7.0	3.8 Mc.—A1, 3, 3a, 6F3.
7.0 to 14.0	7.2 Mc.—A1, 3, 3a, 6F3.
14.0 to 26.99	14.4 Mc.—A1, 3, 3a, 6F3.
26.99 to 28.0	27.23 Mc.—A1, 3, FM.
28.0 to 50.0	30.0 Mc.—A1, 3, 3a, 6F3.
50.0 to 144	54.0 Mc.—A1, 2, 3, FM.
144 to 288	148 Mc.—A0, 1, 2, 3, FM, Pulse.
288 to 576	296 Mc.—A0, 1, 2, 3, FM, Pulse.
576 to 1215	585 Mc.—A0, 1, 2, 3, FM, Pulse.
1215 to 2300	1300 Mc.—A0, 1, 2, 3, FM, Pulse.
2300 to 5650	2450 Mc.—A0, 1, 2, 3, FM, Pulse.
5650 to 10000	5850 Mc.—A0, 1, 2, 3, FM, Pulse.
10000 to 21000	10500 Mc.—A0, 1, 2, 3, FM, Pulse.
21000 to 30000	22000 Mc.—A0, 1, 2, 3, FM, Pulse.
30000 Mc. and higher	A0, 1, 2, 3, FM, Pulse.

Note.—6F3 emission represents a maximum deviation from the quiescent frequency of plus or minus 3 Kc.

THIRD PARTY TRAFFIC

It has been brought to our notice by officers of the P.M.G. Department that several deliberate breaches of Regulation 33, which deals with the handling of third party messages, have recently occurred. The P.M.G. Department take a very serious view of such contraventions and have intimated that any further cases will be severely dealt with. All Amateurs will receive notification of this matter in the Circular issued by the Department announcing the new types of emission. Also enclosed will be found Amendment No. 2 to the Handbook for the Guidance of Amateur Operators, January, 1948.

SLOW MORSE TRANSMISSIONS

Reports on these transmissions from Amateurs, would-be Amateurs and a.w.'s. would be welcomed by Federal Executive. Drop the Federal Secretary a note, and let him have your comments. The

various official W.I.A. stations conducting these transmissions are as follows:—

Sunday—VK3WI, 1100-1180 E.A.S.T.
 Monday—VK2WI, 2000-2030 E.A.S.T.
 Tuesday—VK4WI, 930-2000 E.A.S.T.
 Wednesday—VK7WI, 2130-2200 E.A.S.T.
 Thursday—VK6WI, not operating at present.
 Friday—VK5WI, 1900-1930 E.A.S.T.

All of the above transmissions take place on 3504 Kc.

HEARD ISLAND REPORT

It is reported from Heard Island by VK1FE that early in February (presumably the first week) on his arrival, he logged the 50 Mc. signals from VK4BT at R2 S3 when in QSO with another station. Unfortunately Arthur did not have a transmitter on the air himself at that time. It appears that early contacts with Heard Island may be expected, especially from VK6.

Ron, VK1VIJ, appears to have the urge for the DX, judging by the cards coming to light for him, and the fact that he worked some 200 odd DX stations in the first two months of operation representing some 30 odd countries.

P.M.G. AMATEUR CALL BOOK

Due to difficulties in arranging printing, the Call Book may not be available before June. We will endeavour to obtain the latest correction lists until it is released.

FEDERAL CONVENTION

The 19th Annual Federal Convention, held over the Easter holidays, was a success and many resolutions were considered—in all 33 Agenda items and 25 General Business items. A summary of the various motions and the result will be published in the next issue of "A.R."

The Federal President's report indicated that a progressive year had gone by, and judging by the amount of work ahead as a result of the deliberations, another busy year is forecast.

Delegates who attended on behalf of the various Divisions were Mr. John Moyle (2JU), N.S.W.; Mr. Bob Cunningham (3ML), Vic.; Mr. Howard MacGregor (4ZU), Qld.; Mr. "Doc" Barbier (5MD) and Mr. Hal Austin (5AW), S.A.; Mr. George Moss (6GM), W.A.; Mr. Joe Brown (7BJ), Tas.; and Federal Executive Officers: Federal President Mr. Bill Gronow (3WG), Federal Vice-President Mr. George Glover (3AG), Federal Secretary

FEDERAL

DX C.C. LISTING

PHONE	Zones	Countries
VK3JD (26)	33	121
VK6RU (27)	37	111
VK3BZ (28)	37	108
VK6KW (34)	36	105
VK3IG (37)	100	100
C.W.		
PHONE	Zones	Countries
VK3ON (8)	40	136
VK3YV (12)	39	131
VK3BZ (14)	40	131
VK3EK (10)	39	122
VK4EL (24)	39	120
VK2PO (7)	40	116
VK3DA (20)	38	113
VK2QL (18)	40	112
VK4HR (22)	38	100
VK3KB (38)	104	104
New Member—		
VK4RF (35)	34	102
PHONE	Zones	Countries
VK2DI (2)	40	160
VK3BZ (5)	40	158
VK6RU (11)	37	140
VK3KX (1)	38	136
VK3HG (4)	38	136
VK3JE (13)	39	133
VK3MC (6)	39	132
VK4BR (9)	38	126
VK6KW (19)	39	125
VK4EL (18)	39	120
New Member—		
VK4RC (36)	100	100

Endorsements in the form of a sticker are now being issued for every additional 20 countries verified above the 100 required for the Certificate.

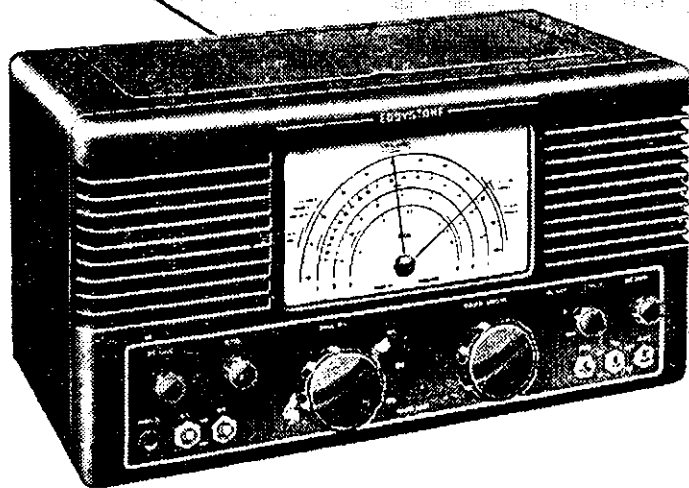
COUNTRIES LIST

In line with our note last month, it is understood that ex-D Amateurs are now being issued with DL calls which will be DL1, 3, 6, 7, 8, 9, in addition to the Occupation Forces prefixes as listed last month.

Substitute for Germany—DL in lieu of D (DA).
 For Palau Islands—add prefix KC8.
 For Bonin and Volcano—add prefix KG6.
 Add New Country—Heard Island (89) VK1.



THE UNBEATABLE, WORLD-FAMOUS EDDYSTONE 640



**NOW YOURS
FOR ONLY**

£56-10
+ SALES TAX

SPECIALLY DESIGNED FOR THE AMATEUR

A British-made Communications Receiver with Outstanding Performance on Amateur Bands

The Eddystone "640" Receiver has been designed in very close collaboration with leading British DX Amateurs to ensure that it possesses the special requirements expected by Amateur Operators.

An outstanding feature of the "640" is its unusually high signal-to-noise ratio, an attribute which enables the receiver to bring in, under adverse conditions, weak DX signals with a high degree of intelligibility. This fact can be proved by actual demonstration alongside other receivers of similar characteristics. One of the secrets of this important feature is the use of a single high gain, high efficiency R.F. stage. This design is supported by the opinion of skilled radio engineers. Air dielectric trimmer condensers and permeability-tuned coils contribute materially to the high sensitivity of the "640". The 1600 Kc/s I.F. stages and the modern design crystal filter provide high adjacent channel selectivity and large attenuation of image signals. The Eddystone "640" provides a tuning range of 1.7 Mc/s to 32 Mc/s in three bands, thus offering excellent bandspread. An "S" meter is available and may be plugged in at the rear of the receiver.

To the country amateur the "640" offers the excellent feature of being capable of operation from a 6 volt vibrator power unit in addition to the normal 110 to 250 volt 50/100 cycle mains.

*Ask your nearest Distributor
for a Demonstration and for
Details of Terms*

- VICTORIA: J. H. MAGRATH & CO., 208 Little Lonsdale St., Melbourne.
- N.S.W.: JOHN MARTIN PTY. LTD., 116-118 Clarence Street, Sydney.
- N.S.W.: PRICES RADIO, Angel Place, Sydney.
- Q'LAND: CHANDLERS PTY. LTD., Cnr. Albert & Charlotte Sts., Brisbane.
- WEST AUST.: CARLYLE & CO. LTD., Hay Street, Perth & 397 Hannan St., Kalgoorlie.
- S.A.: GERARD & GOODMAN LTD., 192-196 Rundle Street, Adelaide.
- TAS: W. & G. GENDERS PTY. LTD., 53 Cameron Street, Launceston & Liverpool Street, Hobart.

● ● ●
N.S.W. Factory Representatives: J. B. CHANDLER Pty. Ltd. 116-118 Clarence Street, Sydney
Australian Factory Representatives: R. H. CUNNINGHAM & CO. 420 William St. Melbourne, C.I

Mr. Bill Mitchell (\$UM), Federal Publicity Mr. George Manning (3XJ), and the Federal Treasurer Mr. Perce Evans (3OZ). Mr. Alan Brown (8OX) in his inimitable style, recorded the various findings of the Convention.

FREQUENCIES FOR FRENCH AMATEURS

As from the 1st January, 1949, the following details of frequencies allowable for French Amateurs are:—

3.5 to 3.625 Mc.—GFA.
7.0 to 7.2 Mc.—GFB.
14.0 to 14.4 Mc.—GFC.
28.0 to 29.7 Mc.—GFD.
72.0 to 72.8 Mc.—100F3.*
144 to 146 Mc.—100F3.*
420 to 460 Mc.—FM.
1215 to 1300 Mc.—FM, Pulse.
2800 to 2450 Mc.—FM, Pulse.
5650 to 6850 Mc.—FM, Pulse.
10000 to 10500 Mc.—FM, Pulse.

Power input permissible on the 3, 7, and 14 Mc. bands is 50 watts, and 100 watts for the other bands.

*These bands to be utilised for the radio-control of models, in addition.

W.A.P. AWARD

In clarification of the countries for which claims may be made for this award (see March "A.R."), the following countries are to be used:—

OR10	Portuguese Timor
DU	Philippine Islands
FK8	New Caledonia
FO8	French Oceania (Tahiti)
KB8, YJ	New Hebrides
FB6	Baker, Howland, etc.
KC4	Antarctica
KC6	Caroline Islands
KGG	Palau Islands
KGG	Bonin & Volcano Islands
KGG	Marianas Is. (Guam)
KH6	Hawaiian Islands
KJ8	Johnston Island
KM6	Midway Island
KP6	Jarvis & Palmyra Is.
KS6	American Samoa
KW6	Wake Island
KX6	Marshall Islands
PK	Java
PK4	Sumatra
PK5	Netherlands Borneo
PK6	Celebes & Molucca Is.
PK7	Neths. New Guinea
VK	Australia
VK9	Papua Territory
VK9	Territory New Guinea
VK9	Norfolk Island
VR1	Gilbert & Ellice Is.
VR2	Fiji Islands
VR3	Fanning (Washington) Is.
VR4	Br. Solomon Is.
VB5	Friendly (Tonga) Is.
VB6	Pitcairn Island
VS4	Br. Nth. Borneo & Labuan Is.
VS4	Sarawak
VS6	Brunei
ZC2	Cocos Islands
ZC8	Christmas Island
ZK1	Cook Island
ZK3	Niue
ZL	New Zealand
ZM0	Western Samoa
	Br. Phoenix Is.
	Tokelau & Union Is.

NEW SOUTH WALES

At the monthly general meeting held at Science House, Gloucester Street, Sydney, on Friday, 25th March, Mr. Allan Bird 2QW ably presented a lecture on "Inductive Coupling of Antennae to Feed Lines to Permit Continuous Rotation of Beam Antennae." Allan gave a full mathematical analysis of the subject which was considered so valuable that he has been asked to make it available for publication in "Amateur Radio" in the near future.

The general meeting was preceded by an Extraordinary and Confirmatory General Meeting to ratify alterations to the Constitution recommended by the Constitution Revision Committee.

Visitors to the meeting, 3GS and 2QA, were welcomed by the President.

The names of the N.S.W. country observers of the Amateur Advisory Committee were supplied by the P.M.G.'s Department. They are T. Evans 2NS, P. Alexander 2FA, R. Weeden 2PN, R. H. Baynor 2DO, E. Arnold 30J, and E. Baker 2FP. The nominations for the 1948-50 Council were Brian Anderson 2AND, Vic. Coie 2VL, Le. Caffe 2AM, N. H. Hicks 2ANH, N. S. Hill 2JG, Olive Hutchison 2YK, Naughton McNaughton 2ZH, S. W. Owen 2BX, Terry Thorpe 2OL, and H. F. Trehan 2BH.

WESTERN SUBURBS ZONE

There is any amount of activity on the lower frequency bands, but fellows in the other zones of the Sydney area would be happy to see more Western Suburbs stations on 144 and 288 Mc. There are several regulars on these bands so don't be afraid of hearing walls of silence. Modulated oscillators are not considered out of the question although the trend is towards crystal control. So do try and help swell the population at v.h.f. An unidentified VK8 was reported heard a couple of months back on 144 Mc. 2AHU is going strong and says that this time his skyhook is up to steady. Curly also has a fine new receiver completed. 2AFL is a new one in the Five Dock area and has been operating on 40 and 20. 2IT has been lashing out on 20 metre c.w. 2CL is on as often as possible, though busy. Les takes in some good DX.

2ADA Tom Davies of Glebe, has not been very active but he has some promising stuff on the way. 2ABR not heard recently. 2AGT of the family of Hams is striking out on 14 Mc. for some fine DX contacts. 2WB on 20 metre phone. 2MQ is mainly on 50 Mc. 2ID has moved from the district. No news of radio developments. Just married, y'know! 2SW doing some good work on v.h.f. 2AB working more Gs in a week than in the last ten years.

SOUTH ZONE

During the month the local QRM was increased with the advent of a signal from 2ANB. Norm has just moved into this district and all the chaps wish to extend a very hearty welcome to him. The general topic of the month seems to be beams and still more beams. The locals turned out in force to help 2WJ put up a three element wide spaced job for 10 metres. Later they went to help 2ABU put up his 35 foot tower topped with a two element close spaced beam on 20 metres.

2VW also has a three element beam under construction for 10. 2ABC has not been heard much lately, that new car giving trouble Fred? 2ABB on occasionally but Berry seems to be away a lot lately. 2RT also pounds an aircraft and spends more time overseas than at home. 2UV had bad luck and blew up his main power transformer and is temporarily confined to 144 Mc. 2AB STILL re-building, Jim has his masts up again so it should not be long now. 2WJ heard chasing DX with new 10 metre beam, but have not heard whether it is any good yet. 2ANB, our latest member is putting out a very nice signal on 144 Mc. Have not heard 2TI for a long time now, but rumour has it that Wal also has a new 20 metre beam in operation.

2YO now back on the job after a spell in hospital. Glad to hear you are OK again Jim. 2CF not heard much lately, what about it Ora? 2ABH on most week-ends on 20 or 40 metres, but Peter spends all the week travelling.

EASTERN SUBURBS ZONE

2QG has a new v.f.o., can be heard working DX outside pet h.c. hours. Ray says DX much easier with v.f.o. 2FI has had some bad luck, blew up final power supply twice, OK again and active on 20 phone. 2AHQ threatens to make a come-back, rather cramped in new QTH. 2VA off the air after losing his three element beam in heavy wind. Vince has a 70 footer under construction, meanwhile uses a folded dipole, not very pleased with it. 2AIG still doing good work on his 3 w. phone. Ray says he has to use phone on 40 to get a QSO, also aims to move to 20.

2AZH active on 20 phone, has not been on c.w. for years, blowing the dust off his key, to have another shot. 2QY finally cleared up the trouble in his rig, now putting out first-class phone. 2AJG not very active, heard occasionally on c.w. 2VF active 20 metre phone, having trouble with control relays. 2AEF built new receiver, Eric is very happy with its performance. 2AJH not heard much lately, don't know if it is b.c.l. or YL trouble. 2KH active 20 metre phone. 2BV still rebuilding, we are looking forward to your next transmission.

NORTH SHORE ZONE

There's so much activity in the beam-building business nowadays that it's fast getting to the point where anyone without one will be sneezed at. 2GC has passed the planning stage with his, and 2NI is going ahead with a super effort to replace his old two element which suffered in a wind storm some time ago. 2GQ the grand old man of c.w., has his beam completed, and is collecting a few of the strong-arm boys to hoist it up on the pole. 2HT is away from his QTH, travelling commercially in the country. 2PV and 2AM proceeding steadily and slowly—very slowly—with their re-build. 2EO negotiating for another receiver. 2ZH designing another receiver to end all receivers—I seem to have heard this before! 2TL and family

on holidays, miles away from Ham Radio. He also has a beam planned on his return. 2ADV back at the old stand, busy on phone and c.w. 2AMB will make the Century Club or bust.

DX NOTES BY VK2QL

Well gang, there is very little to report this month as far as doings of the DX men are concerned, as I have no details from more than one or two. Conditions have not been good during the last month, very little being heard on any band, 3.5 and 7 Mc. being well down. 2DI says 28 Mc. has been good for Africa round 0700 G.M.T., but all heard this QTH. If you happen to be on any band when something rare breaks through, it can be worked as no "dog pile" gathers, due to the inactivity on the band. For instance, the other night GMSANO/VP9 came through for a couple of hours at good strength, and made frequent CQs instead of being smothered by dozens of stations calling him, and similarly K841. The odd VK seems to be working the VKIs, but not heard here to date.

VK8KO again hits the headlines with another nice piece of work. He worked G8CF on the four DX bands within a period of 96 minutes, concluding on 28 Mc. at 2215 G.M.T. A very creditable performance.

Another old timer has chased the spiders and what nets out of the rig and threatens to damage all DX receivers, the said gent being Morris Brown 2OR. 2EW seems to be in a reet home or some place since the A.R.R.L. DX Contest, as he has not been heard on the bands unless he now has one of his own. 2DI advises he has received his W.A.P. Certificate and numbered 2. Hear also advise receipt of my application W.A.Z. in order and also numbered 2 in respect of VKs.

Cards are coming through from MD4BFC, which should satisfy a few chaps. My card was direct so he may QSL all VK direct. By working UM8KA, 2ACX has now worked all Russian prefixes. Nice work Arthur. Does that make you a "Hero???" Has sent cards for W.A.Z. Certificate.

Talking to Bert W4FU, the other day he advised he now totals 222 countries, and still coping the odd new one. Where do they all come from? 2YO has a good alibi for not sorting the cards, as Jim now totals 99 countries, latest being CX and VF9.

Not many listings this month, so what about it gang?

- VK2AOX—184, MD4GC KC6WA (Palau Is.).
- VK2DI—193, ZD8B, ZSSA.
- VK2HZ—163.
- VK2QL—161, GMSANO/VP9, HA1KK.

The QTH of FFBJA is Andre Jeannot, Adjutant-General, Colonial Radio Transmission Company, Thiarey, Senegal, French West Africa.

Now, in closing, what about the DX gang making some sort of an effort, a serious one, to clean up the bands. Firstly, by cleaning up our own rigs, or better me the DX gang, and men with years of experience behind them, are putting some horrible rigs into the ether. Secondly, by not being afraid to give the station you are working an honest report. If his rig is not TX, tell him so, and the average bloke will thank you for letting him know. There is always the odd one who says "nuts" but if honest reports are always given, he will eventually do something. You phone chaps will be surprised what is brought to light in a carrier when you put the b.f.o. on the rig. The other night, c.w. reception on 14 Mc. was completely ruined at this QTH by clicks radiated by a VK2, VK4 and VK5, operating in different sections of the band at the same time, and during a recent Contest a VK5 phone sig was all over the c.w. section of the band horribly distorted. That was in Sydney, what must it have been like close to his QTH. Well, what about it gang?

73 for now and good hunting and honest reporting.

NORTH COAST AND TABLELANDS

Most of this zone have been active on 80 and 40. Conditions on 80 excellent; 2GL, 2XO, 2ABY, 2AJB, 2XO and occasionally 2FA, heard most evenings. 2XO has been experimenting with antennae and favours two half waves in phase. Now using cathode modulation with 100 per cent improvement in quality and signal. 2JOC's three sons had a very narrow escape in Broken Bay recently when their sailing boat overturned near Lion Island. 2AJB expecting steel tower to arrive any day and will be constructing six metre beam. He recently had a visit from 2RU who spent a pleasant few days with Elsie and himself. Carried out some six metre tests with 2OC at Wyong with effective results.

2UN holidaying at Yamba, visited 2GL. 2JK just about to give the game away due to line noise,

works twenty when possible. 2ASF, 2XO and 2PA busy with arrangements for Urunga Zone Convention; they hope the day will be a success. A number of the zone members are active on 10 and 20.

COALFIELDS AND LAKES
 2RU still active on 50 Mc., may break out on lower freq., has rig finished. 2AEZ picked up AOCRF, makes him 118 countries—88 zones post-war; report Europeans good in mornings from 6 a.m. onwards. 2AMU running 12 watts on 50 Mc., has worked 2GU in Canberra, 88 report. 2KB on 40 phone as usual. 2AIO at the Entrance is going but no news of his activities. 2OO doesn't seem so active these days. No news of 2TY. 2VU going again on 50 Mc. after some re-building. Maitland sports a new old Ham in 2ALR. Nil from 2YO, 2PZ or 2MK this month. 2KF using some gear and "Clapp" oscillator. 2EK has worked New Hampshire on 10 phone, only needs Delaware for W.A.S. Max using eight half waves, four above four and works the States up to 9 p.m. on 10 metres. 2YL still re-building and hopes to be on in about six weeks. 2ADT doing some band-hopping from 80 metres to 144 Mc., a new rig is being used on 8 with good results.

WESTERN ZONE

2BF active on 40 and 20. 2WH getting his share of DX, collected YK1ADS on Macquarie Island. Zone Officer 2QA returned from holidays after doing the rounds of the shacks. Recommends the hospitality of 2AJP, put on two stone in Muswellbrook, nice work Elsie. 2XE active with a new Tx. 2IE entertained 2ACU over Easter, but couldn't get near the microphone. Bob had it in both hands. 2YN been entertaining 2AQQ, Bill made a quick W.A.C. to show how to do it. 2DK been heard on 40. 2ACT still be farming and no prospects of an early return to Ham Radio. 2AOU and 2WH made the Northern Zone's Convention at Urunga, they were invited to investigate the propagation properties of Lazy "Nine". Don 2ALK is back again in Grange, was heard over Easter. 2JG active on 40, likewise 2DQ with a nice drop of Morse. 2II with family and caravan was in Bathurst for the car races. Congrats to 2NS and his YF, will hear them both on the air soon. 2AFV had the bad luck to get across 1,000 volts. 2LY been doing a spot of recording on 50 Mc. for the W.I.A. v.h.f. broadcast. 2LZ inactive, spends a lot of time star gazing these days. 2EF on 144 and getting down to town

from a badly shielded location. 2EH been celebrating a happy event, has 187 up post-war. 2FH been talking compression with 2GS, so looks like some changes at St. Marys. 2AFO building new gear, has micropups going on 144 Mc. 2FI been trying 144. 2AOP back in Katoomba but not very active as yet.

SOUTH COAST AND SOUTHERN TABLELANDS

During the month many of the zone stations have been contacted, and think honours go to 2OW for the improvements effected to his equipment and signal. Much alterations to 2OW, result old No. 11 exciter has been replaced by a v.f.o. using "Clapp" and two class A Isolator stages, final is an 807 with 48 watts input, for speech two stage transformer coupled to p.p. 6V6s—crystal insert completes the line up and the effect is very pleasing. 2MN passed through Yass en-route to the R.A.S. in Sydney. Has made a change of QTH, now at Young. Uses a AT5/ARS, will be a W.I.A. member shortly. 2AIK had some bad luck and ruined four tubes in his equipment, very badly regulated power supply in West Wyalong is probably the trouble. 2ALN contacted while using complicated antenna system, a new mike has helped the quality too.

2AKE is very QRI, changing houses and believe to date no one has been hurt in rushing the vacant house. 2PI at Hall has a double conversion super but will spend a lot more time on it yet. The latest piece of gear is a Command Tx as v.f.o. 2AJP has been run to earth and has some fine gear operating, v.f.o.—6V6-807-803 suppressor modulated by 1008-6L7-76-6V6, Dynamic mike. 2OY of Goulburn has completed a "secret weapon" being we believe a Rx to end all Rx, no details direct but a little bird was active. 2WP, 6V6 crited into 807 with 60 watts, has a 6F6 plate and screen modulating that input! 2UK very QRI, doing a bit of unfortunate latching, his YF is ill, we hope she soon recovers. 2ON active on 40 and 80, no details of gear. 2VH active on 20 according to 2WP. 2WV also DXing but not heard in Yass. Eric Fisher, Jr., soon to be one of the active Hams in W'gong. 2ANW at Balgownie on 40 with good phone signals using Dynamic mike, commercial vintage. 2JQ active on 40, has a new car and plenty of work. 2ALS has completely rebuilt new rig using v.f.o. and 807 final, mod. pair 6V6s, all built into an AT5 frame, very compact. 2GU heard

working 2ALA but duty called and Arch had to "gallop" (to coin a popular phrase of 2WH). Congrats to Trevor 2NS and his YF, heard from many stations during their honeymoon. 2QA "The Voice of Nyngan" was heard from stations far removed during the holiday. Visitors through Yass during the month included 2MN, 2ET, 2ANK, and 2TB.

VICTORIA

A.O.C.P. CLASS

The Mornington Peninsula Sub-Branch of the Eastern Zone of the W.I.A., located at the Army Signals School, Balcombe Camp, is commencing a class for those desirous of the Mornington Peninsula of obtaining an A.O.C.P. licence. It is intended to bring students gradually up to the stage with theory, Morse and regulations that will enable them to pass the P.M.G. examinations. Prospective students are asked to contact Lieut. Wright at the Army Signals School at Balcombe for further details. Commencing date for the class is 9th May at 7 p.m. in the Officers Rooms at the School.

SOUTH WESTERN ZONE CONVENTION

Saturday and Sunday, 2nd and 3rd April, the gang of the South Western Zone held their Convention at Colac. Around the tables at dinner one could see 2BE, 2ASV, 2BI, 2IT, 2AGD, 2AKB, 2AKE, 2FS, 2BU, 2CO, 2BQ, 2ZU, 2IC, 2BE, 2KX, 2ABK, 2AGV, 2APG, 2YE, 2WT, 2AKP, 2ABE, 2BW, and 2IT; following visitors: 2BB, 2IK, 2TM, 2AML; others present were B. Sadler, C. Churnside, E. Giddings, D. Brook, B. Stokes, and R. Carter. Saturday afternoon the chaps rolled into the shacks as they arrived in Colac, Sunday the boys had a look over the broadcast station 2OS and I heard some have new ideas for their new rigs. From what I hear all enjoyed themselves, and thanks go for the good job the Colac gang did. Heard that 2VA is after an AR33 receiver which he goes to Sydney and is taking 2SHW as body guard. Latest is that Bob has folded his dipole on 20 with good results, what about the gentleman's band Bob, no hear. Heard that an eye bug has struck Ballaratian 2BI and 2ASV were in dry dock (bed) with eye trouble, looking where they shouldn't. Some good news from Ballan gang is that 2PP works 10-10



QSL CARDS

The DEE WHY PRINTING WORKS is making available to the amateur experimenter a special QSL Card Printing Service. Knowing the requirements of hams, we are confident the service offered will be unsurpassed in Australia.

Cards can be printed to your own specifications, and if illustrations or blocks are necessary, our Art Department can produce these for you.



Dee Why Printing Works

67 Howard Avenue, Dee Why, Sydney.
 Telephone: XW 8367.
 Proprietor: GEOFFREY BOWER

- The ham specially catered for.
- Quality cards at economical prices.
- Prompt service.
- One, two or three colours if required.
- Interstate orders handled.

"HAM" RADIO—FURTHER SPECIAL OFFERS

See also Outstanding Offer Page 2

English Hi-Frequency Receiver Type R.3084A. Band Tuning Coverage approx. 170 Mega-cycles. Valve line up 2—RL75, 1—KL16, 6—VR91S. Aerial switching motor, valves etc., 2 at £5 each. Osram Neon lamps. Fluorescent Tubes. Ideal for V.R. Tubes. 2/6 each. Mazda 4-watt Pencil Type Fluorescent Tubes. Ideal for R.F. indicators. 1/6 each.

Low impedance Headphone Leads. 1/- each. Standard Notes for Wireless Maintenance Mechanics, including Bendix A.T.5, A.R.8 etc. 5/- each.

AMERICAN INTER-PHONE CONTROL UNITS, less Valves. Full of useful parts Each 0 5 0
 ODDMENTS.—Volume Controls, all types Each 0 1 0
 A.T.5 TRANSMITTER KEY CLICK FILTERS. Full of useful parts (Weigh, 20lbs.) Each 1 0 0
 GENEMOTORS.—A.T.5, A.R. 8 (complete). Slightly-damaged Switches, 24v. input, 550 & 300 volts output, at 250 mills. To Clear 3 0 0

VALVES

VALVES

VALVES

— CHECK THESE FOR VALUE —

S.H. VALVES

out of disposals gear

1625	10/-
1626	7/6
1629	7/6
VR105	10/-
2 x 2	7/6
879	7/6
6G6	7/6
12SA7	7/6
12SG7	7/6
12SAH7	7/6
12H6	7/6
12C8	7/6
12J5	7/6
6SL7	10/-
6SN7	10/-
Metal 6J5	7/6
" 6R7	7/6
" 6L7	7/6
" 6C5	7/6
" 6Q7	7/6
English RL7	7/6
English EF 50	7/6
Metal 6SK7	10/-
" 6SJ7	10/-
" 6SS7	10/-
" 6SA7	10/-
" 6AG7	10/-
" 6F6	10/-
" 6N7	10/-
" 6AC7	10/-
" 6B4	7/6

Huge Quantity of Assorted English Valves.

VP41
VR102
VR92
VR122
VR21
VR65
VU139
VU111
VU39

5/-
Each
To
Clear

Secondhand Valves, all types. Battery and AC to Clear.

6J7	5/-
6U7	5/-
6V6	5/-
1J6S	5/-
6K7S	5/-
6G8S	5/-
6A8S	5/-
6K8	5/-
1P5	5/-
1Q5	5/-

Many others you name, we'll supply them.

NEW VALVES TESTED

832 American	£2
807 American	10/-
6V6	9/6
6L7	9/6
955	7/6
6R7	9/6
7C7	9/6
6J5	7/6
6SH7	7/6
6H6	7/6
12J5	7/6
12SQ7	7/6
3B24	7/6

BATTERY TYPE VALVES

1J6	7/6
1K4	7/6
1H4	7/6
1M5	7/6
1K7	7/6
Loctal valve sockets	9d.
English EF50 type	2/-

"HAM" RADIO SUPPLIES

5A MELVILLE STREET
HAWTHORN, VIC.

PHONE—HAW. 4465

20 with many DX contacts, while 3APA only works on 20 with 100 countries up with four wave vee beams and 100 watts to p.p. 307s.

3ADL (ex-8BM) building with p.p. 307s 100 watts and Bruce's receiver is still in VK9 land, so 3QW has it and it's a BC342. 3WR has new QTH at Hawthorn, but Don cannot come on the air as XYL has his nose to grindstone doing domestic work, bad show Don. 3AKE works 80 and 40 when not on 144 Mc., 3BU still finds time for QSO on 40, 3APG has new v.f.o. 100 watt rig all bands. 3ALG had power tranny trouble but OK now, while 3AAT has fine signal.

3IO has BC348 receiver, and 3EW on 40 c.w. with Type A Mark III. Neil has a 604 receiver, not a 640, sorry Neil for mistake. 3ZU had holiday with revamped 108 with good results. 3SC came to see your scribe 3UT and 3ZU when holidaying at Warmambool.

3BU worked 8TO and 3ABA on 144 Mc. recently. 3BW also active on this band. 3BW was also operating on 40 metres using a Type A Mark III. 3VLF on 80 metres with AT6, working 3BU and 3ALG on 7th April.

FAR NORTH WESTERN ZONE

It was decided to start weekly code practice classes at a meeting of the above zone, held on 1st April, 1949. Attendance was good. 3GZ, 3FC, 3TI, 3AGY, 3MF, 3AGF and Associates Herb Walker, Alex Smart, Jim Power and Kel Stansfield being present. Apologies received from 3NG. Weekly code practice starts on Wednesday, 6th April, with 3FO pounding it into them.

Zone President, 3GZ, who attended the State Convention, gave an interesting summing up of proceedings on both days, also the night at Harry Kimmear's.

New Ham 3AGY (Ray) had a sorry tale to tell of a fractured rock. We all hope the T9 note will be on the band soon Ray. Associate Jim Power caused a few eyebrows to be raised and evoked a lot of interest when he produced a schematic of a huge band-switched double conversion receiver he has designed. Beckons he has a big pile of coils and a five band switch so the soldering iron will run hot with a vengeance. Meeting closed at 10 p.m. when several of the boys had a look over 3MF's shack, switches being pulled by 3FO.

3GZ has f.b. final completed, 805 and very solid job; should be bending a few S meter needles ere you read this. 3FO has the Type 3 Mark II. at 3MF's QTH and gets choice DX bits on 40, ah that fist! When are we to come out and fell those trees Bert 3NG?

3TI very busy man these days, re-build no further on, did you lose heart when the pole went over in recent storm? Expect some 50 Mc. activity from 3AUG when harvest work ceases, nice receiver. 3MP cathode modulating S07, mainly on 40, hoping for bigger and better reports when Oregon pole goes up. 3AGF inactive, just having bout in hospital where he parted with the old tonsils, all our sympathies Tom; we wish you a speedy return to the DX. 3AFC is proud, so proud of recently arrived 1st harmonic; let's hear that phone Fred.

WESTERN ZONE

Two pleasant surprises turned up during the month. First a nice long letter from 3FI, and later a visit from Ray himself while he was holidaying in the Grampians. He was pleased the way his F36 got out over the rocks. Ray tells me 3TA is busy moving into a new home and as soon as the new shack is built, a 50 ft. tower erected, and a four element beam installed on top, Byron will be back on the air. He and Byron had an interesting time getting 3TA's old three element 20 metre rotary and the 40 ft. telephone pole down to earth, however the job was done and the old three element now reposes in 3FI's shack.

Claude of 3OD is Horsham's mystery man, but mystery or not he has done good work on 60 Mc. and now has all States. He is at present busy constructing 144 Mc. gear.

Len of 3AV is hampered by boarding house limitations and that bane of country Hams, d.c. supply, however he amuses himself on crystal grinds and as 3FI says, takes to it like an 807 to self-oscillation. A new member in Horsham is Alan Walter and when last seen was hurrying home from a holiday with a car load of wife and disposals gear; all of a dither to tear it apart. 3FI has also been busy adding a 4th harmonic to the family, and putting finishing touches to the new 100 w. rig. The Olas AB2 807 modulators at present are a little jumpy, but as Ray says some extra shielding round about will do the trick.

On our last zone hook-up we were pleased to have VK3AWH with us for the first time. Watty is a new Ham and puts out a very nice signal indeed. 3AKW is building himself a v.f.o. and hopes to have it going soon. Bill is also putting a switch on the p.a. 3ARM has at long last lost his almost

perpetual Sunday morning QRM. Bob was on the verge of buying a new crystal to miss it too.

3EP now has some competition as 3AWH is only about 200 yards away, so Ted will have to sharpen up the old receiver or have a working agreement for different bands. For the benefit of a VK5 net 3YW rubbed a few Kc. off his crystal so if I now clutter up another net it can't be helped; but whatever happens chaps, if you can make it don't forget the zone hook-up—Second Sunday in Month on approximately 7120 Kc.

EASTERN ZONE

The main topic of conversation in the zone this month has been the forthcoming portable contest, and it seems as though a good percentage will be going portable. 3SS and group plan to take a tent with all mod. cons., for camping over the week-end. The grilled steaks make one's mouth water at the thought of them. 3PR will be running the highest power, 20 watts to his Type 3 Mark II. The majority expect to operate with an input of between 4 and 6 watts. It is to be hoped that the weather decides to treat us kindly.

Our President, 3PR, has the a.c. on at last, and is now talking in terms of a three-stage 60 watt rig. 3DI at Leongatha reported a drop in line voltage when Ron switched his Type 3 on. Jim is expecting his new car any day, and has neglected his favourite hobby whilst fixing up a garage worthy of the object it is to house. 3SS gleefully reported receipt of a new light utility bus, and informed anxious engineers that he will be keeping the old one. 3AEP is apparently thinking in terms of a new car also—radio will be taking a back seat with quite a few of the zone.

3WE hasn't been doing so well with his calling in lately. There have been a few absentees in the hook-up. 3ACL has been too busy picking apples to do much operation. 3VL/US have also been busy picking, and clearing the block of trees not needed for the antenna farm, so have not done any ear-bashing except for the usual sked with 3DI, and a nightly sked with W6NAZ. 3CI was very keen about his cubical quad until he put it up. The best DX on 20 for the month was a QSO between 3CI and 3VL. 3LV is not on the air much—saving petrol for the holidays. 3QZ, contrary to expectations, is going to Metung for Easter, instead of spending the holidays on the estate. He plans to leave the rigs at home and you a Ham, Graham! 3QK finds 10 metre DX keeps him fully occupied. He is after DX C.C. twice over. 3TH is operating from his new shack, and finds it much more convenient.

Mornington Peninsula Sub-Branch.—This sub-branch of the Eastern Zone of the W.I.A. have decided to hold a Field Day on 29th May (Sunday) to celebrate the first year of operation of the sub-branch at Balcombe Camp. The arrangements for the day include: Picnic lunch, bring your own;

Field Day on 3.5, 7, 50 Mc. and upwards; Hidden Transmitter Hunt on 7 Mc. band; Buffet Tea; good prizes will be given for various sections of the day's activities.

A cordial invitation is extended to all members of the Institute to come along and join in with the gang on the Mornington Peninsula. Members who have portable gear are especially asked to bring along their gear and have a chance of winning a prize. The location of the Field Day is the Army Signals School at Balcombe Camp. This day's outing promises to be a good "do", so come along and join in the fun. 3KT or 3RR would like to hear from those who will be attending, so that catering arrangements can be finalised.

NORTH EASTERN ZONE

3UI has built a new modulator and DX has been better since. 3APF still getting out on ten and now has new 100W water going on six. 3AOK busted a big end on his car driving home from the Convention. 3KR has been working DX on 40 and 20 metre c.w. 3TS has had a holiday trip to VK2. 3GD doing well on ten phone now. 3YV is still very ill, and in hospital. 3ACW is building for ten. 3ABJ burnt second generator out.

QUEENSLAND

The general meeting for the Queensland Division met on the 25th March in the Elizabeth Street Rooms. In the absence of the President the chair was occupied by 4KB. Attendance was poor on account of the wet weather. The Agenda Paper for the Federal Convention was discussed and our delegate, 4ZU, was given the necessary instructions.

Copies of the VK4 Constitution are being made and each financial member of this Division will receive his copy in the near future. Membership Certificates have arrived and provided the President does not break down with writer's cramp, all members should have received their certificate long before these notes are published. At the present time approximately fifty per cent. of the licensed Hams in VK4 are members of the W.I.A. Of these, approximately fifty per cent. are country members.

Arrangements have been made for instruction for our students in theory and c.w. Transmission of Morse practice will be made over 4WI on a frequency of 3504 Kc. at 7.30 p.m. on Tuesdays. Students and Hams wishing to brush up on their code should listen to the Sunday morning broadcast of 4WI for further announcements.

Station manager 4FN announces that 4WI will be operating on 7100 Kc. with s.s.c. in the immediate future and reports would be welcome.

At the present time 37 members are making good use of our circulating library. Once again we remind subscribers that books should be returned to the librarian as soon as possible.

THIS
G L O - R A D
SYMBOL IS YOUR GUARANTEE OF WELL
ENGINEERED PRODUCTS



YOU WILL FIND IT WHEREVER DEPENDABILITY
IS PARAMOUNT

G L O R A D ENGINEERING SERVICES

186a Riversdale Road (Cr. Robinson Road)

HAWTHORN — VICTORIA

Phones DAY: WA 3819

NIGHT: WX 3440

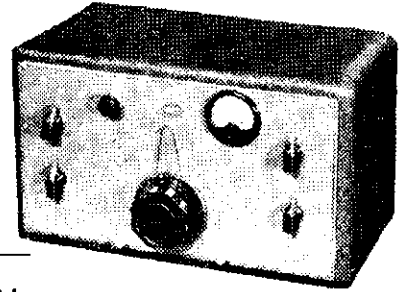
"Good Reception"
awaits you at
VEALLS

"UNIVERSITY"

S.G.A.

Signal Generator

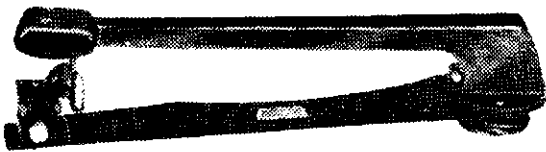
Frequency 155 KC to 110
 MC. Seven bands! £47
 (plus 10% tax).



And here are a few more Special Snaps from VEALLS!

- ★ A.W.A. Slow motion Vernier dials, 55 to 1 ratio 26/11.
- ★ AEGIS Insulator — all types available. Hom discount!
- ★ ROLA 12 R Speakers, £11/19/-. Hom discount.
- ★ VELCO Amplifiers and Microphones—complete range for every purpose.

- ★ UNIVERSITY A.S.T. Super Signal Tracer. A complete tester, VTVM for AC and DC. £47 (plus 10% tax). Full range famous "University" Test Equipment available!
- ★ AND REMEMBER VEALLS QUICK CHASSIS CUTTING SERVICE! Chassis for any circuits or special needs cut promptly and efficiently to suit you!



LEXINGTON MOVING COIL PICK-UP.

This famous English Pick-up gives performance never before thought possible. Full reproduction of the total audio frequency range Complete with transformer, screening box and sapphire needle.
 Prices: 12in., £11/8/10; 16in., £12/10/10.

VEALLS

243 SWANSTON STREET, MELB. FJ 3145
 299 CHAPEL ST., PRAHRAN. LA 1605
 Mail Orders Box 2141T, G.P.O., Melb.

Associated with ARTHUR J. VEALL Pty. Ltd., Est. 1911.

McGILL'S (Est. 1860)

**OVERSEAS AND LOCAL POPULAR MAGAZINES
 OBTAINABLE ON SUBSCRIPTION**

AMERICAN . . .

Audio Engineering, £1/12/-; C.Q., £1/12/-; Communications, £1/4/-; Electronics, £7/6/-; Popular Science, £1/5/-; Popular Mechanics, £1/8/-; Q.S.T., 33/6; Radio News, £1/12/-; Radio Electronics, 29/6; Science Digest, 24/-; Science and Mechanics, £1; U.S. Camera, 28/-.

ENGLISH and AUSTRALIAN . . .

Australian Radio World, 16/- Amateur Radio, 6/-; Electronic Engineering, £1/12/6; Radio and Hobbies, 12/-; Radio and Science, 12/-; Shortwave Magazine, £1/7/6; Wireless World, £1/12/6; Wireless Engineer, £2.

(Add exchange to country and interstate cheques.)

Large Range of Technical Books, Stationery and Novels on Display.

Mail Orders by Return Post.

McGill's Authorised Newsagency

183-185 ELIZABETH STREET, MELBOURNE, C.I, VICTORIA.

(The G.P.O. is opposite)

M 1475-76-77

ZONE NEWS

As we write these notes news comes to hand that 4GI, 4AI, 4BG, 4BY, and a number of budding Hams held a meeting in Maryborough and decided to form a radio club in that city. Nice work fellows! We hope to be able to report in our next issue that the club has been formed.

Bundaberg Zone (4RJ).—The Bundaberg and District Radio Society at a recent meeting, decided to build emergency gear. 4UK has moved to a new QTH, 4PG is now using a double conversion super, but we understand that a new harmonic and power supply trouble is keeping Arthur very busy. 4HE hopes to use s.s.s.c. soon, is building new rig for 10 and 6 metres, and also a super antenna. 4CW using command receiver on 7 Mc. Jack tried out the new "bath tub" antenna, but is not at all pleased with results. 4BJ still holding the fort and doing a good job as zone manager.

Gympie Zone (4HZ).—4CR has a dual purpose antenna—7 Mc. and XYL's clothes line. 4XR using fixed beam on South America, also tilted antenna. 4XJ moving to 4RO. Les was married recently and took a Type A Mark III on honeymoon (that such innocence should be!). 4HD still working a few on 50 Mc. 4HZ reports that he is getting much better radiation with the 50 ft. side than with other antennae. He has worked 65 ZL1s, 30 ZL2s, 40 ZL3s, and 30 ZL4s. 3116 post-war contacts of which 235 are DX QSLs. Not bad for low power and on 40 and 80 metre bands only. There seems to be a great controversy over the advantages of parallel versus series tuned antennae up Gympie way.

Townsville Zone (4GD).—With the departure of 4GE from the Townsville zone the club has elected 4XD as its new secretary. Four new associate members have been enrolled in the club. One member having passed the exam is now awaiting his call sign. The club has ten transmitting members in 4EJ, 4FA, 4GD, 4GF, 4JI, 4RU, 4RW, 4VH, 4WH and 4XD, out of a total membership of 36. The club hopes to have its own transmitter operating shortly. 4EJ having donated the gear. 4GD has built a converter with switching for 50, 28 and 21 Mc. bands, and hopes to see a 14 Mc. coil soon. Len is using a 6 lamp oscillator on 23 Mc.

Maya Zone (4RW).—Boys in this zone have been very quiet lately, everyone is striking trouble with gear. Probably the after effects of the cyclonic weather and continued wet weather is putting a lot of mikes out of commission. 4EH is supposed to be a very busy gardener so evidently conditions on the DX bands are very bad. John has worked 92 countries and 14 Mc. phone.

Two new zones have been created, the old Ipswich zone has been extended to include the Lockyer and southern border. A new zone "The Downs" extends from Toowoomba to Wallangarra and westward. In our next notes we hope to be able to announce the new zone managers for these areas.

QUEENSLAND DIVISION'S ANNUAL DINNER

The 17th Annual Dinner of the Queensland Division was held on Saturday evening, 12th March, at the Anzac Club, with an attendance of 45. Among the visitors present were Mr. P. Andrews, Radio Inspector's Branch, Mr. Russell, Mr. F. Roberts, three Country Members from Ipswich, 4UX from Stanthorpe, Allen Smith VK3 Associate, 4DA Dalby, apologies were received from 4NC, 4MR, 4HR, 4QW, 4WS, 4MM, 4AG, 4WO, 4TB, 4WF, 4PB, 4SV, 4JT, 4DN, 4GH, and 4SN; Associate Members Felsmann and Hungerford.

Our President, 4AW, welcomed members and visitors and reported: "Our progress during the past twelve months has been good, our membership rose from 188 when I addressed you at our last Dinner to 214, our present roll call. Although during the year we have actually enrolled more than 26 new members, some of our previous members have dropped out. When I look back to the early days when he had a membership of between 40 and 50, one realises how the Division has grown, also how the work of looking after 214 members has grown considerably.

"We now have a quiet club room in Victory Chambers where we hold Council Meetings and Student Classes. Here every lunch hour members can get together and enjoy a chat over lunch. I would like to see more members making use of the rooms during the lunch hour between 12 and 2 p.m. I do think city members should go along. Remember the days gone by when we were in Celtic Chambers, when during the lunch hour we had large gatherings of members?

"Some of our sections have been very active during the past year. The country section now has 71 active members under the very able direction of 4SN, our country representative. I think possibly one factor responsible for the improvement in our country section was the introduction of 4WI, which enables the country members to keep in touch, ask questions, express opinions and have them passed on. This service we will endeavour to

keep going. We are at present operating five transmitters simultaneously on 3.5, 7, 14, 50, and 144 Mc. bands. This is a record, as no other Division, even those with much larger membership, has been able to operate on more than one channel at a time.

"Another very active section is the v.h.f. section. It is probably past history to go over what has taken place on 50 and 144 Mc., but I must mention that one of our members has heard and logged VK2 on 144 Mc., and this was confirmed. I personally, during a visit to Sydney last year, checked up on this and found same to be correct.

"We are now starting on 288 Mc. As yet no definite contacts have been made on this frequency, but signs have been heard over 10 to 12 miles, whilst in the 400-500 Mc. band, some of the boys have long line oscillators working quite satisfactorily. I think we will hear a lot more of these regions before long. Some of the v.h.f. men here, are working down on 10 Cm. band and have some very fine equipment going in these regions.

"Contests during the year were well patronised, and a number of members have done very well, although we did not do well at the last Remembrance Day Contest, so let us give this Contest a lot of thought, and next year do much better.

"Federal Executive have some very nice Certificates for these Contests, some of you have seen them—4EL, 4DO, 4DA, 4HR have already won the DX C.C. and several others are well on the way to theirs.

"Since the alteration to policy, the library has done very well and now we have a scheme whereby we know where the books are, something which under the old scheme we did not know.

"Our Sub-Editor to 'Amateur Radio' has done a very fine job, however there is one point I would like to bring under notice. Last year we had several articles published, but it is a long time now since we have seen an article from VK4, I urge you all to give this some thought and let us have an article or two from each one of you."

The President then went on to outline the fine work done by 4RT, 4ES, 4FN, 4ZU on disposals, the formation of an Emergency Network, and the Food for Britain parcels, which this Division sent to R.S.C.B. He then made presentations to the retiring Secretary 4XG, and the operator of 4WI (4FN). After 4XG and 4FN had replied, 4RT was called upon to propose the toast to the retiring officers. This was replied to by 4XG. 4ZU proposed the toast to the Wireless Branch, which was responded to by Mr. P. Andrews of the R.I. Branch. The toast to the Wireless Institute of Australia was proposed by Mr. R. S. Roberts, who called to mind the very early days of Ham Radio in Queensland, and the early days of W.I.A. 4ES responded to this toast, after which 4RT proposed the toast to the Radio Trade, to which Mr. J. R. Foster replied.

Between toasts several small trophies were competed for. Associate Member M. Gabriel won a pair of 1600 Kc. 11L's, 4KH a push-pull driver transformer, 4ZU a pair of 6SN7 tubes, and 4LF a 6 inch Rola speaker and 4GB a 507 tube. After the speech making concluded, 4UX entertained for the remainder of the evening at the piano, whilst 4KH endeavoured to convince 4FN that QRM was much worse down at his QTH since the Greater Brisbane System was introduced. However a very f.b. time was had by all.

SOUTH AUSTRALIA

Well, we open the notes this month with loud cheers, brass bands and a 14 gun salute. Why? Well just turn to the last page of the March issue of this magazine and under the heading of "Correspondence" you will see a very sensible and well thought out letter from a very intelligent Ham. I deny the rumours that I wrote it myself, paid to have it written, or inspired the letter in any way. In fact I have never seen, heard, or contacted VK6WZ, but after reading his letter I made it my business to look for his signal, and believe me after I found it I can only say that I have never heard a signal to equal it. It was readability 5, strength 32 S points over 9, and tone 9XX. His voice was well modulated, charming and cultivated, and altogether I could have listened to him all night (How am I doing?) All jokes aside, a little pat on the back is always acceptable to me (I am just as human as you), although how I am going to live it down still has me worried.

Now, down to business, I am on holidays at the moment and therefore the notes this month are going to be decidedly short, and if you have any "swingers" well sack me! I won't be able to attend the general meeting, so that let's me out, although I can forecast what will happen. The President (with his tongue in his cheek) will give his report on the year's events, then the Treasurer will blind you with science and figures in his best school-masterly manner, the Secretary will give all a pep

talk and then the meeting will settle down to a very heated and vigorous discussion on the Agenda Paper, during which a lot of good and bad things will be said about the magazine and Federal Executive.

Among the visitors will be a lot of very welcome and charming personalities (providing they join up), and if they don't join up, well then they will be charming and very welcome "so and so's." So much for the meeting.

"Wick" Bayly (5WV) just back from VK3 after hitch hiking says that the VK3 gang are an extra good bunch of fellows, but is still trying to remove the smell of the pig truck that gave him a ride for a couple of miles. I believe the pigs took exception to "Wick's" pipe and gave him a wide berth. By the way "Wick," that wasn't rain that fell on you as you dismounted from the back of the truck!

As I said before, I am on holidays and I haven't listened, contacted anybody, or had any rumours blown down my ear, so that's all the city news for this month.

NOW AVAILABLE

TECHNICAL TOPICS

RADIO HANDBOOK

2nd Edition

With its 368 pages of highly informative material and cross indexing for easy reference *Tec. Topics Radio Handbook* is a valuable aid for any radio work bench.

(Note: The 2nd edition does not repeat any material contained in the 1st edition).

A radio manual dealing with all aspects of modern radio theory and practice *Tec. Topics Radio Handbook* is designed to assist all radio servicemen, amateur operators and radio experimenters in overcoming the problems with which they are confronted during the course of their radio work and experiments.

Technical Topics Radio Handbook

★

Price 15/- plus 1/- reg. post
from

MINGAY

Publishing Co. Pty. Ltd.

Box 3765, G.P.O., Sydney, N.S.W.

The following is a list of Council Members and their official positions in VK5 for 1949:—President, H. Austin (5AW); Vice-President, F. Wreford (6DW); Treasurer, G. Bowen (6XU); Secretary, E. Barbier (5MD); Asst. Treasurer, B. Austin (50A); Asst. Secretary, T. Laidler (5TL); Programme Organiser, R. Kelly (5LW); Disposal Manager, G. Ramsay (5GD); Membership Organiser, J. McAllister; Associate Representative, J. Paris; Publicity Officer, W. Parona (5PS).

Now for the Mt. Gambier notes. 5CJ is in the throes of house furnishing and is beginning to wish that he had taken up cabinet making as a hobby! The a.c. mains are creeping slowly but surely towards his QTH, and I am glad to know that the YF still thinks Ham Radio is OK. 5MS is now using a "T3" type aerial (I don't know whether the name has anything to do with the note). However it seems to be working OK as lots of DX are having their first QSO with 5MS. He has also fitted band spread to his ARS and automatic mod. control to his transmitter.

5KU has been trying himself out on 20 c.w. lately. Has also carried out a few modifications to his No. 4 receiver. 5FD, as anticipated, is now on a.c. and finds that he is getting a much higher voltage to his electrolytic condensers. He claims that one well known make of electrolytic condenser is much better than the "bombs" we used to handle on the 5th November. Has been working on 40 and 20 metres while still building his new gear.

5OH has not had very much time for Ham Radio this month. Has been very busy at the "erg" (no relation to 5KU) factory as acting manager. Has kept the cobwebs from his gear on 20 and 40. He also has a very elaborate system of relays ready to go into action. 5JA resting on his past efforts, I think. He would like me to tell all the v.h.f. experts that he has a crystal controlled transmitter on 6 and 2 metres, a beam on each band and also a good receiver on each band just waiting for some signals. 5TW still concentrating on 10 c.w. using a vertical aerial. Threatens to return to 40 phone soon. 5GJ has completely re-built the receiver incorporating bandswitching from 30 Mc. to 550 Kc.—now on 230 volt d.c. using 1625 in p.a. modulated by pair of 6V6s.

"Dorothy Dix" Parsons is still in business and I received a letter from "Harassed Parent" seeking my advice. He gave his call sign and QTH which makes it all "fair dinkum." "Harassed Parent" wants to know how he can stop his one year old baby from howling every time Daddy makes a move toward his shack to go on the air. Boy, oh boy, is this one right up my "Boolevarde;" me, with fourteen children, I'll say. If baby starts to cry, then go and get a small hairbrush and gently stroke the little b——, sorry folks, stroke the little darling's hair very softly backwards and forwards in a soothing motion. Should the sweet little thing not stop within fifteen minutes, then reverse the baby and the hairbrush and go to it. It never fails!

Although I am on holidays and determined to "loaf" and do no more work than I can help, these notes don't seem very representative of VK5 and I am puzzling my brains (or what passes for brains) as to what I can tell you dear readers. I could tell you what "Doc" Barbier (5MD) said when he received a phone ring from an irate Associate Member who wanted to know where his receipt for payment of his membership fee had gone to (after all "Doc" had had the letter 24 hours), but the Editor wouldn't print it anyway. I could tell you the real name of the Amateur with a KQ prefix named Bongo Bongo, living in a lighthouse in the Pacific (His job was to light the kerosene light at sundown, and blow it out at dawn), but I dare not; and I could even tell you why George Ramsay (5GD) only counts up to five when testing, but you wouldn't believe it, and last but not least, I could tell you what Ross Kelly (5LW) said when on his recent fishing trip a crayfish put a strangle hold on a certain part of the anatomy of Ross, but it would burn the paper (and it was not "confound it"). So there you are, I have tried to think of something but it is no good, so the best thing I can say is—for the benefit of those who have just come in, please turn to the back page of March "Amateur Radio" and read, mark and inwardly, digest—YOU BEAUTII!

WESTERN AUSTRALIA

The March meeting was held on the 15th (third Tuesday). There were 41 members present, among whom were two newcomers, namely, 6LL and 6KU. Congratulations are in order for Frank Taylor, now proud parent of his A.O.C.P., and of course call sign coming up.

Our Secretary GAG, being in VK5 on business, 6KW took office. We also noticed that 6WH is our President for the coming year. 6RO was issuing receipts for things called subs., March being the commencement of our financial year. All "non-members" please note!

6FC, our Emergency Network Officer, gave the good oil from communications with our local Wireless Branch, and we are now awaiting sanction of the P.M.G. to carry on with the organisation. In conjunction with the emergency net, a field day contest has been proposed for Easter Saturday, 16th April. Great interest is being taken in the field day and it is hoped the weather will stay fine until after that date. By the time you read this, you will have had it, so listen to VK6WI for the results.

A Contest Committee was elected to organise contests in VK6 and to make known all information of contests being organised throughout the world in which we can participate. 6NL, 6FL, 6CM, 6DD, with 6RU representative to Council, form the Committee whose first work is our Easter Field Day. They will also be responsible for awards.

Both 6RU and 6KW voiced opinions relative to the Remembrance Day Contest, and our representative to the Convention, 6GM, is well briefed on the subject.

After the usual rag chew followed an informal discussion on "V.F.O.s.—Their Use and Abuse," conducted by most members present. Quite a few words were aired and long pent-up passions exhaled so now we know what the other half think! "Piggy-back" QSOs also came into the subject and with GWH as M.C. we listened to an instructive and informative debate. 6GM was to have given a lecture—we don't know what it was to have been about, but he never had time to give it anyway.

6DW was a visitor from Bruce Rock and was pleased to make many personal contacts with Perthites he had worked. The meeting closed at 10.30 p.m.

TRANSFORMERS, CHOKES, ETC.,

Manufactured to order. Following stock sizes available:

SOLVE YOUR MAINS TROUBLES WITH AN AUTO TRANSFORMER

Bendix Frequency metres complete with original crystal and calibration book. Perfect order. £35.

A few more oil filled T.C.C. and CHANEX Condensers are now available in the following sizes.

2 MFD 3000 volt working £1/12/6
2 MFD 2000 volt working £1/5/0
4 MFD 1500 volt working 17/6

B.T.H. 10 HENRIE 250 M.A. 1000 volt CHOKES £1/5/-.

Crystals as illustrated, 40 or 80 metre, AT or BT cut. Accuracy .02% of your specified frequency £2/12/6 each
20 metre Zero Drift £5/0/0
Large, unmounted, 40 or 80 metre £2/0/0

Special and Commercial crystals. Prices on application.

CRYSTALS REGROUND . . . £1/0/0 each

BRIGHT STAR CRYSTALS may be obtained from the following interstate firms:—

Messrs. A. E. Harrold, 123 Charlotte Street, Brisbane; A. G. Healing Ltd., 151 Pirie Street, Adelaide; Atkins (W.A.) Ltd., 894 Hay Street, Perth; Lawrence & Hanson Electrical Pty. Ltd., 120 Collins Street, Hobart. Collins Radio, 409 Lonsdale Street, Melbourne.

A.W.A. SPLIT STATOR TRANSMITTING CONDENSERS, high voltage £2/15/0 each

SCREW TYPE NEUTRALIZING CONDENSERS (National type) to suit all triode tubes, Polystyrene Insulation 19/6 each

Prompt delivery on all country and interstate orders.

Satisfaction Guaranteed

BRIGHT STAR RADIO. K. G. Allen (late R.A.N.)

1839 Lower Malvern Road, Glen Iris, S.E. 6, Victoria.

Phone: UL 5510

POWER TRANSFORMERS . . .

600 Volts aside, 250 M/A. £3 5 0

880 Volts aside, 300 M/A. 4 17 6

1250 Volts aside, 400 M/A. 6 17 6

Tappings taken out where desired.

POWER TRANSFORMERS and CHOKES Re-wound—Reasonable Prices.

10 MFD 1500 volt working £1/7/6

2 MFD 500 volt working 5/-

1 MFD 400 volt working 3/-



PERSONALITIES

6DJ is developing a new Ham language. We hear "moojies" and "connie's" and wonder if Bill is looking for a new flat with all mod. conal. Also from Carlisle comes 6TZ who plays trains on the 7 Mc. track. Did it run over the mike lead Dick? What about 6RS with his VFONBPMOQ? (anagram for 6EL).

6LW has his rig on 7 Mc. again. That's a big jump from 50 Mc. Wal. Hear that Grace and Wally—6WG—still doing their share on 50 Mc. Have you heard that the ZLs and ZS have their beans on you two in Albany? 6MG was the only VK6 on the air during the Perth black-out. He had 7 Mc. band all to himself. 6CD was pleased to contact a ZL on 7 Mc. the other week-end. Should he move it or Don!

6NW, with his "Clapp" oscillator as v.f.o., is scoring lots more contacts. What's the DX C.C. score now Norm? 6WP putting out a signal after all these years. We hear that Bill has 100 watts locked up in the cupboard—what about turning "em loose Bill! 6WS very active on all bands lately. We know Skipper has a good site for the next field day. 6DX was in town recently after a tour of the S.W. with Mrs. DX. It was about time you collected those QSLs Bill. Did you get one from 6WH?

6AH is coming back to life again. Good show Stan—what about 6MH too? 6AR has things on the air from Hall's Creek. Alan likes the lack of local QRX. 6BC breaks through to some nice DX on 14 Mc. Doesn't happen often enough does it Bert? 6MW has promised us bigger and better signals. It's about time Bill struck his old form. 6WU came down to Albany and Perth for a holiday. As soon as Ray gets home he works a stack of new countries—wonders what he has missed being away.

6BG is on 7 Mc. seeking respite from DX. Peter has a v.f.o. on the way now. 6TP in his new home at Mt. Hawthorn will have his rig on the air just as soon as the lawns are laid, etc., etc. Notice that 6MB has joined the regulars on 28 Mc. now that the South Americans are breaking through. 6LL permanently on 28 Mc. lately—what about getting that v.f.o. going Clarrie?

6FR is finding a little more time for Ham Radio these days. 6HW had a very large amount of signal on 7 to 7.1 Mc. the other day. Guess I need a new receiver Harry? 6EL scoring some nice DX on 28 Mc. How's the Petermaritzburg situation Ern? What about putting 6CN on the band? Also hear the DX coming back to 6HM, Chas has his DX while DK is away, OK?

6KE hooked an aircraft in flight. That's a good effort Keith, but how? 6GD has been collecting some Europeans on 28 Mc. 6DD also getting his share on that band. 6KU didn't like being top of the list last month so its "bottoms-up" this time Ray!

TASMANIA

The April general meeting was held as usual in the Royal Photographic Society Room (sounds posh doesn't it). Only about 20 members were present, which is a poor show, considering there was so much business in the shape of the Federal Convention Agenda to be discussed. What about it chaps, the Committee desires your thoughts and ideas on these matters too!

Our worthy President 7LJ and 7XA told us of a publicity stunt that had been conducted through the courtesy of commercial station 7HO (I think 7GC had a hand in it), and replayed a wire recording of the doings. Nice work Charlie and Lon—just the stuff to give the troops. Methinks we could do a lot more on these lines and so build up a bigger and better Division.

On Sunday, 10th April, we held a Field Day and it took the usual form of a d.f. hunt. Yours truly was in charge of the transmitter (the only hope I had of getting in first) and was closely followed by Barney Watson, Lon Jensen 7LJ, and then Crosby Walch 7CW.

The transmitter was situated at Howrah, only about eight miles from the starting point, but even at that it was a very creditable effort Barney—25 minutes just about constitutes a record. I think it is about time we introduced a handicap system, possibly weight of man for age (of car) and then I might get a go myself.

Hear that newcomer 7KA is frantically building his rig and in the meantime can be heard occasionally on 7 Mc. using a Type A Mark III. Nice going Ken, I hear the new rig is an example of HOW a rig should be built.

Saw young Brian Hall in camp with the Citizen Army the other day, having a whale of a time with a 128 set. Brian has passed the A.O.C.P. but I don't know what the hold-up is now. How about it Brian—since you were on the air?

Sleepily turning the dial over the 14 Mc. band a few evenings ago, I heard 75K calling CQ—not CQ DX—I don't know who was more surprised, Max, myself or the QZ? that came back and gave him 3-7. Nice work Max out of the blue, that one, for a phone contact.

I have very much pleasure in reporting that 75K won the phone section of the National Field Day Contest. A very creditable performance for a new Ham. Max had been on the air, exactly 30 days prior to the Contest. The rig used was finished only a few hours before starting time, it consisted of two No. 19 genemotors for the power supply, the two 500 volt windings in parallel for the p.a. one 275 volt tapping for the exciter and the other for the modulator. A 128K7 a.c.o., a 6V6 buffer, a 6V0 doubler, and a 1625 in the final, comprised the transmitter, whilst the modulators were a pair of 807s with the usual speech line-up, plus a dynamic mike.

The whole "cabooosh" as Max called it, had an input of 6.5 watts, from two 6 volt batteries, fed into a vee beam, via a random length of twisted power-fee. The vee beam, which was the work of Sid 7SJ, had 120 feet legs, 35 feet high, spread at 80 degrees. The station was located in an apricot orchard at Howden and it is rumored that certain people won't eat apricots again. That's all for now OMs, don't forget to let me have your news and views you would like to see published.

NORTHERN ZONE

The usual monthly meeting of this zone was held at the Wills & Co's. room on Friday, 8th April. There was a large attendance of members and the evening was taken up with a discussion on the agenda paper for the Annual Federal Convention.

Most of our members have been very inactive during the last month, this was possibly due to the poor conditions on the bands. Even the 144 Mc. operators have been very quiet, the exception being 7BQ who has built for himself a very nice crystal controlled rig which is performing admirably with output and quality comparable to Len's 7 Mc. transmissions.

DX has appeared to me to have been very poor, however 7KB informed me that conditions on 14 Mc. have been excellent for the African continent from 0100 hours onwards, Ian has worked many

countries on the dark continent that I haven't even-considered as possible, even in my wildest dreams.

According to previous years, Central and South American stations should have been breaking through during the evenings of February, March, and April, however it has only been lately that this direction has been audible of an evening at all and during the past week XEs, KPAs, TIs, CMs., PYs, LUs, and VP1, 4, 5 and 9s have been heard at good strength. Best QSOs from here were VP4TB, who worked quite a few VKs on the evening of 11th April on 14010 Kc., and KS4AJ on 14.1 Mc. at 2100 hours.

On phone VK1ADS has been a good contact and was worth the battle to those managing to get through the din. Incidentally, Ron informed me that in future he will not answer anyone within 10 Kc. of his frequency.

28 Mc. has been very patchy with the ZLs appearing to get most of the plums. European stations have been fairly good of an evening up till approximately 10 p.m. and towards the end of March the Africans came through one Saturday afternoon and gave 7RK some good phone QSOs. That week-end Ray worked five continents on 28 Mc. phone.

BUY YOUR DX FRIEND

A YEARLY SUBSCRIPTION

TO

"Amateur Radio"

FIFTY AND UP

VICTORIA

50 Mc.—There has been more activity on the 50 Mc. band this month than last, mainly due to interest being shown in 576 Mc. and practically every night stations are to be heard carrying out cross band tests. Some sporadic E openings have also helped to keep the band busy. The first was on the 16th of March at 2120 when VK2BZ was heard by several stations at 89 but no contacts were made. Next, between 2000 and 2100 on the 21st, the VK5s made a surprise appearance. VK3TH in Yinnar worked VK5RT, 5AJ, and 5RV; VK3DI in Leongatha worked VK5RT, 5PR, and 5RV, and several Melbourne stations had contacts with the VK5s. The next night VK4HR was heard for a short time, while on the evening of the 23rd the VK5s again came through, although this time signals were not so good and not many contacts were made. After these openings there was a lull until the 3rd of April when VK3DA heard 2HG working a VK7 at 2100.

3UJ at Tatura is on the band every Saturday evening looking for (and contacting) Melbourne stations. 3APF in Shepparton has his new rig going and has worked 3ACL in Red Hill with good signals. 3HZ has his gear going but lacks a suitable antenna at the time of writing.

144 Mc.—There is not much to report this month mainly due to a drop in activity on the band, the reason for which is hard to see since so many chaps have gear for the band. How about getting on a bit more often?

Two new stations have appeared on the band. The first is 3PG, who is using a 6A6 c.o. and doubler with an 8 Mc. crystal, 6L6 tripler, RK34 tripler, and 815 final with 40 watts input. The converter uses a 6AG5 r.f. stage and 6J6 mixer and oscillator. Albert has not had time to put up

an outdoor antenna yet, but judging by his signal from an indoor dipole he should be one of the loudest on the band when he does. 3AML is using a 522 transmitter, a modified 522 receiver section, and a dipole 20 feet high. Ray is putting out a good signal and has materials on hand for a stacked beam.

3LH has constructed a 24 element beam (12 driven elements and 12 reflectors) and has been busy tuning it up for best results. He has not had it on the air yet, stations near by are reported to be replacing their aerial coils with ones wound with 8 gauge wire.

3ABA and 3YS have their new 50 and 144 Mc. rig with an 829B final working now. They run 90 watts since they have finished their new modulator using class B 809s. Needless to say they have a signal worthy of such a rig.

3AKE has new receiver called BL4 and it's hot from what Ed tell the boys on 144. He is putting up a new 16 element rotary beam on top of a 70 ft. etick. Other day 3AKE worked 3ALG, 3ANW, and 3BU with S5 to S9 signals. 3BU worked 3ANW, this is Bill's best DX, a distance of 85 miles. 3VF worked 3AKC and 3ED with good signal reports both ways. 3EQ has started on 144, also 3ZU and 3CT will be on that band soon looking for contacts, also heard that 3AKR is interested in 144 Mc. also.

576 Mc.—This band has been receiving a great deal of attention in Melbourne. Not many contacts are being made as yet, but many chaps are busy building gear for this frequency.

3NW has re-built his gear to a more satisfactory form. He now uses push-pull RL18s with plate and cathode lines for the transmitter and a super-regen receiver using a 2C43 lighthouse tube, which seems to be very sensitive. The gear is built with

portable operation in mind and some interesting tests should be carried out. 3IM has heard 3NW from his home location using an ASB receiver, kindly loaned by Len Allen. Signals were B5 and S4 on phone. The path is a difficult one as 3NW is in a hollow and there are several high hills in between.

3MD has been carrying out tests with a transceiver using a 955 with half wave lines, but has not had a great deal of success to date. 3RR has constructed a converter using an RL18 mixer with a co-axial grid circuit and a 955 oscillator. The output is on 140 Mc. and is fed into an ASV receiver. Dick has been able to hear 3XA but has not finished adjusting it at the time of writing. 3CR is building a somewhat similar converter but using a VR92 mixer and a 604 oscillator using harmonic injection. (It appears that this gear would be the basis for some good technical articles—Editor.)

3XA has tried a converter using a 6J8 push-pull mixer and 6J6 oscillator with fairly good results. However the grid line in the mixer was rather short and a new converter is being built using a G1446A r.f. stage, 955 mixer with co-axial line grid circuit, and push-pull RL18s as the local oscillator. Don hopes to have this set up working for the May v.h.f. group meeting.

3EH is also building a transmitter using RL18s and will probably use a converter for receiving. 3DA has an ASB receiver of the type using GL446As as r.f. stage, mixer, and oscillator, which he is adjusting for the band.

At the April v.h.f. group meeting John Belcher exhibited a crystal calibrator for 576 Mc. using EF50s multiplying from 4 Mc. crystals and an RL18 output stage. This will be available in the rooms for adjustment of receivers.

To help along the activity on the band and make sure that chaps do not give it away soon after getting their gear going, 3XA has made the very fine gesture of donating a pair of 24Gs as a prize for a 576 Mc. Contest. This will run from 30th June to 31st December inclusive. The score will be worked out by multiplying the number of contacts by total number of miles worked. Only two way contacts on 576 Mc. count, and only one contact per day with anyone station is permissible, unless location has been changed.

QUEENSLAND

Very little activity is reported on 50 Mc. On the 22nd March at 2000 hours 4CU heard 5PQ, whilst 4HR made contact with 5PQ. 4HD also heard 5PQ and 5MP, whilst 4BT worked 5MP. 4HD and 4LN keep regular seds on 50 Mc., whilst 4CU and 4KK keep their end up. Very little activity is reported from the Brisbane area.

On 144 Mc. the only activity reported is that 4ZU and 4FN of Brisbane are holding Sunday night seds with 4CH of Ipswich.

SOUTH AUSTRALIA

5RP using crystal on 44 Mc. with beam antenna. At present using super regen but has converter under way. 5LF also on the band but his sig does not appear to get down this way. 5GF has nice new crystal rig on the band. Was recently at Kingston trying to work the gang at Mt. Lofly but Max's rhombic just did not do the trick. 5GL still the mainstay of the band with his dual transmissions on 60 and 144 Mc. Wouldn't be surprised to find that it was triple transmission—heard making an attempt to get on 288 Mc.

5QR works cross band. 5JD also works cross band. Claims he can work more stations by this method. Can't copy the mod. oscillators on present set-up. Anyhow mod. oscillators have had their time on 144 Mc. 5NG has man-size beam on the job. Be interesting to see how it works out. 56Y recently heard threatening to try 144 Mc. We can assure you, OM, there will be plenty of interest in the City, with beams lashed down NORTH (or thereabouts).

WESTERN AUSTRALIA

In spite of constant watch on the band in Perth by 6LV and 6FC, no DX broke through during March. Nor was the Adelaide Radio Range audible, although Radio Ranges in Queensland and N.S.W. were often heard at various strengths. However, news from 6DW at Bruce Rock indicates that the band did open on 23rd March. At 1845 hours W.A.S.T., he heard two signals, and at 1850 worked 5RT R5 S9 both ways. At 1900 he worked 5CR R5 S9 both ways. At 1913 he worked 5LJ and then 5QR, R5 S9 both ways. Then he heard a VK2 working 6WG in Albany—then 6DW worked 5CR again. On this particular evening 6FC was at work, but 6LV heard nothing in Perth.

Have received no news from 6WG at Albany or 6HM Kalgoorlie. 6CS at Harvey still battling to get a 6 metre signal into Perth. He can read signals from Perth up to 35 on phone. The same remarks apply to 6DW at Bruce Rock.

TASMANIA

Southern Zone.—It would appear that with the cessation of 50 Mc. activity, v.h.f. chewing and doings are at a standstill, at least in the South. However, it is hoped that with the appearance of a couple of signals on 144 Mc., interest in our v.h.f. bands might be stimulated. To this end, both 7AJ and 7DB are working on gear for 144 Mc. 7AJ is on the air with an SCR522 at present, although handicapped by lack of a suitable receiver. It is understood that this position is soon to be remedied.

7BM and 7GC are having lots of fun with wobblers and rushbox receivers on two metres, but even this activity has been brought to a sudden halt by Bill succumbing to an attack of appendicitis. Tough luck Bill OM.

7XA, when last seen, was wrestling with numerous fearsome looking pieces of iron which he swears, when assembled, will make up the rotating mechanism for a ten metre beam. Apparently those nice, shiny, silver plated, little bits and pieces of v.h.f. equipment seen reposing on the 7XA shelf, will have to stay there for the time being.

With chin on one hand and 719Bs in the other, both 7LJ and 7BJ are contemplating building simple equipment for 144 Mc. There must be lots of the gang with similar ideas, who are only waiting for someone to start the ball rolling. What about it chaps? A scratch in the junk box, an evening or so work with the soldering iron, a trip up on the roof to erect the dipole, and we have something to listen to in these vast empty megacycles of ours.

Northern Zone.—7BQ is now using a crystal rig on 144 Mc. with an 815 in the final, still wants some more drive. He is also still playing with converters. 7NL has been trading genemotors for 9000s so we may see him on soon. 7TE is not very active, but building an i.f. strip for superhet, whilst 7DB has got his super working at last to his satisfaction. 7MC is out of commission. What about it Ernie?

Got it from a roundabout source that 7AM is building a crystal rig for 144 Mc. Has not been on for some time now, must be five months. Les. Peter Frith has been working on the 144 Mc. receiver still, and can now hear aircraft on 122.1 Mc., 85 at 62 miles. Also has added an S meter and planning to add an r.f. stage and b.f.o. for DX. Is also planning to put up a fixed beam on Melbourne in the hope of a break through to VK3 next summer. There is no activity on 50 Mc. now, the entire lot being on 144 Mc.

CORRESPONDENCE

SUPPORT FOR "OLD HOMBRE"

St. Luke's Rectory, Mosman, N.S.W.
Editor "A.R." Sir,

"Canaille's" reference to "Old Hombre" as intolerant ought not to go by without some protest. Surely to infer that a man is intolerant for championing the cause of correct diction, is equivalent to inferring that the traffic laws are intolerant, where they punish a man for a traffic breach.

The use of such expressions as "aint, youse, I've just came in, I've just did it, I done it," and so on, is one of the ugliest things present on any phone band. Furthermore, it is something that can be avoided, with a little care and observation. That this is so, would be obvious, if the person concerned, was to spell the phrase out on the key or to write it down on paper. In the majority of cases the correct grammar would be used.

The use of correct English speech does not depend on a high standard of education, as "Canaille" suggests, but upon observation of the speech and writing habits of the majority, combined with the knowledge provided freely by the public education systems, to all and sundry up to the age of 15 years.

Any Amateur who has sufficient knowledge to gain his licence, yet who is satisfied with sloppy diction, has every cause to be thoroughly ashamed of himself, both on the air and off.

—G. E. CAMERON, VK2GC.

Editor "A.R." Sir,
"Canaille" appears to consider lack of erudition a prime virtue, and, coupled with his statement that the King's English was written to be mutilated in Amateur Radio, savours of a mental outlook as archaic as it is difficult to reconcile with his avowed interest in a modern and exacting science.

His assumption that "Old Hombre" is a critical, cantankerous old gentleman without a vestige of humour can hardly be based on the article in question, which (to the erudite) shows a sense of quiet humour, is constructive and well written, and certainly not intolerant. "Canaille" might ponder on the thought that there is a vast difference between being "intolerant" and "being unable to suffer fools gladly."

To say that education is a curse to many, is merely repeating some worn out cliché that has less bearing on realities than a burned out tube. After all, without education, there would be no Amateur Radio, and surely if one can absorb the technicalities of the science, it should not be too difficult for the same brain to absorb the elementary principles of the King's English, and of decent enunciation.

A few hours spent in pursuit of that knowledge would eventually pay the student and Amateur Radio generally far more handsome dividends than a backyard full of beams.

In other words, "Canaille," what about growing up?

—"ARISTO."

FOR SALE, EXCHANGE, WANTED

9d. per line, minimum 2/-

Copy must be received by 15th of month. Remittance must accompany advertisement. Calculation of cost is based on an average of six words per line.

FOR SALE: Hallicrafters 9v Portable Superhet 55/30 Mc/s using batteries A/C or D/C. Complete with xformer, spare set valves and instruction manual. £30. Apply 45 Service Street Hampton.

FOR SALE: Bug Type Key (automatic dashes included), nickel plated, £4, or exchange for 50 watt mod. transformer (multi-tap). A. C. Knight, 22 Gotha St., Heidelberg, Vic.

WANTED:—M.F. and H.F. Dials for type AR8 receiver. State condition and price to J. P. Troy, P.B. Kerang.

FOR SALE:—Palc Valve and Circuit Tester Model VCT complete with test prods, in fairly good condition, £14/14/-, consider 815 valve part exchange. K. Meallin, 728 Barkly Street, Footscray, MW 3719.

FOR SALE:—Perfect SCR522 Xmitter with 144 Mc. crystals and Bendix rotary power supply, the lot brand new, £10 complete. Also A.W.A. Teleradio 3BZ Xmitter 12v. input, with two spare vibrators, complete in case with microphone, tubes and aerial, brand new in performance and looks, built-in automatic send-recv relay, less crystals, a grand portable for phone or c.w. on 40 or 80 metre bands, £28 or best offer, or will exchange. Write to M. J. Vincent, 18 York St., East Ipswich, Qld. All mail answered.

WANTED TO SELL:—R.C.A. American 50 watt output transmitter 80-40-20, plate modulated, monitor, v.f.o., etc., £11; 5-in. English radar unit, £5; SCR522 receiver £5. Wanted to buy, Type A Mark 3 Transceiver. Eric Wardle, 158 High St., Ashburton, E.13, Phone WM 6647.

TRANSFORMERS OF DISTINCTION

UNIVERSAL TYPE MODULATION TRANSFORMERS.

The following modulation transformers are designed to fit in closely with the requirements of the amateur experimenter concerned mainly with the transmission of speech frequencies 200 cps to 4 Kc/s.

However, close coupling of coils to minimize power losses in Class B circuits call for a type of construction with interleaved coils that makes the useful frequency range from 100 cps to 7 Kc/s.

They are universal types with a wide range of primary and secondary impedance suitable for nearly all valve combinations, and their general construction and the use of "U1" type mountings give a particularly handsome and professional appearance. In all cases, adjustments are made on an incremental inductance bridge to maintain close control on tap ratios so that the designed inductance is obtained for the stated secondary DC current.

ITEM 74. TYPE NO. UM35

Primary: 8000-6500 ohms CT.
 Rating: 25 Watts Audio/Speech.
 Sec: 10000 7500 5000 3500 2500 ohms.
 Unbalanced Secondary DC 125mA
 Base: 4 x 4 1/2 x 3 1/2" H Weight 7lb. 6ozs.
 Mntg: U1 10 "S" is 2"

ITEM 75. TYPE NO. UM50

Primary: 8000-5200-3200ohms CT
 Rating: 50 Watts Audio/Speech
 Sec: 10000 7500 5000 3500 2500 ohms.
 Unbalanced Secondary DC 160 mA
 Base: 4 x 3 1/2 x 4 1/4" H Weight 9 lbs.
 Mntg: U1 11 "S" is 2 1/4"

ITEM 76. TYPE NO. UM125

Primary: 8000-6500-5000 ohms CT
 Rating: 125 Watts Audio/Speech
 Sec: 8000-7000-6000-5000-4000 ohms.
 Unbalanced Secondary DC 200 mA
 Base: 5 x 3 1/2 x 4 1/4" H Weight 17 lbs.
 Mntg: U1 15 "S" is 3"

DOUBLE-WOUND STEPDOWN VOLTAGE TRANSFORMERS.

ITEM 77. TYPE NO. 1107

Primary: 230v 50 cps
 Secondary: 115v 75 VA
 Base: 3 1/2 x 4 x 3 1/4" H Weight 6 lb.
 Mntg: VS10 Mod. "S" is 1 1/2"

ITEM 78. TYPE NO. 1115

Primary: 230v 50 cps
 Secondary: 115v 150 VA
 Base: 4 1/4 x 4 x 3 1/4" H Wgt. 11 lbs.
 Mntg: VS10 Mod. "S" is 3"

ITEM 79. TYPE NO. 1135

Primary: 230v 50 cps
 Secondary: 115v 350 VA
 Base: 5 1/4 x 5 x 4 1/4" H Wgt. 18 lbs.
 Mntg: VS10 Mod. "S" is 3"

ITEM 80. TYPE NO. 1160

Primary: 230v 50 cps
 Secondary: 115v 600 VA
 Base: 6 x 5 x 7" H Wgt. 25 lbs. app.
 Mntg: Special

ITEM 81. TYPE NO. 1100

Primary: 230v 50 cps
 Secondary: 115v 1000 VA
 Base: 6 x 7 x 7" H Wgt. 40 lbs. app.
 Mntg: Special

SPECIAL EQUIPMENT.

While there is a very large range of units dealt with in this series it covers, nevertheless, a part only of an exceedingly wide field and your particular requirements may be slightly or largely different. If so, we would welcome your enquiries as we are specialists in the design of transformers and chokes to individual requirements, and it is practically certain that you will not pose a problem of this nature that our very wide experience and manufacturing facilities cannot solve.

Unlike most manufacturers in this field, we operate our own tool room, press shop and laboratory and this close integration of our internal organisation has been of particular benefit to manufacturers using our products.

GUARANTEE

"RED LINE" equipment is unconditionally guaranteed against faulty design, workmanship and material. If a claim is made, however, under this guarantee we reserve the right to reject such claim if the unit in question has been wrongly used or has been in service for more than twelve months.

QUOTATIONS.

On receipt of the necessary information, a quotation form will be mailed promptly. Quotations for country and interstate enquiries include an accurate assessment of the rail or postal charges involved, and is our normal practice to send goods freight forward by goods rail and freight prepaid by post, passenger rail or air freight.

TECHNICAL SERVICE.

A free service is available for all who require assistance with technical problems concerning transformers and their applications. For information ring our technical department at Central 4773.

RED LINE EQUIPMENT PTY. LTD.

TRANSFORMER ENGINEERS

WORKSHOP: Cent. 4773.
 2 Coates Lane, Melbourne

CITY OFFICE: MU 8893
 (3 lines), 131 Elizabeth
 St., Melbourne.

KEEP THIS CATALOGUE
 Cut out and file for reference



DISTRIBUTORS:

VICTORIA:

Homecrafts Pty. Ltd.
 Arthur J. Veall Pty. Ltd.
 Radio Parts Pty. Ltd.
 Howard Radio
 A. G. Healing Ltd.
 Motor Spares Ltd.
 Healings Pty. Ltd.
 Lawrence & Hanson
 Electrical (Vic.), Pty.
 Warburton Frank
 (Meth.), Ltd.
 NEW SOUTH WALES:
 United Radio Distributors
 Pty. Ltd.

QUEENSLAND:

A. E. Harold,
 B. Martin,
 Denradio Industries
 (Maryborough),
 J. Michaelmore & Co.
 (Mackay).

SOUTH AUSTRALIA:
 Gerrard & Goodman,
 Radio Wholesalers Pty.
 Ltd.

NEWTON McLaren Ltd.
 TASMANIA:
 Noyes Bros. (Aust). Pty.
 Lawrence & Hanson
 Electrical Pty. Ltd.

J.H. MAGRATH & CO.

The Radio Enthusiasts Supply Store!

Hook-up Wire

Nylax plastic Hook-up wire. Per yard 2d. Plus 10% Tax. Olympic cotton push back Hook-up wire. Per yard, 5d., plus 10% Tax. Available in assorted colours.

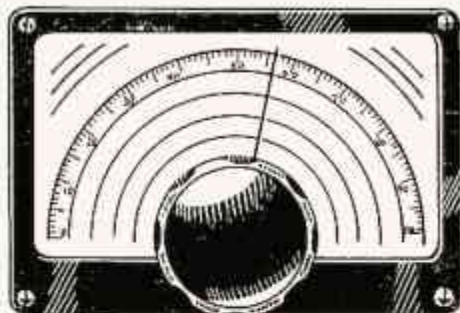
Acorn Sockets

AEGIS ceramic Acorn Sockets. Price 2/9 plus 10% Tax.

University Meters



The full range of University Meters includes 2" Round, 3" Square, and 4" Round. Available for PROMPT DELIVERY. Prices range from 55/-, plus 10% Tax.



Full Vision Dial

A most useful dial for all types of receivers, test oscillators and similar equipment. The dial escutcheon measures 6" long by 4 1/8" wide. The scale is 5" across. The outer scale is marked 0-100 degrees and three other scale lines are provided for the user to mark in his own calibrations as desired. Two spare printed scales are supplied with each dial. A large fluted instrument knob is fitted. The drive mechanism has a reduction ratio of 10-1, is free from backlash and has a beautifully smooth movement.

R.F. Transmission Line Telcon

300 ohm 100 yd. length 9d. yard.
150 ohm 100 yd. lengths 6d. yard.
75 ohm 100 yd. lengths 6d. yard.
Plus 10% Tax. Additional cost of 1d. per yard is charged for cut lengths.

Micro Condensers



60 PF single section with provision for screwdriver adjustment instead of extended spindle. Mounting pillars supplied. Air gap .020".

Metal Cabinets



Cabinet 11" x 7" x 5 1/2" with panel . . . black or grey wrinkle finish.

25/-

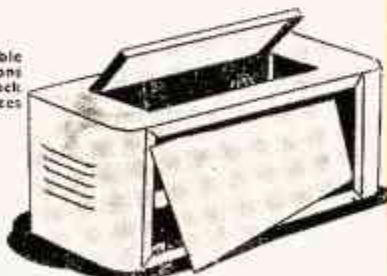
Plus 10% Tax

We specialise in all types of sheet metal and aluminium chassis, boxes, cabinets, etc.

Cabinet XX. Suitable for communications receivers. Black wrinkle finish. Sizes 15 x 7 x 8.

37/6

Plus 10% Tax



Flexible Driving Shafts



This flexible shaft enables components which are awkwardly situated on the chassis to be controlled from the front panel. The length is adjustable between 4 1/2" and 6", and the drive is satisfactory through 45 degrees. The insulating portion is of Frequentite, giving 1/16" clearance between metal parts.

Miniature Stand-off Insulators



A midget insulator made from Frequentite with N.P. brass parts. A useful accessory in the design of ultra short wave receivers and transmitters. The new

quality Frequentite closely approaches quartz in its characteristics as a low loss dielectric at high frequencies.

Bezels

Reds and Green complete with lamp holder. Priced at 2/6 ea. Plus 10% Tax.

New Octal Socket

Standard Moulding 6d. each, mica filled, 9d. each plus 10% tax.

J.H. MAGRATH & CO.

208 Lt. Lonsdale Street, Melbourne.

Phones—Cent. 3688 - 4414

AMATEUR RADIO

JUNE
1949

JOURNAL OF THE WIRELESS INSTITUTE OF AUSTRALIA

COMPACT WITH HIGH EFFICIENCY
AT H.F. OR V.H.F.



Only five inches long and 2½ inches in diameter, these new Philips' valves have a power output of more than 200 watts at 100 Mc. or 300 watts at lower frequencies. These valves embody entirely new techniques and offer unequalled efficiency. Their construction minimises internal insulation. Base-pins are sealed by fusion of powdered glass. Zirconium-coated anode gives complete freedom from secondary emission. Base pins fit the standard 5-pin socket.



PHILIPS

**TRANSMITTING
VALVES**

PHILIPS ELECTRICAL INDUSTRIES OF AUSTRALIA PTY. LTD.
Sydney — Melbourne — Brisbane — Adelaide — Perth



FOR THE EXPERIMENTER & RADIO ENTHUSIAST

Registered at G.P.O., Melbourne, for transmission by post as a periodical.

6D.

"HAM" RADIO SUPPLIERS

5A Melville Street, Hawthorn, Victoria

PHONE: HAWTHORN 4465

PHONE: HAWTHORN 4465

Both here and on Page 20 we are again pleased to offer many sought-after items at astoundingly low prices. You are cordially invited to inspect our vast range of supplies at the new address—5A Melville St., Hawthorn, but if you are unable to do so, you can, with confidence, order by mail as goods are only of the finest and as described in advertisements on these pages.

BARGAINS — BARGAINS — BARGAINS

American Transceivers, Hi-Frequency I.F.F. Tube line up—three 7193s, seven 6SH7s, three 6H6s, four Relays. Genemotor 18 volts input at 3.2 amps., output volts 450 at 60 Ma. Chockful of useful parts.

To Clear, be early £4 each.

Brand new dual Audio Units. Containing two 12A6s in grey crackle finished containers. These units offer many purposes. Pre-Amplifiers, Inter-Communication Units or for wrecking. Units are mounted on rubber stands.

Outstanding Bargains at £2 each.

SCR522 Genemotor Power Supply, input—28 volts d.c., output—300 volts d.c. and 150 volt d.c.; 13 volts filament current rating 300 Ma.

A few only £1 each.

MCR1 Miniature Communication Receiver, works off a.c. or d.c. mains of any voltage from 95 to 250 or dry batteries. Uses five valves—osc. 1T4, mixer 1R5, i.f. amp. 1T4, 2nd detector 1T4, l.f. amp. 1T4. Four plug-in coil ranges. Range 1, 150-1600 Kc.; range 2, 3.5-4.5 Mc.; range 3, 4.5-8 Mc.; range 4, 8-15 Mc. Complete with headphones. New condition, still packed in the original carton.

One only at £12.

Line Filters, 12 volts at 30 amps., inclosed in duralium case. Air core chokes and condensers 5/-.

Rectifiers, Copper Oxide, 12 volt at 100 Ma.; S.P. Bridge. Ideal for Relay operations. 2/6 each.

Also 6 volt at 50 Ma. 1/- each.

Command type Modulators as used with Command Transmitters. Valve line up—1625, 12J5, and VR150. Complete with genemotor.

Real Bargains at £4/10/- each.

DUCON TYPE, Small Block. 4 uF., 600 volts working. Snaps at 5/- each.

FM ADAPTORS (Made by Kingsley). Tube line up—6SJ7, 6H6, 6J5; black crackle case, less lid and valves. Your opportunity at 15/- each.

TRANSMITTERS.—AT5, 50 watt. Phone or C.W., crystal or V.M.O. Tube line-up—6V6 osc., 807 doubler, two 807s in final. Ideal Ham rig, covering 20, 40, 80 metres. Also broadcast band to 150 Kc. Meter for all stages; easily adapted to a.c. or d.c. power supply. Slightly damaged, secondhand.

Bargains at £7 each.

AMERICAN SWITCHING RELAY BOXES: Contain good wrecking parts, co-ax connectors.

Snaps at 5/- each.

AT5 AERIAL COUPLING UNITS.

Two only at 30/- each. One less meter, £1.

TRANSMITTER.—V.H.F., easily adapted for 400 Mc. Band uses two 15Es in final. Trombone Antenna.

Few left £3 each.

Switching United, American type, housed in crackle-finished case 18" x 8" x 5", contains 24 volt d.c. motor and lots of useful gear.

Only £1 each.

Philips' model TA155 Cathode Ray Oscilloscope. Valve line-up—one 902, two 5Y3s, one 884, two 6J7s.

One only and a gift at £17/10/-.

One only AR12, made by R.C.A., Melbourne. Four bands 150-420 Kc., 480-980 Kc., 3.5-7.5 Mc., 7.5-16 Mc., Crystal Phasing, R.F. Gain, etc. Needs lining up, uses 6 volt valves. Complete with a.c. power supply.

As traded, a Bargain at £20.

"HAM" RADIO SUPPLIERS

(KEN MILLBOURN, PROP.)

5A Melville Street, Hawthorn, Victoria

(East Kew Tram Passes Corner)

(Phone: Hawthorn 4465)

Special Attention Given to Country Mail Orders.

AMATEUR RADIO

EDITOR:

T. D. HOGAN, VK3HX,
Telephone: UM 1732.

MANAGING EDITOR:

J. G. MARSLAND, VK3NY.

TECHNICAL EDITOR:

J. C. DUNCAN, VK3VZ.

ASSISTANT TECHNICAL EDITOR:

A. K. HEAD, VK3AKZ.

COMPILATION:

R. W. HIGGINBOTHAM, VK3RN.

LIAISON:

I. K. SEWELL, VK3IK.

ADVERTISING REPRESENTATIVE:

W. J. LEWIS,
20 Queen St., Melbourne, C.1,
Telephone: MU 5154.

PRINTERS:

"RICHMOND CHRONICLE,"
Shakespeare St., Richmond, E.1.

MSS. and Magazine Correspondence should be forwarded to the Editor, "Amateur Radio," Law Court Chambers, 191 Queen St., Melbourne, C.1, on or before the 8th of each month.

Subscription rate in Australia is 6/- per annum, in advance (post paid) and A7/6 in all other countries.

Wireless Institute of Australia (Victorian Division) Rooms' Telephone is FJ 6997.

— IN THIS ISSUE —

Propellor Feathering Motor as a Beam Rotator	3
Hints on Identifying and Tuning a S.S.S.C. Signal	4
Ionospheric Predictions for the Amateur Bands	5
A Crystal Controlled Converter	7
Questions and Answers	8
A Simple Frequency Divider	9
Another Use for Small Rectifiers	11
W.I.A. Federal Executive Annual Report for 1949-50	12
Minutes of the Nineteenth Annual Federal Convention	14
Fifty Megacycles and Above	17
Federal, QSL, and Divisional Notes	18
Correspondence	24

Published by the Wireless Institute of Australia,
Law Court Chambers, 191 Queen Street,
Melbourne, C.1

EDITORIAL



I have often wondered just how many members read the Editorial each month. Every member should make it a point of reading and studying the Editorial for in practically all cases it deals with some point of Institute policy.

However in this case the Editorial does not deal with Institute policy, but one which is closely linked with Institute policy—that of Magazine policy.

I have no doubt that this month the majority of readers have looked through the Magazine first, and perhaps read it, before turning to the Editorial. They have perhaps been a little disappointed at the contents—a new reader may perhaps wonder just what it is all about.

I offer no apologies for the material within these covers—but perhaps I may make an explanation. This issue of the Magazine contains the proceedings of the recent Federal Convention, the text of which should be of vital interest to all members, and prospective members of the Institute. One issue each year will be devoted to the proceedings of the Federal Convention.

I would have liked to increase the number of pages in this issue to cover the Convention, but with our present income from sales and advertising, this was impossible. The number of pages

is governed by the advertising, and in this respect you can help improve the Magazine. You can do this by inducing prospective advertisers to take space in the Magazine—in fact acting as a self contained publicity agent.

It should be obvious to members that if more advertising is obtained, more pages can be added to the Magazine, and consequently more reading matter, either in the form of technical material or notes.

I have every hope that from the July issue members in all Divisions will receive their Magazine within a few days of the first of each month. In order to do this, the date for which all copy is due in Melbourne, and a date which, in the future, will be strictly adhered to, has been moved forward to the 8th of each month.

This early date, I feel, will not suit every Division, but in order to achieve the object of first of the month delivery in each State, any Division which is so affected, will, I feel sure, accept the early date as a progressive step to ensure early delivery of the Magazine.

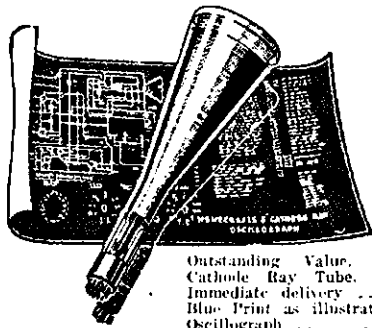
I regret that a great deal of material forwarded by Divisional Sub-Editors, Zone Correspondents, and others for this issue has had to be severely curtailed or deleted entirely.

THE EDITOR.

Homecrafts

PTY. LTD.

BETTER BARGAINS for the AMATEUR



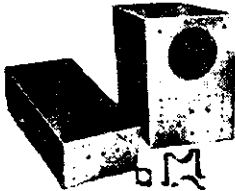
BUILD YOUR OWN DE-LUXE OSCILLOGRAPH

Outstanding Value. The famous 5BP1 Cathode Ray Tube. Originally cost £15. Immediate delivery . . . 37/6 plus S.T. Blue Print as illustrated to build De Luxe Oscillograph 1/6

Sockets for 5BP1 Tube, 9/6 ea.

Cathode Ray Oscillograph Cabinets. Black Crackle Finish Steel Drilled Cabinets and Chassis complete with brackets. As illustrated 87/6

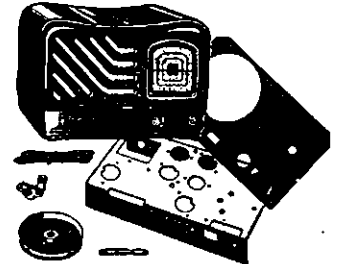
Power Transformer for 5 in. Cathode Ray Oscillograph, 99/-



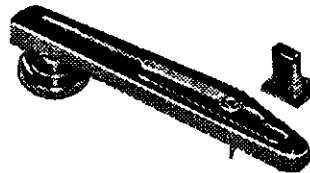
WAVE CHANGER
Single Bank Oak
Double Sided, 6 x
2 switches, 2 1/1.



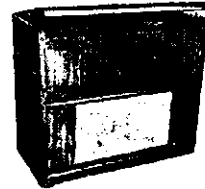
SWITCH BARGAINS
2 Bank 3 x 3
Switches . . . 2/11.
4 Bank Band-spread
type 3/11.



DO NOT MISS THIS BARGAIN
Set Builders' Foundation Kit, bakelite cabinet, chassis, front mounting plate and dial assembly. As illustrated. Only 45% complete.



Cosmochoord.—An English imported streamlined high fidelity pick-up, ideal for all sound applications, giving high output with exceptional quality. Arm and base is plastic moulded, and finish in black. Price 39/11.



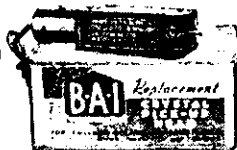
RADIOGRAM CABINETS
Walnut piano finish standard model—**£13/19/6.**

Model with deep well for use with record changer—**£14/7/6.**

Country and Interstate clients add 15/- packing charge.

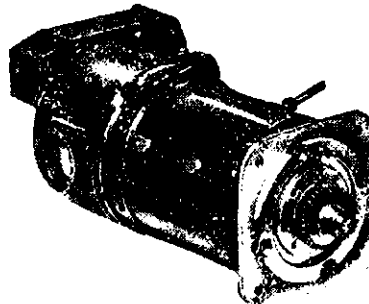


AVAILABLE FOR IMMEDIATE DELIVERY
English Collaro Electric Gramo Motors. The new AC17 Electric Motor with Pick-up and Automatic Stop. Complete, as illustrated, **£7.5/-.**



New B.A.1 High Fidelity Crystal Pick-up Heads

Suitable to replace all Collaro or Garrard magnetic pick-ups. When ordering advise if required for Garrard or Collaro pick-ups. Price, 45/-.

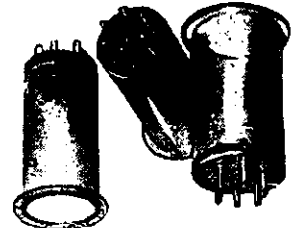


DO NOT MISS THIS BARGAIN!

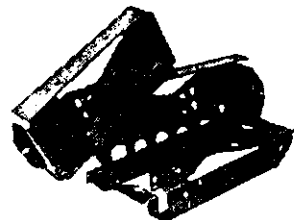
R.A.A.F. 24 Volt, 1,500 Watt, High Charging Rate Generators.

Ideal for Home Lighting Plant

Super disposal bargain. Originally cost over £60. Our price only **£13.15/-.**



Polystyrene Pin Formers 6-pin 1 1/2 inch diam. 3/3, 6-pin 1 1/2 inch diam. 3/5.



Bargain Radio Chassis.

5 valve steel drilled duccod Chassis. As illustrated, only **1/11** each.



The Collaro Microgram. This instrument brings real life to your records. High fidelity amplifier speaker. Leatherette carrying case. Only **29** pns. Terms £6 deposit, **10/3** weekly.



English D104 Crystal Microphone. This microphone incorporates high fidelity crystal. Complete, **£4.19/6.**



TELEVISION TUBES.

Type EF50 high gain R.F. Pentode 6.3v. 9-pin lock-in socket, **16/-.**



BARGAIN BLOCK CONDENSERS

- 0.5 uF. 500 Volt Working 2/6
- 0.02 uF. 8,000 Volt Working . . . 3/11
- 2 uF. 500 Volt Test 3/11
- 1 uF. 500 Volt Test 3/11
- 0.25 uF. 6,000 Volt Test 4/11
- 4 uF. 150 Volt Working 5/11
- 1 uF. 150 Volt Working 2/6
- 0.1 uF. 6,000 Volt Test 3/11

COUNTRY AND INTERSTATE CLIENTS ADD FREIGHT OR POSTAGE.

290 LONSDALE STREET, MELBOURNE

Central 4311

The Propellor Feathering Motor as a Beam Rotator

BY D. R. AYRE,* VK3KP

A number of Amateurs have obtained from Disposal sources 24-volt (d.c.) propeller feathering motors of the kind used in 3-bladed variable pitch aircraft propellers. These motors, with their associated reduction gear-box, weigh only 40 to 50 pounds.

They are readily converted to a.c. operation and develop a very large torque that is more than sufficient to turn the largest rotary beam assemblies.

Many requests for conversion data have been received. The present article is the outcome.

MODIFICATIONS Fig. 1 shows a sketch of the motor (D) in its outer cover of spun aluminium sheet (R) together with the reduction gear-box (F), the mounting plate (H) and the bevel gear (J). The latter is, of course, the final drive of the unit, and meshes, in a complete propeller, with gears attached to the blades.

Hearsay evidence suggests that the gear-box (F) is almost full of castor oil, and that any attempt to separate the two halves of the casing is likely to make a notable mess unless precautions are taken to catch the oil. However, it should not be necessary to open up the gear-box. Its oil may be inserted or removed in a more conventional manner by unscrewing plug (O). It is suggested that a rough check should be made to ensure that the gear-box is 40 to 50% full of oil. "Shell" household oil would be a suitable lubricant in place of castor oil if a dry gear-box is met with. There are several grease nipples on the gear-box (K is one). Medium car grease will do for these. So much for lubrication.

The following modifications are required:—

1. Removal of Stop Plug:

Unscrew stop plate (L), saw off the plug attached to its back, and replace the plate. (Reason: The plug is part of a cam-operated mechanism designed to prevent full 360 degree rotation. The rest of this mechanism, comprising mainly pivoted trip arms, can be removed, if desired, by taking off the bevel gear (J) and the mounting plate (H), extracting the trip pivots and, finally, removing the trip arms. This last operation involves a pretty piece of juggling, but is quite possible. Replace the mounting plate and bevel gear.) The warning plate (N) relates to this stop.

2. Removal of Brake, etc.:

Take off the motor cover (R) by removing three screws (one is shown at E). The magnetically operated brake assembly (B) is revealed. Unscrew the threaded ring at the end of the motor casing extension. Undo the cotter-pinned nut which holds a small toothed sprocket in the composition clutch plate and remove the sprocket and its key from the motor shaft. Remove springs (A). Finally remove entire brake assembly.

(Reason: A very considerable amount of current is necessary to operate this clutch type brake which was designed to prevent the immense torques of spinning propeller blades from rotating the motor and thus permitting unwanted variation of pitch. There is, however, little likelihood of wind pressure on beams rotating the motor through the reduction gear owing to the very high ratio [9,576 to 1] of the train. Such pressures are trifling compared with the torques developed in aircraft.)

3. Removal of Coil:

A double-layered coil of enamelled copper strip is now disclosed in coil surround (Q), the coil being connected to two terminals (C). Disconnect the coil leads from the terminals and connect a shorting link across the latter. The coil may be left in place once it is open-circuited, but the author prefers to rip it out on principle. Finally replace the threaded ring.

4. Suppression of Motor Interference:

Motor noise (electrical) can prevent accurate beam positioning on received

signals. In some cases, this noise level is so high as to interfere with broadcast receivers in the neighborhood. Many Amateurs have found that shielding the leads to the motor and grounding its frame have not materially reduced the noise level.

W3GHD is responsible, says "QST," for devising the following cure. (Although it is necessary to remove the motor (D) from the gear-box (F), it is not necessary to remove the entire mechanism from an existing installation.)

With the cover (R) removed, loosen the threaded ring (P) which clamps the motor to the gear-box. Support the motor with one hand before disengaging the last few threads. A straight axial pull will disengage the motor from the gear-box.

Looking at the drive end of the motor, six brass-surfaced brush holders will be noticed (numbered 1 to 6 in Fig. 2) symmetrically arranged about the motor shaft and its gear. Clean the tops of these brush-holders carefully in preparation for soldering. Midway between

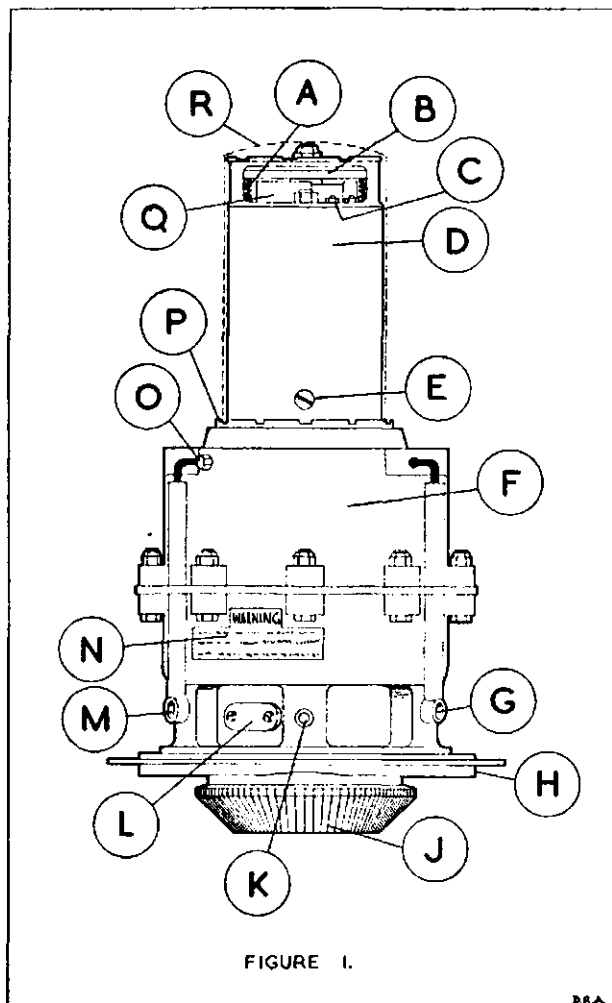


FIGURE 1.

* 65 Kenmare Street, North Box Hill, E.12, Victoria.

brushes 2 and 3, 4 and 5, 6 and 1, counting around the circle from any point, drill three holes through the side of the motor and tap them for $\frac{1}{8}$ " Whitworth or similar screws. Insert the screws with the heads inside, and with a shake-proof washer and a double solder lug under each.

Procure six midget mica condensers of from 0.002 to 0.01 uF. capacitance (the larger the value, the better) and solder them in as shown in Fig. 2, where they are marked X, to by-pass each brush-holder to ground. File the screws flush with the motor case, and re-assemble the motor to the gear box.

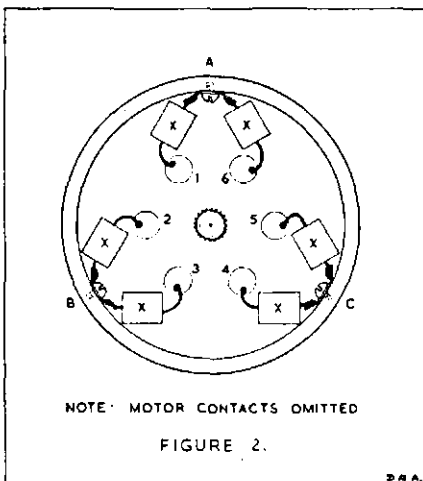
POWER SUPPLY AND SWITCHING Four wires come out of the gear-box and pass down tubes to terminals, two of which are shown at (G) and (M) in Fig. 1. The other two, not shown, are close together at the back. The wires end in lugs at these points. The lugs are screwed to connectors which pass through the case and, via spring-loaded switches operated by the cam mentioned earlier, connect to four sunken spring contacts in tubes slightly raised from the face of mounting plate (H).

Only three of the four leads are needed, namely, that marked (G) and the two at the back. It is a matter of convenience at what point in the lead or connectors the connections are made to the supply cables. (G) is the common connection, while of the two close together at the back, one and common

connection (G) give clockwise rotation, and the other in conjunction with (G) gives anti-clockwise rotation.

Thus, three leads to the motor combined with a single-pole double-throw switch represents the sum total of equipment necessary to control the motor.

Very little power is needed to turn the motor. A transformer delivering 20 volts on load from an 18 gauge s.w.g. winding did not get appreciably warm after ten minutes continuous running, which is probably much longer than



most Amateurs would rotate a beam at any given time. At this voltage, the bevel gear speed was slightly under $\frac{1}{2}$ r.p.m. It is suggested that the motor be run at from 25 to 30 volts. It should then be possible to achieve 1 r.p.m., which is satisfactory for most beams.

MECHANICAL INSTALLATION The unit is readily mounted in any position by means of plate (H), which is drilled for bolts.

Drive take-off from the bevel gear is best left to the ingenuity of the user; various methods can be devised according to the material on hand.

A small hole, say $\frac{1}{8}$ " diam., should be drilled in the centre of the top of the cover (R) to allow any condensed moisture to drain out when the motor is in use (i.e., with bevel gear upwards).

ACKNOWLEDGMENTS

The author makes few claims for originality in this article. It is more in the nature of an attempt to bring together in one place a number of ideas and facts originating in various quarters. Much credit is due to articles in "QST," particularly that on the suppression of noise generated by these motors ("QST" Nov. '48, p. 65), part of which is reproduced verbatim. VK3XS (R. R. Prowse), VK3VO (R. J. Clark), and VK3VZ (J. C. Duncan) were responsible for considerable helpful information, and to them the author extends his thanks.

Hints on Identifying and Tuning a S.S.S.C. Signal

BY LEN EDWARDS,* VK7LE

Now that Single Sideband Suppressed Carrier (s.s.s.c. for short) transmissions have been authorised by the P.M.G.'s Dept., a few remarks on how to recognise and tune in such a signal should not be out of place.

If you ever hear what sounds like a very bad case of splatter without a carrier which kicks up the S meter and is tunable over a narrow section of the band, the chances are that it's not the fellow a few blocks away modulating 150%, but a single sideband signal. If this proves to be the case, then the next thing to do is to centre the signal in the receiver pass-band and leave the main tuning control set in that position. If you possess a frequency meter, v.f.o. or some other source of local carrier, turn it on and tune across the s.s.s.c. signal VERY carefully until the s.s.s.c. signal sounds like a normal phone transmission.

When this point is reached, the signal should jump out of the noise, etc., in a very surprising manner. If the local carrier source is reasonably stable it should not be necessary for any further adjustment except perhaps to experiment with the amount of coupling from the local oscillator into the receiver. The optimum coupling position, however, seems to be quite broad—too much carrier giving the effect of a signal with low modulation, and too little coupling giving an overmodulation effect, with distortion and the inability to entirely clear up the inverted speech effect.

* Strickland Avenue, Hobart, Tasmania.

The chances are that there will not be enough carrier injected into the receiver, because although the signal itself may sound weak, it has quite a high peak power and a relatively large amount of local carrier is needed to prevent any overmodulation effect. For instance, if the average radiated power of the sideband signal is 50 watts, then the equivalent carrier power for this amount of sideband is approximately 8 times greater or about 400 watts!

Another method of supplying a local carrier for the single sideband signal is to use the receiver b.f.o. With this method the technique is somewhat different and because of the varying nature of the signal, and there being no carrier to operate the a.v.c. and hold the gain down, it may be necessary to switch off the a.v.c. and turn the manual r.f. or i.f. gain down so that the receiver will not be overloaded anywhere. When this is done, turn up the audio gain and switch on the b.f.o.

Now VERY CAREFULLY tune the b.f.o. until the signal becomes intelligible. On either side of the correct position the speech will sound inverted and high pitched or low pitched, but when right on the nose it should sound just like any other signal. Don't make the mistake of trying to zero beat anything because there's nothing to zero beat if the carrier has been completely suppressed at the transmitter—just tune the local oscillator for clear speech. A little care is needed to get the exact frequency because the local oscillator should be adjusted to within ± 50 cycles

of the original suppressed carrier frequency.

Maybe all this sounds quite complicated and tricky, but in practice the technique is soon mastered and things fall into place quite easily. Anyway the little bit of extra care in tuning is well rewarded. Tests so far have shown a large reduction in QRM and QRN when using s.s.s.c. and these days a contact which is free of both these troubles is quite a rare thing.

Summarising briefly, the tuning process for receiving a single sideband signal is as follows:—

If using a separate oscillator, v.f.o., Frequency Meter, etc.:—

- (1) Tune in the s.s.s.c. signal in the usual way.
- (2) Switch on the v.f.o. or Frequency Meter and carefully tune it across the signal until the speech becomes intelligible. Do not try to zero beat anything—tune only for clear speech.
- (3) Turn the audio down—you'll wake the baby!

If using the Receiver B.F.O.:—

- (1) Tune in the s.s.s.c. signal.
- (2) Turn off the a.v.c., run back the i.f. or r.f. gain and turn up the audio control.
- (3) Switch on the b.f.o. and carefully tune it across the signal until clear speech is obtained.

The first method using a v.f.o. or frequency meter is probably the most satisfactory, as it has a blanket effect on the receiver, thus giving a better QRM and noise reduction.

IONOSPHERIC PREDICTIONS FOR THE AMATEUR BANDS

JUNE, 1949

The accompanying charts have been prepared by the Ionospheric Prediction Service of the Commonwealth Observatory. The first set of the series was published in the November, 1948, issue of this magazine, together with an article explaining the nature of the forecasts and how to use them. Nine of the charts, prefixed by the letter "C" for Canberra, refer to forecasts for the South-Eastern Australian States. The remainder, prefixed by the letter "P" for Perth, are for Western Australia.

The Canberra charts refer to the following world zones:—

Zone	Region	Terminal
1	Western Europe	London
2	Mediterranean	Cairo
3	N.-West America	San Francisco
3a	N.-East America	New York
4	Central America	Barbados
5	South Africa	Johannesburg
6	Far East	Manila

The forecasts have actually been prepared for point-to-point circuits between Canberra and the overseas terminals mentioned in the above table. It is, however, to be expected that the charts will provide an approximate indication of ionospheric conditions for all Amateur contacts from South-Eastern Australia to the various world zones.

The Perth charts are similar to those based on Canberra, except that the Far East terminal is Shanghai in chart P-Z8. No forecasts are given from Perth to Zones Z2 and Z4 for the current month. Chart P-Z2 would be essentially similar to P-Z1, while chart P-Z4 might be unreliable due to auroral activity in high northern latitudes.

USE OF CHARTS

All that is necessary in using the charts is to select a time (G.M.T.) during which a specified Amateur band frequency is below the maximum usable frequency (M.U.F.) of the F region of the ionosphere but above the lowest useful frequency (L.U.F.) for the desired contact. In two cases, Zones 1 and 3a, it is necessary to consult both the short-route (S.R.) chart and the following long-route (L.R.) chart.

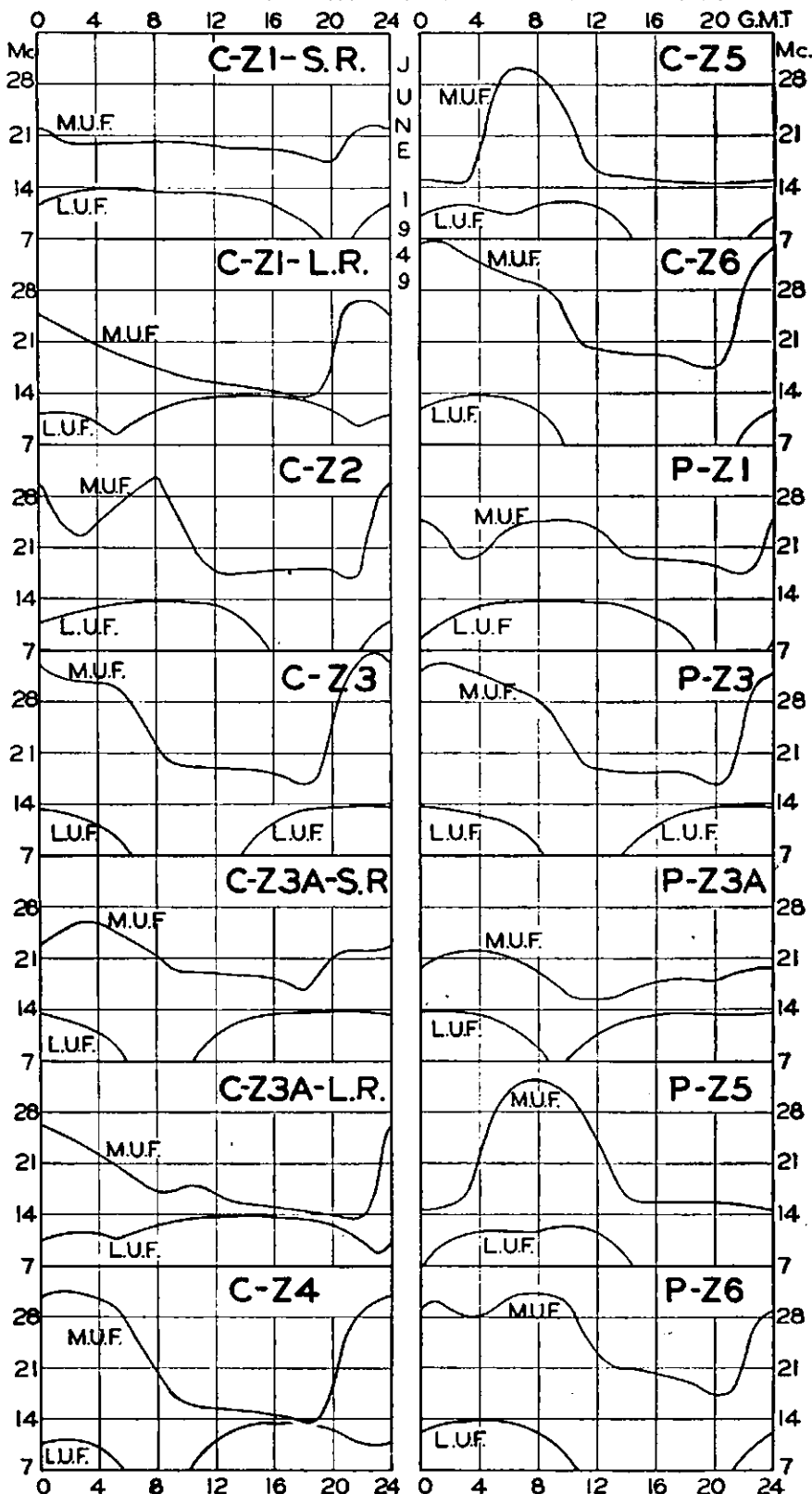
QUIZ

The Prediction Service welcomes comments on the accuracy of its predictions. In particular, answers to the following questions on the Canberra-Johannesburg circuit would be useful:—

1. Were conditions good on 7 Mc. from 14 hours to 22 hours G.M.T.?
2. What were conditions like on 14 Mc. for the period 12-24-04 hours G.M.T.?
3. Was communication possible on 28 Mc. for a short period around 0600 hours G.M.T.?

Answers to the Quiz should be sent to the W.I.A. and should, if possible, refer to consistent results obtained on the majority of days in the month.

IONOSPHERIC PREDICTIONS FOR THE AMATEUR BANDS.



VEALLS for all HAM REQUIREMENTS . . .



LEXINGTON PICK-UPS

This English Moving Coil Pick-Up gives full reproduction of the total audio frequency range. Complete with transformer screening box and sapphire needle. Attractively priced at:— 12 in. £11.8/10; 16 in. £12/10; 10.

"TECNICO" LOW-PRESSURE PICK-UPS

Model FL 48. Replaceable needle pick-up for general use, £5/4/-.
Model FP 8. Crystal pick-up with built-in sapphire stylus, £6/9/-.

JUNE "SNAPS" AT VEALLS:—

B.A.I. Sapphire Play-back Needles, give 2,000 playings . . . 9.9 each.
BLANK DISCS available! 10 in. 6/6; 12 in. 8/6; Ham discount!
UNIVERSITY TEST EQUIPMENT. Full range available, including O.K.I. Oscillator Kit Set—£8 (plus tax).

. . . AND REMEMBER VEALLS' QUICK CHASSIS CUTTING SERVICE!
Chassis for any circuits or special needs cut promptly and efficiently to suit you!

VEALLS

243 SWANSTON STREET, MELBOURNE.

FJ 3145.

299 CHAPEL STREET, PRAHRAN.

LA 1605.

MAIL ORDERS—BOX 2141T, G.P.O., MELBOURNE.

Associated with Arthur J. Veall Pty. Ltd., Established 1911.

TYPE S14

Retail Price 6/6

TYPE S13
Retail Price 4/4

TYPE FT4
Retail Price 7/-

TYPE S12
Retail Price 2/9

TYPE FT2
Retail Price 4/4

TYPE S12A
Retail Price 2/9

TYPE FT1
Retail Price 4/-

TYPE GT2
Retail Price 9/-

TYPE BH2
Retail Price 6/6

Important little pieces of equipment, these high-grade Aegis Insulators are stocked in full range by VEALLS! Ham discount.

AEGIS CERAMICS

ELECTRONIC
A&R
EQUIPMENT

DENOTES
Quality



FILTER REACTORS

The range of Filter Reactors, as listed in our Catalogue (page 8), is the result of considerable design and testing in our laboratory.

Tests are made at full ratings on an Incremental Inductance Bridge.

Each type is correctly rated with regard to A.C. and D.C. flux densities, the inductance value being definitely obtainable with the full maximum D.C. current specified. In order to achieve correct rating, a liberal amount of high grade core steel and winding wire is used in each Reactor.

This makes the size, weight and price greater than for most other Reactors on the market, but is necessary to conform to our policy of manufacturing only quality products.

Write for the Latest Illustrated Catalogue

A&R

Electronic Equipment Co. PTY. LTD.

1 LITTLE GREY STREET, ST. KILDA, MELB., VIC.

Phone: LA 3657

A Crystal Controlled Converter

BY DR. LEO H. McMAHON,* VK2AC

The first thing an Amateur acquires is a receiver. Most of these receivers are self-made and from humble beginnings grow in size and complexity. Branches in turn produce b.f.o., noise limiter, S meter, separate a.v.c. systems, etc. The receiver and its accessories function with varying degrees of success and produce satisfaction, disappointment, and disgust accordingly. Periodicals are scanned and great is the chagrin when one sees that overseas commercially-built receivers can be had for so many unattainable dollars, and are also beyond the purse of the greater percentage of Amateurs.

In the production of a home-made receiver, many factors come into play. The most important is the mechanical ability of the maker. This varies from those who really are good, to those whose ability is not far from a negative quantity. Consequently many receivers can be handled only by one person who knows just where, and how, much pressure to exert to bring a station back to where it was three minutes previously.

Two very important failings in a receiver are connected with the mechanics; these are instability and a.c. modulation of the high frequency oscillator. A great many receivers suffer from this last trouble and it is difficult to eradicate. The trend in modern sets is for double conversion, or even triple conversion with the addition of a Q5er.

The Collins 75A receiver has the cure all for the two faults mentioned, that is crystal control of the higher frequency oscillator, and tuning of the second or low frequency oscillator. This gives the man with limited mechanical ability the opportunity to build a satisfactory receiver, as almost everybody can build a stable low frequency oscillator.

To make the application of the above mentioned principle easier, articles have recently appeared in "QST" for November 1947, October and November 1948, showing how to make crystals oscillate on their third harmonic. This circuit is the same as shown in the schematic and was described in October 1948 "QST."

When one reads an article on how to build some piece of equipment, you are confronted with not only the mechanical difficulties, but the trouble of not being able to duplicate the parts prescribed; as if you haven't enough trouble making it go anyway. So this article has been written to show the results obtained on locally made and easily attainable parts.

Four of these oscillators have been made up using odds and ends. The one used in the writer's converter at present is for tuning both the 7 and 14 Mc. bands, as these are the two used by most Amateurs. Previously a triode oscillator was used with a plate tickler, this turned out to be very handy, as it needed no change in the coil whatsoever, but just the re-arrangement of a few leads.

This application of a crystal operating at its harmonic frequencies deserves careful consideration.

With broad band r.f. stages in general use, a Converter using the crystal operating on one of its harmonics, as outlined in this article, looks a most interesting possibility, and by using the standard receiver as the second i.f., the image rejection and stability should be exceptional.

The crystal used is 3540 Kc. This oscillates at 10.6 Mc. approximately. The crystal does not oscillate at exactly three times its fundamental, however, and it has not been measured exactly as yet. To tune the 14 Mc. band, the first i.f. covers the range 3.4 to 3.7 Mc. with the oscillator on the low frequency side of the signal. This, as is easily seen, also does the 7 Mc. band in which case the oscillator is on the high frequency side.

The Converter uses a 954 r.f., 6AC7 mixer, and a 9002 oscillator. The reason these tubes were used is that the converter previously covered all bands from 40 to 6 metres, with plug-in coils. Don't try to make it work on 80 metres with a 3 Mc. first i.f., for it will "take off." The front end can be to your own liking, that is the r.f. and mixer. The oscillator tube used here is a 9002, only

because one was acquired in my travels. A very satisfactory tube is a 6J5, either glass or metal. This tube works quite satisfactorily up to 25 Mc. So you can see that there is no need to worry over tube types.

The condensers used are as follows: C1, in my case, is a 0.01 uF. mica (Simplex S.M.). They tell me S.M. does not stand for silver mica. C2 is an ordinary trimmer that covers from about 3-30 pF. VK2ABB used a 6J5 with a Philips' concentric trimmer; mine is a small compression type which is readily available. The brand is not known, but it is about the same colour as an 807 base. VK2ABC used an old disposals variable. A ceramic mica was used in the other oscillator, so you can see there has been some variation. Watch it for breakdown, however, it has 200 volts across it.

For the oscillator in the receiver we have used 20,000 ohms as grid resistor and a load resistor of 5,000 to 50,000 ohms. With a grid resistor of 3,000 ohms the crystal current lights a 6 v. 150 Ma. bulb to about third brilliance and did that crystal get hot!!

In the case of the crystal oscillating on 10.6 Mc. the coil was wound on an 807 base. L1, or the part across the two condensers, consists of 12 turns of 18 gauge enamel wire, close wound. L2 or the regenerative coil, consists of six turns of 22 gauge enamel wire. This is spaced $\frac{1}{4}$ " from L1. As was stated before, this being just the unaltered coil out of my old plate tickler converter.

The secret of the coil is to have L1, C1 and C2 tune to the frequency you want the crystal to oscillate on, and L2 just large enough to make the crystal oscillate, but not large enough to let the whole thing take off as an ultra-audron, using the capacity of the holder, pins and leads. Quite a few crystals have been used, all disposals types. Only one wouldn't work. Maybe if we had cleaned it, it would have gone for us.

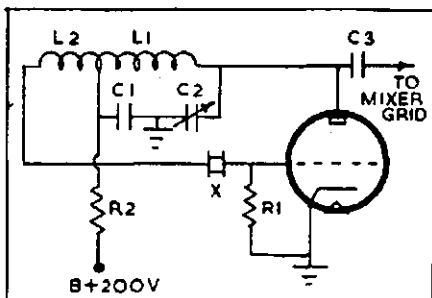
Tubes tried were 9002, 6J5, 6SN7GT, 6J6, so take your pick. The 6J5 is a good one, and the resistors are quite standard low wattage types.

In my case grid injection is used, whereas VK2ABB used cathode injection. We have no means of determining injection voltage, but both found the conversion was better when some capacity coupling was used. In my case two 3540 Kc. crystals were on hand. One oscillated very well and gave a grid current of 0.2 Ma., which climbed to 0.5 Ma. after half an hour and stayed steady at that value. The holder did not get hot. This crystal did not give as good a conversion gain as the other one, which gave only a constant one twenty-fifth milliamp. of grid current.

With this oscillator mechanical skill is not of such consequence, and you know you are not hiding the fact that your oscillator is pulling by ganging your condensers.

In my case I have no spurious signals on 20 or 40 metres. VK2ABB has one

(Continued on Page 8)



Value of components used in the writer's converter:—

- R1—20,000 ohms.
- R2—5,000-50,000 ohms.
- C1—0.01 uF. Simplex (S.M.)
- C2—3-30 pF. trimmer.
- C3—Very small capacity.
- L1—12 turns of 18 gauge enamel, close wound.
- L2—6 turns of 22 gauge enamel, spaced $\frac{1}{4}$ " from L1.

Coil wound on 807 base. Crystal (fundamental 3540 Kc.) output 10.6 Mc. approx. Valve: 6J5, 9002, half of 6SN7GT or half 6J6. These valves have been tried and are known to work.

Value of components from "QST" of October 1948:—

- R1—3,300 ohms.
- R2—4,700 ohms.
- C1—470 pF.
- C2—15 pF. variable.
- L1, L2—varied with crystal frequency.
- Valve—Half of 6J6.

* 532 Harbourne Rd., Kingsford, Sydney.

QUESTIONS AND ANSWERS

In a letter recently received by the Editor giving comments on, and suggestions for, the magazine (how long since YOU wrote such a letter?), a few thoughts were given on this column. It was suggested that the question should always be reprinted with the answer, to save having to dig back through previous issues to find out what it's all about. That's a good point, so be it in the future.

It was also suggested that some may be shy to have their name appear, advertising the fact that there is at least one thing they don't know. The other side of this point has been found out by some who have had questions published, that they get a lot of information personally at Institute meetings, over the

air, etc., once it is known that they have a problem. Since there are two sides to this, you can take your choice when you send in a question, to have it published anonymously or over your name.

Another point the same writer made was that the column should be expanded. Now although that's a very nice thought, thank you, the size of this column is not in our control. If no one has a question to ask then that's that, no column. Likewise if no one has any answers to give, for it is impossible for us to run an enquiry service, answering the questions ourselves. Of course we do if we can, but in the main the answers have to come from YOU. As you may have noticed, business has been pretty slack these last couple of months but, with winter coming round, people's troubles should be on the increase. So send them in to Q. & A., "Amateur Radio," W.I.A., 191 Queen St., Melbourne, C.I., Victoria.

Q.10.—From VK3KP: In his article "Series Phased Aerial Arrays" ("A.R." May 1948) the late H. K. Love suggested using twin ribbon feeder for radiators and quarter wave phasing lines of such aerials. How would the velocity factors for this type of feeder (e.g. 0.77 for the 300 ohm type) affect the physical length of:—

- (a) The Radiators.
- (b) The Phasing Lines?

A.10.—At a recent Victorian Division meeting, 3KP's question was discussed as to what effect using twin ribbon feeder would have on the physical dimensions of a Series Phased Array. 3BM presented the only practical experience, stating that he had made up such an array using 300 ohm feeder for radiators and phasing lines. The dimensions had ALL been made 0.77 of the corresponding free space dimension and it was found to draw best at the frequency it had been cut for.

This was contested by some of the theoretical boys whose points were roughly thus: When the twin lead is acting as a feeder, either resonant or not, or as a phasing line (which is the same difference), the currents in the two wires are 180° out of phase and the field produced is mainly in the space between the wires, just where the plastic is. So the plastic has a large effect causing a wavelength along the feeder to be only 77% of the free space wavelength.

But when a length of twin lead is acting as a radiator, the currents in both wires are in phase and the field is being radiated into space. And since the plastic insulation forms only a small part of all space, the aerial should be cut a full half-wave just as an ordinary half-wave radiator is cut a full half-wave whether bare or insulated wire is used.

One point everyone agrees on is that the phasing lines between radiators should be reduced by the velocity factor. This means that the elements are closer than quarter-wave spacing which may change such things as gain and front-to-back ratio. But as for the element length, you can take your choice.

Q.11.—Can anyone give VK3RN information on disposals gear labelled

R-9-A/APN-4; such as frequencies of the i.f. strip and what the whole thing does?

A.11.—From VK3UO: Basically it is an airborne device for measuring time differences between reception of pulses from ground Loran stations. It consists of two basic units, one the receiver power supply unit identified as R9/APN4, and the indicator, counter unit identified as ID6/APN4.

The power supply requires 80 or 115 volts 400 c/s., and 260 volts (regulated by three 6A3's and a 6J7-VR150) as well as 2,600 volts for the c.r.o., becomes available. This unit is portion of the receiver chassis. The receiver itself is usually slug tuned to 1950 Kc. and is liberally supplied with 1050 Kc. wave traps in the input circuits. In actual fact the receiver will tune 1.6 to 3.3 Mc. and also 7.5 to 11.7 Mc., depending on the channel selector setting. The receiver is a standard superhet using one r.f., three i.f., and a second detector. I.F. frequency is 1050 Kc. The gain of the last i.f. tube is varied by another tube in the indicator unit operated through P1 connector, yellow.

The ID6/APN4 indicator is a simple c.r.o., but with counter and multi-vibrator circuits operated from a 100 Kc. crystal added. The transformers labelled T302 1-4 are not i.f. transformers but are merely iron cored transformers which transfer the counters' charging pulses to the triode which tallies them before applying them to the c.r.o. time base.

The most useful part of the whole box and dice from the Ham point of view seems to be the power supply and receiver chassis, utilising all the remainder except the 6H6, V302-8, and the c.r.o. tube for spare parts. The c.r.o. mounting and 6H6 leveller could then, with mods. on the detector circuits be built into a standard c.r.o.

Crystal Controlled Converter

(Continued from Page 7)

on 29 Mc., using a 17 Mc. crystal. The matter of spurious responses was dealt with in "A.R." for March, and was that the truth! However the improvement is well worth the little trouble to get this oscillator going. The output coil used in the plate of the mixer is a standard aerial coil from a b.c. set. It is iron cored and with no condenser, other than stray capacity, and can be peaked at about 3.5 Mc. It is broad enough to suit both 7 and 14 Mc., and connects to the aerial on the receiver, used as the second i.f.

This article is detailed to help others who may wish to try the idea, and to show the simplicity of the subject. It is a step in the right direction and the writer strongly advises everyone to give the principle thought.

Acknowledgments are due to VK2ABB who built the first converter for 10 metres, VK2ABC who built a two tube transmitter for six metres, and to VK2VW who provided some parts and also built a 6 metre transmitter.

References: "QST" Nov. 1947, Oct. and Nov. 1948, also Dec. 1948 which includes a converter on these lines. "Short Wave Magazine" Feb. 1949 also has a crystal controlled converter described.

Low Drift Crystals

FOR

AMATEUR BANDS

ACCURACY 0.02% OF STATED FREQUENCY

3.5 Mc. and 7 Mc.

Unmounted £2 0 0

Mounted £2 10 0

12.5 and 14 Mc. Fundamental Crystals, "Low Drift," Mounted only, £5.

Spot Frequency Crystals Prices on Application.

Regrinds £1 0 0

THESE PRICES DO NOT INCLUDE SALES TAX.

MAXWELL HOWDEN

15 CLAREMONT CRES.,
CANTERBURY, E.7,
VICTORIA

A SIMPLE FREQUENCY DIVIDER

BY J. DUNCAN,* VK3VZ

One of the most useful pieces of equipment in the Writer's shack is this Frequency Divider. It was originally built in very "haywire" fashion for calibrating a receiver, but so much use was found for it, that it was decided to re-build it in permanent form. Some of its uses are: to check band edges, calibrate alignment oscillators, receivers, v.f.o.'s and frequency meters, and for any other purpose where a series of 1,000, 100 and 10 Kc. points are required throughout the spectrum.

CIRCUIT Reference to the schematic diagram will show the main features of the unit which, basically, consists of a 1,000 Kc. oscillator, either crystal or "Clapp," followed by two multivibrators of 100 Kc. and 10 Kc. Output is taken from a Class A isolator stage which prevents output loading from effecting the frequency of the oscillator.

Referring first to the oscillator circuit, it is strongly advised that a 1,000 Kc. crystal be used, if obtainable, but failing that, the "Clapp" circuit shown will do quite an excellent job, and after sufficient warm up will remain in zero beat with WWV on its 15th harmonic on 15 Mc. for long periods of time. Obviously this unit can be no better than the 1,000 Kc. oscillator, and time and care taken in its adjustment will be well repaid.

The crystal oscillator circuit is quite standard for circuits of this type. Slight variation of the crystal frequency is obtained by the condenser across the crystal, C6.

The "Clapp" oscillator circuit shown in the diagram varies from the usual circuit in several respects. It will be noted that there is no grid condenser, the fixed capacities, and tuning condenser serving in this regard. Greater stability was obtained by eliminating this condenser (shown dotted), as it enables the 0.001 uF. condenser between cathode and grid to swamp the inter-electrode capacity more effectively. In the original circuit this 0.001 uF. condenser and the grid condenser were in series, and therefore the maximum capacity across the cathode-grid tube elements could be no greater than the smallest of these two capacities, which is usually 100 pF.

The inductance L1 is an "Aegis M19" progressively wound aerial coil with the primary winding removed. This coil has about the best "Q" for its size, but would not be as effective as a single layer coil of much larger diameter wound on a ceramic former. In the writer's case insufficient space was available to use a large coil, so the M19 was chosen as having the best "Q" for its physical size.

The condensers necessary to tune this inductance to 1,000 Kc. are shown on the diagram and in the parts' list. The three-plate midget, C1, has a good quality planetary reduction drive fitted, and

is used to obtain exact zero beat, the 3-30 pF. air trimmer being used to bring the zero beat point to the centre of the scale on this small condenser, and once set does not need re-adjustment.

C3 is a zero co-efficient condenser supplying the bulk of the fixed capacity required, whilst C5 and C4 constitute the required negative co-efficient capacity for temperature correction. The negative co-efficient Ceramicon used was the smallest size the writer had on hand, and as its value caused over-compensation, a small variable trimmer was placed in series to reduce its effect on the circuit, and enabled exact compensation to be obtained. It is important that this condenser have a low minimum capacity, as the condenser will be almost out of mesh for correct compensation.

The output circuit of the oscillator also varies from the usually accepted versions of the "Clapp." When first tried, a triode oscillator was used and output was taken from the junction of the cathode and grid condensers, and fed to the grid circuit of the isolator. It was found that the frequency of the oscillator would vary when the output attenuator and loading were changed. To try and avoid the extra complications of an additional isolator stage, experiments were carried out, using the screen as the oscillator plate and taking output from the plate circuit. Although this method has not been recommended, excellent results were obtained and careful checks showed no detectable difference in the stability of the oscillator. In addition, changes in the isolator output circuit now had no effect whatsoever on the oscillator frequency.

The frequency of the oscillator does show some change with change of plate

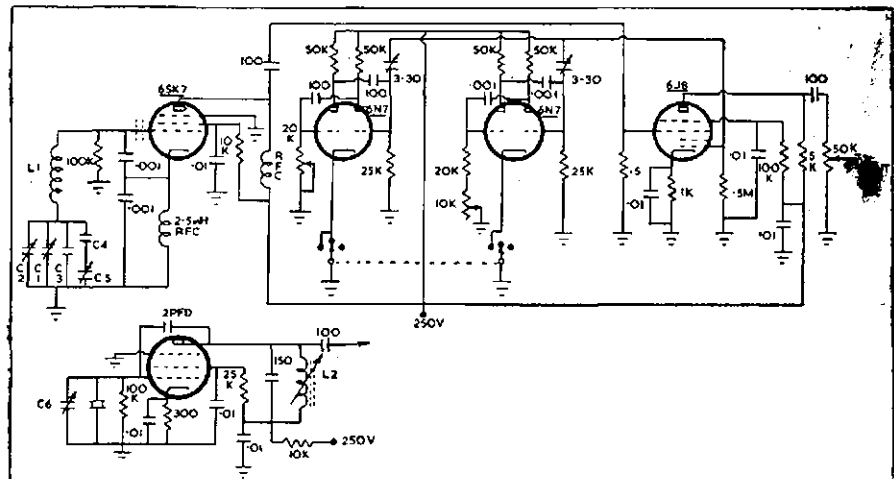
voltage, and it is advisable to feed the oscillator from a regulated supply.

The 100 and 10 Kc. multi-vibrators are quite standard, input and output being through the 3-30 pF. trimmers. The locking frequencies of these oscillators being adjusted by the variable resistors in their grid circuits. A two pole three position switch is located on the front panel, and is arranged so that in position 1, only the 1,000 Kc. oscillator is working; position 2, 1,000 Kc. oscillator and 100 Kc. multi-vibrator; and in position 3, 1,000 Kc. oscillator, 100, and 10 Kc. multi-vibrators are all operating.

When tuning a receiver with the unit working, it will be found that the 1,000 Kc. points will be loudest, then the 100 Kc. points, and finally the 10 Kc. points slightly weaker again, thereby helping to identify them. It is essential to incorporate a h.t. switch as an aid in identifying the signals if the antenna is left on the receiver.

Referring again to the diagram, the isolator stage uses a 6J8G, the grid receiving the output of the 1,000 Kc. oscillator, and the normal oscillator grid the output of the two multi-vibrators. A 6L7 could be used in this position, with the injector grid used to take the multi-vibrators' output. It is important however that either of these tubes be used, as otherwise switching in the multi-vibrators will effect the frequency of the 1,000 Kc. oscillator, which must be avoided at all costs.

CONSTRUCTION The construction and layout of this unit can well be left to the individual, and provided all components in the oscillator circuit are rigidly mounted, no trouble should be experienced. In the



The diagram shows the "Clapp" 1,000 Kc. oscillator feeding the 6J8G isolator with the 100 and 10 Kc. multi-vibrators feeding into the oscillator grid. The alternative 1,000 Kc. crystal circuit is shown underneath the main diagram.

C1, C6—Three plate midgets, with good bearings.

C2—3-30 Philips air trimmer.

C3—100pF. NPO Ducon Ceramicon.

C4—20 pF. N750 Ducon Ceramicon (negative comp.).

C5—10 pF. air trimmer of low minimum capacity.

L1—M19 Aegis aerial coil (see text).

L2—Iron cored broadcast coil.

* Technical Editor, 23 Parkside Ave., Balwyn, Victoria.

We take pride in announcing the publication of the 1949 edition of the "Radio Amateur's Handbook"—the Twenty-Sixth Edition of the Internationally recognised standard manual of Amateur Radio Communications.

The chapter on high-frequency receivers incorporates up-to-the-minute information in single side-band telephony receiving techniques and a wide variety of new constructional material, including an ultra-simple beginners' receiver, an improved audio noise limiter, selective i.f. amplifiers, band-switching pre-selectors, crystal controlled converters, and n.b.f.m. adapters.

The high-frequency transmitter section contains a wealth of practical information on the design and construction of Amateur transmitters, ranging from simple, easy-to-build units to completely new bandswitching transmitters. Particular emphasis is placed on measures for harmonic suppression and other means of preventing or solving television interference problems. New designs in stable variable frequency oscillators and practical, how-to-build-it constructional data round out the expanded transmitter section.

A handy new section on practical filter design is included in the power supply chapter, which has been rearranged for maximum readability. The Handbook also contains, in the usual fully-illustrated and ably-presented style, comprehensive treatment of keying methods and techniques, antennae and transmission lines and radio telephony. New gear is clearly pictured and described. Featured in the antenna section is a four-page addition of handy antenna and beam dimension graphs.

The wide field of Amateur very-high-frequency, ultra-high-frequency and microwave techniques and equipment is amply covered in the five-chapter Handbook section, with constructional data interestingly written and illustrated. The Handbook moreover is invaluable for its well-organised information on assembling an Amateur Station, eliminating broadcast and television interference, recommended station operation practices, emergency operation and message handling.

Numerous charts, graphs and miscellaneous data are grouped for easy reference and utility. The practical vacuum tube data tables, long one of the outstanding features of the Handbook, are completely up to date, with information on all new types of tubes used in Amateur applications and having the tube base diagrams re-drafted for additional clarity.

The "Radio Amateur's Handbook" (Twenty-Sixth Edition—1949), by the Headquarters staff of the American Radio Relay League. The standard manual of Amateur Radio communication, revised and re-styled in the light of current needs as a radio construction manual, reference work, and training text for class or home study. 736 pages, 6½" x 9½", including catalogue section and 10-page topical index. 1,651 illustrations, including 118 charts and tables, 77 basic formulae. Price 17/6, plus 1/1 postage. Our copy was made available by McGill's Authorised Newsagency, 183 Elizabeth Street, Melbourne.

writer's unit the zero set dial is located in the centre of the panel, with the rotary switch for 1,000, 100, and 10 Kc. output underneath. The h.t. switch is located to the right, and the output terminal to the left of this switch. No output attenuator was incorporated, but is suggested as an improvement on the original.

The chassis used was rather small, and it is hoped to re-build the unit on a larger chassis at a later date, and incorporate a power supply, and a wide range audio oscillator, so that the frequencies can be modulated for help in identification. This would make quite a good multi-purpose instrument.

ADJUSTMENT The first step in adjusting the unit is to set the 1,000 Kc. oscillator on frequency. The output switch should be set to the 1,000 Kc. position, so that neither multi-vibrator is operating. A broadcast receiver in which the dial is calibrated in kilocycles, and in which the stations near the 1,000 Kc. point are on calibration, is very handy in setting up the oscillator.

The receiver should be tuned until the output from the oscillator is heard, and then adjustments made to C2 to bring the oscillator frequency to the 1,000 Kc. point on the dial. Final adjustment can be made by beating the 5th, 10th, or 15th harmonic against the WWV transmissions on 5, 10, or 15 Mc. Use the highest frequency WWV transmission which can be heard, as this will give greater accuracy. It is not necessary to temperature compensate at this point.

Turn on the beat oscillator of the receiver and tune in the 5 Mc. or any other 1,000 Kc. harmonic. Switch the output switch on the Frequency Divider to the 100 Kc. position, and count the number of beats between any two adjacent 1,000 Kc. points. If there are more or less than nine, tune to one of the beats, and adjust the variable resistor in the grid circuit of the multi-vibrator. The beat you are listening to will suddenly disappear. Again count the number of intermediate points, and repeat the adjustments until the nine required are obtained.

The next step is to adjust the 10 Kc. multi-vibrator, which requires more care. Set the receiver on one of the 100 Kc. points and switch on the 10 Kc. multi-vibrator. If the 100 Kc. signal disappears, reduce the 3-30 trimmer in the output of this multi-vibrator. What has happened is that the extra capacity and loading of the 10 Kc. multi-vibrator has pulled the 100 Kc. oscillator out of step with our 1,000 Kc. fundamental. Reducing the capacity mentioned will correct this condition.

With the receiver zero beat on one of the 100 Kc. points, it is most probable that audio tones will be heard. The resistor in the grid circuit of the 10 Kc. multi-vibrator should now be turned, and it will be noticed that there will be two or three points where no audible signals will be heard. Leave the resistance set to one of these and tune the receiver carefully, counting the number of beat notes between adjacent 100 Kc. points. If there are not nine, reset the resistor to another point of silence as described previously, always with the receiver zero beat to a 100 Kc.

point, and again count the number of intermediate points, repeating the procedure until the correct number are obtained. If it is not possible to get the correct number within the range of the variable resistance, the fixed resistor in series must be altered above or below its present value as necessary.

If the method described above is followed carefully, no trouble will be had in setting up the 10 Kc. multi-vibrator. The writer had considered difficulty in picking the correct point on the resistor, until this method was evolved, as there are literally dozens of jumps this multi-vibrator will make in the travel of the resistor.

After the correct point has been obtained, throw the output switch to its three positions, and make a final check to see everything is in order. Listening carefully to the output with a pair of phones, it is possible to hear the 10,000 cycle note.

Attention is now turned back to the 1,000 Kc. oscillator, and temperature compensation carried out as follows.

TEMPERATURE COMPENSATION

In carrying out the temperature compensation it is essential that a very close indication of zero beat be obtainable. In the writer's case the communication receiver has an "R" meter, and is also capable of covering the broadcast band. All broadcast stations are on multiples of 10 Kc., and with the Frequency Divider switched to 10 Kc. and the output adjusted so that the signal level from both the broadcast station and the Divider are approximately equal, when zero beat is approached the "R" meter will begin to pulse, the pulses ceasing when exact zero beat is reached. This enables a much more accurate indication of zero beat to be obtained than is possible by ear, down to a few cycles in fact.

After allowing about 15 minutes for the oscillator to warm up, set to zero beat with the broadcast station. After a while the "R" meter will begin to pulse at a gradually increasing rate, so bring back to zero beat with the zero set control, noting whether the condenser had to be increased or decreased in capacity. If the capacity had to be decreased, the circuit is under-compensated, if it had to be increased the circuit is over-compensated. Assuming it is under-compensated, increase the value of C5 slightly, then reset the zero beat position on the main dial to centre with C2. Repeat the procedure until the "R" meter shows a slow pulse for two or more hours, when correct compensation is indicated.

It is remarkable how simple temperature compensation, such as this, will change an oscillator which drifts badly, to one which is highly stable judged by any standards, and must be carried out to be appreciated.

The Frequency Divider should be shielded in a metal case to reduce unwanted pick-up, and will be found a very useful piece of equipment to have in the shack, output being sufficient up to 54 Mc.

If it is desired to have outputs above this frequency, it is only necessary to connect a simple coil-condenser circuit between the output terminal, tuned to the frequency desired.

Another Use For Small Rectifiers

BY E. H. COX,* VK2GU

Free availability for a couple of shillings each of an unlimited supply of low voltage, low current capacity copper oxide or selenium rectifiers offers an easy solution to the problem of aligning accurately the home-made, or for that matter, the commercially produced superhetrodyne.

The standard method of superhetrodyne alignment is to use the signal strength meter as a resonance indicator, but this is completely dependable only in those cases where the meter is operated on some portion of the final rectifier circuit—a fairly unusual set-up. If the R meter operates from any earlier section of the receiver, it tells nothing of the condition of resonance or otherwise of the final circuit, or circuits in the intermediate channel and, if a temporary indicator is inserted for alignment purposes, resonance is at least slightly disturbed when it is removed.

The copper oxide rectifier may be permanently installed on the output winding of the speaker transformer for alignment or re-alignment as required. A lead is taken from each secondary terminal of the speaker transformer without disturbing the connection to the speaker voice coil. One is connected direct to a terminal installed on the speaker baffle or case. The second goes through a half-wave rectifier and a one watt carbon resistor to a second terminal.

A low reading milliammeter attached to these terminals as required becomes an output meter connected in parallel with the voice coil and forms a precise resonance indicator for lining the receiver when a signal of constant amplitude modulation is injected.

The value of the series carbon resistor will depend on the voice coil impedance of the speaker and the range of the meter, but some value between one thousand and five thousand ohms will be satisfactory.

Incidentally, if as should always be the case, it incorporates a crystal oscillator for checking, the station frequency meter makes an ideal source of modulated excitation for alignment purposes. All that is necessary is to tune in one of the crystal harmonics on the receiver and beat the variable frequency oscillator of the frequency meter against it. An excellent steady and delicately responsive deflection of the output meter results. The tone is readily variable over the complete range of audibility. It is further a constant amplitude signal of good wave form if oscillator and crystal are both working normally.

Finally, by suitably adjusting the ratio between injection from crystal and from variable oscillator, modulation at any factor up to unity can be achieved.

For alignment purposes keep the beat frequency low. A high modulation frequency may cloak the precise peak of a highly selective intermediate channel.

* 8 Wickham Court, Red Hill, Canberra, A.C.T.



a **BIG** advance in design

Radiotron's latest valve release
A.C. miniatures for 6.3 volt supply.

- Top performers on broadcasting.
- Outstanding on short waves.

Radiotron



Amalgamated Wireless Valve Co. Pty. Ltd.

47 YORK STREET — SYDNEY, N.S.W.

W.I.A. Federal Executive Annual Report for 1948-49

In presenting this brief report on behalf of the Federal Executive, I would like to comment on the various fields of activity which have received attention by your Executive during this year.

It is gratifying to note that the growth of all Divisions has been maintained, and that membership in practically all grades has increased, although it is considered that still greater efforts should be made to elevate associate members to full members wherever possible.

Most Divisions are providing educational facilities to those interested in Amateur Radio, and thereby assisting them to obtain the technical knowledge required to fit them for full membership.

With regard to our relations with the Postmaster General's Department, we have successfully negotiated with them in the release of new types of emissions and frequency allocations. Our contact with the officers of the Department has been maintained on the friendliest of terms and it is desired to record our gratitude to them for their co-operation and sympathetic attitude to all questions effecting Amateur Radio.

The Executive also desires to record with thanks, the tolerance and friendly co-operation of Federal Council Members, and State Officer of each Division, who have shown by their interest in Institute affairs, that spirit of good fellowship which is of paramount importance in the growth of a body such as ours.

Members will be pleased to note that arrangements have been completed with the R.A.A.F. regarding the establishment of a Reserve for those interested in Signals and Radar work. Details of these arrangements have been published in "Amateur Radio" and should serve to clarify the position to all members.

With regard to the publication of "Amateur Radio" this Executive desires to express its thanks to the Victorian Division, and its Magazine Committee, for their continued interest and untiring efforts to produce a magazine of topical and technical material of general appeal to all members. The magazine has been of inestimable value to the Institute and has been largely responsible for the growth and development of all Divisions.

Under existing Departmental regulations, the Amateur is permitted excellent opportunities for experimentation with a varied range of emissions and allocation of frequencies. It is essential that the Amateur must make effective use of these facilities, and it is therefore extremely important that a policy of co-ordinated effort be arranged on a Federal plane to justify their continuance. The magazine has proved an excellent medium for the co-ordination and promulgation of such technical material required to popularise these fields of activity. However there is

considerable need for a constant supply of technical articles to the magazine for this purpose.

Your Executive has maintained and developed cordial relations with the I.A.R.U. and other overseas societies as regards general information and publicity of the work of the Institute and has submitted several important proposals for membership society comment, which are at present under consideration by those concerned. These proposals cover the adoption of a standard phonetic alphabet, standard International numbering system for contests, and publicity of contest results in member societies' magazines.

The Federal Contest Manager has put considerable effort into the drafting of rules and checking of contest results, so that the various Federal Contests conducted this year would be a complete success. However, the number of entries in both the National Field Day and Trans-Tasman could have been increased by further publicity over Divisional stations. It is hoped that all Divisions will persuade their members to take an active interest in future contests by more effective organisation. Rules will be published earlier in future.

Considerable activity has been shown by the Federal QSL Bureau Manager, who has handled 84,000 cards for the year, at a cost of 2.37d. per 100 cards. This work has been facilitated by smooth working of Divisional Bureaux and the efficient organisation of this department demonstrates the interest taken by all those taking part in this important phase of our activities. A total of 33 applications for W.A.C. and W.B.E. certificates was handled by this department.

Much of the work of the Federal Executive has been expedited by the use of the Federal Traffic Channel and the Federal Traffic Manager has main-

tained bi-weekly contacts with Divisional Traffic Officers for this purpose. Many hundreds of signals concerning Federal administration have been efficiently handled over this channel, which is commended to Federal Councillors for matters requiring prompt action.

The Federal Secretary has carried out a very considerable amount of correspondence and signals (776 letters and/or signals) on behalf of the Executive, and recorded the deliberations of some twenty-three executive meetings during the year. In conjunction with the Federal Traffic Manager and QSL Manager, the Federal Secretary has checked and recorded 36 applications for the DX C.C. Certificate. During the year many hundreds of membership certificates have been issued to Divisions. The financial commitment of Federal Executive has increased with rising costs and the Federal Treasurer advises that the overall receipts and expenditure is nearly double that of the year 1946.

Considerable work has been carried out by those members of Federal Executive responsible for technical and publicity matters. In addition, all members attend to matters under discussion with the P.M.G. Department and "Amateur Radio" Editorial Committee and have also shown, by their constant attendance at Executive Meetings, a sustained interest in the work and life of the Institute.

To all the above mentioned officers and members of the Federal Executive, I desire to express my thanks for the co-operation, active interest, and personal exertion displayed by them during the year 1948-9, and feel certain that by their untiring effort the Institute is assured of continued progress in the coming term of office.

WILLIAM R. GRONOW,
Federal President.

W.I.A. FEDERAL EXECUTIVE

Statement of Receipts and Payments for year ended 31st March, 1949.

RECEIPTS		PAYMENTS	
Cash in Hand and in Bank 1/4/48	£57 16 8	Federal QSL Bureau Advance	£10 0 0
N.S.W. Division duplicating constitution	3 3 0	Wyatt Earp QSL Cards (Vardon & Son)	14 9 10
N.S.W. Division Badges	3 9 6	Telegraphic Address	2 2 4
Western Australia Division Certificate contribution	7 15 6	Postage Certificates	3 10 0
South Australia Division Certificate contribution	18 5 0	Wrath—H. K. Love	2 0 0
Contribution to QSL Cards, E. McCarthy	3 0 0	Post Office Box	1 0 0
Per Capita Payments—		Victorian Division Copies "A.R."	1 5 0
Victoria Division	16 3 6	Secretary's Petty Cash	13 0 0
Tasmania Division	2 2 6	Bank Charges	1 0 0
Western Australia Division	3 11 6	Convention Minutes (A. Brown)	10 10 0
South Australia Division	25 10 0	Cash in Bank, 31/3/49	87 3 10
Queensland Division	4 4 6		
	£145 1 8		£145 1 8

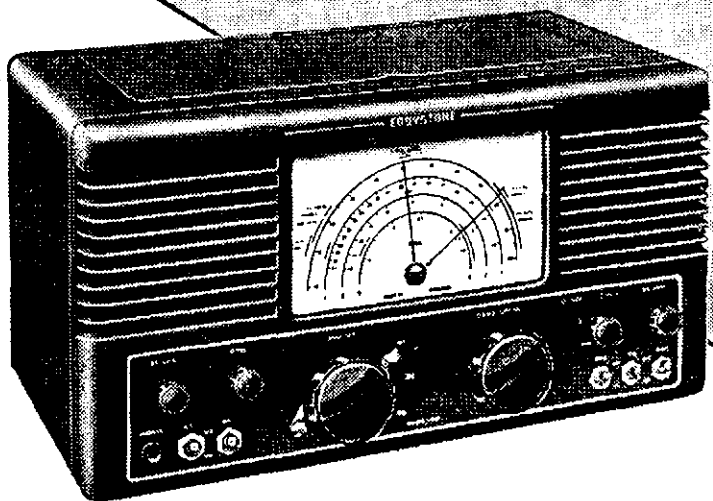
I have examined the Cash Book, accounts and vouchers of the Federal Executive of the Wireless Institute of Australia for the year ended 31st March, 1949, and have obtained all the information and explanations requested. In my opinion the above statement correctly sets out the financial position of the Federal Executive as at 31st March, 1949, and the transactions for the year ended on that date.

13th April, 1949.

THOS. F. HISCOCKE, F.C.A., Auditor.



THE UNBEATABLE, WORLD-FAMOUS EDDYSTONE 640



**NOW YOURS
FOR ONLY**

£56-10
+ SALES TAX

SPECIALLY DESIGNED FOR THE AMATEUR

A British-made Communications Receiver with Outstanding Performance on Amateur Bands

The Eddystone "640" Receiver has been designed in very close collaboration with leading British DX Amateurs to ensure that it possesses the special requirements expected by Amateur Operators.

An outstanding feature of the "640" is its unusually high signal-to-noise ratio, an attribute which enables the receiver to bring in, under adverse conditions, weak DX signals with a high degree of intelligibility. This fact can be proved by actual demonstration alongside other receivers of similar characteristics. One of the secrets of this important feature is the use of a single high gain, high efficiency R.F. stage. This design is supported by the opinion of skilled radio engineers. Air dielectric trimmer condensers and permeability-tuned coils contribute materially to the high sensitivity of the "640". The 1600 Kc. I.F. stages and the modern design crystal filter provide high adjacent channel selectivity and large attenuation of image signals. The Eddystone "640" provides a tuning range of 1.7 Mc. to 32 Mc. in three bands, thus offering excellent band-spread. An "S" meter is available and may be plugged in at the rear of the receiver.

To the Country Amateur the "640" offers the excellent feature of being capable of operation from a 6 volt vibrator power unit in addition to the normal 110 to 250 volt 50/100 cycle mains.

● ●
Ask your nearest Distributor for a Demonstration and for details of Terms

- VICTORIA: J. H. MAGRATH & CO., 208 Little Lonsdale Street, Melbourne.
- N.S.W.: JOHN MARTIN PTY. LTD., 116-118 Clarence Street, Sydney.
- Q'LAND: CHANDLERS PTY. LTD., Cnr. Albert and Charlotte Streets, Brisbane.
- WESTERN AUST.: CARLYLE & CO. LTD., Hay Street, Perth, and 397 Hannan Street, Kalgoorlie.
- SOUTH AUST.: GERARD & GOODMAN LTD., 192-196 Rundle Street, Adelaide.
- TAS.: W. & G. GENDERS PTY. LTD., 53 Cameron St., Launceston, and Liverpool St., Hobart.

● ● ●
N.S.W. Factory Representatives: J. B. CHANDLER Pty. Ltd., 116-118 Clarence St., Sydney.

Australian Factory Representatives: R. H. CUNNINGHAM & CO., 420 William St., Melbourne, C.I

Minutes of the Nineteenth Annual Federal Convention

At the Federal Convention, held at Melbourne from 15th April to 18th April, 1949, the following were in attendance:—Mr. W. Gronow VK3WG, Federal President; Mr. G. Glover VK3AG, Federal Vice-President; Mr. G. Manning VK3XJ, Federal Publicity Officer; Mr. W. Mitchell VK3UM, Federal Secretary; Mr. P. Evans VK3OZ, Federal Treasurer; Mr. J. Moyie VK2JU, N.S.W. Delegate; Mr. R. Cunningham VK3ML, Victorian Delegate; Mr. H. MacGregor VK4ZU, Queensland Delegate; Mr. E. Barbier VK5MD, South Aus. Delegate; Mr. H. Austin VK6AW, South Aus. Observer; Mr. G. Moss VK6GM, Western Aus. Delegate; and Mr. J. Brown VK7BJ, Tasmanian Delegate.

AGENDA ITEMS

1. Moved N.S.W., Seconded Vic.: "That the opening of the Federal Executive Station VK3WIA be expedited." Voting: For—VKs 2, 3, 6, 7, F.E.; Against—VKs 4, 5.
2. Mov. N.S.W., Sec. S.A.: "That the pre-war system of holding Conventions in each State in rotation be reverted to." Voting: For—VKs 2, 4, 5, 6, F.E.; Against—VKs 3, 7.
3. Mov. N.S.W., Sec. S.A.: "That the policy of determining the location for Federal Executive between Divisions in rotation be re-adopted." Voting: For—VKs 2, 3, 5; Against—VKs 4, 6, 7, F.E.
4. Mov. W.A., Sec. S.A.: "That Federal Executive be instructed to take the necessary action to amend Item 9 of the Federal Constitution by deleting the words 'following the termination' and inserting the words 'prior to the commencement.'" Voting: For—VKs 2, 5, 6, F.E.; Against—VKs 3, 4, 7.
5. Mov. W.A., Sec. S.A.: "That F.E. be instructed to take the necessary action to amend Item 9 of the Federal Constitution by deleting the words by a majority of the voting members of the respective Division," and inserting 'from the voting membership of the Division by the Divisional Council.'" Voting: For—VKs 5, 6, F.E.; Against—VKs 2, 3, 4, 7.
6. Mov. N.S.W., Sec. Tas.: "That Federal Council re-examine and restate the Institute's policy concerning the Amateur Advisory Committee." Carried unanimously.
- After discussion of this matter it was Mov. N.S.W., Sec. Q'ld.: "That the policy of the Institute is that it approves of the existing rules of the Amateur Advisory Committee." Carried unanimously.
7. Mov. Vic.: "That the Federal Council immediately takes over the publication of 'Amateur Radio.'" The motion lapsed for want of a seconder.
- Mov. Vic., Sec. W.A.: "That in order to avoid continued loss on 'Amateur Radio' that the price of the magazine be increased to ninepence (9d.) as from the May 1949 issue."
- An amendment to the above motion was Mov. N.S.W., Sec. Tas.: "That the Divisions be asked to ratify that the price of 'Amateur Radio' be raised to ninepence (9d.) to avoid continued loss and that a decision be conveyed to F.E. within thirty (30) days from the rising of this Convention." Voting: For—VKs 2, 3, 4, 6, 7, F.E.; Against—VKs 5.
- The amendment was carried and became the motion and voting on the motion was the same.
8. Mov. Vic., Sec. Q'ld.: "That F.E. approach the P.M.G.'s Department with a view to obtaining frequencies adjacent to the amateur bands for emergency networks." Carried unanimously.
9. Mov. Tas., Sec. W.A.: "That F.E. approach the P.M.G.'s Department to relax the requirements at present insisted upon for the issuance of Amateur Licences to blind persons and others who may be similarly handicapped." Voting: For—VKs 4, 7, 6; Against—VKs 2, 3, 5, F.E.
10. Mov. Tas., Sec. S.A.: "That action be taken by F.E. and all Divisions to publicise the agreement reached on phone-c.w. allocations as per Item 39 of the 18th Federal Convention." Voting: For—VKs 2, 3, 5, 6, 7, F.E.; Against—VK4.
11. Mov. S.A.: "That the division of Amateur bands under a gentleman's agreement be as follows: 3500-3550 c.w., remainder phone; 7000-7050 c.w., remainder phone; 14000-14100 c.w., remainder phone; 21000-21150 c.w., remainder phone (when allocated); 28000-28150 c.w., remainder phone." The S.A. Delegate withdrew this item from the Agenda in view of Item 10.
12. Mov. S.A.: "That the P.M.G.'s Department be asked to provide a new experimental licence for all Amateur Stations." The motion lapsed for want of a seconder.
13. Mov. S.A., Sec. Tas.: "That F.E. be instructed to approach the P.M.G.'s Department to obtain an agreement that the age limit for the A.O.C.F. and station licence be reduced to 14 years." Voting: For—VKs 5, 6, 7; Against—VKs 2, 3, 4, F.E.
14. Mov. S.A., Sec. W.A.: "That F.E. approach the P.M.G.'s Dept. to allow experimental licence fees to be paid in the State of the holder." Voting: For—VKs 5, 6; Against—VKs 2, 3, 4, 7, F.E.

15. Mov. Q'ld.: "That F.E. approach the P.M.G.'s Dept. with regard to the use of a.s.a.c. transmission." The Queensland Delegate withdrew this motion as permission has already been granted.

At this stage of the proceedings, the Fed. Sec. protested against the action of Queensland in releasing news of the release of a.s.a.c. without checking with Headquarters and thereby causing confusion amongst other States. The Queensland Delegate expressed regret for the action of his State.

16. Mov. Q'ld., Sec. N.S.W.: "That F.E. approach the P.M.G.'s Dept. to ensure that the Broadcast Listener's Licence be supplementary to the Amateur Licence." Voting: For—VKs 2, 3, 4, 5, 6; Against—VK7, F.E.

17. Mov. S.A., Sec. N.S.W.: "That F.E. be instructed to make strong representations to the P.M.G.'s Dept. to amend the regulations covering interference with B/O reception so that no action will be taken against an Amateur where the receiving equipment is not of efficient design or which equipment is incorrectly installed." Voting: For—VKs 2, 3, 5, 6, 7, F.E.; Against—VK4.

F.E. desires recorded that all Divisions be requested to forward details of all cases as they occur and cases within the last twelve months, to assist them in presenting a case.

18. Mov. Q'ld.: "That permission be sought for the use of n.b.f.m. on the 3.5 Mc. band." The Q'ld. Delegate withdrew this motion as permission has already been granted.

19. Mov. N.S.W., Sec. Tas.: "That F.E. be instructed to approach the P.M.G.'s Dept. to obtain permission for slow morse broadcasts on the 7 Mc. band once per week." Voting: For—VK2; Against—VKs 3, 4, 5, 6, 7, F.E.

20. Mov. Q'ld., Sec. S.A.: "That all Amateurs compulsorily fit to their transmitters means to automatically prevent overmodulation and splatter to phone transmissions." F.E. drew the attention of Federal Council to Regulation 89 of the P.M.G.'s Handbook. Voting: For—nil; Against—VKs 2, 3, 4, 5, 6, 7, F.E.

21. Mov. W.A., Sec. S.A.: "That immediate steps be taken to ensure effective action in clearing Amateur bands of commercial QRM, that observers be appointed in all States, and F.E. prepare a schedule of requirements. It is felt that observers' logs should be forwarded to a central body. Also F.E. should also endeavour to procure from the P.M.G.'s Dept. a progress report on action taken to date." Voting: Carried unanimously.

22. Mov. W.A., Sec. Vic.: "That F.E. approach the P.M.G.'s Dept. to request the re-introduction of the c.w. probationary period." Voting: For—VKs 3, 6; Against—VKs 2, 4, 5, 7, F.E.

23. Mov. N.S.W., Sec. Tas.: "That the privileges extended to certain Amateurs to playback transmissions be discussed."

After discussion of this matter it was Mov. N.S.W., Sec. W.A.: "That F.E. be instructed to approach the P.M.G.'s Dept. with a view to obtaining the privilege of playback transmissions for all Amateurs as is done in other countries." Voting: Carried unanimously.

24. Mov. N.S.W.: "That the N.Z.A.R.T. be invited to join in the Remembrance Day Contest for 1949 and subsequent years." The N.S.W. Delegate submitted additional information in terms of Sec. 54 of the Federal Constitution. It was decided after discussion that the original decision of the Council on this matter shall stand.

25. Mov. N.S.W.: "That the Trans-Tasman Contest be eliminated." The motion lapsed for want of a seconder.

26. Mov. N.S.W., Sec. Vic.: "That F.E. take immediate action to advise results of overseas contests to all member societies of the I.A.R.U. for printing in member society journals. If this procedure is found impracticable that F.E. take action to supply these member societies with sufficient copies of results for distribution by these societies to their interested members." Voting: Carried unanimously.

27. Mov. Q'ld., Sec. S.A.: "That the time of the DX Contest (or Contests) be changed to June or July instead of November as at present." Voting: For—VKs 4, 5, 7; Against—VKs 2, 3, 6, F.E.

28. Mov. Q'ld., Sec. S.A.: "That for the 1949 DX Contest the period of operation be 24 hours or less."

After discussion the following motion was adopted: "That the Council reaffirms the decision reached under item 50 of the 18th Convention concerning the period of operation of the 1949 DX Contest and that the F.E. should publicise this aspect more fully in future contests." Carried unanimously.

29. Mov. S.A.: "That an entrant in contests be allowed to use any number of hours operating during the Contest provided that he does not exceed the actual specified limit, the number of hours not necessarily to be consecutive hours of operating." The S.A. Delegate withdrew the motion in view of the decision reached in item 28.

30. Mov. N.S.W., Sec. Q'ld.: "That F.E. arrange for monthly contacts between the W.I.A. stations to exchange views, problems of interference and general improvements of official broadcasts." Voting: For—VKs 2, 4, 6; Against—VKs 3, 5, 7, F.E.

31. Mov. W.A., Sec. Q'ld.: "That in order that all members be informed fully of W.I.A. F.E.'s actions, a full list of the prepared Agenda be printed in 'Amateur Radio.' Further that in a subsequent issue of 'Amateur Radio' after Convention date, a full summary of motions passed, rejected and altered be printed. Finally, three months before the next Convention, dated summary of action on the motions passed at the last Convention be given." Voting: For—VKs 2, 3, 4, 6; Against—VKs 5, 7, F.E.

32. Mov. F.E., Sec. N.S.W.: "That a discussion be held on obtaining speedier ratification of motions and actions required between Conventions, placed before the Divisions by F.E. on behalf of Federal Council."

After discussion had taken place the following was Mov. N.S.W., Sec. W.A.: "That this Council considers the ratification of Federal matters at the earliest possible moment is of paramount importance." Voting: For—VKs 2, 3, 4, 5, 6, 7; F.E. abstained from voting.

The Fed. Sec. desired it recorded that all Divisions would adopt a numbering system for memos and signals. Each Division would prefix the memo number by their State letter as follows: N.S.W. N, Vic. V, Q'ld. Q, S.A. S, W.A. W, and Tas. T. Signals sent over the Traffic Channel would have State prefix followed by S, e.g. signal from Q'ld. would bear the prefix QS 49/— A memo from N.S.W. would bear the prefix NS 49/— (the 49 in each case being the year). The adoption of this procedure would greatly facilitate speedy reference to any matter. All Delegates gave verbal agreement to this procedure.

33. Mov. F.E., Sec. Tas.: "That the Divisions give effect urgently and with priority to the relevant Sections of the Federal Constitution affecting preparation for Conventions." Voting: Carried unanimously.

ITEMS OF GENERAL BUSINESS

All Divisions to ratify all items under this heading.

At the commencement of the session on Sunday, 17th April, 1949, it was announced that the Chairman was unavoidably absent. It was then moved by the N.S.W. Delegate and seconded by the W.A. Delegate that Mr. G. Glover take the chair. This motion was carried unanimously and Mr. Glover acted as Chairman for this session of the Convention. The Victorian Delegate was absent from this session.

1. Mov. S.A., Sec. N.S.W.: "That the Convention discuss the rules of the W.A.S. Certificate with a view to finalisation."

After discussion it was moved by S.A., Sec. by N.S.W.: "That the W.A.S. Rules be re-drafted on a basis that the Certificate be awarded for verifications from: (a) N.S.W., A.O.T., or Lord Howe Island, (b) Vic., (c) Q'land, (d) S.A., (e) W.A., (f) Tas., and (g) Nth. Territory." Voting: For—VKs 2, 4, 5, 0, 7, F.E. The W.A. Delegate desired recorded that he is in favor of the motion with the exception of the inclusion of Nth. Territory.

2. Mov. N.S.W., Sec. Q'ld.: "That F.E. be requested to organise a contest, with trophy, to be conducted annually on the v.h.f. bands during the summer months, to include New Zealand Amateurs, and that provision should also be made for a trophy for competition amongst interested v.h.f. listeners." Voting: For—VKs 2, 4, 5, 6, 7, F.E.

3. Mov. F.E., Sec. S.A.: "That an annual allocation not exceeding £9/9/- for trophies or prizes be made for the National Field Day Contest for division between each of the three sections." Voting: For—VKs 2, 4, 5, 6, F.E.; Against—VK7.

4. Mov. N.S.W., Sec. W.A.: "That F.E. issue immediately upon completion of the Convention each year a calendar showing the following information: dates of all known contests, local or overseas, dates any new regulations are expected to become operative, and dates of any importance in Federal administration, etc." Voting: For—VKs 2, 4, 5, 6, 7, F.E.

5. Mov. W.A., Sec. F.E.: "That the Remembrance Day Contest Rules be modified by the inclusion of a multiplier to the State entry, based on the proportion of State entrants from the total number of licences issued in that State as shown in the official P.M.G. lists on that date." Voting: For—VKs 2, 4, 5, 6, 7, F.E.

6. Mov. Q'ld., Sec. W.A.: "That a discussion take place on 'Grenlin' and the future publication of his column."

After discussion had taken place on this subject and after the explanation offered by F.E., the Q'land Delegate was satisfied on this matter.

7. Mov. Tas.: "That F.E. approach the P.M.G.'s Dept. for allocation of bands for the control of model aircraft and such like purposes." In view of the information received from F.E., the Tas. Delegate withdrew the motion.

8. Mov. W.A., Sec. Tas.: "That the P.M.G.'s Dept. be approached to permit the transmission of telephony and c.w. in plain language instead of such transmission being restricted to the English language as at present." Voting: For—VKs 2, 4, 5, 6, 7, F.E.

9. Mov. S.A., Sec. N.S.W.: "That F.E. approach the P.M.G.'s Dept. to clarify the position with regard to the period of issue of portable licences." Voting: For—VKs 2, 4, 5, 6, 7, F.E.

10. Mov. W.A., Sec. S.A.: "That the W.I.A. inform the P.M.G.'s Dept. that it views with alarm the large amount of transmission equipment which has found its way via Disposals into the hands of unlicensed owners." Voting: For—VKs 2, 4, 5, 6, 7, F.E.

11. Mov. N.S.W.: "That the F.E. approach the P.M.G.'s Dept. with a view to ensuring that no charge be made for the Handbook for the Guidance of Amateur Operators." The motion lapsed for want of a seconder.

The Chairman and the Victorian Delegate were again in attendance at the opening of the last session.

12. Mov. Vic., Sec. W.A.: "That the F.E. communicate with the I.A.R.U. with a view to obtaining additional publicity space for the W.I.A. in "QST." Voting: For—VKs 2, 3, 4, 6, 6, 7; F.E. abstained from voting.

13. Mov. Vic., Sec. N.S.W.: "That the call sign of the F.E. station be VK1WIA." Voting: For—VKs 2, 3; Against—VKs 4, 5, 6, 7; F.E. abstained from voting.

14. Mov. Vic., Sec. W.A.: "That the cost of the Federal Convention entertainment be included in the Convention expenses." Voting: For—VKs 2, 3, 4, 5, 6, 7; F.E. abstained from voting.

15. Mov. Vic., Sec. N.S.W.: "That all call signs in the P.M.G. Callbook be followed by the name and address of the holder of such call sign." Voting: For—VKs 2, 3; Against—VKs 4, 5, 6, F.E.; VK7 abstained from voting.

16. Mov. Vic., Sec. W.A.: "That all cases of b.c.l. interference be brought to the notice of the A.A.C. in the appropriate Division for assistance

and guidance to the Amateur concerned." Voting: For—VKs 2, 3, 4, 5, 6, 7; F.E. abstained from voting.

17. Mov. N.S.W.: "That Federal Council considers the rules concerning Branches as in operation in N.S.W. with a view to their inclusion in the Divisional Constitution."

Having considered the above, the N.S.W. Delegate desired recorded that he tables the provisional rules for the establishment of Divisional Branches as in operation in N.S.W. Division with the suggestion that F.E. might use them as a basis for the appropriate section of the uniform divisional constitution now in preparation.

18. Mov. N.S.W., Sec. S.A.: "That the principle of the use by Member Clubs of a small replica of the W.I.A. emblem with the words 'Member Club' beneath be agreed to." Voting: For—VKs 2, 4, 5, 6, 7, F.E.; VK3 abstained from voting.

19. Mov. S.A., Sec. W.A.: "That the Convention discuss Convention Delegates' expenses."

After the matter had been discussed the S.A. Delegate expressed his satisfaction.

The Q'land Delegate asked for an explanation of the payment of Delegates' expenses to the 18th Convention. It was pointed out that there was no intention by that Convention to pay delegates' expenses for that year.

20. Mov. W.A., Sec. F.E.: "That Divisions publicise the fact that members in outlying districts may obtain their copies of 'Amateur Radio' by airmail by making necessary arrangements through their Divisional Council. Such extra expense to be borne by the member." Voting: Carried unanimously.

21. Mov. N.S.W.: "That Federal Councilors receive a report from the F.E. on the progress of the Divisional Constitution."

After discussion it was moved "That N.S.W. Delegate Mr. John Moyle to prepare a first draft copy of the uniform divisional Constitution in collaboration with F.E." Voting: For—VKs 3, 4, 5, 6, F.E.; VKs 2 and 7 abstained from voting.

22. Mov. Tas.: "That the necessity for a majority of voting members for Federal Councilors be determined."

After discussion the following was moved by Tas., Sec. N.S.W.: "That F.E. be instructed to take steps to have Item 9 of the Federal Constitution amended to read: 'That each representative of a Division on the Federal Council shall be elected annually during

the period of sixty days immediately prior to the commencement of the annual Federal Convention by the voting members of the respective Division'."

An amendment to the above motion was moved by Vic., Sec. Q'ld.: "That the words appearing after the word 'Convention' be struck out." Voting: For—VKs 3, and 4; Against—VKs 2, 5, 6, 7, F.E.

The amendment was lost and voting for the motion was: For—VKs 2, 3, 4, 5, 6, 7, F.E.

23. Moved F.E.: "That the views of the delegates be obtained on the formation of the R.A.A.F. Reserve." Discussion took place.

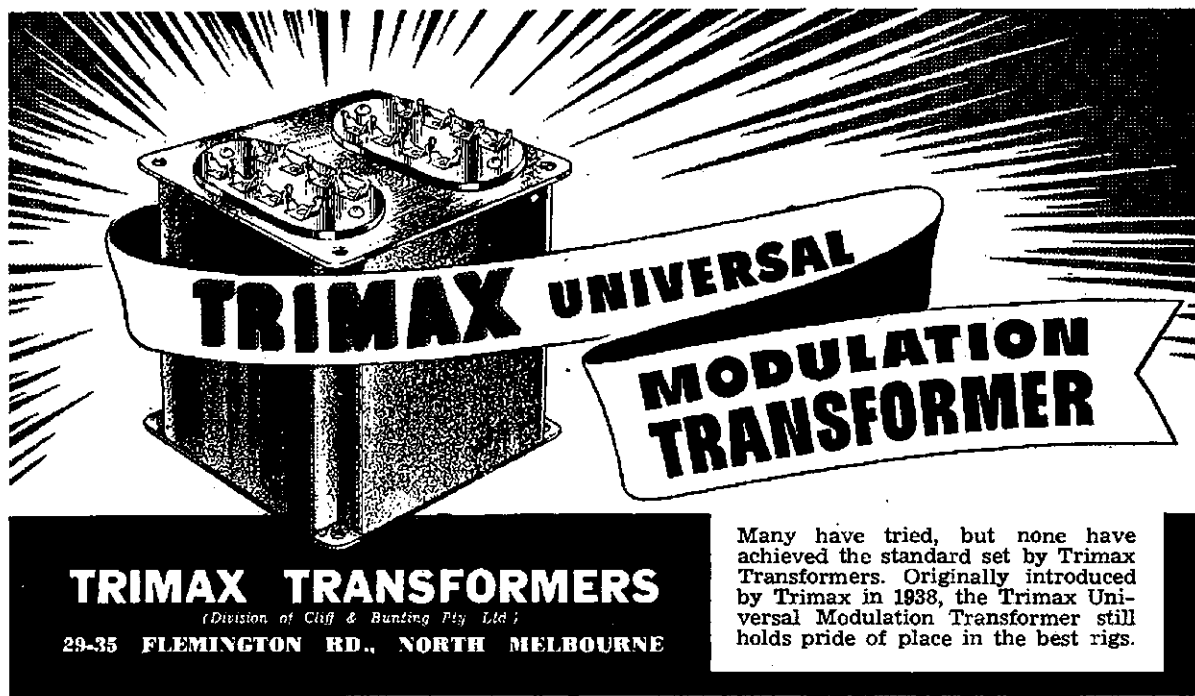
24. Treasurer's estimates for the year 1949-50 were submitted, a total of £279/10/- being made up as follows: QSL Bureau £10, Printing and Stationery £10, Fees £5, Contest Printing and Postage £7/10/-, Contest Trophies and Prizes £25, Petty Cash, Postage and Telegrams £15, Entertaining £5, Convention Minutes £12, Convention Expenses £150, Convention Dinner £20, Contingencies £20; a total of £279/10/-.

The above estimates are based on the assumption that the 20th Convention will be held in Melbourne.

25. That the location of the 20th Annual Convention be determined.

Moved by Tas., Sec. N.S.W.: "That in view of the extra expense of holding the Convention elsewhere, that the next Convention be held in Melbourne at Easter." Voting: Carried unanimously.

**BUY YOUR DX FRIEND A
YEARLY SUBSCRIPTION
TO
"AMATEUR RADIO"**



TRIMAX TRANSFORMERS
(Division of Cliff & Bunting Pty Ltd.)
29-35 FLEMINGTON RD., NORTH MELBOURNE

Many have tried, but none have achieved the standard set by Trimax Transformers. Originally introduced by Trimax in 1938, the Trimax Universal Modulation Transformer still holds pride of place in the best rigs.

Interstate
Representatives:

BRISBANE
Chandlers Pty. Ltd.,
Cr. Albert & Charlotte
Streets.

ADELAIDE
C. N. Miller,
Worando Buildings,
Grenfell Street.

PERTH
R. D. Benjamin,
197 Murray Street.

TASMANIA
W. & G. Genders
Pty. Ltd., 53 Cameron
Street, Launceston.



- ★ The Ham specially catered for.
- ★ Quality Cards at economical prices.
- ★ Prompt Service.
- ★ One, two or three colours if required.
- ★ Interstate orders handled.

Dee Why Printing Works

67 HOWARD AVENUE, DEE WHY, SYDNEY.

Telephone: XW 8367.

Proprietor: GEOFFREY BOWER

QSL CARDS

The DEE WHY PRINTING WORKS is making available to the Amateur Experimenter a Special QSL Card Printing Service. Knowing the requirements of Hams, we are confident the service offered will be unsurpassed in Australia.

Cards can be printed to your own specifications, and if illustrations or blocks are necessary, our Art Department can produce these for you.



McGILL'S (Est. 1860)

OVERSEAS AND LOCAL POPULAR MAGAZINES
OBTAINABLE ON SUBSCRIPTION

AMERICAN . . .

Audio Engineering, £1/6/-; CQ, £1/12/-; Communications, £1/4/-; Electronics, £7/6/-; Popular Science, £1/5/-; Popular Mechanics, £1/8/-; QST, 33/6; Radio News, £1/12/-; Radio Electronics, 29/6; Science Digest, 24/-; Science and Mechanics, £1; U.S. Camera, 28/-.

ENGLISH and AUSTRALIAN . . .

Australian Radio World, 16/-; Amateur Radio, 6/-; Electronic Engineering, £1/12/6; Radio and Hobbies, 12/-; Radio and Science, 12/-; Shortwave Magazine, £1/7/6; Wireless World, £1/12/6; Wireless Engineer, £2.

(Add exchange to Country and Interstate Cheques.)

Large Range of Technical Books, Stationery and Novels on Display.

Mail Orders by Return Post.

McGill's Authorised Newsagency

183-185 ELIZABETH STREET, MELBOURNE, C.1, VICTORIA.

(The G.P.O. is opposite)

M 1475-76-77

FIFTY MEGACYCLES AND ABOVE

Compiled by J. K. RIDGWAY, VK3CR.

144 MEGACYCLES

Highlight of this band in N.S.W. was the Gladesville Radio Club's novel field day. Ten stations in the field had to position each other from bearings obtained. The control station distance was known to each participant and by calling for bearings of other stations to the control, triangular plotting was possible. This allowed each contestant to mark his map showing location of all stations.

It was amazing to hear the number of stations (approx. 35) working all day on 2 metres. This field day was the best so far held and already enquiries about the next can be heard. Stations in the field were 2HL, 2IT, 2NP, 2YM, 2WV, 2ZB, 2AMC, 2AMP, and 2ABG. Other call signs were among members of field parties.

2AWZ has 6J6 mod. osc. going nicely and very stable. Another clean signal belongs to newcomer 2AST, Alan Tollow. Allan also has super-regen. receiver with concentric line r.f. stage. 2ANB is using a 522 with a corner reflector and is putting out a nice signal. 2AH, with 4 over 4, has contacted 2ADT at Cessnock on two consecutive evenings. 2DP has made reappearance with mod. osc. and super-regen. receiver. 2QW with 522 and 3 over 3 beam is going nicely. 2MQ has very nice receiver: two 6J4 grounded grid r.f. stages, 6AK5 mixer. It helps to make up for his location. 2HO is to be congratulated upon fine signals out of "Hart Hollow" at Rosville. An 829B and a stacked 3 over 3 are responsible. 2ARG has a 522 and a stacked 3 over 3 antenna under adjustment at time of writing. 2WJ also uses 522 transmitter and ASV receiver, with both vertical and horizontal beams. 2AZ has clean signal using an E1143. 2VW is getting an 829B ready on 144. Vaughan has excellent punch with his 2 metre portable rig. New South Wales stations using n.b.f.m. are 2MQ, 2QW, 2ANB, and 2AH.

In Victoria the band was rather quiet last month with not as much activity as would be expected. The only new station to put in an appearance was 3TE. He is using a converted 522 as the transmitter with the popular 6AK5-6AK5-6J6 band-pass converter feeding into the 522 i.f. channel for receiving. Gordon puts out a good signal via a three element series-phased beam. 3WL has a receiver working and should soon be in a position to transmit. 3ZL, of Ballarat, has sent his trough line converter down to Melbourne and it has been doing the rounds of the 144 Mc. gang. First to have it was 3ABA, who found it to be somewhat better than his ASV receiver, and using it he was able to work 3GM in Ballarat for the first time. 3EK was the next to try the converter and Keith found it considerably better than his 522 receiver section. He too has been able to work cross-band with 3ZL. Keith has also built up a noise diode and will be able to obtain comparison between various receivers both on 50 and 144 Mc.

Some contacts have been made between Ballarat and the Geelong area, a distance of about 55 miles. 3GM and 3ZL in Ballarat have worked 3BW (Portarlington) and 3VF (Drysdale). In Geelong 3AKE works on 144 Mc. quite a lot and has worked 3ABE with good signals. Ed's BL4 receiver is quite hot on 144 Mc. now. 3ALG has been having condenser trouble but hears the Geelong gang at good signal strength.

In South Australia new recruits to 144 Mc. include Treasurer Gordon Bowen 5XU and 5ME. Both are using n.b.f.m.

From Tasmania Pete Frith announces that he will be shortly having a c.c. 144 Mc. transmitter permanently installed on Rosny Hill, from which location he expects to put in a good signal into most parts of Hobart. So any of the Southern zone gang who want signals are invited to tee up skeds by ringing Bel. 132.

7BM is back in circulation and is cranking up the parallel rod oscillator again. It is reported that it oscillates much more readily on 288 Mc. than on 144 Mc. From the Northern Zone we hear that 7BQ now has a c.c. rig using 6GG on 8 Mc-6V6 tripler, 832 tripler to 144 Mc., driving an 829. Receiver is a super-regen. A new four element wide-spaced beam (properly matched this time) is responsible for improvement in 7BQ's signals. 7TE, is using an RK34 oscillator with an RK34 p.a. Receiver is a super-regen. with a three element close-spaced beam about 45 ft. high. 7DB uses RK34 osc. and 915 p.a. with a superhet receiver and three element beam 10 ft. high. 7AK has not yet been on but has been transferred to Flinders Island, so it looks like DX for the VK7 gang to work. Pete Frith is building a hand-pass converter using 713A, 717A, r.f. stages, 9003 mixer and 9002 oscillator.

576 MEGACYCLES

Victoria appears to be the only State bitten by the 576 Mc. bug. In this State a great deal of interest continues to be shown and activity has been at a high level during the past month. 3ANW (portable call of 3NW) has taken his gear to a number of high locations and some very interesting contacts have been made. The first excursion was on the 25th of April when Ken went to Mt. Dandenong. He was using his 24 element beam (12 driven elements and 12 reflectors) for the first time and contacted 3ABA (S7 both ways). 3IM (S7-3 both ways) and 3XA (gave 58-9 and received S9 plus). This outing showed that superhet receivers, such as the one 3XA was using, are superior to super-regens., but of course the latter are quite useable and give good results. The best distance covered was about 20 miles.

On the 8th of May 3ANW went to Beckett Park, Balwyn, approx. 400 ft. above sea level and heard signals (S7) from 3RR fixed portable at McRae. Unfortunately two-way contact was not established as Dick's receiver was not working, but the distance (about 40 miles) was the best yet covered by a 576 Mc. signal. On the same occasion 3ANW worked 3IM with S9 plus signals both ways, the distance, however, being only about 3 miles.

3DA is now established on the band for two-way work, having built up push-pull RL18s and has worked 3RR and 3XA. 3EH has put up a 16 element beam and is able to transmit and receive on the band. However Ern has no active stations close to him and has not been able to work over the hills to the others on the band at the time of writing.

S.S.S.C. TRANSMISSIONS

VK7LE is one of the first Australian stations to use single side-band suppressed carrier, since its authorisation by the P.M.G.'s Department for Amateur use. We have been advised that he will be on the air on s.s.s.c., Thursday evenings 8 to 9, and Sunday mornings 8 to 9, transmitting on a frequency of 7140 Kc.

Hints on how to receive these transmissions are described on page 4 in this issue, and an article on the equipment used by VK7LE will be appearing shortly in "Amateur Radio."

3ABA has push-pull RL18s going as a transmitter and uses separate quench at 55 Kc. when receiving. Jim has worked 3ANW as mentioned before, and should make other contacts before long. 3CR has put up a corner reflector with folded dipole driven element, the reflectors consisting of two one wavelength sides using 10 reflector elements spaced 0.1 wavelength. He claims he was incorrectly reported in last month's issue as building a converter using 6C4 osc. and VR65 diode mixer. Actually the thing is a complete receiver using five stages of i.f. at 35 Mc. with 6AG5s. The diode mixer will take the third harmonic from the oscillator which will operate on a fundamental of 180-185 Kc. The i.f. stages are just about tamed now and work is proceeding on the r.f. end. Incidentally congratulations are in order to 3XA. Don took unto himself a wife on Saturday, 21st May. All the v.h.f. gang in VK3 join in wishing him every happiness.

2300 MEGACYCLES

Interesting news from 3QO who has a QL44B lighthouse tube working in a three-quarter wave coaxial line oscillator on this band. Mac finds output fairly good but adjustments are critical. Construction is simple; the outer section being made out of copper sheet and thus it is seen that a lathe is not a necessity for those who wish to make gear for these frequencies.

From this month onwards a new presentation of Fifty and Up will appear. Instead of the notes appearing under separate Divisional headings, the material will be used to make up an article which will attempt to give an overall picture of v.h.f. doings in Australia. In this way much duplication will be avoided and it is hoped that the continuity will be improved. Acknowledgment is due to VKs 2AH, 3IM, 5PS, 6FC, and Pete Frith for material used in this article.

The V.H.F. Section of the N.S.W. Division held their monthly meeting on the 18th May at 8 p.m. Attendance was 34 including some visitors. The Sydney Division of the W.I.A. was represented by Mr. Hicks and Mr. McNaughton. They confirmed reports of F.H.Q. interest in v.h.f. work. The business of the meeting was for the purpose of re-election of officers. The new officers are: Chairman and President, Vaughan Wilson 2VW; Vice-President, Alan Llewellyn 2AH; Secretary, Cecil Cronin; Publicity Officer, Alan Llewellyn 2AH. Thanks and appreciation for his splendid work were extended to the retiring Chairman and President, Charlie Fryar 2NP. Mr. Fryar thanked all for their past co-operation and wished the new officers every success. After the debate the new officers took their posts for the latter half of the meeting. The new President (2VW Mr. Wilson) took the chair and Mr. Cronin assisted with the minutes. Several matters regarding 2 metre affairs and contest were discussed. Mainly points of contest rules.

A debate upon antennae followed. The title being "That Horizontal is better than Vertical Polarisation." The debate was a huge success. The members found in favour of vertical by a show of hands. Vertical being very simple to erect. Horizontal giving better S/N ratio normally. An outline of lectures forthcoming indicates an excellent year for members. Come along and enjoy yourself.

50 MEGACYCLES

50 Mc. appears to have taken the K.O. pretty generally throughout VK during the past month. In N.S.W. the main reasons have been 23 Mc. DX and the 2 metre contest. However, despite the fact that DX conditions have almost disappeared many excellent contacts have been made. Surprise of the month was 2LY's contact with 7XL at 2120 hours on 14/5/40. VK3 signals were also heard. QSB has been very noticeable in VK2, particularly on cool evenings. 2BZ at Newcastle can be contacted almost any time by the more favourably located Sydney stations. Dave's n.b.f.m. is excellent. 2JU continues to contact 2GU in Canberra on sked, sometimes with difficulty due to noise. 2TA, at Young, was heard early in the month by 2AH, but was not raised. New beam has improved 2TA's signal. 2EU has a consistently solid signal which is always clean and nice copy.

Lack of work on 50 Mc. in Victoria appears still to be due to the gang's pre-occupation with 576 Mc. insofar as Melbourne stations are concerned. Features of the band in VK3 last month were the excellent contacts that were consistently made over paths of 100-150 miles. 3UI (Tatura) and 3APF (Shepparton) continue to supply the Melbourne and Mornington peninsula gang with interesting contacts on Saturday nights, and it's amazing how consistent signals are over the 100 and 140 mile path respectively. A successful 6-way was held over this path on 30th April, stations participating being 3RR, 3ACL, 3ABA, 3UI, and 3APF.

3TH at Yinnar continues skeds on Mondays and Thursdays at 2030 with 3HK, yet despite the good signal he puts in he rarely has any other contacts. How about it Melbourne gang! Little in the way of DX last month in VK3, the only occasion being at 2030 on the 23rd April when 3ABA heard 4BT at 57 for a short while.

50 Mc. news from Western Australia shows that 6WG at Albany worked 5RT and 5CU on April 20, but the band was only open for a short while. Wally must have a good location. He says that he has made eight contacts with Eastern States every month for the past six months. No Interstate signals have been heard in Perth since January. 6FC made first two-way contact with 6GS at Harvey on the evening of 1st May. 6GS put in a steady S3 c.w. signal. He has for some time been able to receive 6FC's phone R5 S6, but not until 1st May was his signal heard in Perth. Harvey is about 80 miles from Perth. 6DW at Bruce Rock, about 150 miles from Perth, could read 6FC's phone signal which peaked at S5, but 6FC has not yet heard 6DW. Don only wants a VK6 for W.A.S. 6GB has been heard after several months absence. Jack is using portable gear with about 5 watts input on c.w. 6FO puts in a plea for more 50 Mc. activity in VK6.

FEDERAL, QSL, and DIVISIONAL NOTES



Federal President: W. R. Gronow, VK3WG; Federal Secretary: W. T. S. Mitchell, VK3UM, Box 2611W, G.P.O., Melbourne.

NEW SOUTH WALES

Secretary.—Dick Dowe (VK2RP), Box 1734, G.P.O., Sydney.
 Meeting Night.—Fourth Friday of each month at Science House, Corner Gloucester and Essex Sts., Sydney.
 Divisional Sub-Editor.—H. F. Treharne, VK2BM, 6 Waima St., Burwood.
 Zone Correspondents.—North Coast and Tablelands: P. A. H. Alexander, VK2PA, Hill St., Port Macquarie; Newcastle: E. J. Baker, VK2FP, 13 Skelton St., Hamilton, Newcastle; Coalfields and Lakes: H. Hawkins, VK2YL, 27 Comfort Ave., Cessnock; Western: G. J. Russell, VK2QA, 116 Began St., Nynagan; South Coast and Tablelands: R. H. Rayner, VK2DO, 42 Pettit St., Yass; Southern: E. N. Arnold, VK2OJ, 673 Forrest Hill Ave., Albury; Western Suburbs: A. C. Pearce, VK2AHE, 48 Harrabrook Ave., Five Docks; Eastern Suburbs: H. Kerr, VK2AX, No. 4 Flat, 144 Hewlett St., Bronte; North Sydney: L. D. Cuffe, VK2AM, 779 Military Rd., Mosman; St. George: J. A. Ackerman, VK2ALG, 32 Park Rd., Carlton; South Sydney: V. H. Wilson, VK2VW, Cr. Wilson St. and Marine Pde., Maroubra.

VICTORIA

Secretary.—C. O. Quin, VK3WQ.
 Administrative Secretary.—Mrs. O. Cross, Law Court Chambers, 191 Queen St., Melbourne, C.I.
 Meeting Night.—First Wednesday of each month at the Radio School, Melbourne Technical College.
 Zone Correspondents.—North Western: R. E. Trebilcock, VK3TL, 122 Victoria St., Kerang; Western: C. C. Waring, VK3YW, 12 Skene St., Stawell; South Western: W. H. Ross, VK3UJ, Ballanclough, via Warrnambool; North Eastern: J. A. Miller, VK3ABG, "Erinvale," Avenel; Far North-Western Zone: Harry Dobblyn, VK3MF, 42 Walnut Ave., Mildura; Eastern Zone: Mrs. P. M. Churchward, VK2US, "Shirley," Red Hill.

WI BROADCASTS

All Amateurs are urged to keep these frequencies clear during, and for a period of 15 minutes after, the official Broadcasts.

VK2WI.—Sundays, 1100 hours EST, 7196 Kc. and 2000 hours EST, 50.4 Mc. No frequency checks available from VK2WI. Intra-State working frequency, 7175 Kc.

VK3WI.—Sundays, 1130 hours EST, simultaneously on 3580 and 7196 Kc. and re-broadcast on 50 and 144 Mc. bands. Intra-State working frequency 7185 Kc. Individual frequency checks of Amateur Stations given when VK3WI is on the air.

VK4WI.—Sundays, 0900 hours E.S.T. simultaneously on 3750 Kc., 7196 Kc., 14342 Kc., 52.4 Mc. and 144.138 Mc. Frequency checks are given two nights weekly, and the times are announced during Sunday broadcasts. 7010 Kc. channel is used from 1000 to 1030 hours each Sunday as VK4 query service to VK4WI.

VK5WI.—Sundays, 1000 hours SAST, on 7196 Kc. Frequency checks are given by VK5DW on Friday evenings on the 7 and 14 Mc. bands.

VK6WI.—Saturdays 1400 hours, Sundays 0930 hours WAST, on 7196 Kc. No frequency checks available.

VK7WI.—Second and Fourth Sundays at 1000 hours E.S.T. on 7196 Kc. No frequency checks are available.

QUEENSLAND

Secretary.—W. L. Stevens, VK4TB, Box 638J, G.P.O., Brisbane.
 Meeting Night.—Last Friday in each month at the State Service Building, Elizabeth St., City.
 Divisional Sub-Editor.—F. H. Shannon, VK4SN, Minda, via Rosewood.

SOUTH AUSTRALIA

Secretary.—E. A. Barbier, VK5MD, Box 1234K, G.P.O., Adelaide.
 Meeting Night.—Second Tuesday of each month at 17 Waymouth St., Adelaide.
 Divisional Sub-Editor.—W. W. Parsons, VK6PS, 483 Esplanade, Henley Beach.

WESTERN AUSTRALIA

Secretary.—W. E. Coxon, VK6AG, 7 Howard St., Perth.
 Meeting Place.—Padbury House, Cnr. St. George's Ter. and King St., Perth.
 Meeting Night.—Watch the Monthly Bulletin.
 Divisional Sub-Editor.—D. Couch, VK6WT, Mary St., Waterman's Bay, Western Australia.

TASMANIA

Secretary.—R. D. O'May, VK7OM, Box 371B, G.P.O., Hobart.
 Meeting Night.—First Wednesday of each month at the Photographic Society's Rooms, 163 Liverpool St., Hobart.
 Divisional Sub-Editor.—Capt. E. J. Cruise, VK7EJ, Angelsea Barracks, Hobart.
 Northern Correspondent: C. P. Wright, VK7LZ, 3 Knight St., Launceston.

FEDERAL

DX C.C. LISTING

With this issue, we have remembered the members of the Club in each of their Sections, and have listed all present members with their scores. We are still awaiting the Zones confirmed totals from some members who should let the Awards Committee know at the earliest.

PHONE			
	Zn.	Cts.	
VK3JD (1)	33	121	VK6KW (4)
VK6RU (2)	37	113	VK3IG (5)
VK3BZ (3)	40	118	

C.W.			
	Zn.	Cts.	
VK3ON (1)	40	136	VK4DA (7)
VK3BZ (6)	40	136	VK4HR (8)
VK3VW (4)	39	131	VK2QL (5)
VK3EK (3)	39	122	VK4RF (11)
VK4EL (9)	39	120	VK3KB (10)
VK3EO (2)	40	116	VK3UM (12)

OPEN			
	Zn.	Cts.	
VK3BZ (4)	40	168	VK3OP (19)
VK2DI (2)	40	160	VK2YL (11)
VK3JE (12)	39	147	VK4DO (15)
VK3HG (3)	39	142	VK2VN (18)
VK6RU (8)	37	142	VK2HZ (17)
VK3EX (1)		146	VK2ACX (6)
VK3MO (5)	39	132	VK2AHA (9)
VK4HR (7)	38	132	VK2ADT (14)
VK6W (12)	39	128	VK2AHM (20)
VK2NS (16)	39	123	VK4RO (21)
VK4EL (10)	39	120	

Endorsements in the form of a sticker for the Certificate are available for any of the above members submitting additional verifications from 20 countries.

COUNTRIES LIST

The following prefix blocks have been allotted as follows:—
 KG6IA-KG6IZ Bonin and Volcano Is. (Iwo Jima).
 KG6SA-KG6SZ Marianas Is. (Saipan).
 KG6TA-KG6TZ Marianas Is. (Tinian).
 KG6AA-KG6ZZ Caroline Islands.
 For Trieste, add prefix AG2, MF2.
 Add new countries—
 Macquarie Island (30) VK1
 Israel (20) 4X4

PHONE-C.W. ALLOCATIONS

As agreed to by the 18th and confirmed by the 19th (1949) Conventions, all Divisions agreed to publicise the following voluntary band sub-divisions on a "gentlemen's agreement" basis. They are:—
 3500-3550 Kc. c.w. only, remainder phone & c.w.
 7000-7030 " " " "
 14000-14100 " " " "
 21000-21100 " " " "
 28000-28100 " " " "

It is intended to bring this sub-division to notice regularly and we enjoin all phone operators to observe this voluntary agreement. It is working reasonably well on 14 Mc., but other bands need some more attention in this regard. Although, by this agreement, c.w. may operate anywhere on the allotted bands, if the phone men stick to their end of this agreement, it will naturally follow that the c.w. operators will automatically keep their end of the band. Let us have voluntary restrictions, rather than enforced ones!

W.I.A. ACTIVITIES' CALENDAR

May 1—N.b.f.m. and s.s.c. emissions effective.
 May 16—Convention Minutes circulated.
 June 4-5—1949 Trans-Tasman Contest.
 June 13—Ratification of Convention items required.
 August 13-14—1949 Remembrance Day Contest.

S.S.S.C. TRANSMISSIONS

The P.M.G.'s Department has requested that this Division set up a key station using the above type of emission, and it is now advised that the VK7 Divisional station will be VK7LE. His times of operation will be:—
 VK7LE, 7140 Kc., Thursdays 2000-2100 hours E.A.S.T. and Sundays 0800-0900 hours E.A.S.T.

NEW SOUTH WALES

The annual meeting was well attended. The visitors included 6GM, 4ZU, 4DO, 3VA and 3HW. The President, Morris Meyer 2YN, announced the result of the ballot for the new Council and de-

clared the following elected: Brian Anderson 2AND, Vic Cole 2VL, Lee Cuffe 2AM, Bill Hicks 2ANH, Clive Hutchison 2YP, Naughton McNaughton 2ZH, and Fred Treharne 2BM.

A lecture under the caption of "Experimental Ionospheric Predictions" was given by Mr. J. C. Reed 2JR, engineer of A.W.A. Joe spoke for two solid hours, but so great was the interest that none noticed the passage of time, and all got a shock when they found for how long they had listened with rapt attention. Joe made the reading of the Propagation Bulletins an open book to us all. Lantern slide diagrams and Joe's painstaking attention to detail ensured that the least informed of us followed his exposition with ease. All agreed that this was one of the most effective and enjoyable addresses we have ever heard. As usual Joe finished off his discourse with what he called a few "nuts." These comprised an exposition of the "Glapp" circuit and a v.f.o. of his own design that he called the "Reed Circuit." Full particulars will be given to country members via "Amateur Radio" in the near future.

At their first Council meeting, members elected Mr. H. F. Treharne 2BM as President and Chairman, and Mr. N. H. Hicks 2ANH and Mr. C. Hutchison 2YP as Vice-Chairman for 1949-50. The Council have appointed the following officers for the year: Secretary, Dick Dowe 2RP; Asst. Secretary, Stan Owens 2RX; Treasurer, Bill Hicks 2ANH; Asst. Treasurer, Wal Eastering 2BJ, QSL Officer, Jim Corbin 2YF; Bulletin Despatch Officer, Pete Vesper 2PV; V.H.C. Officer, Vaughan Wilson 2VW; Technical Officer, Lee Cuffe 2AM; Disposal Officer, Clive Hutchison 2YP; Traffic Officer, Roy Egan 2ARE; Librarian, Dick Dowe 2RP; Buildings Officer, Don Knock 2NO; Liaison Officer with Country Members, Bill Moore 2HZ; Convener of Constitution Committee, Brian Anderson 2AND.

The Council instructed Bill Hicks, Clive Hutchison, Naughton McNaughton, and Dick Dowe to visit Newcastle, represent the Council and make final arrangements for the establishment of a Branch of the N.S.W. Division of the Wireless Institute of Australia in the coalfields district.

NORTH SHORE ZONE

A bit of a nip in the air now, and a corresponding increase in DX potentialities. 2NI has his new 2-element beam in operation now and a nice mechanical job it is, too. He's having some difficulty with feed troubles, though, inductive coupling being the snag. 2AND reckons he's joined the TX C.C., having now made 103 drawings of p.p. 807 rigs. 2TL still working on the threatened beam, but it sure

takes time! ERP combining house-building with his duties as Divisional Secretary, which doesn't spare him much time for QSOs.

2ES is still doing business with his rotary dipole—in fact only conservative dichards like 2AMB and myself seem to believe that you can still work 'em on the old zepp. If a round-up were taken of the boys who have worked well over the hundred countries post-war with zepps, single wires and so forth, the total would be surprising. Not that I sneer at beams. But I think they can be made too much of a fetish. Good operating technique and procedure will still pull in the rare ones from under the noses of the kilowatt and 3-element beam boys. You can hear it being done any night of the week.

SOUTH ZONE

The main topic of the moment in this district seems to be the v.h.f. 144 Mc. contest which has just commenced. Three stations, 2ANB, 2WJ, and 2VW are competing and results should be interesting. The Kingsford Radio Club will soon have their new transmitter on the air, operating under the call of VK2AKC, and will be looking for contacts on 144 and 7 Mc. bands.

2ABU now has his 20 metre beam working and is putting out a very solid signal. 2ANB very active on 144 Mc. Has an SCR322 hotbed up with a corner reflector horizontally polarised beam. We have been trying to coax 2ABC down to 2 metres but Fred says 6 and 10 will do him. 2WJ also trying to repeat his last performance and win the contest. 2ABB has nearly finished his new shack and is heard occasionally on all bands from 2 metres up. 2UV back on 20 with a solid signal, after replacing his main i.c. power supply. 2OP rarely heard these days. 2VW also active in the contest and planning new 30 ft. lattice tower to hang the beams on. Our congratulations to Keith Renwick who recently passed his A.O.C.P. Unfortunately there is a minimum age limit and Keith will have to wait a while before receiving his call.

WESTERN SUBURBS

Lately 2ALA has been cleaning up the DX on 20, otherwise on 7 Mc. phone. 2AMJ, who hails from Berala, usually has a crowd of fellows cluttering up her frequency. Joyce hopes to be on 20 soon with beam antenna. 2OQ does a fine job on 20. 2MA is very pleased with his high C Hartley v.f.o. 2ALO is playing with beams. 2JT is battling with a couple of "A" frames for a new antenna. 2FZ has not much time for radio except at the week-ends. 2AN is a new arrival in the Enfield area and works mainly on 28 Mc. 2AEZ puts out a nice signal on 144 Mc. into the heart of the city. Sorry I couldn't answer your CQ on m.c.w. Bill; maybe soon. 2AHU just isn't happy about his new modulator. 2OX, the "old salt," has a super on 144 Mc.

Future meetings of the Experimental Radio Society of N.S.W. will start at 8 p.m. on Thursdays, 9th June, 23rd June, and 7th July. If you are handy, go along to the Greenwood Hall, Liverpool Rd., Enfield, on those dates. A series of lectures

by A.W.A. engineers is planned and they will cover phase modulation, transformer design, and n.b.f.m.

Gladsville District Experimental Radio Club boasts a small but enthusiastic membership. Publicity officer Ken Whitmore tells me that the Club has a series of lectures running with only an occasional night devoted to dull business. These lads are keen exponents of v.h.f. technique and field days are the rule rather than the exception. Last field day was a d.f. test on 144 Mc. but plenty of variety is introduced into the days to escape any thoughts of monotony. VK2ADY had eleven stations in the field with 2HL in control as master station. Launch picnics are another innovation. Meetings are held each Thursday in a hall provided by Mrs. Brown, mother of Mac Brown, an enthusiastic member. Three out of four nights are devoted to lectures of picture nights. VK2ADY goes on 40 metres each Tuesday evening and code practice as well as constructional work is undertaken. Further information may be obtained from the Publicity Officer Ken Whitmore, 5 Elston Ave., West Ryde.

DX NOTES BY VK2QL

As was anticipated by working from the Ionospheric Bulletin, DX conditions for April were not good, and there appears to be not much hope for May either, so there is not much to report as far as plenty of the rarer DX is concerned. Just the same, some very nice DX was heard, unfortunately not worked in most cases, at this neck of the woods.

The following good ones were heard. VP8 and NT2A until 9 a.m. EY8R, GR1OFU, YS1RA, EK1DO, EASMC, TA3GVU, OQ5RA (4 p.m. EST), UMBKAA, UJ8KAA, UL7EAA, UN1AB, UIRKAA, YK1VU, VK1RA. A fair percentage of the above were heard round 2 to 4 p.m. EST which seems the best time at present. OX3MG says he will be leaving Greenland in August, and another DX station also leaving I believe. Greenland has been a lot easier to raise in recent weeks, two contacts a night being possible.

Some of the gang have come to my assistance with some "gen." Many thanks to 9NR, 2OA, 2NS, 2ADP, 2AHM and the old stalwart, 2ACX. W4FOE is looking for contacts with any VKs, who are interested in bee-keeping. He puts a good signal in here so should be an easy contact on 14 Mc. for anybody interested.

A few QTHs may be of interest: ZS9D—Box 14, Francistown, Bechuanaland; PK3JT—J. H. Briet, Wonokiti Blvde No. 6, Soerabaya; YS1RA—c/o American Embassy, San Salvador; EK1DO—B.P.O. 39, Tangier; YU7RO—Wait for his QSL; TASGVU—A.R.R.L. QSL Bureau.

2NS sends a nice list, pickings of which are EK1DP, YS1ES, CP4DH, AR5EM, ET3AD, H8EDC. 2AHM, the low power merchant, has worked, with an average of 8.8 watts, 145 countries. 102 on 28 Mc. Claims, justly I think, he is the lowest powered station to make DX C.C. With the advent of a genemotor, has gone high power to the tune of 20 watts. 2ACX advises his W.A.Z. application has been OK'd. Congrats Arthur.

Listings for the month are:—2NS 159 and 39, 2AHM 145, 2ADE 198 and 39, 2YO 108 and 38 (11 new countries in 10 days), 9NR 76, 4DA 164, 2DI 197 and 40, 2QL 153 and 40, 2ACX 186 and 40.

The guy who led me astray by introducing me to Ham Radio, 2OW ex-2FZ, threatens to migrate from 7 Mc. to the DX bands by building a new receiver.

COALFIELDS AND LAKES

2A1O trying a new final, at the moment has 80 countries post-war. 2AEZ wrestling with a Bendix frequency meter. DX quiet and Ern still looking for zones 35 and 40 for W.A.Z. 2RU only active on 50 Mc. 2AMU after the rare ones on 28 Mc., GD3AGC the latest. 2ER, hear you often on 40, let us have some notes. 2OC seldom heard these days. 2KF seems to have the tranny trouble beat now and has good phone, plenty of modulation. 2KZ on 10 and 6, has given Delaware away, needed it for a 10 phone W.A.S., has a little trouble with phone at present. 2TY heard on 6 and 10. 2FZ DX chasing on 10, also 2AMU been holidaying at 2X05c. Not much news of 2VU, 6 metres is his hideout. 2PZ working on rx. 2EK doing some re-building and should be on soon. 2ADT has "Clapp" going, new 8 mx. rig and bagging some nice ones on 10 and 20, may re-arrange gear if urge remains! 2YL half re-built, maybe active in a month's time. Any notes from zone members would be appreciated at 2YL, 21 Comfort Ave., Cessnock.

WESTERN ZONE

The main topic of the month is n.b.f.m., the best station heard so far was 2ALX with his AT20 phase modulating the v.f.o. and running lazy 100 watts to the final. 2JW playing about with it, but his v.f.o. is a bit uneasy and jumps around like a cat on hot bricks. Then of course the field day at Urunga. Visitors from this zone being 2WH and 2ACU, and Norm, official photographer. All report the function a great success. 2VZ has completely re-built his rig and is back after three months off. 2AMR heard occasionally on 40, reports good results with two elements, wide-spaced on 10, fed with 40 ohm co-ax. 2ACT using a Type 8 Mark II and series cathode modulation. 2BT mad with the c.w., often heard on the bug with all weights off.

2EI pops on 40 occasionally. 2DK using p.p. 807s, all operated from 6 volt batteries. 2LY is very active on 10 with a half wave doubler, talks of a 4 over 4 beam. 2HZ put up three stringy bark poles, ably assisted by 2LY. 2FH with his mains voltage often down to 180 volts is in trouble, hopes to get to Sydney soon, will only have black-outs down there. Speaking of n.b.f.m.—was recently entertaining a friend in the shack and he remarked "I didn't think language was allowed on the air." I said I hadn't noticed any swearing. He replied, "didn't VE2—say n.b.f.m." I explained what f.m. was. His reply, "If that is 'b' frequency modulation, no wonder the ABC is reluctant to use it!"

THIS
GLO-RAD
SYMBOL IS YOUR GUARANTEE OF WELL
ENGINEERED PRODUCTS



YOU WILL FIND IT WHEREVER DEPENDABILITY
IS PARAMOUNT.

GLO-RAD ENGINEERING SERVICES

186a Riversdale Road (Cr. Robinson Road)

HAWTHORN — VICTORIA

Phones—DAY: WA 3819

NIGHT: WX 3440

A.O.C.P. CLASS

The Victorian Division A.O.C.P. Class will commence on Thursday, 14th July, 1949. Lectures are held on Monday and Thursday evenings from 8 to 10 p.m. Persons desirous of being enrolled should communicate with Secretary W.I.A., Victorian Division, 191 Queen St., Melbourne (Phone FJ 6997 from 9 a.m. to 5 p.m.), or the Class Manager on either of the above evenings.

"HAM" RADIO SPECIALS

Here and Inside Front Cover

SALE SNAPS

English Hi-Frequency Receiver, type R3084A, band tuning coverage approx. 170 Mc. Valve line up—two RL7s, one RL16, six VR91s. Aerial switching motor, valves, etc., two at £5 each.

Osrarn Neon Lamps. Ideal for VR Tubes. 2/6 each. Mazda 4 watt Pencil Type Fluorescent Tubes. Ideal for R.F. Indicators. 1/6 each.

Low Impedance Headphone Leads. 1/- each.

Standard Notes for Wireless Maintenance Mechanics, including Bendix AT5, AR8, etc. 5/- each.

ODDMENTS.—Volume Controls, all types. Each 1/-.

SALE SNAPS

AMERICAN INTER-PHONE CONTROL UNITS, less Valves, full of useful parts. Each 5/-.

AT5 TRANSMITTER KEY CLICK FILTERS. Full of useful parts (weigh. 20 lbs.). Each £1.

GENEMOTORS.—AT5, AR8 (complete). Slightly damaged switches, 24v. input, 550 and 300 volts output, at 250 mills. To clear—£3.

Tranpro Valve and Circuit Tester. Very late model, had little use, excellent condition. One only available at £15.

Relays, 24 volt, single contact in bakelite case. Ideal for the rig; Bargains at 3/6 each.

VALVES DRASTICALLY CUT

SPECIAL VALVE OFFER

Owing to a Special Purchase we are able to offer 6V6 Valves at the low price of 9/6 each or £5 per dozen.

S.H. VALVES

Out of Disposals Gear

1625	10/-
1626	7/6
1629	7/6
VR105	10/-
2X2	7/6
879	7/6
6G6	7/6
12SA7	7/6
12SG7	7/6
12SAH7	7/6
12H6	7/6
12C8	7/6
12J5	7/6
6SL7	10/-
6SN7	10/-
Metal 6J5	7/6
" 6R7	7/6
" 6L7	7/6
" 6C5	7/6
" 6SS7	10/-
" 6SA7	10/-
" 6F6	10/-
" 6N7	10/-
" 6B4	7/6

Huge Quantity of Assorted English Valves

VP41
VR102
VR92
VR122
VR21
VR65
VU139
VU111
VU39

5/-

Each
To
Clear

Secondhand Valves, all types. Battery and A.C. to Clear.

6J7	5/-
6U7	5/-
6V6	5/-
1J6	5/-
6K7	5/-
6G8	5/-
6A8	5/-
6K8	5/-

Many others; you name, we'll supply them.

NEW VALVES TESTED

832 American	£2
6L7	9/6
955	7/6
6R7	9/6
7C7	9/6
6J5	7/6
6SH7	7/6
6H6	7/6
12J5	7/6
12SQ7	7/6
3B24	7/6

BATTERY TYPE VALVES

1J6	7/6
1K4	7/6
1H4	7/6
1M5	7/6
1K7	7/6
Locktal Valve Sockets	9d.

WANTED TO BUY.—TRANSMITTERS, RECEIVERS, VALVES, COMPONENTS, TRANSCIEVERS, TYPE 3 MARK II, TYPE A MARK III, GOOD PRICES PAID.

"HAM" RADIO SUPPLIERS

(KEN MILLBOURN, PROP.)

5A Melville Street, Hawthorn, Victoria

(East Kew Tram Passes Corner)

(Phone: Hawthorn 4465)

SOUTH COAST AND TABLELANDS

The zone welcomes 2AMN who is operating from O'Connor, Canberra. Ray has two rigs, for 40—6V6, 813, 50 watts, 6L6s in AB1; and for 20—6V0, 6V6, pair of 807s. Turner Mike and home built rx. with Aegis coil kit, completes the set up. 2A0X, Woonoona, active on 40 with 6F6 e.c.o., 6F6, and 807 final, modulated by 807s in AB1; rx. 9 tubes. A new addition at 2A1K is an auto-tranny, previously used in a b.c. station, it keeps the West Wyalong mains under control. 2AFV suffered an injury when a tree fell on him, hope to hear you soon and that you are on deck again. 2AKE has moved to the new house and is active on 40 and 80, works 2A1S on c.w. Paid a visit to 20Y at Goulburn and had a look see at some very well-constructed equipment. New rx. is a double conversion job, and the v.f.o. and t.x. are beautifully made. 2AJP called in for a few minutes, he is "sparks" at HQ of Southern Electricity at Goulburn.

2A1Z active using suppressor modulation, radio is also his bread and butter, works at b.c. station 2GN. 2GU active on 40 and 6 using remote control of x's, has no trouble working 2TA Young and skeeds 2JU Sydney on 6. 2JQ stopped in for a few minutes when passing through to Tumut, looks well and sports a new car. Took away a circuit so perhaps a change to n.b.f.m. will be on one day.

2PI off duty while undergoing operation for tonsillitis. At moment he and family are holidaying in Sydney. 2VS back at Canberra relieving at 2CA, using 6V6 c.o., RK39 cathode mod., rx. No. 11. 2ALS on 40 and 80 mostly on c.w., n.b.f.m. appeals and should cure b.c.i. to some extent. 2RM at Military College active with solid signal, often visits Newcastle when time permits. No news of Wollongong, except 2MT rocking into Europe most mornings on 20. Had pleasure of meeting 2ALB, who was busy neutralising his 809, he had good reports of the North Coast Convention. Visited 2WF of Manly and although "Wily Fox" was on duty navigating the Lachlan or some other expanse of water, his 2nd op. (the XYL) ably explained each piece of gear. 2JW, 2ALX and 2AHZ heard here on n.b.f.m. on 40, all were well received and I understand they were all pleased with reduction in b.c.i.

VICTORIA

At the May general meeting, before the commencement of the main business of the evening, three short films of interest to Amateurs were shown. The first film, entitled "The Creation and Behaviour of Radio Waves," illustrated diagrammatically the production and propagation of radio waves. The

simple magnetic and dielectric fields set up around a d.c. circuit were first shown. The development and radiation of electromagnetic waves followed when the circuit was excited from a high frequency source. The film then showed the propagation of waves in space, distinguishing between ground wave propagation and propagation by reflection from the ionosphere.

The second film was titled "Radio Antenna Fundamentals." It showed diagrammatically, by means of animated pictures, the reflection of travelling waves on antennae and transmission lines, and the production of standing waves followed. Methods of feeding antennae with different types of transmission lines were illustrated and the effect of series inductance or capacitance on the electrical length of the antenna shown. The film showed examples of fixed and trailing aircraft antennae.

The third film dealt with "Atomic Energy." Starting with a simple soap bubble, the constituent molecules in the thin soap film was pictured. It was then shown that the molecules consisted of atoms, and that the atoms were made up of electrons with a nucleus formed of protons and neutrons. It was then shown that there was a relationship between the temperature and mass of a body. We saw how a sphere of iron becomes slightly lighter as it is heated. Thus it could be appreciated that changes in the mass of the atomic nuclei were accompanied by the radiation of energy. Atomic energy could be produced by nuclear synthesis, whereby the nuclei of a light element were joined together to produce a heavier one, or by the better known process of nuclear fission whereby the nucleus of a heavy element was split up to produce nuclei of a lighter element. It was shown how nuclear fission could set up a chain reaction which is used in the atomic bomb.

SCREENING OF FILMS

The Victorian Division has arranged for the screening of films of general interest at the Radio School on the following nights: Friday, 10th June; Friday, 8th July; Friday, 7th September.

Members and friends are invited to attend, and further information may be obtained by ringing the Secretary at FJ 0997.

EASTERN ZONE PORTABLE CONTEST

The zone's portable contest, held the last weekend in April, proved an unqualified success, and we wish to thank the stations outside the zone for taking an interested and active part in the contest. We believe that one station, 3KS, came on phone for the first time when she gave the boys points to add to their score. 3KS and 2XB are ex-members of the zone. The results of the contest have not been announced at time of writing.

The stations operating under portable conditions were VE3s QZ, WE, ALA, SS, RH, TH, ALS, LV, DI, and VL. The fixed zone stations were VKs CI, PR, ABP, AHK, ABO, and UG. The weather was ideal over the week-end for the portable stations, and only one group had any complaints. 3SS and junior op David (and ardent s.w.l.) and 3ALA went camping on the Dargo Plains for the contest, taking a 108, a Type 3 and a Type A. The latter arrived with a fault in the receiver section, which 3SS could not fix, so 3ALA operated the Type 3 during the contest. Saturday was a sunny, windless day, so Keith did not fix the tent very securely. In the few small hours he was awakened by the wind and had to fumble around tying the tent to the stretchers which supported the slumbering forms of David and Ted, who slept soundly all night, even though the tent was rocking the stretchers! However, apart from sundry tangles from the mike, all went well until they were ready to return home, when Keith's utility truck would not go. Someone had the brainy idea of pouring petrol from a bottle into the carby, but the petrol exploded, setting fire to 3ALA, to the truck, and to the surrounding grass. Ted put himself out, whilst Keith and David attended to the truck, leaving the grass and the petrol bottle (yes, it had contained lollywater) to burn themselves out.

Still the truck would not start, and when all hope of getting home that night had almost vanished, the only truck in the district appeared, and towed them back to civilisation, which proved a nightmare trip round hundreds of hairpin bends in a cloud of dust raised by the 3-tonner, and in the failing light from the headlamps. However, they reached home safely, which was the main thing.

3LV has been in his last hook-up as a member of the zone, as he leaves for the suburbs shortly. We wish you luck, Len, and don't forget that you are an honorary member of the zone. 3PR has had more poles broken by livestock rubbing against guys, and plans to put up new poles where the cattle can't go. 3DI is now operating on 20 mc. and has contacted 3VL on that band. Jim is studying antenna handbooks, for a good one for 201 3VL/US are housebuilding, so Ham Radio is taking a back seat. 3WE is operating from indoors in the hook-ups now that there's snow on them that hills. What's the lowest temperature so far this

First Convention of North Coast and Tablelands Zone (N.S.W. Division), Urunga, 24th and 25th April, 1949

Great trees from little acorns-grow . . . and from a chance remark it looks as though the annual convention in this Zone has originated. 2PA, 2ASF and 2SH operated from Point Plumage during the last N.E.D., but Crieff during a QSO suggested that next time Urunga would make a better location. To that chance invitation to the original three were quickly added the Hams from Coff's Harbour and then Lismore, then Grafton; till finally there were coming from Forbes 2WH, Coomabe 2ACU, Ternterfield 2WT, Mungindi 2AWP, Byron Bay 2AGM, and Newcastle and Sydney. So with country interest awakened, was born the first Convention of the North Coast and Tablelands Zone.

Too much credit cannot be given to the organisers of the Convention: 2XO, 2PA, and 2ASF. Crieff studied the matter from every angle and the arrangements meant almost continuous contacts on 5.5 and 7 Mc. with his other two helpers. In fact it soon became almost impossible to tune over the bands without eavesdropping on the latest developments. Urunga being a very up-to-date and lively community, quickly offered every help through its Progress Association and business people, and everything possible was done by them to make the visitors' stay memorable, as well as enjoyable.

The N.S.W. Divisional Council took advantage of 2YC's offer to represent them and besides donating prizes, flew one of their most popular lecturers, Mr. Joe Reed 2JR, up to Coff's Harbour where 2ADN provided transport to Urunga. Mr. Reed, besides repeating his W.I.A. lecture on Ionospheric Predictions, gave advice to all comers. In fact wherever one seemed to look on Sunday or Monday, there was 2JR, pencil and paper and rapt pupils.

Saturday was arrival day, either at the 2XO boathouse, beautifully situated near the bridge over the Bollinger River, or if one overshot that and arrived at the hotel, one's arrival was quickly relayed via 2AJT's portable at the hotel to portable 2PA at the boathouse. 2WH and 2ACU gave a ball-to-ball description via portable radio of their trip from Coomabe and are thinking of Loran for the next time.

Sunday morning found everybody gathered at 2XO's "Do-Me"—all present wearing the Convention shield giving his call sign, Christian name, and town, and some very old "over the air friends" of many years standing discovered what the men behind the voice and the key looked like. In between times the capacity of the "lagy-nine" was examined, and serious Hams hefted Ted Hainey's bunch of bananas and then put their decision in the "jam tin." The organisers had an official photographer, Mr. Norm Moody, who took gatherings by daylight or flashlight—large groups or small—and any old "over the air friends" had a ready camera to record the fact that it was at the very first Urunga Convention they met. Of course, the "Hams were at it too—2CI with his Graflex, 2JR with his 35 mm., 2ADN, Ted Hainey's and others all have some photographic records."

Serious competitions interspersed much operation of 2PA portable. Morse men and phone men copied c.w. through much and varied QRM, while phone men tried to pick the voices of well-known "phone men." But even Crieff failed to recognise his own voice repeated twice in rotation. These pretty clever recordings were Graham 2ARR's help to his country friends.

Sunday afternoon was devoted to a launch picnic, and fishing. The former was particularly for the

ladies and the latter for the men. Well, even the best run affairs fail somewhere—ask Crieff about the fishing!

The launches were donated by the Urunga Private Launch Owners and it was the owners themselves who were most loath to leave off for the afternoon tea—fishing seemed as bad a disease as Ham Radio.

Proceedings on Sunday night were held at the Urunga School of Arts and opened by a welcome on behalf of Urunga by the President of the Progress Association. The townspeople, as a small gesture of the Hams' appreciation, had been invited to attend this gathering and arrived in force. Crieff 2XO, Pete 2PA and Col 2ASF responded on behalf of the Organisation Committee. Colour films by the courtesy of Messrs. Ben Johnson, Ted Hainey and Jack Gerard, and slides by 2JR made a night pass only too quickly.

In the interval, 2YC, on behalf of the W.I.A., thanked all for their interest and enthusiasm, and spread some light on the Ham and his organisation, the Wireless Institute of Australia, the oldest body of its kind in the world. Then he presented prizes, which were concluded by two specials, "The Yabbie Catchers' Award" to Cec Hardman, which caused Col Fletcher much mirth, but not half as much as Cec felt when Col followed him to receive "The Ear Basher's Award."

Then came 2JR's lecture, just over two hours, but for lectures by Joe of 2JR, two hours is gone in no time, with the audience disappointed that the end is so near the beginning.

Monday came; a time for departure, but as each parting guest left the "Do-Me" Crieff, who once had 484 lbs. of very nice bananas for his weight guessing, sadly watched it get lighter and lighter, and so ended a great week-end, a credit to its organisers, and to the Ham spirit of country Hams to whom hundreds of miles meant nothing, and as each one left, the parting word was the same—"be seeing you again at the W.I.A.'s North Coast and Tableland Convention at Urunga next year."

Among those present were: VK2s PA, XO, ASF, SH, ZS, CI, AJB, DS, WQ, ALB, ARY, LH, KR, NX, AGD, KN, NY, AGM, JR, WT, WH, ACU, TB, EA, AWP, DX, SR, AJR, ARJ, JK, YO, ADN, Messrs. Norm Moody, Norm Hart, C. Gorton, E. Hainey.

Donations were received from the following:—Bailey's Cordial Factory, soft drinks; McWilliam's Wines, case wines; Rod Pike 2ACU, £1; Len Turner 2AJB, motor generator; Ted Hainey, bunch bananas; Martin de Laurnay, pair 807s; Dominion Factors, £1/1/- open order; Prices Radio, £1/1/- open order; Wireless Institute of Australia, valves and maps.

Results of the competitions.—Morse recording: 1st, 2JR, motor generator; 2nd, 2ZS, pair 807s; 3rd, 2AGM 807. Voices: 1st, 2AJB, pair 807s; 2nd, 2KR, open order.—Prices: 3rd, 2AGM, great circle map. Longest distance travelled: 2WH, 521 miles, great circle map. Weight of bananas (49 lbs.): 2XO, 494 lbs., prize—bunch of bananas. Biggest fish: Snow McAuley, 1.1.0 open order.—Dominion Factors. Special Competition, guessing number on £5 note: 2NX, 807. Special Presentations (made by Jim Corbin 2YC): Yabbie Catchers' Award, 2KR (now entitled to do treading in North Coast Zone); Ear Basher's Award, 2ASF, 17½ minutes on 17/2/49, 7 Mc. Portable equipment in operation: 2PA, 2AJT and 2ACU on 7 Mc., and 2EA on 144 Mc.

season, Bill? SCI has decided his quad works better on the ground than it does up in the air. 3BB has brought honours to the zone by winning the Frequency Measuring Contest. Congrats, Bert. 3QZ is planning what antennae he will put up when he moves into his new home, which is nearly finished. The zone's weekly hook-ups are held at 2000 hours, Sunday nights, on the frequency of 3650 Kc. We urge those members who have not yet participated, to call themselves in, and join in the rag-chews. Those members of the zone who cannot work 80, are invited to inform the Notes Correspondent (Mrs. G. Churchward VK3US, Red Hill), of their activities, for inclusion in the notes.

SOUTH WESTERN ZONE

After listening over the bands during the past month one hears new signals and two old timers in Ham Radio, 3JA and 3HG, can be heard on sked on 80 with fine signals, and another old timer who signs 3FS came on 40 the other day. Have heard 3BE working VK5 quite a lot, also 3MH was on 40 and 3GR has gone to 20, so I hear, and getting out quite well. 3II was working 3RE a few days back and I overheard Bill say that Leigh's phone smelt and he could not hear him, well 3II was 59 here and good phone. 3AKR is putting up a new 8-wave vee beam and has it now down to a fine art. 3QC gave a lecture the other night on db's over 9, working DX when you have 8-W's come back, and a short note on inverse feedback, this was given to 3AKR and your scribe over the air which was very welcome. Heard 3AGV on 20 and old 3YE still having trouble with no signal, much, on 40. Will come down soon Vern and help you out.

Looks as if 3BW has something in store with a new 40 ft. tower with beam for all bands; how will the 80 metre rotary go? 3APG and 3ABW had a spell at Anglesea with portable gear. 3ALG has started on new modulator unit and Fred has a surprise up his sleeve as 3AJF has a command rig on 80. My old friend 3AKE is a forgotten dream, as I have not heard his sweet charming voice for some time as he is now 100 per cent. DX, remember boys on 114 Mc., so what about it Ed. 3IC had the mike pulling funny faces the other night, with the result that Bob landed it at the other end of shack and got better output from it. Often hear 3ZU on 40 and 20 working locals and DX, with nice phone and c.w., but 3HF still pounds in here with extra good phone. Also heard that Harry had some fun erecting the 75 ft. mast, as he finally had to run a cable around the house to have a firm anchor. 3VA and 3HW are holidaying

in VK2 and VK4, getting new ideas, etc. chaps? 3ASV has not been heard on for quite some time now, likewise 3AGD.

Geelong Amateur Radio Club.—Two more new members were welcomed by the members of the Geelong Amateur Radio Club. At this meeting one of the members, Mr. Brian Lloyd, gave a talk on "The Advantages and Disadvantages of the Straight Super Heterodyne Receivers and Double Conversion Super Receivers." The following meeting, Mr. Peter Perkins lectured on "Distortion." Mr. Perkins continually used the blackboard to illustrate his lecture.

On Sunday, 1st May, the Club held a hidden transmitter hunt. As the gang set off to find the transmitter, the Club call sign, VK3ATL, was used. First to locate it was 3AKE and company, followed closely by 3BU. 3APG set off on his push bike to find it and finally made it. A picnic was then held at Torquay after which the transmitter was again hidden, this time it was located first by 3ALG, 3SY, and 3NG, who were together.

NORTH WESTERN ZONE

North Western Zone has received a severe setback. 3BM, the most active member of the Zone, and the one to whom Hams look when they are in difficulty, has intimated that he has taken on public duties that will severely limit his activities. He has resigned his appointments as the Zone's representative and magazine correspondent and his cheerful voice is no longer heard in the Zone hook-ups. No, he is not giving his gear away. He will have an occasional QSO, but for most of the time, Mallee dust will accumulate, and moths, silverfish and other wogs will find a home in his transmitter.

3CE and 3TL are still to be heard every Sunday morning, some of the others join in occasionally. 3YW (Central Western Zone) usually comes into the hook-up and offers advice—often useful. 3CE has a new diesel engine for his lighting plant. He intends to put in an alternator. He puts out very fine phone. 3TL has rebuilt his 4-stage transmitter—one stage at a time. He was having a lot of trouble with an 807 straight amplifier, till it was suggested to him that the 6L6 c.o. was driving it silly. He merely shifted a plug in the primary of the c.o. transformer, and the rig is running sweetly.

3ZE is still hoping to increase his activities. His trouble is line noise that blots out all but the strongest signals. 3HR is moderately active. 3AWK has not been heard recently. 3LU has rebuilt his transmitter, rack and panel, 6 feet high.

CENTRAL WESTERN ZONE

Easter time in Stawell is always busy, but when numerous Hams descended on your scribe, Easter Monday, 40 metre QRM at its worst really came to life. 3UT was, of course, the worst but he was ably supported by VK3s DP, AKW, LF, HL, and sundry others. 3EF and 3GN were noted later; George, by the way, has cleaned his shack up and fired up a TA12D for 3.5 Mc. 3LF is very happy with his AT3 power supply which is running off the 240 v. d.c. as a battery charger, not a bad 15/- worth at all. A newcomer to the zone is 3ANA, of Horsham. By this time he should be W.I.A. and we will be looking for him on the hook-up.

3IL is going to clean up the vee beams and use the windmill tower as a centre stick. 3AKP is putting out a nice phone signal with the crystal insert. 3EF came onto the hook-up with a phone transmitter only half an hour old, nice to hear you from the new QTH Bert, and doubles: the modulation will soon expand. 3DP has increased his power lately up to 45 watts c.w. now, and 25 watts phone, still off the same poor old generator Jim? 3EP was trying out a new modulator and had a nice parasitic, have to cut that out Ted. Zone hook-ups are a thorny problem, but we still keep on keeping on with the old faithfuls and a few new ones, so what about it chaps. Second Sunday in month—10 a.m.—control station is 3YW on approx. 7120 Kc.

QUEENSLAND

During April advice was received from W6JLY of San Antonio, Texas, via VK4ZB, that the former had heard on several Sunday mornings, between 9 a.m. and 11 a.m. E.A.S.T. a station on 50 Mc. band. Station was not identified and he reports that his beam was aimed at VK. It is significant that VK4WI operates on 50 Mc. every Sunday morning between the hours mentioned. We await further reports with great interest.

A feature of the Sunday morning "get-together" on 7 Mc. is the discussion between country members, VK4WI, and some City members. We would like to see more of the City gang taking part as we feel sure that if the country and the city could meet more often in the discussion of W.I.A. matters, it would go a long way towards a better understanding.

A display of Ham gear in the hobbies' section of the Red Cross Exhibition during April, was a

TRANSFORMERS, CHOKES, ETC.—

Manufactured to order. Following stock sizes available:

SOLVE YOUR MAINS TROUBLES WITH AN AUTO TRANSFORMER.

T.C.C. AND CHANEX CONDENSERS—

2 uF. 3,000 volt working	£1 12 6
2 uF. 2,000 volt working	1 5 0
2 uF. 500 volt working	5 0
1 uF. 400 volt working	3 0

Crystals as illustrated, 40 or 80 metre, AT or BT cut. Accuracy 0.02% of your specified frequency

20 metre Zero Drift

Large, unmounted, 40 or 80 metre

Special and Commercial Crystals. Prices on application.

CRYSTALS REGROUND

BRIGHT STAR CRYSTALS may be obtained from the following Interstate firms:—

Messrs. A. E. Harrold, 123 Charlotte St., Brisbane; A. G. Healing Ltd., 151 Pirie St., Adelaide; Atkins (W.A.) Ltd., 894 Hay St., Perth; Lawrence & Hanson Electrical Pty. Ltd., 120 Collins St., Hobart; Collins Radio, 409 Lonsdale St., Melbourne.

A.W.A. SPLIT STATOR TRANSMITTING CONDENSERS, high voltage

SCREW TYPE NEUTRALISING CONDENSERS (National type) to suit all triode tubes, Polystyrene

Insulation

Prompt delivery on all Country and Interstate orders.

Satisfaction Guaranteed.

BRIGHT STAR RADIO. K. G. Allen (Late R.A.N.)

1839 LOWER MALVERN ROAD, GLEN IRIS, S.E.6, VICTORIA.

Phone: UL 5510.

POWER TRANSFORMERS—

600 Volts aside, 250 Ma.	£3 5 0
880 Volts aside, 300 Ma.	4 17 6
1250 Volts aside, 400 Ma.	6 17 6

Tappings taken out where desired.

POWER TRANSFORMERS and CHOKES

Re-wound—Reasonable Prices.

VALVES—

RCA 866A Rectifiers	£1 5 0 each
Sylvania 6L6Gs	15 0 each
1616 Rectifiers	17 6 each
6AC7s	12 6 each



huge success. We hope to have a detailed description ready for our next issue.

We believe 4HR is getting a new wall ready for the numerous certificates that have been coming his way lately. The most recent of which is a DX C.C. on 28 Mc. phone.

The total number of financial members in country zones at the end of April was 73 licenced Hams and 13 Associates.

ZONE NEWS

Townsville Zone (VK4GD).—This is a very live wire zone and is keeping up the good work of preparing candidates for the A.O.C.P.—on an average of two new candidates each examination. The Club has its own transmitter and hopes to be on the air very soon under the management of 4EJ and 4XD. The lad we mentioned in our December notes still pushes the bike 25 miles into Townsville to attend the A.O.C.P. class. Congrats OM! and here's wishing you every success in that exam. Such enthusiasm deserves success.

A newcomer to the zone is 4EF from Barcaldine. 4RW uses three folded dipoles of 300 ohm ribbon ranged in the form of equilateral triangle, each side fed separately. 4GD is building a beam for 28 Mc. and reports great activity on that band lately. Joke of the month concerns a certain member of this zone who painted his car. For some reason the second coat of paint shrank. The under coat appeared between layers of the top coat, giving the whole a "Pied Piper" effect. The disgusted owner soon had his spirits restored when neighbours came round to ask Bob for instructions on how they could get a similar "crackle" finish on their own cars.

Financial members in this zone are: 4MG, 4QD, 4EF, 4BW, 4GZ, 4RW, 4LK, 4FC, and Associate Dr. K. D. Gaden, of Normanton.

Maryborough Zone (VK4GH).—A new Club has been formed in this zone with nine members, four of whom are Hams. It is hoped to gain many more members and the Club has collected a quantity of gear, which it is prepared to loan to beginners to help them to get started. Meetings are held each week in one or other of the members' shacks.

Financial members in the zone are 4GH, 4BG, 4BY, and 4AI.

4BG has a 20 metre beam mounted on the top of a 35 ft. telephone pole, and doing alright with the Europeans. 4GH hunting up gate switches for a new closed-in rig. 4AI working DX on 14 Mc., the latest being OZ, VK1ADS, and a VK4 operating portable VRI in the Gilbert Islands.

Maokay Zone (VK4KW).—4FH now uses fixed beam on 14 Mc. and a WBJK on 28 Mc. John has W.A.C. and all but W.V.E., W.A.S., and DX C.C. on 14 Mc.

Financial members in the zone are 4KW, 4MU, 4ZF, 4MA, 4OW, 4AM, 4FH, 4KR, 4BQ, and one Associate, R. A. Perry.

Gympie Zone (VK4HZ).—4HZ has at last dropped the 50 ft. side for the conventional two half waves in phase, and seems to be doing as well, if not better. 4HD now a stranger to the 7 Mc. band and is, we understand, building a new modulator and working DX on 28 Mc. 4RA is working VE and W stations, which he hears on the old fashioned receiver using detector and two amplifier stages. 4XR has gone all South American and according to the grape vine is learning Spanish so that he can talk to the Senoritas.

Financial members in the zone are 4HZ, 4HD, 4LN, 4XR, and Associate C. M. Carter.

Recently when a search party was sent out to look for two children who were lost in the scrub near Gympie, 4XR and 4ZE maintained continuous wireless contact between Gympie and the search party's base. 4HZ took an FS6 with the searchers, whilst 4XR operated the home station in Gympie. Due to the excellent work of these two Hams, food parties were organised and all medical attention ready for the children when they were found.

Bundaberg Zone (VK4BJ).—4PG is now using a grounded grid amplifier. 4HE playing around with 7 Mc. 4AO spent 14 days holidaying with the Bundaberg gang. 4BJ working on 80, 40 and enjoying lunch time rag chews with the VE2 gang on 20. Most of the boys in this zone have been very active on 28 Mc.

Financial members are 4BJ, 4PG, 4XJ, 4UK, 4CW, 4AD, 4HE, 4PC, and Associates M. Tomkins, C. G. Ingram, and J. Canning, of Monto.

Ipswich Zone.—Very little from this zone as since the new boundaries have been formed no Manager has been appointed. Old "let's see you up on 80" George has been getting amongst the DX on 14 Mc. and on 3.5 Mc.—well, listen and see!

Financial members are 4AB, 4ER, 43W, 4WS, 4EA, 4CH, 4KO, 4HG, 4GG, 4LD, 4LT, 4SN, and Associates M. J. Vincent, R. G. Edmondson, W. G. Vogel, A. McMillan, R. J. Wilson.

Downs Zone.—This is a new zone and as yet no zone manager has been appointed. Newcomer to the zone is 4XP. 4RF has 120 countries confirmed. 4TY 128 countries, of which 92 are confirmed.

This zone has the largest number of financial members: 4RF, 4CU, 4OK, 4KK, 4XN, 4DA, 4UX, 4RJ, 4AF, 4KZ, 4XP, 4EG, 4CG, 4ST, 4SG, 4TY.

Other financial members are 4RQ, 4ZB, 4EC, 4CL, 4ZL, and 4DO in the Central Zone, and 4FM, 4DC, 4KL, 4HK, 4AX, and Associates A. L. Porter and P. K. Ericson in the Tableland Zone. In New Guinea we have two members, VK9KC and VK9BL.

SOUTH AUSTRALIA

The May monthly general meeting was held to a capacity house of 120 members and visitors, and the guest speaker was Mr. Clem Tillbrook (5GL). The subject he chose was "antenna construction" and it was particularly well received by all present. Purely practical throughout, and illustrated on the blackboard, together with a few examples of craftsmanship passed around among the assembly (they all came back too), this type of lecture suited the taste of the majority of the audience, and Jim ("Aerial") Sullivan's vote of thanks was received with a solid round of acclamation. Moving among the gang at "smoke-oh," the favourable reaction to the lecture was particularly noticeable. Its success lay, I think, in the fact that Clem did not give us a handful of formulae and mathematical equations and then tell us to hope for the best, but showed us just what he had done in practice, and the results he had achieved. Some of the technical "upper crust" might have flinched a little when he spoke about giving the iron mast "a belt with an axe," but that was the language the ordinary Amateur understood. Good work Clem. Among the visitors present were 5BC, 3RD, G3CXQ, 5KL, 5UX (a fellow journalist), 5RC, and Messrs. E. Murray, G. Read, B. Mildren, and J. Gates. To these gentlemen we say welcome, and come again next time you are in town.

It was moved by 5YF and seconded by my sparring partner 5JD, that a copy of the theoretical paper of the last A.O.C.P. exam be submitted to a member of the Technical Committee and the theoretical instructor (5UL) with a view to reporting back to the meeting as to whether or not the paper was considered to be of too high a standard or not. It was good of these two gentlemen to do this, as without their help in bringing it before the meeting, it would have been hard for me to pass comment in these notes without putting myself "in the blue" with those up above. Whether the standard of the said examination paper was high or low, is not the real case in point, what really is the point, is that what was once regarded as a means of the P.M.G. checking the suitability of a candidate to be entrusted with a licence to further his practical experiments, appears to be slowly changing into a means of checking a candidate as to whether he possesses sufficient theoretical knowledge to instal and operate a completed Amateur station, or in other words, to be able to start off where the average Amateur usually finishes. Anyway, the matter has been raised as promised and is now in more competent hands than mine, but I could not help noticing the look of smug disinterest on the faces of several Hams who just managed to scrape a pass in their own particular A.O.C.P. exam in recent years. It is easy to suggest raising the standard of an examination when one is on the other side of the fence, but don't forget, "I knew you when!"

It was good to see 5BC at the meeting. Being at Renmark he does not see much of the boys these days, except on annual holidays. He is giving the v.h.f. a go these days, assisted by his partner in crime 5SL, who is with him at the second best broadcasting station in VK5. (You don't know who that is? Remind me to tell you some day.)

"Deadeye Dick," I'm sorry, I mean 5TL apparently wilds a wicked .303 rifle, if being top scorer for the Postal Institute Rifle Club means anything. His name in all the local papers, and over the air too. The "Postie" always gets his man. Heard that 5LG gave 5XO and 5YQ a hand to pull down their beams the other day. A labour of love Leith? 5PN was seen producing sine waves from his motor bus the other day, or were you just trying to find a place to park Les? Who was the egg (addled) who heterodyned 5WI on a recent Sunday and then said "It's nearly W.I.A. time, so must QRT," and then kept going for nearly all the time the broadcast from the W.I.A. was on in VK5?

I could be wrong, but I thought I detected a slight note of disappointment in the voices of our two delegates upon their return from the conference in VK3. The subject of the magazine again came up for discussion at the general meeting of this Division and after some very illuminating information had been given by our delegates, it was decided that we, in VK5, could stand another increase of a penny, but after that, nothing doing. Personally, I can't see where all this continued discussion gets us. The magazine is a necessity, that's admitted, but we can't afford any more increases in price or we go broke. It's up to the Magazine Committee to trim it down to a payable proposition, or go out of business. That colossal debit in the VK3 balance sheet of 120 pounds against the Magazine still sticks in my tonsils.

Sorry to hear that 5DG has resigned from the W.I.A., no reasons given, what about the social club Dave? Rumours around Adelaide seem to indicate that "Pecks bad boy" Strafford (6JS) is going to rejoin the W.I.A. again. Nothing definite to hand, but I hope it is true Jack. 3RD was a welcome visitor to the leading broadcast station in VK5 recently. Met all the gang and he seems to be a good sport, although he did pass some decidedly uncomplimentary remarks regarding my fallen stomach. 5WM is again taking the rest cure at Renmark (the second best broadcast station in VK5) and understand that all the local "Femmes" think that his party suit is a gorgeous piece of hessian; you beautiful!

Noticed 5UL armed with red meat, fishing rod, etc., making toward the "Pat" the other day, and when I recovered from my astonishment he was too far away to question. How are they biting John? Can you predict them as easy as the elusive DX? My spies tell me that 5VM and 6JY work together at the local picture show and that their change-overs from machine to machine have to be seen to be appreciated. You can't trick me fellew, I served my time as a projectionist, I know where to look for the dots. Take a tip from me, broadcasting is a much easier business than the cinema. Joe McAllister tells me that he met 5KL, who is down from Darwin on a three months' holiday, and hopes to be here for good. I will probably meet him at the meeting, although it makes me feel old when I think how long ago it is since I last saw him. I am looking forward to meeting such a celebrity again. How do you like that Charlie?

Congratulations go out to 5TR upon his appointment to a real top flight job with the Federal Government in Works and Housing. You will soon be able to make a good cup of tea now Ralph, look at the practice you will get. All jokes aside, I can remember Ralph when he was only a messenger boy in a chemist shop at Henley Beach, and he has climbed to the top, armed with an unquenchable faith in his own ability, and an eager desire to try anything once. There's no doubt it has paid dividends.

5CB is a bit sour, he dropped a fluorescent lamp on one of his HK24s and the top caved in. Amazing, although this dropping things on top of his tubes seems to be coming a habit with Charlie, as quite a number of tubes seem to have fresh air where the pip should be. 5LG was heard on "forty" the other day vainly calling CQ, but he remained a lonely little petunia and finally departed with his two and a half watts to regions where his talents would be better appreciated. You have not got what it takes Leith, try some French CQs.

The new rig of 5FD is nearly completed, the final and modulator are OK, so it won't be long now John. 5KU, "Erg" to you, has been on 80 metre c.w. when the nights are favorable, is using a half wave 80 metre antenna. 5JA has finished re-designing his p.p. 807 final, has made it of conventional lines instead of a supposedly superior circuit! Has also made a "Clapp" v.o. 5MS had the misfortune to have his xtal mike pack up on him. He is also building a 20 metre beam. Sorry I faded out on you Stewart on 20 the other day, but when I crossed back to you, you were gone too. Did you eventually wake up who I was?

5CH is still a very busy man but has managed to complete the chassis of his new rig. Say Claude, have been copying you very consistently on 20 lately. I sat on you the other Sunday morning while you were QSO with a VK2 and you were coming in like a local. Will be looking for you again. 6TW is also a very busy man 'tis said, has been seen with kalamine in his hair so that is self-explanatory; keep it up Tom. 6CJ has completed his new receiver, but still has quite a lot to do in the way of calibrating, etc. Colin would like to know an easy way to remove paint from his hly-white hands, so he also can be classed as busy. By the way Col, the signals from you chaps on 20 have been coming in FB on Saturday and Sundays, so we might have that QSO yet.

To close the notes for this month I release a hot piece of news, to wit, I believe that a very solid sense of dissatisfaction is permeating the ranks of the Associate Members of VK5, and the principle bone of contention seems to be the lack of voting facilities granted to them. My spies report to me that their representative is to be asked to submit a signed list of their grouches to Council in an endeavour to lift the status of the poor Associate Member. Well fellows that is all to the good, because unless Council is made aware of any grouches it can't be expected to remedy them, so go to it, and if I can be of any help don't hesitate to dig me up. However, for the love of mike make sure that you have a genuine grouch, and are not being used up by somebody for their own purpose. Also, don't forget that no matter what the rules may say about voting, there is no rule to prevent any one of you getting up on the floor of the meeting and discussing your grievances for as long as you like. Don't let the full member frighten you, as I said earlier in these notes, "I knew him when."

WESTERN AUSTRALIA

The April meeting was held on the 19th—Easter Tuesday, a holiday for many Hams. Nevertheless the attendance was good at 30. Our President 6WII was away, so 6KW took the chair for the evening.

In the correspondence, sanction has been given by the P.M.G. Department for the formation of the VK6 Emergency Network. 6FC and 6MU have the matter well in hand and 80 metre skeds have been arranged among country members commencing Wednesday the 20th April, then every fortnight from that date. Time 1945 hours W.A.S.T. There will be a city representative in the network—either 6FC, 6MY, or 6KW

7 Mc. band scramble is being organised for the end of June—maybe early July, but we will be hearing more about it later; if it is a success it may become an annual feature. Remember the last one? Well, be in it again!

6JW is doing a good job in re-building 6WI, and hopes to have it on the air by May, running 50 watts input on 7196 Kc. John is making an excellent job of this rig and a vote of thanks to him has been recorded.

6HL quoted "QST" for the suggested rules to be observed by DX merchants. An extract will be made and all members will be circulated in the next bulletin. Observance of these rules will make DX hunting quite a lot easier, and much more enjoyable for both the hounds and the fox.

After the "interval," 6AG gave us a ten minute chat and demonstration on a piece of World War I equipment. An alternator used in aircraft to provide m.c.w. supply to a transmitter. 6AG recently had it rewound (during the enforced black-out) so as to keep his batteries charged.

6GH followed up with an impromptu talk about single side-band suppressed carrier communications. George told of two main principles used by commercial companies in U.S.A. and discussed the difficulties that could be expected. The receiver seemed to present the major problem. Soon this type of transmission will be permitted for Ham consumption so we feel that with 6GH's guidance, VK6 Hams will be to the front in the adoption of this technique. The meeting closed shortly after 10.30 p.m. and we noticed quite a few lads stayed back to pay their subs!

PERSONALITIES

The star attraction this month was the VK6 Emergency Network Contest, on the 16th. Being Easter Saturday, quite a number of the boys took to the bush with their portable gear. Unfortunately the weather was squally, but still the response was encouraging. 6MY put up a fancy antenna in some secluded spot, called OQ and then noticed the plate meter approaching zero. A hurried check of battery connections, etc., etc., were of no avail—the oscillator tube had taken the knock. We believe Mal went for a long walk!

6EU trundled his gear up Reabold Hill and worked everything in sight—and that means plenty! 6MB went to a lot of trouble to put his s.w.m.i. antenna 40 ft. higher than National Park. Bill struck a patch of bad weather and retreated to the car, but that did not prevent him putting out a whale of a signal on 7 and 3.5 Mc.

6XF down Katanning way was a very popular contact. We expect Frank to put in a really good log. 6MG, another contestant in the "miles per watt" section, was anxious to contact Geraldton, but doubt whether he made it because the Geraldton boys just didn't appear to be around that day.

6MU on the air for the occasion had some nice contacts on 3.5 Mc. 6FO was also on for a short while, but you didn't stay long enough. Frank. 6WG from Albany had a nice c.w. signal up this way: what's the score Wal? 6JP was another popular boy who went off early!

6JF made a whole stack of "flirt" contacts. Frank received his licence only that morning and really enjoyed his first day on the air. 6YZ and 6LJ represented Carlyle in the contest. 6FA lasted the distance. 6VM was trying out his new 90 watt signal, thinking he must be satisfied by the reports he was getting.

6GO had a stack of QSL cards to send after the contest. 6WM put in a nice signal from Boulder, we believe 6DX was on somewhere, but didn't hear him. 6RF gave the game away when an electric motor started up and ran for three hours of the contest. Fred made a valiant effort to make up time after the QRM ceased.

6MO was in on the fun and wasted little time in working his contacts. 6HC was on for a while as was 6EL, but on the whole it was a good day and the operating standard was quite high.

6JN gave Ham Radio away on Easter Tuesday and went to work, but the doors wouldn't open—it was a holiday! We also hear from Kalamunda that 6CF was all up the pole with a beam over his shoulder. Nothing funny about that, but when Chuck found that he couldn't get down again, we just had to smile. 6AS amazed us all the other evening by working a PY. "The beam here is a

3-element job about two feet high, on a couple of boxes as a matter of fact"—wouldn't it?

We hear that ZS6OR has decided to settle down in ZS land instead of coming home to VK6. Len is on 14 Mc. phone regularly during week-ends. 6JS and 6RU are at present on business in VK2 and VK3. We have heard familiar voices from the East. 6KW has been making hay and is bringing his countries list up towards DX C.C. while 6RU is QRT. 6CK and 6AW spent a fortnight recently with a Signals Unit—neither have been heard on the air since! 6FA not active on the air lately, but Dick is doing an extensive radio course, so there are bigger and better signals to come from 6FA shortly.

TASMANIA

My notes this month will be scattered and skimpy owing to the fact that I am snowed under by the heaps of non-existent notes which were not sent to me by all the bodies that promised to jot down their doings and send them along. Sorry for the mean blokes, but I guess one gets that way due to frustration or something.

Rupe has a landlady who is allergic to antennae and having read a story in a recent issue of "QST" he decided to put up an invisible sky wire. So, seizing the opportunity when she (the landlady) was out, he dug out an old audio tranny, removed a layer or two of the forty gauge wire from the secondary and strung it up in the approved manner and switched on the rig. It worked! As a matter of fact it worked so well that he finally worked some good DX, and is now akin to the proverbial dog with two tails, or as 7XA said, "He came out of his burrow at last."

Rupe's theory about this amazing phenomenon is that the wire is so thin, the signals can't stay on it and must go somewhere, hence the DX. Now if any of you chaps happen to work 7XM don't complain that his "modulation" is down—it's only the wire acting as a sideband filter. Incidentally, I want to put up a long wire, so if anyone knows where I can get a Ford spark coil I'd be very grateful.

7JB is back on his old stamping ground and is already putting out a fine signal on 14 Mc. he should! He only lives about 400 yards away from me. 7XA is re-building his rig and according to reports it should be a honey! 7MY has just about finished his motor scooter—had a glimpse of it the other week and it certainly looks the goods. Alan says he is building it to do the rounds of the shacks. Good idea OM and while you are around 'em see if you can get any notes for this column.

NORTHERN ZONE

Were I to write about the activities of our various members this month readers could well be pardoned for thinking they were re-reading last month's issue of "Amateur Radio." I must, however, first of all mention that 7HY has become active once again. Henry has not been on the air since pre-war days and is finding that things have changed somewhat. This zone will be represented on 50 Mc. again shortly as 7BQ is building himself a new transmitter for this band. 7LZ is going to co-operate for purposes of tests, etc.

DX has been very scarce and few good DX stations have been heard from this location. The only direction from which good DX has been heard has been the Central American area. The two most consistent stations being KV4AA and KS4AI. VK2QL, in his last month's notes, suggested that other States should contribute to his column. 7RK takes this suggestion one step further. Ray contends that as publications such as "QST" and "CQ" find DX pages so popular, we could well follow their example. This would mean taking 2QL's notes out of the VK2 column and putting it on a Federal basis, however with some help from the DX gang it should be possible to put on a good show with mutual benefit to all concerned. (I hope to be able to do this.—Editor.)

It has often been said that many stations do not QSL these days. Whilst listening for the DX to break through, I filled in the time checking my cards. Of the countries worked here, 81 per cent. have QSLed. A better average than I expected.

CORRESPONDENCE

AN OPEN LETTER TO AMATEUR STATION VK2JPF Dear OM,

The gang here in VK6 have a very high appreciation of your prowess in raising the elusive DX stations which frequent the 20 metre band at times, in fact I will go a step further and say that quite a number of us salute you, but, and it is a big "but," we have a very low appreciation of your practice of continuing to park on those elusive DX stations and act as traffic policeman for the rest of VK. Whilst you are directing local and DX stations up and down the band arranging and disarranging schedules with gay abandon, in fact

carrying on like the proprietor of the 20 metre band, instead of a shareholder, the poor elusive DX becomes more and more elusive under the perfect "dogpile" of your creation. Now what about it OM, you sound a good scout, what about sliding out from on top after you have finished your QSO and leave the rest of Australia to fend for themselves. After all, you sound like an old hen clucking her chickens around her, and nine times out of ten the chickens don't want to be gathered in and only their politeness prevents them from telling you. We, in VK5, still admire your prowess, we still salute you, but for the "Love of Pete" give up the organising side of the business. 73 to you, and more power to your voice.

Sincerely yours,

"Practically all of VK6,"
per WARWICK W. PARSONS (5PS),
(the doer of dirty work for VK5).

FOR SALE, EXCHANGE, AND WANTED

9d. per line, minimum 2/-.

Copy must be received by 8th of the month, and remittance must accompany advertisement. Calculation of cost is based on an average of six words a line.

FOR SALE.—A.W.A. 12 v.-275 v.-500 v. Rotary Transformer. Perfect order but minus brushes. £2 or offer. A. R. Wathen, Box 29, Casterton.

FOR SALE.—Complete Ham Station incl. 100 w. phone-c.w. tx., commercial appearance, all stages metered, push button oper., may be remotely controlled, class B 809s, modulate class C 813, 4 stages mic. preamp. from a D104. Modified AR7 rx with KS9er and 3" c.r.o., mod. checker, and much other equipt. for best offer. Ring WM 4362.

FOR SALE.—Moving Coil Mike, splendid English make, new, £7; modulator, 6C6, 6C6, 6A6 Class B, £4; 100 Kc. standard crystal in holder £2/15/- (with certificate); 0-5.0 Ma. d.c. meters 15/-; Weston 0-250 Ma. £1/10/-; 7193s 6/6; 834s 25/-; SCR522 less 832s £1/10/-; Gammatron 24 £1. K. McTaggart, 4 Kenilworth Grove, Glen Iris, S.E.6, UY 6256 evening.

FOR SALE.—One 10 Valve Marconi R1155 Communication Receiver, a.c. filter, S meter, tuning indicator, b.f.o., stand-by, 5 bands, 75 Kc.-18.5 Mc., very fine vernier, aerial switching, with speaker and p.p. output. Apply G. Laver, Fish Creek, Vic., Phone: 10U.

FOR SALE.—SCR522 transmitter section only, complete with 6G6, 6V6, two 832s, crystal and 4 meters, been on air, reasonable offer accepted. E. C. Wheller, 2a Fawkner Park, South Yarra.

FOR SALE.—Transmitting condensers, meters, transformers, relays, mikes, 455 Kc. crystal, large number of various components. Ring or call; I probably have what you want. G. H. Choules, 20 Donald St., East Malvern, WM 6854, evenings or week-ends.

SELL: Good English 11 Valve Communication Receiver, 11-200 metres, also almost new Crosley Transceiver. Both less valves. What offers? Mustard, Union, Sydney University.

SELL OR EXCHANGE.—Class "C" Wavemeter; Pair new 801s; Type A Mk. III.; Collins sealed 200 Kc. crystal. Ayre, 65 Kenmare St., E.12, Vic.

TRANSFORMERS OF DISTINCTION

LINE INPUT TRANSFORMERS (LOW LEVEL)

The items listed in this section are wide range low level audio transformers for low level input, output and mixing systems, etc. Coil structures are balanced semi-toroid types with multi-shields and windings for minimum hum pick-up. Core materials are high permeability Tefcon alloys.

In all cases, the higher of the two line impedances given are centre-tapped and balanced inductively and capacitively. The lower impedance is obtained by parallel connections, in which case the centre tap is not available.

ITEM 82. TYPE No. AM1
 Primary Z: 600/125 ohm Line Plus 10 db
 Secondary Z: 60,000 ohms Single or p.p. Grids
 Purpose Line to Grid coupling
 Frequency Response Plus or minus 1 db 30 c.p.s. to 12 Kc.
 Base: 2-3/8" x 2-1/8" x 2-3/8" H Weight: 1 lb. 4 ozs.
 Mounting: R9 Reversible

ITEM 83. TYPE No. AM3
 Primary Z: 200/50 ohm Line Plus 10 db
 Secondary Z: 80,000 ohms Single or p.p. Grids
 Purpose Line to Grid coupling
 Frequency Response Plus or minus 1 db 30 c.p.s. to 12 Kc.
 Base: 2-3/8" x 2-1/8" x 2-3/8" H Weight: 1 lb. 4 ozs.
 Mounting: R9 Reversible

ITEM 84. TYPE No. AM5
 Primary Z: 50/15.5 ohms Plus 10 db
 Secondary Z: 80,000 ohms Single or p.p. Grids
 Purpose Low impedance source to Grids
 Frequency Response Plus or minus 1 db 30 c.p.s. to 12 Kc.
 Base: 2-3/8" x 2-1/8" x 2-3/8" H Weight: 1 lb. 4 ozs.
 Mounting: R9 Reversible

LINE OUTPUT TRANSFORMERS (LOW LEVEL)

ITEM 85. TYPE No. AR5
 Primary Z: 20,000 ohms Plus 20 db
 Secondary Z: 400 and 125 ohms Line
 Coupling: Direct fed. Max. DC 7 Ma.
 Purpose Single Triode output to Line
 Frequency Response Plus or minus 1 db 30 c.p.s. to 10 Kc.
 Base: 2-3/4" x 2-3/8" x 3-3/8" H Weight: 2 lbs.
 Mounting: R87 Reversible

ITEM 86. TYPE No. AR7
 Primary Z: 40,000 ohms Plus 20 db
 Secondary Z: 600 and 125 ohms Line
 Coupling: Direct Unbal. DC 3 Ma.
 Purpose p.p. triode output to Line
 Frequency Response Plus or minus 1 db 30 c.p.s. to 10 Kc.
 Base: 2-3/4" x 2-3/8" x 3-3/8" H Weight: 2 lbs.
 Mounting: R81 Reversible

INTER-VALVE TRANSFORMERS

The items in this section, with the exception of item 90 are high quality inter-valve coupling transformers. Coil structures are balanced semi-toroid types with highly sectionalized windings designed for inductive and capacitive balance within one per cent. Core materials are high permeability Tefcon alloys imported in the form of annealed stampings.

Frequency response information is based on resistive termination and results will be modified if used in circuits having abnormally high input capacitance.

ITEM 87. TYPE No. AM3
 Primary Z: 10,000 ohms Plus 10 db
 Secondary Z: Single Medium Impedance triode
 Purpose p.p. phase inv. and/or coupling
 Coupling: Direct Unbal. DC 10 Ma.
 Frequency Response Plus or minus 1 db 30 c.p.s. to 12 Kc.
 Base: 2-3/8" x 2-1/8" x 2-3/8" H Weight: 1 lb. 4 ozs.
 Mounting: R9 Reversible

ITEM 88. TYPE No. AM2
 Primary Z: 20,000 ohms Plus 10 db
 Secondary Z: 80,000 ohms Single or p.p. medium impedance triode
 Purpose p.p. phase inv. and/or coupling
 Coupling: Direct Unbal. DC 10 Ma.
 Frequency Response Plus or minus 1 db 30 c.p.s. to 12 Kc.
 Base: 2-3/8" x 2-1/8" x 2-3/8" H Weight: 1 lb. 4 ozs.
 Mounting: R9 Reversible

ITEM 89. TYPE No. AR3
 Primary Z: 10,000 ohms Plus 18 db
 Secondary Z: 90,000 ohms Single medium impedance triode
 Purpose p.p. phase inv. and/or coupling
 Coupling: Direct fed Maximum DC 8 Ma.
 Frequency Response Plus or minus 1 db 30 c.p.s. to 12 Kc.
 Base: 2-3/4" x 2-3/8" x 3-3/8" H Weight: 2 lbs.
 Mounting: R81 Reversible

ITEM 90. TYPE No. RA3
 Primary Z: 10,000 ohms Plus 10 db
 Secondary Z: 90,000 Single Grid
 Purpose Audio Coupling Transformer
 Coupling: Direct Max. unbal. DC 10 Ma.
 Frequency Response Plus or minus 2 db 75 c.p.s. to 5 Kc.
 Base: 2-1/8" x 1-7/8" x 2-1/2" H Weight: 1 lb. 8 ozs.
 Mounting: UFI "S" to 7/8"

DRIVER TRANSFORMER (CLASS A-AB-B)

ITEM 91. TYPE No. AR1
 Primary Z: 20,000 ohms p.p. Med. Imp. Triodes
 Secondary Z: 20,000 ohms CT p.p. Grids
 Ratio: 1:1 Whole Primary to whole Secondary
 Coupling: Direct Max. unbal. DC 3 Ma.
 Purpose Class A1 p.p. Driver
 Frequency Response Plus or minus 1 db 75 c.p.s. to 12 Kc.
 Base: 2-3/4" x 2-3/8" x 3-3/8" H Weight: 2 lbs.
 Mounting: R81 Reversible

ITEM 92. TYPE No. AR2
 Primary Z: 20,000 ohms p.p. Med. Imp. Triodes
 Secondary Z: 50,000 ohms CT p.p. Grids
 Ratio: 4:1 Whole Primary to Half Secondary
 Coupling: Direct Max. unbal. DC 3 Ma.
 Purpose Class AB2 p.p. Driver
 Frequency Response Plus or minus 1 db 50 c.p.s. to 12 Kc.
 Base: 2-3/4" x 2-3/8" x 3-3/8" H Weight: 2 lbs.
 Mounting: R81 Reversible

ITEM 93. TYPE No. AS2
 Primary Z: 10,000 ohms Single 6V6 Triode
 Secondary Z: 5,000 ohms CT p.p. Grids
 Ratio: 2:3:1 Whole Primary to Half Secondary
 Coupling: Direct Max. unbal. DC 40 Ma.
 Purpose Class AB2 Driver
 Frequency Response Plus or minus 2 db 50 c.p.s. to 7 Kc.
 Base: 2-3/4" x 2-3/8" x 3-3/8" H Weight: 2 lbs.
 Mounting: R81 Reversible

ITEM 96. TYPE No. D19
 Primary Z: 10,000 ohms Plus 22 db
 Secondary Z: p.p. 10 Grids Class B
 Ratio: 2:1 Whole Primary to Half Secondary
 Coupling: Direct Max. unbal. DC 10 Ma.
 Frequency Response Plus or minus 2 db 50 c.p.s. to 7 Kc.
 Base: 2-1/8" x 1-7/8" x 2-1/2" H Weight: 1 lb. 4 ozs.
 Mounting: UFI "S" to 7/8"

DISTRIBUTORS:

VICTORIA:
 Homecrafts Pty. Ltd.
 Arthur J. Veal Pty. Ltd.
 Radio Parts Pty. Ltd.
 Howard Radio
 A. G. Healing Ltd.
 Healings Pty. Ltd.
 Motor Spares Ltd.
 Lawrence & Hanson Electrical
 (Vic.) Pty. Ltd.
 Warburton Frankl (Mel.) Ltd.
 And all leading wholesalers.
NEW SOUTH WALES:
 United Radio Distributors
 Pty. Ltd.

QUEENSLAND:

A. E. Harold
 B. Martin
 Denradio Industries (Maryborough).
 J. Michaelmore & Co.
SOUTH AUSTRALIA:
 Grrard & Goodman
 Radio Wholesalers Pty. Ltd.
 Newton McLaren Ltd.
TASMANIA:
 Noyes Bros. (Aust.) Pty. Ltd.
 Lawrence & Hanson Electrical
 Pty. Ltd.

RED LINE EQUIPMENT PTY. LTD. TRANSFORMER ENGINEERS

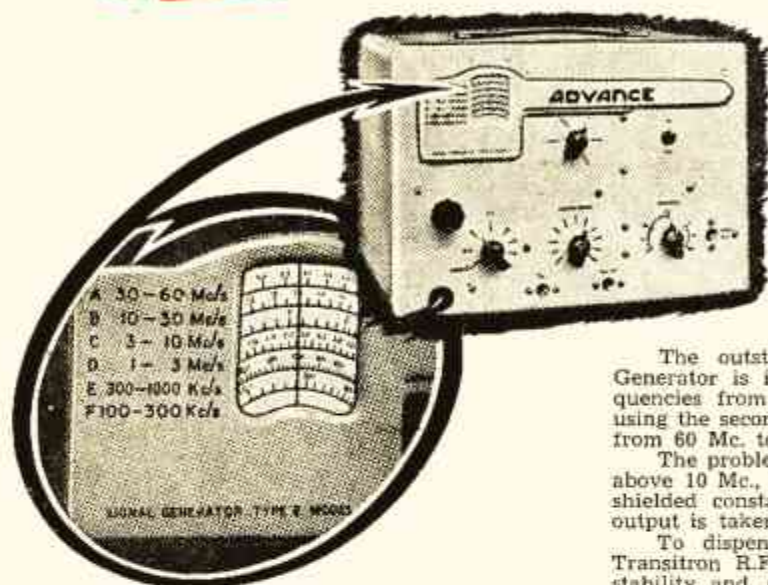
WORKSHOP: Central 4773, 2 Coates Lane, Melbourne.
 CITY OFFICE: MU 6895 (3 lines), 157 Elizabeth St., Melbourne.



Keep this Catalogue. Cut out and file for reference.

A GUARANTEE OF DEPENDABILITY

MAGRATHS HAVE THEM..



The directly calibrated, illuminated dial gives quick and easy frequency reading on all six ranges.

“ADVANCE” SIGNAL GENERATORS TYPE “E”

The outstanding feature of the new Type “E” Signal Generator is its exceptionally wide range covering all frequencies from 100 Kc. to 60 Mc. of FUNDAMENTALS. By using the second harmonic on Range A, this range is extended from 60 Mc. to 120 Mc.

The problem of poor attenuation, especially at frequencies above 10 Mc., has been overcome by the design of a properly shielded constant impedance 75 ohms ladder network whose output is taken to a matched transmission line.

To dispense with an expensive monitoring system, a Transitron R.F. Oscillator circuit is used, designed for high stability and giving the necessary constant output level to feed the 75 ohms attenuator system.

Careful attention to shielding and filtering of the power supply has reduced leakage and stray fields to 3 microvolts at 60 megacycles.

SPECIFICATIONS

FREQUENCY RANGE.—100 Kc. to 60 Mc. in six ranges, calibration accuracy $\pm 1\%$.

By using the second harmonic of Range A the frequency range is extended from 60-120 Mc. Also on this range, the British television sound and vision frequencies are marked.

OUTPUT VOLTAGE.—Obtained from the end of a 75 ohm matched transmission line. Output continuously variable from 1 microvolt to 100 millivolts.

OUTPUT IMPEDANCE.—When transmission line unterminated, 75 ohms. When terminated, three values are obtainable: 37 ohms, 10 ohms, or 10 ohms through a standard all-wave dummy aerial.

1 VOLT SOCKET.—A steady output of approximately 1 volt is available at this socket. Output impedance is about 50 ohms.

INTERNAL MODULATION.—30% at 400 c.p.s.

A.F. OUTPUT.—Variable from 0.5 volts max. approximately. The output impedance is 50,000 ohms at maximum output.

R.F. LEAKAGE.—Oscillator section well shielded and external fields negligible (less than 3 microvolts).

ACCESSORIES:—

- 1 EF50 Valve, Mullard or Sylvania
- 1 6J5G Valve
- 1 6X5G Valve
- 1 Pilot Lamp, Type MES 11 mm. 6.5 volt.
- 1 Termination Pad and Dummy Aerial, Type T.P.1.
- 1 Shielded A.F. lead, complete with plug and crocodile clips, Type P.L.22.

POWER SUPPLY.—100-210-230-250 volts 40-100 c.p.s., consumption approximately 15 watts.

DIMENSIONS.—13" x 10½" x 7¾" deep overall.

WEIGHT.—15 lbs. nett.

FINISH.—Housed in attractive steel case, panel and case being sprayed durable cream enamel, leather carrying handle fitted.

J. H. MAGRATH & CO.

208 Lonsdale Street, Melbourne.

Phone: Central 3688-4414

NOW AVAILABLE...



TYPE
830B
£1/2/3

TYPE
834
£1/8/9

LOW-PRICED PHILIPS VALVES

FOR TRANSMITTERS AND MODULATORS

That new rig you are planning or the re-building of your present set-up can be improved by using a pair of 834s in the final stage, while for modulation, of course, the answer is a pair of 830Bs in Class B.

TYPE 834 TRIODE

A transmitting triode designed for use as RF amplifier and oscillator, with maximum ratings up to 100 Mc. It may be used at 50% rating as high as 350 Mc. Power output at 1,000 volts anode supply is 60 watts. Filament voltage 7.5 at 3.1 amperes. Driving power 6 watts. The price is £1/8/9 (plus 2/- duty).

TYPE 830B TRIODE

With 6 watts driving power, two 830Bs in Class B audio service will deliver up to 175 watts. At 1,000 volts H.T. zero signal anode current is 20 Ma. and maximum 280 Ma. Filament voltage 10 at 2 amperes. This valve is also applicable as RF power amplifier for telephony and telegraphy. The price is £1/2/3 (plus 2/- duty).

There is a discount of 10% on both valves to Licensed Amateurs.

PHILIPS ELECTRICAL INDUSTRIES OF AUSTRALIA PTY. LTD., Sydney, Melbourne, Brisbane, Adelaide, Perth.



FOR THE EXPERIMENTER & RADIO ENTHUSIAST

Registered at G.P.O., Melbourne, for transmission by post as a periodical.

6D.

"HAM" RADIO SUPPLIERS

5A Melville Street, Hawthorn, Victoria

PHONE: HAWTHORN 4465

PHONE: HAWTHORN 4465

Both here and on Page 20 we are again pleased to offer many sought-after items at astoundingly low prices. You are cordially invited to inspect our vast range of supplies at the new address—5A Melville St., Hawthorn, but if you are unable to do so, you can, with confidence, order by mail as goods are only of the finest and as described in advertisements on these pages.

BARGAINS — BARGAINS — BARGAINS

American Transceivers. Hi-Frequency L.F.F. Tube line up—three 7193s, seven 6SH7s, three 6H6s, four Relays, less Genemotor.

To Clear, be early ————— £3 each.

Brand new dual Audio Units. Containing two 12A6s in grey crackle finished containers. These units offer many purposes. Pre-Amplifiers, Inter-Communication Units or for wrecking. Units are mounted on rubber stands.

Outstanding Bargains at ————— £2 each.

SCR522 Genemotor Power Supply, input—28 volts d.c., output—300 volts d.c. and 150 volt d.c.; 13 volts filament current rating 300 Ma.

A few only ————— £1 each.

MCR1 Miniature Communication Receiver, works off a.c. or d.c. mains of any voltage from 95 to 250 or dry batteries. Uses five valves—osc. 1T4, mixer 1R5, i.f. amp. 1T4, 2nd detector 1T4, L.f. amp. 1T4. Four plug-in coil ranges. Range 1, 150-1600 Kc.; range 2, 2.5-4.5 Mc.; range 3, 4.5-8 Mc.; range 4, 8-15 Mc. Complete with headphones. New condition, still packed in the original carton.

One only at ————— £12.

Line Filters, 12 volts at 30 amps., inclosed in duralium case. Air core chokes and condensers ————— 5/-.

Rectifiers, Copper Oxide, 12 volt at 100 Ma.; S.P. Bridge. Ideal for Relay operations. ————— 2/6 each.

Also 6 volt at 50 Ma. ————— 1/- each.

Command type Modulators as used with Command Transmitters. Valve line up—1625, 12J5, and VR150. Complete with genemotor.

Real Bargains at ————— £4/10/- each.

DUCON TYPE, Small Block, 4 uF., 600 volts working. Snaps at ————— 5/- each.

FM ADAPTORS (Made by Kingsley). Tube line up—6SJ7, 6H6, 6J5; black crackle case, less lid and valves. Your opportunity at ————— 15/- each.

TRANSMITTERS.—AT5, 50 watt, Phone or C.W., crystal or V.M.O. Tube line-up—6V6 osc., 807 doubler, two 807s in final. Ideal Ham rig, covering 20, 40, 80 metres. Also broadcast band to 150 Kc. Meter for all stages; easily adapted to a.c. or d.c. power supply. Slightly damaged, secondhand.

Bargains at ————— £7 each.

AMERICAN SWITCHING RELAY BOXES: Contain good wrecking parts, co-ax connectors.

Snaps at ————— 5/- each.

AT5 AERIAL COUPLING UNITS.

Two only at 30/- each. One less meter, £1.

TRANSMITTER.—V.H.F., easily adapted for 400 Mc. Band uses two 15Es in final. Trombone Antenna.

Few left ————— £3 each.

Switching United, American type, housed in crackle-finished case 18" x 8" x 5", contains 24 volt d.c. motor and lots of useful gear.

Only ————— £1 each.

Philips' model TA155 Cathode Ray Oscilloscope. Valve line-up—one 902, two 5Y3s, one 884, two 6J7s.

One only and a gift at ————— £17/10/-.

One only AR12, made by R.C.A., Melbourne. Four bands 150-420 Kc., 480-980 Kc., 3.5-7.5 Mc., 7.5-16 Mc., Crystal Phasing, R.F. Gain, etc. Needs lining up, uses 6 volt valves. Complete with a.c. power supply.

As traded, a Bargain at ————— £20.

"HAM" RADIO SUPPLIERS

(KEN MILLBOURN, PROP.)

5A Melville Street, Hawthorn, Victoria

(East Kew Tram Passes Corner, opposite Vogue Theatre)

(Phone: Hawthorn 4465)

Special Attention Given to Country Mail Orders.

Published by the Wireless Institute of Australia,
Law Court Chambers, 191 Queen Street,
Melbourne, C.1

EDITOR:

T. D. HOGAN, VK3HX,
Telephone: UM 1732.

MANAGING EDITOR:

J. G. MARS LAND, VK3NY.

TECHNICAL EDITOR:

J. C. DUNCAN, VK3VZ.

ASSISTANT TECHNICAL EDITOR:

A. K. HEAD, VK3AKZ.

COMPILATION:

R. W. HIGGINBOTHAM, VK3RN.

LIAISON:

I. K. SEWELL, VK3IK.

ADVERTISING REPRESENTATIVE:

W. J. LEWIS,
20 Queen St., Melbourne, C.1,
Telephone: MU 5154.

PRINTERS:

"RICHMOND CHRONICLE,"
Shakespeare St., Richmond, E.1.

MSS. and Magazine Correspondence should be forwarded to the Editor, "Amateur Radio," Law Court Chambers, 191 Queen St., Melbourne, C.1, on or before the 8th of each month.

Subscription rate in Australia is 6/- per annum, in advance (post paid) and A/7/6 in all other countries.

Wireless Institute of Australia (Victorian Division) Rooms' Telephone is FJ 6997.

— IN THIS ISSUE —

Single Sideband Suppressed Carrier	3
Receiver Base Mounting	4
Ionospheric Predictions for the Amateur Bands	5
Universal Speech Amplifier	6
Another System of a Simple Speech Clipper	6
Versatile Measuring Instrument	7
Hints and Kinks	7
Review—"Radio Valve Practice"	8
List of Countries by Prefixes	9
The Old Man	11
Magazine Contributions	11
Remembrance Day Contest 1949	12
Fifty Megacycles and Above	14
Two Suggestions for use of Germanium Crystals	15
Federal, QSL, and Divisional Notes	17
Correspondence	24

EDITORIAL



BAND-PLANNING

Since the re-issue of licences after the War, one of the greatest problems confronting Amateur Societies throughout the world has been that of planning the sub-division of the Amateur Bands between telegraphy and telephony. This problem has been brought about by various reasons—the re-activated interest in Amateur Radio by many old-timers, new Amateurs and the constriction of the bands. In Australia, no less than elsewhere, we have been well aware of these facts and realised that something must be done, either voluntary or compulsorily, to alleviate the congestion. We intend in these Editorials to convey to you the overseas "picture" as well as our own.

In Great Britain and Europe this condition is aggravated to a greater extent than ever known in Australia, where our ideal geographic location isolates us from large masses of Amateurs. Realising the parlous state of the bands, the Radio Society of Great Britain took immediate steps to appoint a Codes of Practice Committee to investigate and report on the matter. After much preliminary work, the Society took a National poll of Amateurs in February, 1947, but unfortunately the response was poor and no definite opinion could be deduced. Not to be dismayed, the Society, through its Committee, produced a tentative plan some twelve months later and circulated all European Societies and Empire Societies of the B.E.R.U. for comments. This bore fruit and having produced from this poll an amended plan, again circulated all Town Groups of the R.S.G.B. to ensure that a complete cross-section of active Amateurs' opinion was obtained. On these answers the final plan was formulated—its implementation to be on a voluntary basis and to come into operation immediately.

Every attempt was made to keep the plan simple, while having in mind existing conditions of harmonic relationship of the bands, ease of

frequency measurement, and the frequency divisions in other parts of the world—in all, a comprehensive and carefully-calculated plan. The well-tried practice of U.S.A. in reserving sections in each band for exclusive telegraphy use has been incorporated with the exception of the 3.5 Mc. band. This may seem at first sight unfair to the telephony stations, but on closer inspection this is not so. Except for c.w. contest periods, telegraphy stations remain much within their own "confines" and show no inclination to compete with telephony stations in the "telephony" portions of the bands—thus preserving that elasticity which is desirable under any voluntary agreement.

The plan which the R.S.G.B. has asked all its members and European Societies to adopt, on a voluntary basis, is as follows:—

- 3500- 3600 Kc. c.w. only
- 3600- 3635 Kc. phone only
- 3685- 3800 Kc. phone only
- 7000- 7050 Kc. c.w. only
- 7050- 7300 Kc. c.w. and phone
- 14000-14150 Kc. c.w. only
- 14150-14400 Kc. c.w. and phone
- 28000-28200 Kc. c.w. only
- 28200-29700 Kc. c.w. and phone.

This plan will later be modified as follows, when the final Atlantic City allocations are made:—

- 3500- 3600 Kc. c.w. only
- 3600- 3800 Kc. phone only
- 7000- 7050 Kc. c.w. only
- 7050- 7150 Kc. c.w. and phone
- 14000-14100 Kc. c.w. only
- 14100-14350 Kc. c.w. and phone
- 21000-21150 Kc. c.w. only
- 21150-21450 Kc. c.w. and phone
- 28000-28200 Kc. c.w. only
- 28200-29700 Kc. c.w. and phone.

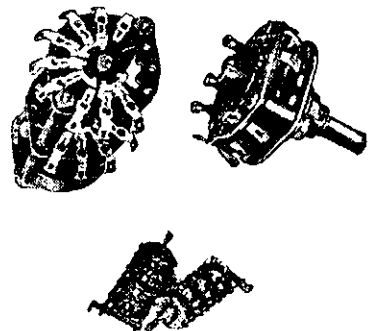
Next month, we will convey to you the proposals and steps of other countries to solve this vexatious problem and still meet with the goodwill of both c.w. and phone operators alike.

—W.T.S.M.

Homecrafts

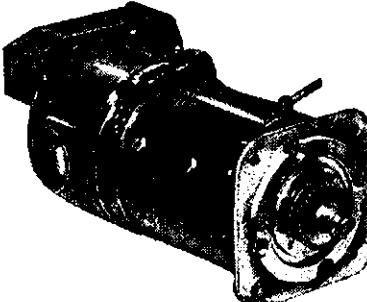
PTY. LTD.

JULY BARGAINS for the AMATEUR

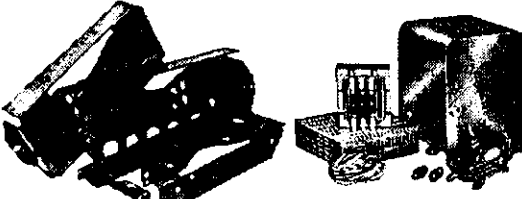


GENUINE OAK SWITCHES at ridiculous prices.

Single bank double sided 6 x 6	} Cut to	2/11 or	
Double bank 3 x 3			30/- doz.
Double bank 6 x 2 single side			
4 bank, bandspread type		3/9	




BUILD OWN HOME LIGHTING PLANT!
R.A.A.F. 24 Volt, 1,500 Watt, High Charging Rate Generators.
Ideal for Home Lighting Plant
Super Disposal bargain. Originally cost over £60. Our price only **£13/15/-**.



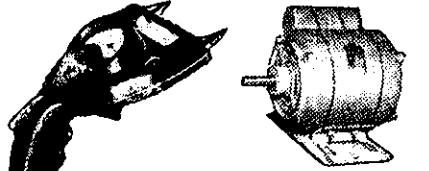
Bargain Radio Chassis. 5 valve steel drilled duroced chassis. As illustrated, **1/11** each.

Build your own Battery Charger. End flat battery worries. Kit of parts to build a 6 volt 4 amp. Battery Charger. Kit includes a 6 volt 4 amp. English selenium rectifier & transformer. Black crackle finish metal case, two terminals, hook-up wire and circuit blue-print instructions. Price, complete, **£4/10/-**.



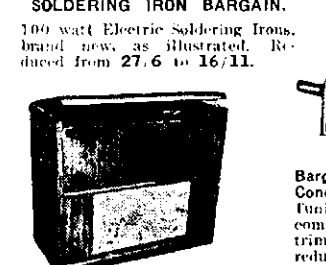
English Sheff High Fidelity Moving Coil Pickups. Complete with matching transformer. As illustrated, **£4/19/-**.

COUNTRY AND INTERSTATE CLIENTS ADD FREIGHT OR POSTAGE.



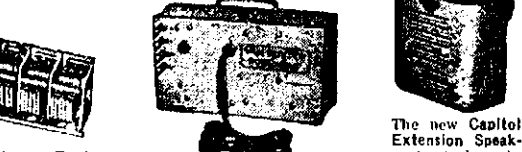
Davenset High Discharge Cell Testers. Tests each Accumulator Cell under load. Moulded, unbreakable plastic case with built in large scale meter. As illustrated, only **£3/19/6**.

Electric Motor Super Bargain. Brand new English Capacitor Start 1/4 h.p. 1400 r.p.m. 230v. Motors with ball bearings. Complete as illustrated. Only—**£8/19/6**.



SOLDERING IRON BARGAIN. 100 watt Electric Soldering Irons. Brand new, as illustrated. Reduced from 27/6 to **16/11**.

Bargain Radiogram Cabinets. Beautiful walnut piano finish Radiogram Cabinet as illustrated. Standard model, **£13/19/6**.



Bargain Tuning Condensers. Midport Tuning Condensers complete with trimmers. 2 gang, reduced to **8/11**. 3 gang, reduced to **12/11**.

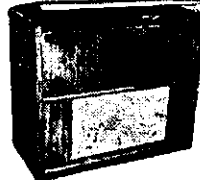
The new Porta Pac. Complete adjustable low and high tension supply to convert any portable battery radio to AC operation. As illustrated, **£8/12/6**.

The new Capitol Extension Speaker. In steel crackle finish cabinet with cord and switch. Colors: cream, grey, or black. Price, complete as illustrated, **45/-**.



Marquis Bakelite Moulded Lightning Arrestors. Approved by the underwriters. Cut to only **1/6** each.

Capitol De Luxe Chassis Socket Punches. The best quality chassis punch in Australia. Made of best case hardened steel. Price, as illustrated, for standard 1 1/2-in. hole, **40/-**; for miniature valves, **20/-**.




Model with deep well for record changer. **£14/7/-**.
Country and Interstate clients add 15/- packing charge.




Now available for immediate delivery. **The New Rola 8-in. Pormag. Speaker.** Incorporating the new Anisotropic Alnico Magnet. Available in 2 types; SM, and SM P.A. SM P.A. specially designed for Public Address. Small baffles and horns. Price, as illustrated with transformer, **46/3**.

ACOS Crystal Microphone Insert. Suitable for D104 microphones. Price, **28.2**.



Homebroadcaster Microphones. Will work with any ordinary radio. Adds fun to a party. Cut to only **7/11** each.



Test equipment bargain, Palec Ohm Meters. Four range earth continuity and resistance tester. Reduced from **£8/10/-** to **70/-**.

SPECIAL SNAP BARGAINS

Latest type 100 Ma. Power Transformers. Brand new. Reduced from 39/6 to **22/11**.

Pyro Wound RF Chokes. Reduced from 4/6 to **2/6**.

Aerial RF and RF with Reaction Coils, shielded. Reduced from 6/6 to **1/11** each.

Speaker Windings. Standard type 7,000 Ohm. Cut to only **1/11**.

Latest type 40 Ma. Power Transformers. Reduced from 35/- to **16/11**.

Aerial, RF and Oscillator Air Cored Shielded Coils. Reduced from 6/6 to **2/11**.

English Crystal Pick-up Cartridges. Reduced from 31/- to **9/11**.

290 LONSDALE STREET, MELBOURNE **Central 4311**

Single Sideband Suppressed Carrier

BY L. W. EDWARDS,* VK7LE

Although single sideband suppressed carrier systems are new to the Ham world, they are not new in the commercial sphere and circuits have been operating for many years in England and America. Then there are the carrier telephone systems used by the P.M.G.'s. Department for their trunk lines which are single sideband suppressed carrier systems on wires.

But now to facts and figures. To understand fully the principles involved we must first look to the theory of the amplitude modulated carrier where we have sidebands extending either side of the steady carrier frequency. The a.m. carrier and sideband covers a portion of the frequency spectrum depending on the highest modulating frequency. If modulated with 5 Kc. as the highest audio frequency, then the portion of the band covered will be 10 Kc., or 5 Kc. either side of the carrier frequency. At 100% modulation the total average power in both sidebands is 50% of the carrier power—that is each sideband is 25% of the carrier power, the extra power under modulation is of course supplied by the modulators.

To understand how modulation takes place it is probably easiest to imagine it as a heterodyne process, which in fact it is. If we have a carrier frequency of 7 Mc. appearing in the plate circuit of our final amplifier and we inject an audio frequency of 1,000 cycles from our modulators, then the two frequencies beat together to produce two new frequencies, the carrier plus 1,000 cycles or 7,001 Kc., and the carrier minus 1,000 cycles or 6,999 Kc. Then we have four separate frequencies appearing in our final tank circuit, 6,999 Kc., 7,000 Kc., 7,001 Kc. and 1,000 cycles. The three radio frequencies are passed to the aerial and radiated while

the 1,000 cycles is shorted out by the tank. In the receiver the process is reversed and the incoming carrier and sidebands are impressed upon the detector where they beat together to produce the original 1,000 cycles.

If we look closely at this process we can readily see that it is only necessary to have the carrier and one sideband to produce the original 1,000 cycles, therefore we can do away completely with one sideband without affecting the intelligibility. This in fact is one method of narrowing the band width used by a transmitter, and actually cuts the band width in half. Now suppose we suppress the carrier completely and transmit only one sideband. This sideband alone cannot convey any intelligence because it has no carrier to beat with in the receiver detector, but if we supply at the receiver a carrier of the same frequency as the suppressed carrier, such as from our b.f.o., v.f.o. or frequency meter, then this local carrier and our incoming sideband beat together and produce the original modulation.

Now, you will ask, what possible benefit can we get from this rather involved process?

Well, returning to the picture of what our normal a.m. signal looks like, we have a carrier of a single steady frequency with sidebands consisting of a number of separate frequencies extending either side. If our highest modulating frequency is 3 Kc., then our signal takes up 6 Kc. of the band and this limits the number of stations operating on a certain band without interference. For instance, the 80 metre band is 300 Kc. wide, which means that 50 stations may operate without interference, but suppose we suppress the carrier and one sideband, then our signal only takes up 3 Kc. of the band and 100 stations may now operate. In actual practice, of course, stations may operate closer together on the band, but where normal

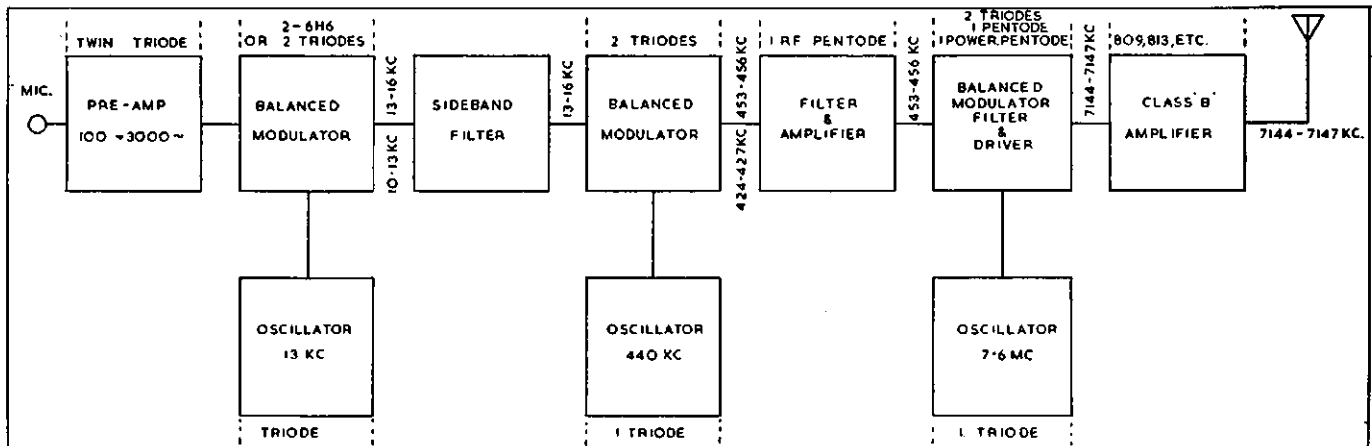
a.m. transmission is used, the QRM becomes worse as the stations operate more closely. If all stations were operating on s.s.s.c., heterodyne QRM would be entirely eliminated because no carriers are transmitted to cause steady heterodynes, and a signal is only emitted when the operator speaks. In actual practice s.s.s.c. stations may operate within a few hundred cycles of each other as only the signal to which a local carrier is supplied will be readable—the other signal remaining as unintelligible monkey chatter in the background.

Now look at the final amplifier of your transmitter. If the carrier is 100% modulated with a sine wave, the total average power in the sidebands is half the carrier power. Thus if our carrier power is 100 watts, our sidebands will total 50 watts—25 watts in each sideband or a total power radiated of 150 watts. Now suppress the carrier and one sideband and we have remaining one 25 watt sideband, but the final amplifier is obviously capable of handling 150 watts.

So it appears that it should be possible to increase the remaining 25 watt sideband to 150 watts, which is the equivalent sideband power for a 600 watt carrier! However, this is assuming the final amplifier is running Class C as it does with normal a.m. transmitters, but with the s.s.s.c. transmitter we must run Class B linear or Class A because the system will not stand the distortion introduced by a Class C amplifier. Therefore we have a slight loss in efficiency, the Class B amplifier being approximately 10 or 15% less efficient than the Class C.

Actually the Class B amplifier does not have to be adjusted to carrier conditions as there is no carrier, it will operate as a normal Class B audio amplifier except that only one tube is necessary. However even with this loss

* Strickland Avenue, South Hobart.



Block Diagram of a Filter Type Single Sideband Suppressed Carrier Transmitter. Receiver parts and technique is used to the input of the Final Amplifier. Excluding the Final Amplifier, the Power Supply necessary is 300 Volts at 120 Ma.

in efficiency the power gain over the normal a.m. transmitter is still 6 db or four times. These figures are based on sine wave modulation, whereas with speech modulation the average voice waveform contains only about half as much power as a sine wave of the same peak amplitude—this further increases our power gain to 9 db or eight times. Then again no operator speaks at maximum intensity all the time.

In our normal a.m. final amplifier the carrier causes most of the heating or plate dissipation, but since with s.s.s.c. there is no carrier, we may increase the allowable dissipation, and from this fact our power gain is increased further to approximately 12 db or 16 times! Now this single sideband suppressed carrier business starts to look rather attractive.

Now from the economy point of view, a normal a.m. transmitter of 100 watts carrier power requires an input of about 130 watts to the final amplifier, plus about 80 watts input to the modulators, a total of 210 watts, neglecting the low level stages. In the s.s.s.c. transmitter we do away with high power modulators and therefore 80 watts of input power, also since there is only input to the final r.f. amplifier when the operator speaks, the saving in power is quite considerable. Actually with an average input of 100 watts to the final Class B amplifier we can get approximately 65 watts of sideband out, or the equivalent of nearly a kilowatt of normal a.m. phone!

Transmitting only one sideband, the receiver bandwidth need only be half as great as for double sideband, and this gives an immediate 3 db increase in signal to noise since reducing the

bandwidth by half increases the signal to noise ratio by two. There is also less trouble with selective fading—the kind where the sidebands and carrier come in out of phase—since we have no carrier and only one sideband we can expect almost complete freedom from this effect.

ADVANTAGES

Now just looking back over the advantages to be gained by using single sideband suppressed carrier:—

1. Reduced bandwidth—thus allowing more stations to operate on the band and giving a better signal to noise ratio.
2. No carriers—therefore no heterodyne QRM.
3. An approximate power gain of 16 times the normal double sideband rig—all the power goes into the single sideband.
4. More economical—very much lower power consumption for a greater effective output than the normal a.m. rig.
5. Almost complete absence of selective fading.
6. A substantial reduction in QRM and QRN.

Almost all the above advantages have been gained in the tests carried out so far, but all of them won't be evident unless all phone stations are using the system. However, it is certainly a step in the right direction as a solution to the present crowded conditions on the various bands.

Acknowledgements go to "QST" for much of the information contained in this article, and those interested are recommended to read the January, 1948, issue.

DISADVANTAGES

There are, of course, some disadvantages:—

1. The equipment to produce a single sideband suppressed carrier signal is a little more complicated and more care is needed in the construction and adjustment of the rig. The main snag is the filter used to chop off one sideband, but this is not quite so difficult as it might appear.
2. Tuning in the signal with a normal receiver is inclined to be a rather touchy business and a voltage regulator on the converter and b.f.o. is almost a necessity as the local carrier which must be supplied at the receiver should be kept within plus or minus 50 cycles of the original suppressed carrier.

There are two generally known methods of obtaining a single sideband suppressed carrier signal—one system uses a filter at a low frequency to chop off one sideband, and balanced modulators to suppress the carrier. The other system uses a phase shift network to cancel out one sideband and carrier.

Of the two systems the filter type gives true carrier and sideband suppression, while the other system of phasing is quite critical in adjustment and does not completely suppress the carrier or unwanted sideband. It may also create undesirable sidebands which may radiate outside the band.

An article on the design and construction of a filter type single sideband suppressed carrier transmitter for Australian conditions is in preparation for submission to "A.R." at some future date.

Receiver Base Mounting

BY LEE HITCHINS,* VK6HC

Recent editions of "QST" have contained advertisements on tilt bases for standard communication receivers. These bases elevate the receiver a few inches to a more convenient height and place the receiver panel on a slight angle away from the operator. It also enables one to instal control switches (send, receive, etc.) on the new small panel provided below the receiver panel—so that all station controls are grouped together right at one's finger tips.

At this QTH the writer had no desire to tilt the receiver, as an S9'er roosts on top of it, and it seemed to me that the transmitter controls would now be as hard to handle as the bottom row of the receiver had been before being elevated.

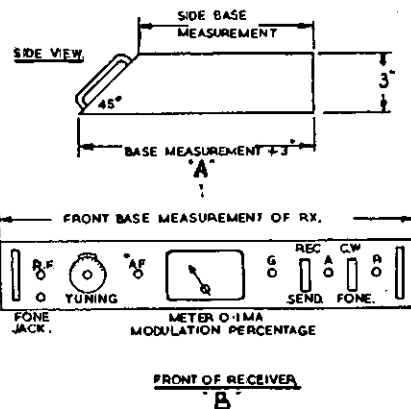
A modified version was thought up to elevate the receiver in a normal position and provide convenient control panel space for switching. A chassis, similar to an amplifier chassis, is used. The height is three inches and the

length and depth depend on the receiver in use. Viewing the base from side on (see sketch A), the top length is three inches shorter than the base length—giving a sloping front panel at an angle of forty-five degrees. The base is constructed of heavy gauge iron and

crackled to match the particular receiver.

On the sloping front panel provided, under the now elevated vertical receiver panel, can be placed controls to give finger tip control over the rig. The suggested layout is in sketch B. Naturally the set-up can be adapted to local demands and a small c.r.o., line meter or any other indicator can be used in the space available.

The meter suggested here is a modulation percentage indicator, and its associated controls—two toggle switches, a variable condenser and a phone monitor jack—are on the left. For details of this device, which consists mainly of two germanium crystals and a meter, see the 1948 A.R.R.L. Handbook, page 478. To the right of the meter are two switches and three bezels. The switches are: receive (green bezel) or transmit (amber or red), and c.w. (amber) or phone (red). If desired the base can be given a slightly more professional appearance by the addition of two chrome handles, one on either end of the panel as shown.



* Sorrento Street, North Beach, W. Aus.

IONOSPHERIC PREDICTIONS FOR THE AMATEUR BANDS

JULY, 1949

IONOSPHERIC PREDICTIONS FOR THE AMATEUR BANDS

0 4 8 12 16 20 24 0 4 8 12 16 20 GMT.

The accompanying charts have been prepared by the Ionospheric Prediction Service of the Commonwealth Observatory. The first set of the series was published in the November, 1948, issue of this magazine, together with an article explaining the nature of the forecasts and how to use them. Nine of the charts, prefixed by the letter "C" for Canberra, refer to forecasts for the South-Eastern Australian States. The remainder, prefixed by the letter "P" for Perth, are for Western Australia.

The Canberra charts refer to the following world zones:—

Zone	Region	Terminal
1	Western Europe	London
2	Mediterranean	Cairo
3	N.-West America	San Francisco
3a	N.-East America	New York
4	Central America	Barbados
5	South Africa	Johannesburg
6	Far East	Manila

The forecasts have actually been prepared for point-to-point circuits between Canberra and the overseas terminals mentioned in the above table. It is, however, to be expected that the charts will provide an approximate indication of ionospheric conditions for all Amateur contacts from South Eastern Australia to the various world zones.

The Perth charts are similar to those based on Canberra. No forecasts are given from Perth to Zones Z2 and Z4 for the current month, as chart P-Z2 would be essentially similar to chart P-Z1, while chart P-Z4 might be unreliable due to auroral activity in high northern latitudes.

USE OF CHARTS

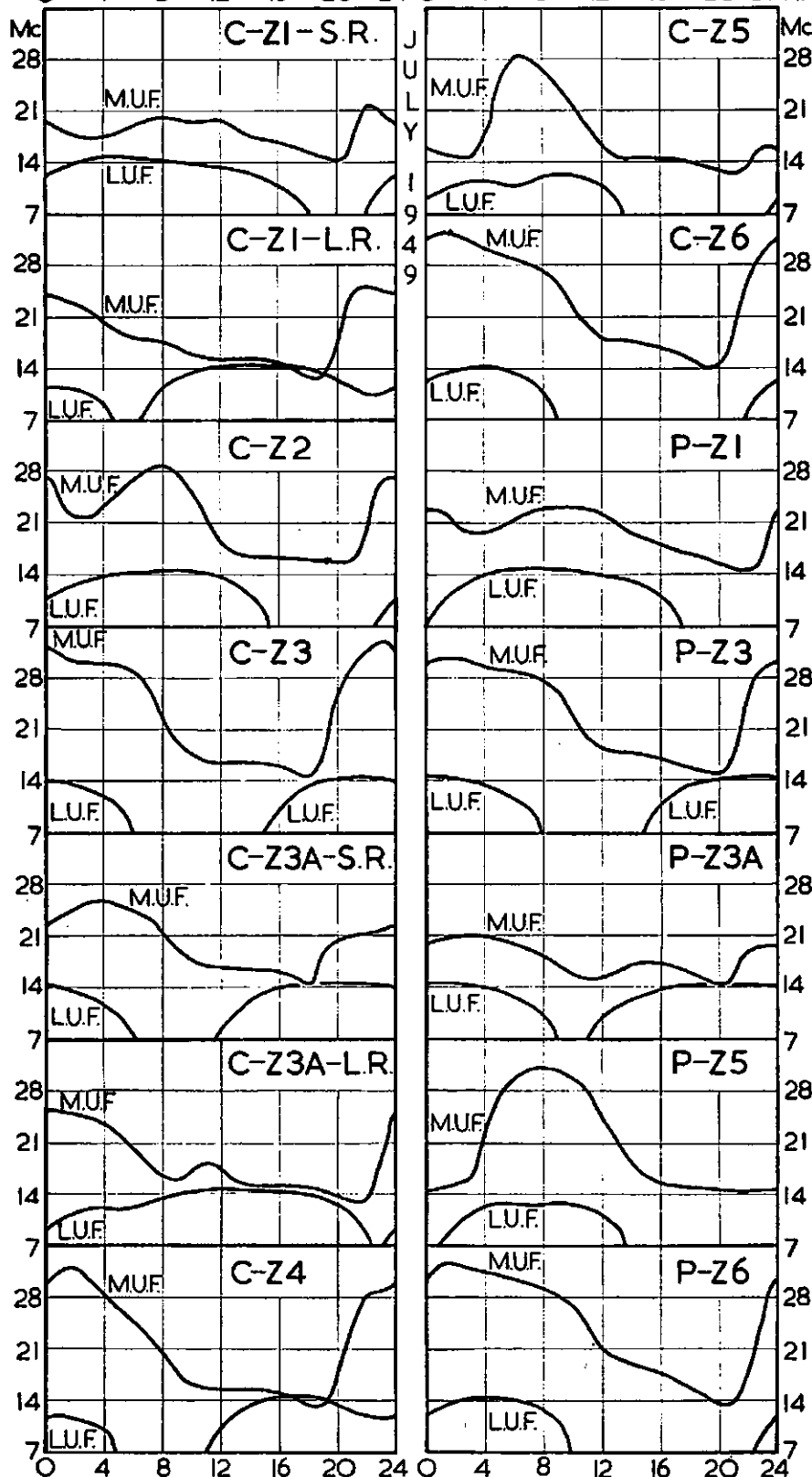
All that is necessary in using the charts is to select a time (G.M.T.) during which a specified Amateur band frequency is below the maximum usable frequency (m.u.f.) of the F region of the ionosphere but above the lowest useful frequency (l.u.f.) for the desired contact. In two cases, Zones 1 and 3a it is necessary to consult both the short-route (S.R.) chart and the following long-route (L.R.) chart.

QUIZ

The Prediction Service welcomes comments on the accuracy of its predictions. In particular, answers to the following questions on the Perth-London circuit would be useful:—

1. Were best conditions experienced on 7 Mc. for a few hours before midnight G.M.T.?
2. Did the 7 Mc. band regularly become workable at about 1700 hours G.M.T., and unworkable at about midnight G.M.T.?
3. What conditions were experienced on 14 Mc., particularly around 0800 hours and around 2200 hours G.M.T.?

Answers to the Quiz should be sent to the W.I.A. and should, if possible, refer to consistent results obtained on the majority of days in the month.



A Universal Speech Amplifier

BY DR. R. L. DOUGLAS,* VK2ON

The circuit shown is that of a speech amplifier which has performed satisfactorily at the writer's station. It was first constructed in 1939 and has been gradually modified to its present form. The circuit is straight forward enough, embodying two pentode 6J7Gs and one triode-connected 6J7G. The 6H6G peak-limiter follows the usual simple circuit.

CATHODE BY-PASS CONDENSERS

Both paper and electrolytic condensers are connected across the three cathode resistors. The former are of small size and are of value in reducing instability due to r.f. from the final amplifier. The potentiometer in series with the 25 uF. in the second stage acts as a very efficient bass-limiter. This is of major importance in narrow-band f.m. transmissions. It is found that the voice loses none of its clarity or intelligibility by removing the bass frequencies and the tendency to distortion on f.m. is markedly improved.

PEAK LIMITER

This portion of the circuit is as efficient as it is simple. The usual circuits employ a choke filter following the 6H6, but none was found necessary, in fact the quality was better without this. The 0.0005 uF. shown does, of course, filter off the high frequency harmonics generated.

The two 3,000 ohm resistors provide a potential of 6v+ and 6v— with respect to the 6J7G grid. When clipping occurs, the maximum audio voltage across the 0.1 megohm potentiometer is 6v. This, after amplification by the 6J7G triode, becomes 72v. which in the present transmitter is impressed on the grids of a series modulator through a 3:1 audio transformer.

* Baan Baan Street, Dapto, N.S.W.

A compact speech amplifier located on the operating table has much to recommend it, as it enables the microphone cable to be kept as short as possible, thereby eliminating one very common source of r.f. pick-up.

The chief advantage of the peak-limiter appears to be that, once adjusted correctly, it is impossible to over-modulate and also a continuous high level of modulation is obtained despite variations in loudness of the voice.

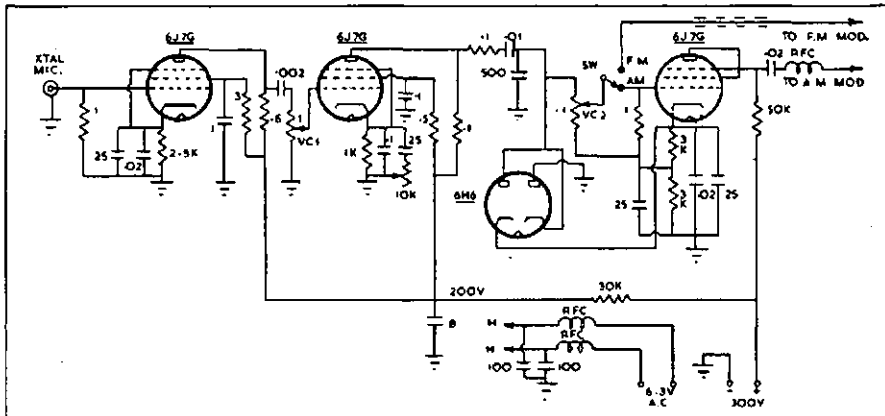
It is necessary to have two volume controls with any peak-limiting device. The setting of VC1 determines the amount of clipping and VC2 determines the depth of maximum modulation. Usually VC1 is advanced until the

limiter is working. Then VC2 is advanced until there is evidence of full modulation, such as a 0.3% increase in p.a. plate current. It is helpful to have the volume controls calibrated in db levels. This may be done fairly simply with a magic-eye type a.c. bridge.

HEATER LEAD CHOKES

The writer found these to be the last word in removing r.f. instability from the speech amplifier. The chokes do not lower the voltage supplied by more than 0.2v. and each one consists of 50 turns of 18 gauge enamel wire on a 3/8" former, 2 1/4" long. With these chokes it is possible to use the same filament transformer for speech amplifier and r.f. final amplifier even on 28 megacycles.

A too high value of screen voltage on the first 6J7G sometimes causes distortion. It may be necessary to experiment with an additional resistor from the screen to earth to obtain the correct screen voltage.



Another System of a Simple Speech Clipper

BY C. GIBSON,† VK3FO

When listening to signals on the Amateur bands, one is struck by the number of stations that do over-modulate and perhaps are not aware of the position. Unless the signal is monitored by a modulation checker or a c.r.o., a position arises where over-modulation can happen in the speech waveform, where the presence of frequently recurring high intensity peaks of very short duration occur. These peaks will cause over-modulation on loud passages or syllables, if they exceed about 30%. These sharp peaks make the signal a little difficult to copy and do not add to the intelligibility of the signal, but if a speech clipper is used a very understandable signal will be obtained.

This can be brought about simply by increasing the gain of the speech amplifier until the average level of modulation on loud syllables approaches about 90%. This is equivalent to increasing the power by nearly 10 times

—not a bad gain. However the clipping, when accomplished in this manner, will produce higher order sidebands—or splatter—a most undesirable feature, sometimes occupying a considerable

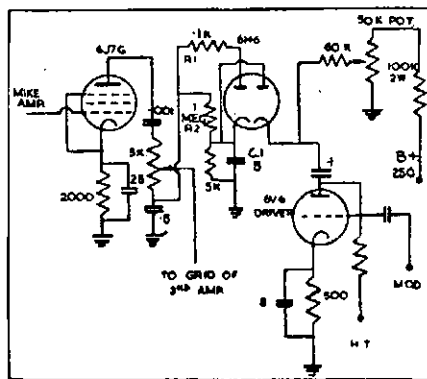


Plate and screen of speech amp. and driver grid are not shown in above.

slice of the band, and QRM is bad enough now.

All these undesirable features in a transmitter can be eliminated by the inclusion of a simple speech clipper. The circuit calls for a 6H6, potentiometer, and a few odd resistors and condensers. At first when it is wired into the speech amplifier it may not appear to work, but by experimenting with R1, R2, and C1 the desired results will be obtained. R1 may be decreased as low as 25,000 and R2 to 50,000. C1 may be 0.1 uF., it all depends on the circuit and voltages in the modulator.

The modulator used here is Class AB2 807s driven by a 6V6 as a triode, preceded by a 6J7 mike amplifier into another 6J7. Voltage on the plates of the 807s is 500 volts and the screens 250 volts. The clipper was thoroughly tried out and checked by a c.r.o., the results obtained being well worth the trouble. So if you want a good simple clipper, cheap and very easy to instal, here it is.

† 424 Centre Road, Bentleigh, S.E.14.

A Versatile Measuring Instrument

BY G. L. F. SMITH,* VK3FR

In all branches of radio work, there is a continual demand for a means whereby the values of various types of components can be easily ascertained. These measurements, in the main, are those of resistance, capacity and inductance. Resistance can, of course, be very easily checked on any of the usual types of multimeters, whereas for capacity it is generally assumed that a complicated piece of apparatus is required.

Probably most of us, at one time or another, have been browsing through one of our favourite text books, and have noticed a circuit very similar to that in Figure 1, and on reading the accompanying text have discovered that the circuit is really supposed to be that of an instrument intended to measure C and R.

Glancing at the circuit it appears so simple that, for this reason, we have been deterred from constructing such a piece of apparatus on the grounds that there must be a catch in it somewhere. Yes, there is a catch, but it is only one of calibration, which most constructors will have no difficulty in overcoming.

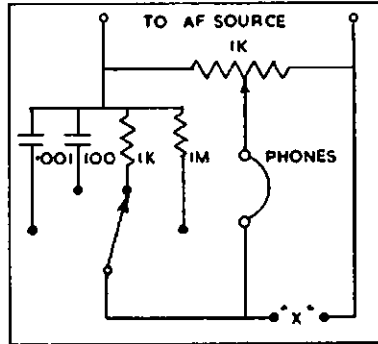
On studying the diagram, it can quickly be seen that it is only a very elementary type of bridge circuit, using headphones as the means of indication, and some source of a.c. as the audio signal, but more about that later.

The ratio arms of the bridge are provided by the potentiometer with the moving arm as the common point, while for the other two arms of the bridge we have the standard values of C, or R, whichever is required to be checked, and across the points marked "X" are placed the unknown values to be checked.

* Flat No. 1, 88 Acland Street, St. Kilda, Victoria.

Generally with such instruments, there is the necessity for mathematical calculations before we can arrive at an answer to our problem, but once this instrument has been completed and calibrated, the values can be taken directly from the dial.

With the appropriate standard value switched into circuit, and the unknown quantity connected across the points "X," the potentiometer knob is turned until the audio signal in the headphones disappears. This point is somewhat critical but quite definite, so no difficulty should be experienced in locating it.



CONSTRUCTION The circuit as built up for the measurement of capacity and resistance is shown in the diagram. Inductance ranges may be added to suit the constructor's particular requirements. These standard values may be brought into circuit by means of a switch, or banana sockets and a wandering banana plug can be used.

The potentiometer value is not very critical but, if possible a linear job should be obtained, although a tapered type will do the job.

The source of audio signal for operation of the bridge can be left to the individual builder to decide upon. In the original, from which the circuit is drawn, a polarised buzzer was used, but when it is re-built, a valve oscillator will be pressed into service as it was found that the buzzer operating was distracting, and as a result, the null point was a little difficult to decide upon. Apart from that, the buzzer does a satisfactory job and in a sound-proof box would be inaudible.

CALIBRATION If the builder has access to a calibrated bridge, he can first check the sizes of as many values of components as possible, and then mark his own instrument's dial at the point where the audio signal disappears when the knob is rotated. Lacking these facilities, obtain as many as possible of each particular value, and by averaging out the points on the dial a fairly accurate result can be obtained. The usual run of parts available have a tolerance of up to 20%, so for any general tests this degree of accuracy will suffice, but it will be found that, if care is taken, this instrument will give much closer tolerances than that.

The dial can be directly calibrated or a series of graphs can be drawn from the results obtained. With the values shown, it will be possible to check the value of all popular parts quickly and with accuracy.

In conclusion, it should be realised that only by making a perfectly rigid mechanical job, and taking every care with its calibration, can any sort of satisfactory results be obtained. Building well, then skimping on the calibration, or, vice versa, is only a waste of time and materials. Do both jobs well and the finished article will re-pay you for that extra care many times over.

HINTS & KINKS

SELF-POWERED BIAS

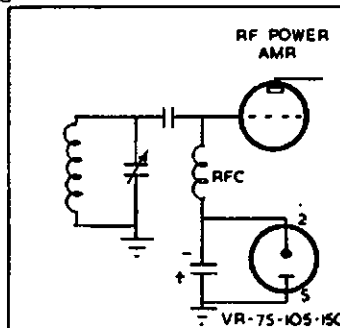
There may be some of you who looked at the article in "QST" (Dec., 1948) by W6WVQ, and who thought like myself, "what an idea if it works." As there may be others who do not take "QST," and want some simple idea to bias the final tube so that they can key the buffer stage—here it is, simplicity itself.

In the writer's case, with an 813 in the final, I wanted something simple that would retain a fixed bias so that I could key the 807 buffer stage; it's much easier to eliminate the clicks keying a stage pulling around the 35 Ma. mark.

The VR tube is initially lighted by the grid driving voltage, and a charge is thus placed on the condenser. When excitation is removed, as when the key is up, the VR tube goes out and the

charge that remains in the condenser keeps the amplifier cut off.

The only precaution needed is to switch the buffer stage on first, this charges the condenser. From a test made here, the drive was switched off and the final power supply switched on, the plate current of the final was held at cut-off and remained so for a period of ten minutes, just how much longer it would have held the final in



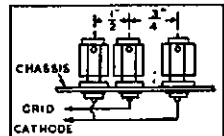
this condition I do not know, but I was personally satisfied with the ten minute test made.

The experts suggest that a paper condenser be used in preference to an electrolytic, in my own case I used an 8 uF. paper condenser 500 volt working, and a VR150.—VK5MD.

SIMPLE UNIVERSAL CRYSTAL HOLDER

A useful crystal holder for the new (or old!) rig can be made very simply from three insulated pushdown spring type terminals, mounted and connected as shown in the accompanying diagram.

This holder will take crystals of both $\frac{1}{2}$ " and $\frac{3}{4}$ " pin spacing, and is simple, cheap, and effective. Old headphone terminals will do at a pinch.—VK3ASG.



"RADIO VALVE PRACTICE"

Published by the British Radio Valve Manufacturers' Association.

This little booklet makes worthwhile reading for Amateurs who are interested in getting the best performance and life out of their valves. The following quotations from it should be of interest and will show the type of information contained therein:—

"It is not safe to assume that one maximum rating (e.g. the anode voltage) may be exceeded provided a corresponding reduction is made to some other rating (e.g. the anode current). Although this may be permissible in some instances, all maximum ratings are

not mutually compensating and some limits are absolute. For example, the peak current rating of mercury vapour rectifiers must not be exceeded, even though the applied voltage is reduced.

"When a frequency range is specified, the valve ratings apply only within this limitation. When receiving or transmitting valves are used at excessively high frequencies, appreciably above the maximum rating, the power dissipated in the lead-in wires due to resistance losses, and in the glass between the leads due to dielectric loss, may be sufficient to over-heat the wires or the glass, and either release gas into the valve or cause the glass to crack. Running the valve at a lower rating will reduce this possibility.

"Low heater or filament voltages are as much to be avoided as high voltages. The constant emission from the cathode depends upon equilibrium between the evaporation of active material from the surface and its replacement from within. If the cathode temperature is excessive, evaporation will occur at a faster rate than replacement. If the cathode temperature is too low replacement will decrease more than evaporation. In either case the emission from the cathode will decline at an excessive rate.

"Valves should not (in general) be mounted base upwards. This method of mounting seriously affects the flow of air around the bulb. If the part of the valve on which the getter is deposited is over-heated gas will be released and the valve will go soft. If the pinch of the valve is over-heated, the inter-electrode capacities will change—particularly in the case of oscillators, frequency drift will result.

"If it is necessary to depart from vertical mounting, the plane of the filament of directly heated valves should be vertical. Similarly the plane of the major axis of the control grid of certain indirectly heated valves having high mutual conductance should be vertical." (Note to 522 users.—If you find the 832s don't last long and you've been using the set in an upright position, have a look which way the 832s are lying.—A.K.H.)

"Some valve holders incorporate floating contacts, the connections to which should be as flexible as possible. In holders for glass based valves this is particularly important, since the use of stiff wiring will destroy all the advantages provided by the float of the contacts and in extreme cases will hold the contacts permanently out of position and result in damage to valve gases.

"It is undesirable to use spare socket contacts as connecting tags in the circuit wiring . . . in valves with glass bases this practice may adversely affect the valve characteristics by the application of potentials to pins which are not connected to any electrode but which project into the envelope.

"It is generally desirable to avoid a large potential difference between the heater and cathode. This potential should not normally exceed 150 volts, except with valves specially designed for a.c./d.c. operation or as cathode followers, etc. The insulation resistance between the heater and the cathode should not be included in r.f. circuits where frequency stability is required or in a.f. circuits followed by a high gain. If the heater cathode insulation is included in a tuned circuit, any alteration to the physical or electrical properties of the insulation will alter the frequencies to which the circuit is tuned, and if both r.f. and l.f. (mains frequency) voltages exist across the insulation, there is the risk of modulation hum, particularly in cathode coupled oscillators and the like.

"The practice of keying by opening the cathode circuit may result in a large potential difference between heater and cathode and should be avoided. If cathode keying is essential a resistance not exceeding 0.25 megohms should be connected between the heater and the cathode.

"It is undesirable in general, that keying should be carried out by opening the screen circuit whilst the normal anode and grid voltages are maintained. This particularly applies to all forms of tetrodes. If it is necessary to interrupt the anode current by open-circuiting the screen supply, the lowest practicable resistance should be permanently connected between the screen and the cathode.

"Valves should not be used in circuits in applications which result in appreciable suppressor grid current. It is therefore important that in the case of pentodes connected as triodes, the suppressor grid should be connected to the cathode rather than the anode."

The rest of the very practical information contained in this booklet should make it interesting and profitable reading for Amateurs.

— A. K. H.

TELEVISION SERVES SCIENCE

Surgical Operation Televised in Europe

For the first time in Europe a surgical operation has been televised. At the hospital at Leiden, Holland, recently a television camera in the operating theatre followed a complete surgical operation which was viewed by an audience of 200 medical practitioners and students in the lecture hall in another wing of the hospital.

Philips, Holland, who supplied the equipment and undertook the technical arrangements for this demonstration, used two viewing screens each 4' 10" x 3' 3" and produced, for the benefit of the audience, a wonderful picture which showed beyond all doubt the enormous possibilities of television as an aid to medical training.

Newspaper and university representatives who witnessed the screening acclaimed the quality and value of the television demonstration which made European history and again evidenced the place held by Philips in the forefront of the technical field.

Low Drift Crystals

FOR AMATEUR BANDS

ACCURACY 0.02% OF STATED FREQUENCY

3.5 Mc. and 7 Mc.

Unmounted £2 0 0

Mounted £2 10 0

12.5 and 14 Mc. Fundamental

Crystals, "Low Drift,"

Mounted only, £5.

Spot Frequency Crystals
Prices on Application.

Regrinds £1 0 0

THESE PRICES DO NOT
INCLUDE SALES TAX.

MAXWELL HOWDEN

15 CLAREMONT CRES.,

CANTERBURY, E.7,

VICTORIA

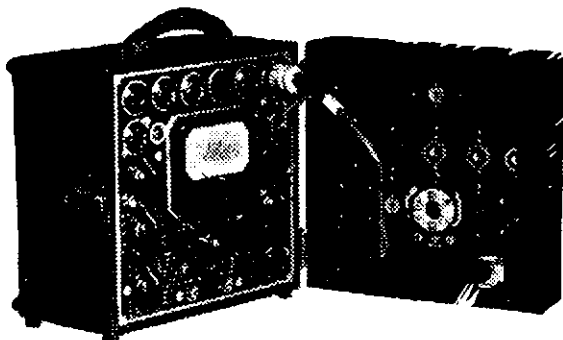
LIST OF COUNTRIES BY PREFIXES

AC3	Sikkim	KC6	Caroline Islands	UM8	Kirghiz
AC4	Tibet	KC8	Palau (Pelew) Islands	UN1	Karelo-Finnish Republic
AG2 (MF2)	Trieste	KG6	Marianas Islands (Guam)	UO5	Moldavia
AP	Pakistan	KG6	Bonin & Volcano-Is. (Iwo Jima)	UP2	Lithuania
AR8	Lebanon	KH6	Hawaiian Islands	UQ2	Latvia
C	China	KJ6	Johnston Island	UR2	Estonia
CE	Chile	KL7	Alaska	VE	Canada
CM, CO	Cuba	KM6	Midway Island	VK	Australia
CN	Morocco, French	KP4	Puerto Rico	VK1	Heard Island
CP	Bolivia	KP6	Jarvis Island and Palmyra Group	VK1	Macquarie Island
CR4	Cape Verde Islands	KR6	Ryukyu Islands (Okinawa)	VK9	New Guinea, Territory of
CR5	Guinea, Portuguese	KS4	Swan Island	VK9	Norfolk Island
CR6	Angola	KS6	Samoa, American	VK9	Papua Territory
CR7	Mozambique	KV4	Virgin Islands	VO	Newfoundland
CR8	Goa (Portuguese India)	KW6	Wake Islands	VO6	Labrador
CR9	Macau	KX6	Marshall Islands	VP1	Honduras, British
CR10	Timor, Portuguese	KZ5	Canal Zone	VP2	Leeward Islands
CT1	Portugal	LA	Norway	VP2	Windward Islands
CT2	Azores Islands	LU	Argentina	VP3	Guiana, British
CT3	Madeira Islands	LX	Luxembourg	VP4	Trinidad and Tobago
CX	Uruguay	LZ	Bulgaria	VP5	Cayman Islands
CZ	Monaco	MB9 (OE)	Austria	VP5	Jamaica
DL	Germany	MC1 (MD1, MD2, MT2)	Libya	VP5	Turks and Caicos Islands
DU	Philippine Islands	MD1 (MC1, MD2, MT2)	Libya	VP6	Barbados
EA	Spain	MD2 (MC1, MD1, MT2)	Libya	VP7	Bahama Islands
EA6	Balearic Islands	MD3 (16)	Eritrea	VP8	Falkland Islands
EA8	Canary Islands	MD4 (MS4)	Somaliland, Italian	VP8	South Georgia
EA9	Morocco, Spanish	MD5 (SU)	Egypt	VP8	South Orkney Islands
EI	Eire	MD6 (YI)	Iraq	VP8	South Sandwich Islands
EK	Tangier Zone	MD7 (ZC4)	Cyprus	VP8	South Shetland Islands
EL	Liberia	MF2 (AG2)	Trieste	VP9	Bermuda Islands
EP, EQ	Iran	MI3 (16, MD3)	Eritrea	VQ1	Zanzibar
ET	Ethiopia	MP4 (VS9)	Oman	VQ2	Rhodesia, Northern
F	France	MS4 (MD4)	Somaliland, Italian	VQ3	Tanganyika Territory
F	Corsica	MT2 (MC1, MD1, MD2)	Libya	VQ4	Kenya
FA	Algeria	NY4	Guantanamo Bay	VQ5	Uganda
FB8	Madagascar	OA	Peru	VQ6	Somaliland, British
FD8	Togoland, French	OE (MB9)	Austria	VQ8	Chagos Islands
FE8	Cameroons, French	OH	Finland	VQ8	Mauritius
FF8	French West Africa	OK	Czechoslovakia	VQ9	Seychelles
FG8	Guadeloupe	ON	Belgium	VR1	Gilbert & Ellice Is., Ocean Is.
FH8	French Indo-China	OQ	Belgian Congo	VR2	Fiji Islands
FK8	New Caledonia	OX	Greenland	VR3	Fanning Island (Christmas Is.)
FL8	Somaliland, French	OY	Faeroes, The	VR4	Solomon Islands
FM8	Martinique	OZ	Denmark	VR5	Tonga (Friendly) Islands
FN	French India	PA	Netherlands	VR6	Pitcairn Island
FO8	French Oceania (e.g., Tahiti)	PJ	Netherlands West Indies	VS1, VS2	Malaya
FP8	Miquelon and St. Pierre Islands	PK	Java	VS4	Borneo, British North
FQ8	French Equatorial Africa	PK4	Sumatra	VS5	Brunei
FR8	Reunion Island	PK5	Borneo, Netherlands	VS5	Sarawak
FT4	Tunisia	PK6	Celebes and Molucca Islands	VS6	Hong Kong
FU8	New Hebrides	PK7	New Guinea, Netherlands	VS7	Ceylon
FY8	Guiana, French, and Inini	PX	Andorra	VS9	Aden and Socotra Island
G	England	PY	Brazil	VS9 (MP4)	Oman
GC	Channel Islands	PZ	Guiana, Netherlands (Surinam)	VU	India
GD	Isle of Man	SM	Sweden	VU4	Laccadive Islands
GI	Ireland, Northern	SP	Poland	VU5	Andaman and Nicobar Islands
GM	Scotland	ST	Anglo-Egyptian Sudan	VU7	Bahrein Island
GW	Wales	SU (MD5)	Egypt	VU7	Nepal
HA	Hungary	SV	Greece	W (K)	United States
HB	Switzerland	SV	Crete	XE	Mexico
HC	Ecuador	SV5	Dodecanese Islands (Rhodes)	XZ	Burma
HE1	Liechtenstein	TA	Turkey	YA	Afghanistan
HH	Haiti	TF	Iceland	YI (MD6)	Iraq
HI	Dominican Republic	TG	Guatemala	YJ (FU8)	New Hebrides, British
HK	Colombia	TI	Cocos Island	YK	Syria
HL	Korea	TI	Costa Rica	YN	Nicaragua
HP	Panama	TT	Tannu Tuva	YR	Roumania
HR	Honduras	UA1	Franz Josef Land	YS	Salvador
HS	Siam	UA1, 3, 4, 6, 7	European R.S.F.S.R.	YU	Jugoslavia
HV	Vatican City	UA9, 0	Asiatic R.S.F.S.R.	YV	Venezuela
HZ	Saudi Arabia (Hejaz and Nejd)	UB5	Ukraine	ZA	Albania
I	Italy	UC2	Bielorussia	ZB1	Malta
IS	Sardinia	UD6	Azerbaijan	ZB2	Gibraltar
16 (MD3, MI3)	Eritrea	UF6	Georgia	ZC1	Transjordan
JA	Japan	UG6	Armenia	ZC2	Cocos (Keeling) Islands
JT	Mongolian Republic (Outer)	UH8	Turkoman	ZC3	Christmas Island
K	See under W	UI8	Uzbek	ZC4 (MD7)	Cyprus
KB6	Baker, Howland and Am. Phoenix Islands	UJ8	Tadzhik	ZC8	Palestine, Arab
		UL7	Kazakh		

(Continued on page 12)

'VEALLS for all Radio Requirements!

TRANPO VALVE AND CIRCUIT TESTER



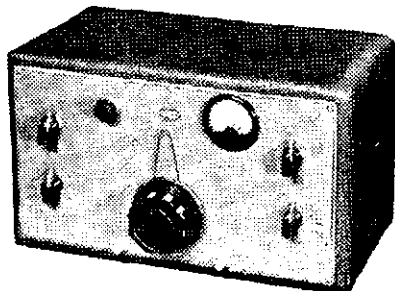
The compact and convenient tester that is not only necessary to Radio Servicemen, but also to Radio Experimenters! Reads milliamperes, D.C. and A.C. volts, output volts and tests resistors, condensers, and valves. PRICE £32/19/6 (plus 10 per cent. tax).

"UNIVERSITY"

S.G.A.

Signal Generator

Frequency 155 Kc. to 110 Mc. Seven bands!
Price £47 (plus 10 per cent. tax).



FULL RANGE OF UNIVERSITY TEST GEAR AVAILABLE.

AEGIS Insulators, all types available. Ham discount!
ROLA Speakers—12R, £11/19/-; 8M, £2/6/3; 6L, £2/1/3.

Ham discount!

MAGNAVOX 12 in. Speaker, 382L, 37½ oz. magnet, £4/1/7.

Ham discount!

AND REMEMBER, VEALLS' QUICK CHASSIS CUTTING SERVICE!
Chassis for any circuits or special needs cut promptly and efficiently!

LEXINGTON MOVING COIL PICK-UP

This famous English Pick-up gives performance never before thought possible. Full reproduction of the total audio frequency range. Complete with transformer, screening box and sapphire needle. Prices: 12 in., £11/8/10; 16 in., £12/10/10.

Let us quote you for your Ham Receiver, built to your specifications. Best parts available.

VEALLS

243 SWANSTON STREET, MELBOURNE.

299 CHAPEL STREET, PRAHRAN.

Phone: FJ 3145

Phone: LA 1605

MAIL ORDERS—BOX 2141T, G.P.O., MELBOURNE.

Associated with ARTHUR J. VEALL PTY. LTD.—Est. 1911.

ELECTRONIC
A&R
EQUIPMENT

DENOTES
Quality

FILTER REACTORS

The range of Filter Reactors, as listed in our Catalogue (page 8), is the result of considerable design and testing in our laboratory. Tests are made at full ratings on an Incremental Inductance Bridge. Each type is correctly rated with regard to A.C. and D.C. flux densities, the inductance value being definitely obtainable with the full maximum D.C. current specified. In order to achieve correct rating, a liberal amount of high grade core steel and winding wire is used in each Reactor. This makes the size, weight and price greater than for most other Reactors on the market, but is necessary to conform to our policy of manufacturing only quality products.

Write for the Latest Illustrated Catalogue

A&R *Electronic Equipment Co.* PTY. LTD.

THE OLD MAN

Back in the days when lots of you young fellows were wearing diapers, we were working just as much DX with self excited oscillators and detector and audios, but in those days we acted like gentlemen. We did not swoop down upon a choice piece of DX as the other fellow was working and try and impose our signal on his, we waited until the QSO was completed and then called him from our own particular spot in the band. Personally I will not go back to a horde of signals calling me on my own frequency, but will deliberately pick the station calling away from me, if we all would adopt this practice it would soon put an end to this modern idea.

Don't get the idea that I think the old timers are blameless. From some of the quality I hear emanating from fellows who have had their call for many years, it would seem that they need to revise their knowledge of filter circuits and types of modulation. This is a bad state of affairs, it seems to me that as old timers it is up to us to set a standard for the young fellows to copy.

Thank Heavens we, as a majority, still speak the King's English. Just where did this abomination "MATTER" come from; "Let's have a 'matter' about it." If you wish to have a yarn with a fellow, for the love of Mike say so and if you want to discuss something, let's discuss it. If we Amateurs are to be judged by the stuff we put over the air, it is up to all of us to improve ourselves in this respect.

Then there is the fellow who allows all and sundry to go over. Just recently I heard a station with a young child in the background who tried hard to at-

A little over twelve months ago "Gremlin" ceased to exist within the covers of this magazine. I promised in the May issue that a new author would appear in the June issue, but unfortunately it was not possible to use his material. From now on he will appear each month under the title THE OLD MAN.—Editor.

tract the attention of Daddy by making sundry remarks as "Daddy, pee pee;" this went on for quite some time when the operator of the station said: "Just a minute old man, I'll have to attend to something." It was amazing to me that he wasn't going for the floor cloth.

The idea of this column is to bring to your notice, things that perhaps you haven't noticed yourself doing and if you receive a personal mention, remember it was done to try and improve your transmission. Don't start crying and moving Heaven and Earth to have "The Old Man" removed from the magazine as you did with "Gremlin." "The Old Man" has a thick hide, toughened by years of contacts with all and sundry and he will NOT answer letters of protest in these columns, so save your ink and paper and when your temper has cooled down resolve to mend your ways.

Our latest menace is frequency modulation and from the stations I have heard using it so far, it would be much better for them to go back to amplitude,

if they can't remove the colossal amount of hum being mixed with the carrier. For the best CQ merchant of the month, I dips my lid to VK2WF who was sending dozens of CQs without a call sign, and for the Ham with the worst key clicks I nominate VK3ACI.

I presume VK3BU is no gentleman, he was heard as large as life in the 7000 to 7030 Kc. portion of the 40 metre band on telephony. I seem to recollect that we gentlemen did agree to reserve this portion of the band for c.w.; you might also sign your call occasionally VK3BU, instead of working cross-band without an announcement.

To VK5PH I present the palm for the signal with the largest amount of splatter. Why not a check some time with a Ham who will give you an honest report. Whilst on this subject fellows, please, when asked for a critical report, give a critical report and not the tongue-in-the-cheek type of thing one so often hears. If it hurts the other fellow it's just too bad, if he is the right type he will thank you and immediately set to work to correct the wrong.

From VK2ANF emanated the following, and I quote: "Oh I never call CQ, I just pop into the middle of a QSO when my friends are going." The Department have expressed their views on this sort of practice in no uncertain matter, perhaps it would be wiser VK2ANF to switch on and make the remark that it was VK2ANF testing; you could then be invited into the contact.

From the June issue of the magazine, I see that my South Australian friends have dealt with VK2JJP, you beat the gun fellows. Cheers until next month.

MAGAZINE CONTRIBUTIONS

In order to avoid confusion and enable the forwarding of articles in an orderly basis, the Magazine Committee have drawn up the following set of regulations.

Contributors, particularly those of a technical nature, are requested to read the regulations carefully and to forward their contribution in the manner set out below.

1. Writers of articles are requested to forward their manuscripts to the Sub-Editor of their Division. (See heading of Divisional Notes for address).

2. Sub-Editors to forward articles to the Editor as soon as possible. In some cases articles have been held for several weeks before being forwarded with the Divisional Notes.

3. The Secretary of the Victorian Division will acknowledge receipt of the article as soon as received. Acknowledgment will be forwarded to both the writer of the article and the Sub-Editor concerned.

4. Articles which are considered to be unsuitable for publication will be re-

turned to the Sub-Editor with a covering letter. Should an article require amendment before being published, or if it is to be held for any lengthy period, the Sub-Editor will be notified.

5. Should an article be forwarded direct to the Editor, acknowledgment will be made to both the author and the Sub-Editor.

6. It should be noted that the normal delay for drafting, block-making and type-setting is about six weeks. Articles and blocks have to be in the printer's hands not later than the 5th of the month prior to the month of publication and the shortest possible time in which an article can be published is approximately three months.

NEWS FROM MACQUARIE ISLAND

The following may be of interest to those who have been fortunate enough to contact the Macquarie Island boys—or those still trying to.

VK1ADS says he is not interested in DX although he has worked quite a

few DX stations on 14 Mc. phone. Countries worked include W, VE, KL7, G, GM, EI, YJ, CX, XE, HK, J, and ZL.

Ron also stated that he was not interested in c.w., his reason for moving down to 7 Mc. was lack of signals on twenty. He found all VK signals, with the exception of VK7s, were around the S3 level. VK7s were usually 3 to 4 points stronger. Strangely enough, most signals, even at S3, were readability 5.

VK1RD got his 50 Mc. beam up on the 26th May and is hoping it will stand up to the strong winds. Brian's 50 Mc. converter got knocked about on the trip down, but he thought he had it working again and had just finished it when QSOed on 27th May.

VK1AJT.—This station has been heard on 14 Mc. c.w. early in May with a chirpy note. Was working hosts of W stations. Gave his home QTH as 56 Leonora Street, Sth. Como, Western Australia.

VK1ADS says he will QSL on his return home although already his YL is beginning to wonder if she will see much of Ron even next year—and the QSLs are still rolling in.

BOTH PROFESSIONALS AND AMATEURS WILL THRILL TO THE FAULTLESS PERFORMANCE OF



ENGLAND'S LATEST AND FINEST 15-VALVE COMMUNICATIONS RECEIVER, DESIGNED FOR PROFESSIONALS AND DISCRIMINATING AMATEURS

Technical Features:

TUNING RANGE: 30.4 Mc/s. to 490 Kc/s. continuous in five bands.

CIRCUIT.—Two high sensitivity R.F. stages, frequency changer with separate oscillator for maximum efficiency and freedom from drift.

Two high gain 450 Kc/s. I.F. stages with phased crystal filter. Double-diode detection with A.V.C., noise limiter, and "S" meter. Two paraphase audio amplifiers. Push-pull output stage.

DIAL: Gear driven fly-wheel controlled 140-1 reduction with mechanical bandspread.

Now available from your local distributor

- VICTORIA: J. H. MAGRATH & CO., 208 Little Lonsdale Street, Melbourne.
- N.S.W.: JOHN MARTIN PTY. LTD., 116-118 Clarence Street, Sydney.
- Q'LAND: CHANDLERS PTY. LTD., Cnr. Albert and Charlotte Streets, Brisbane.
- WESTERN AUST.: CARLYLE & CO. LTD., Hay Street, Perth, and 397 Hannan Street, Kalgoorlie.
- SOUTH AUST.: GERARD & GOODMAN LTD., 192-196 Rundle Street, Adelaide.
- TAS.: W. & G. GENDERS PTY. LTD., 53 Cameron St., Launceston, and Liverpool St., Hobart.

Australian Factory Representatives: R. H. CUNNINGHAM & CO., 420 William St., Melbourne, C.1

FIFTY MEGACYCLES AND ABOVE

Compiled by J. K. RIDGWAY, VK3CR.

The most interesting news this month is comprised of two items from Victoria, namely, the Victorian V.H.F.-U.H.F.-S.H.F. Marathon, and the Mornington Peninsula Sub-Branch Field Day V.H.F. activities.

VICTORIAN V.H.F.-U.H.F.-S.H.F. MARATHON

It has been decided with a view to the stimulation of interest in all the bands above 50 Mc. to hold a Marathon Contest. The rules of the Marathon have been worked out and points allotted with the idea of not only encouraging activity on the bands at present widely populated, but to promote the building of gear for new bands and general exploration of the frequencies above 50 Mc. and the frequencies best suited to these bands.

We would appeal to all Amateurs to give the Contest as much support as possible; this does not apply only to those already in operation on the various V.H.F. and U.H.F. bands, but also to chaps who have so far confined their interest to the d.c. bands. Get some gear going and join in the fun; also do not forget that you stand the chance of winning a very worthwhile prize.

Rules of the Marathon

(a) Duration.—The Contest will run from 0001 on 1st August, 1949, to 1159 on 31st January, 1950.

(b) Contacts.—Every contact made counts towards the final score with the restriction that only one contact with any one station per band per day will count, unless location has been shifted.

(c) Scoring.—The following system of mileage and points will apply:—

50 Mc.—		288 Mc.—		50 Mc.—		676 Mc.—	
0-60	miles, 1 pt.	0-10	miles 1 pt.	0-5	miles, 1 pt.	5-10	" 3 "
60-90	" 2 "	10-40	" 2 "	10-15	" 4 "	10-15	" 4 "
90-120	" 3 "	40-60	" 3 "	15-30	" 5 "	15-30	" 5 "
120-400	" 4 "	60 miles up	5 "	30-60	" 6 "	30-60	" 6 "
400-1300	" 4 "			90-120	" 7 "	90-120	" 7 "
1300 miles up	6 "			120 miles up	8 "	120 miles up	8 "

1215 Mc. and up.—Each band same as 676 Mc.

Some of the points allotted for different distances on different bands may look a little odd, so a few matters will be explained. First, the drop in points on 50 Mc. for contacts in the range 400 to 1300 miles—it is felt that as contacts in this range would be mainly single hop Sporadic E, which are relatively easy to make when conditions are right, the points allotted should not be so high as for the more difficult tropospheric bending contacts. If you make a contact by Sporadic E under 400 miles, that is your good luck and the score shown in the table for such a distance may be claimed. On 288 Mc., there is a fairly wide gap from 10 to 40 miles, as it is felt that contacts in this range will mainly be made by stations operating portable, when little difficulty is experienced in covering this distance with good signals.

(d) Multipliers.—50 Mc. 1, 144 Mc. 1, 288 Mc. 1, 676 Mc. 2, 1215 Mc. and above—each band 3.

A word of explanation regarding the use of these multipliers would not go amiss. The multipliers for the various bands worked are added together and the score obtained from the mileage-points scale multiplied by this sum.

Thus if a station worked on 50 and 144 Mc. he would multiply his score by 1 plus 1, i.e. 2. If he worked on 288, 676, and 10,000 Mc., he would multiply the score by 1 plus 2 plus 3, i.e. by 6.

(e) Prizes.—Really worthwhile prizes will be offered for the following sections:—

- Open: a first and second prize will be given.
- 50 Mc.—one prize.
- 144 Mc.—one prize.
- 288 Mc.—one prize.
- 676 Mc.—one prize.
- 1215 Mc. and above—one prize.

In addition a prize will be awarded for the best score turned in by a station located more than 25 miles from the G.P.O. Melbourne.

(f) Checking of Logs.—The date by which logs must be turned in for checking will be announced in a later issue of "Amateur Radio."

MORNINGTON PENINSULA SUB-BRANCH FIELD DAY—V.H.F. ACTIVITIES

Several stations operated portable on the V.H.F. bands on the Sub-Branch Field Day on the 29th of May. All were in the Mt. Martha area. Stations out were 3RR, with 3AJH and 3ACL as general advisers and log-keepers, they worked on 50 and 576 Mc.; 3ANW worked on 50, 144, and 576 Mc.; and 3AZZ worked on 576 Mc. Both stations working on 50 Mc. had quite a number of contacts on the band, and 3ANW had a contact with 3ABA on 144 Mc. On 576 Mc. 3ANW worked 3AKZ, and 3ANW and 3RR both put S8 signals up to 3DA in Melbourne, a distance of about 26 miles. Unfortunately, two way contacts were not made over this path.

NEW SOUTH WALES V.H.F. SECTION MEETING

There was an attendance of approximately 20 at this meeting, held on 10th May. Mr. A. Robertson (2QZ) delivered a lecture on Antennae and Feeders. The presentation was splendid and judging by the intense interest and battery of questions after the lecture, it was plainly indicated that Mr. Robertson had all the answers. Other matters dealt with were: W.A.S. 50 Mc., stability of transmitters on 144 Mc., and a discussion on the May V.H.F. Contest.

50 Mc. DOINGS OF THE MONTH

New South Wales.—Generally speaking the band has been very quiet. The old gang mainly are to be heard occasionally. 2ADT, 2AH, 2RU, 2WJ, 2LY, 2ABC, and 2ARG were active. The band is used mostly for cross-band contacts during which tuning up and antenna tests, etc., are carried out. 2ADT has been heard cross-band with 2AH on 144.5 Mc. almost nightly for three weeks. This distance of 70 miles is over a 1550 feet rise. On four occasions 2ADT has been heard by 2AH on 144 Mc. These contacts are most interesting as they seem to be entirely dependent on temperature inversion. The i.f. over this path has been obtained by courtesy of 2ANB, the day following the night's contact. Comparisons of signal strength indicate best contacts have occurred when the i.f. has been below 1000 feet. How does this add up with the height of the intervening range of hills which are 1550 feet approximately?

The gear used may interest readers. 2ADT has an A.S.V. receiver working double conversion into his all-band job. The coupling is zero! Jack simply opens the i.f. gain up on the A.S.V. and tunes to the 29 Mc. (approx.). The selectivity this way just leaves the noise behind. Antenna is 3 over 3 fed with 300 ohm ribbon. His transmitter (pending arrival of 829B) is 8 Mc. crystal, 53-6L6-832. The 832 triples to the band. Jack prefers the reception method mentioned above to the results obtained from a good P38 receiver.

2AH uses a converter with two 954 r.f. stages, 954 mixer, 955 oscillator, and 9 Mc. i.f. into communication receiver with crystal and double conversion. Antenna is 4 over 4 fed with PT29M and trombone. His transmitter is 8 Mc. crystal, 1852 triode c.o., 6AG7-815 (50 Mc. xmitter), 832 tripler, 829B 144 Mc. p.a. input is 80 watts, modulator 807s AB2. Both stations are inland, 2ADT being about 20 miles and 2AH about 12 miles. Horizontal polarisation has been used at both ends. When cross-band 6 and 2 metres, QSB on one band would not necessarily affect the other. Signals have been quite good on cold nights. Heavy cloud banks have reduced signal reports.

Other 50 Mc. news seems to be very scarce. Much re-building and antenna alterations in preparation for the August-September 6 metre Contest is going on. New stations heard were 2UD and 2ARW.

Victoria.—There are a few DX contacts to report this month. First at 2000 on the 14th May, 3BD worked 2KZ, and 3RR heard 2BZ and 4BT. Signals in all cases were fairly weak. Next on the 29th of May from 1615 to 1645 3HK worked 4BT. Signals were peaking S8.

Some interesting extended ground wave work has also been achieved by 3ACL of Red Hill who has put a signal across to 7RL in Stanley, a distance of about 180 miles. So far 7RL has not got a transmitter going, so the work has been cross-band, 7RL replying on 3.5 Mc. 3ACL's signals were reported as R3, S6-7. 3ACL has also carried out tests with 7AB, and has heard his carrier weakly, but has so far been unable to make a contact with him.

3OD, formerly of Horsham, has moved to Mt. Eliza and has apparently picked another good location, judging by the strong signal he is putting into the Melbourne area. So far his beam is only 15 feet high, so we can only guess what his signal will be like when he gets it up to 50 feet.

3VL, of Red Hill, has re-built his rig and now has a T55 in the final running up to 70 watts input, and this has improved his signals very much. Rex and Gwen are not on the band very much now as they are busy clearing land for a new house.

The usual stations have been keeping the band alive in Melbourne, but there is still plenty of room for newcomers.

As the mid-winter Sporadic E peak is approaching we would remind Interstate stations that 3BQ and 3RR are on the band at 1200 and 1500 every day, so if the band shows signs of opening they can be certain of signals at these times. Max and Dick watch the band at other times as work permits.

Mortality rate of Victoria's "V.H.F. bachelors" took another sharp rise on 21st May, when Geoff Wookey, 3YJ and 3AYJ took the plunge. Congratulations Geoff.

Western Australia.—It is now known that 6DW at Bruce Rock has made a two-way contact with another VK6. On 22nd May, 6LW en route to Perth from Kalgoorlie, broke his journey at Merredin, some 30 odd miles from Bruce Rock, got out his 6 watt portable gear, turned portable beam south, and made contact with 6DW. Nice work Wally and Don. This brings 6DW level pegging with a few more VK6s for W.A.S. on 50 Mc.

6FC in Cottesloe (Perth) and 6GS (Harvey, about 890 odd miles south of Perth) made two way contact on 1/5/49, and on a few occasions since then, but conditions have been very poor and communication difficult.

No DX stations have been heard in Perth. For one thing, the metropolitan area has again been suffering from power restrictions from 20/5/49 to 30/5/49. During these restrictions, activities are just about nil. 6WQ of Albany had no 50 Mc. contacts during May.

It is a great pity only so few Amateurs in VK6 take interest in the 50 Mc. band. There are quite a few Amateurs within 150 miles radius of Perth, and the field for experiments on 50 Mc. is wide open in this State. Of what use is the 40 metre band during winter months after sunset for short haul work?

The 80 metre band is not much better, what with QRN, b.c.i., etc. None of these troubles occur on 50 Mc., up to a distance of about 25 miles; this we CAN say. Beyond 25 miles, we cannot say yet, because there are not enough Amateurs on the band to experiment with. So what about it chaps? If the "know how" is required, there is always 6GS (Harvey), 6DW (Bruce Rock), 6EO (Minding, Wagin) as well as 6LW, 6GB, 6FC, etc., in the metropolitan area, all of whom would be very pleased, and indeed, anxious to co-operate and give a hand in any way to get on 50 Mc.

Tasmania.—7BQ and 7LZ have been cranking up on 50 Mc. in preparation for the summer openings, their ambition being to work into VK1. 7BQ is running a 646 crystal osc. on 8 Mc., driving an 832 p.a. 7LZ has a crystal rig with an 807 in the final and is trying the much-discussed "quod beam." Both stations are using converters.

144 Mc. ACTIVITY

New South Wales.—The 2 metre Contest ended with a clear lead for 2ANB. Norman had nice crystal signal from 522 and corner reflector. His receiver is also excellent, being a 522 with 6J6 grounded grid, 6AK5 r.f., and 6AK5 mixer. 2WJ, with a 522 transmitter and 4 element Yagi, came next. John uses A.S.V. receiver with 6 Mc. i.f. and double conversion when things get tough. A very notable performance was put up by Roy, 2HO. He scored over 1,000 points from "Hart Ollow" (2EO). This location looks hopeless. Roy uses a P38 type receiver and a 522 transmitter exciting an 829B amplifier; antenna is a 3 over 3 beam. 2MQ has converted 522 receiver using two 6J4 g.g. stages, then 6AK5 r.f., 6AK5 mixer, double conversion. The "CQ" circuit which Bill says is the answer to a/n. ratio on 2 metres. Transmitter is c.o. with 829B and linear tank; beam 3 over 3. 2AZ has nice phone and m.c.w. from T1143. 2RU has built 3 over 3 beam and is working on R1143 receiver and transmitter. Major will get plenty of 2 metre contacts. Dave, 2BZ, threatens to come on 2 metres. The Sydney v.h.f. gang would go beams north or nothing when he does.

The 2 metre Contest showed up many things. Lessons learned were that receivers are very much down in serviceability. Polarisation can be changed and an advantage at times. Beams are a must. Disposal crystals are too numerous. Modulated oscillators can cause plenty of strife for power output.



QSL CARDS

The DEE WHY PRINTING WORKS is making available to the Amateur Experimenter a Special QSL Card Printing Service. Knowing the requirements of Hams, we are confident the service offered will be unsurpassed in Australia.

Cards can be printed to your own specifications, and if illustrations or blocks are necessary, our Art Department can produce these for you.

- ★ The Ham specially catered for.
- ★ Quality Cards at economical prices.
- ★ Prompt Service.
- ★ One, two or three colours if required.
- ★ Interstate orders handled.

Dee Why Printing Works

67 HOWARD AVENUE, DEE WHY, SYDNEY.

Telephone: XW 8367.

Proprietor: GEOFFREY BOWER



McGILL'S (Est. 1860)

OVERSEAS AND LOCAL POPULAR MAGAZINES
OBTAINABLE ON SUBSCRIPTION

AMERICAN . . .

Audio Engineering, £1/6/-; CQ, £1/12/-; Communications, £1/4/-; Electronics, £7/6/-; Popular Science, £1/5/-; Popular Mechanics, £1/8/-; QST, 33/6; Radio News, £1/12/-; Radio Electronics, 29/6; Science Digest, 24/-; Science and Mechanics, £1; U.S. Camera, 28/-.

ENGLISH and AUSTRALIAN . . .

Australian Radio World, 16/-; AmateurRadio, 6/-; Electronic Engineering, £1/12/6; Radio and Hobbies, 12/-; Radio and Science, 12/-; Shortwave Magazine, £1/7/6; Wireless World, £1/12/6; Wireless Engineer, £2.

(Add exchange to Country and Interstate Cheques.)

Large Range of Technical Books, Stationery and Novels on Display.

Mail Orders by Return Post.

McGill's Authorised Newsagency

183-185 ELIZABETH STREET, MELBOURNE, C.1, VICTORIA.

(The G.P.O. is opposite)

M 1475-76-77

FEDERAL, QSL, and DIVISIONAL NOTES



Federal President: W. R. Gronow, VK3WG; Federal Secretary: W. T. S. Mitchell, VK3UM, Box 2611W, G.P.O., Melbourne.

NEW SOUTH WALES

Secretary.—Dick Dowe (VK2RP), Box 1734, G.P.O., Sydney.
 Meeting Night.—Fourth Friday of each month at Science House, Corner Gloucester and Essex Sts., Sydney.
 Divisional Sub-Editor.—L. D. Cuffe, VK2AM, 14b Watson Street, Neutral Bay, N.S.W.
 Zone Correspondents.—North Coast and Tablelands: P. A. H. Alexander, VK2PA, Hill St., Port Macquarie; Newcastle: E. J. Baker, VK2FP, 13 Skelton St., Hamilton, Newcastle; Coalfields and Lakes: H. Hawkins, VK2YL, 27 Comfort Ave., Cessnock; Western: G. J. Russell, VK2QA, 116 Began St., Nymgan; South Coast and Tablelands: R. H. Rayner, VK2DO, 42 Pettit St., Yass; Southern: E. N. Arnold, VK2QJ, 678 Forrest Hill Ave., Albury; Western Suburbs: A. C. Pearce, VK2AHB, 48 Harrabrook Ave., Five Docks; Eastern Suburbs: H. Kerr, VK2AX, No. 4 Flat, 144 Hewlett St., Bronte; North Sydney: L. D. Cuffe, VK2AM, 779 Military Rd., Mosman; St. George: J. A. Ackerman, VK2ALG, 32 Park Rd., Carlton; South Sydney: V. H. Wilson, VK2VW, Cr. Wilson St. and Marine Pde., Maroubra.

VICTORIA

Secretary.—C. C. Quin, VK3WQ.
 Administrative Secretary.—Mrs. O. Cross, Law Court Chambers, 191 Queen St., Melbourne, C.I.
 Meeting Night.—First Wednesday of each month at the Radio School, Melbourne Technical College.
 Zone Correspondents.—North Western: R. E. Trebilcock, VK3TL, 122 Victoria St., Kerang; Western: C. C. Waring, VK3YW, 12 Skene St., Stawell; South Western: W. H. Ross, VK3UT, Ballantrach, via Warnambool; North Eastern: J. A. Miller, VK3ABG, "Erinvale," Avenel; Far North-Western Zone: Harry Dobbny, VK3MF, 42 Walnut Ave., Mildura; Eastern Zone: Mrs. P. M. Churchward, VK3US, "Shirley," Red Hill.

WI BROADCASTS

All Amateurs are urged to keep these frequencies clear during, and for a period of 15 minutes after, the official Broadcasts.

VK2WI.—Sundays, 1100 hours EST, 7196 Kc. and 2000 hours EST, 50.4 Mc. No frequency checks available from VK2WI. Intra-State working frequency, 7175 Kc.

VK3WI.—Sundays, 1130 hours EST, simultaneously on 8580 and 7196 Kc. and re-broadcast on 50 and 144 Mc. bands. Intra-State working frequency 7185 Kc. Individual frequency checks of Amateur Stations given when VK3WI is on the air.

VK4WI.—Sundays, 0900 hours E.S.T. simultaneously on 3750 Kc., 7196 Kc., 14342 Kc., 52.4 Mc. and 144.138 Mc. Frequency checks are given two nights weekly, and the times are announced during Sunday broadcasts. 7465 Kc. channel is used from 1000 to 1030 hours each Sunday as VK4 query service to VK4WI.

VK5WI.—Sundays, 1000 hours SAST, on 7196 Kc. Frequency checks are given by VK5DW on Friday evenings on the 7 and 14 Mc. bands.

VK6WI.—Saturdays 1400 hours, Sundays 0980 hours WAST, on 7196 Kc. No frequency checks available.

VK7WI.—Second and Fourth Sundays at 1000 hours E.S.T. on 7196 Kc. No frequency checks are available.

QUEENSLAND

Secretary.—W. L. Stevens, VK4TB, Box 638J, G.P.O., Brisbane.
 Meeting Night.—Last Friday in each month at the State Service Building, Elizabeth St., City.
 Divisional Sub-Editor.—F. H. Shaanon, VK4SN, Minden, via Rosewood.

SOUTH AUSTRALIA

Secretary.—E. A. Barhner, VK5MD, Box 1234K, G.P.O., Adelaide.
 Meeting Night.—Second Tuesday of each month at 17 Waymouth St., Adelaide.
 Divisional Sub-Editor.—W. W. Parsons, VK5PS, 483 Esplanade, Henley Beach.

WESTERN AUSTRALIA

Secretary.—W. E. Coxon, VK6AG, 7 Howard St., Perth.
 Meeting Place.—Padbury House, Cnr. St. George's Ter. and King St., Perth.
 Meeting Night.—Watch the Monthly Bulletin.
 Divisional Sub-Editor.—D. Couch, VK6WT, Mary St., Waterman's Bay, Western Australia.

TASMANIA

Secretary.—R. D. O'May, VK7OM, Box 371B, G.P.O., Hobart.
 Meeting Night.—First Wednesday of each month at the Photographic Society's Rooms, 163 Liverpool St., Hobart.
 Divisional Sub-Editor.—Capt. E. J. Oruise, VK7EJ, Angliessa Barracks, Hobart.
 Northern Correspondent: C. P. Wright, VK7LZ, 3 Knight St., Launceston.

FEDERAL

DX C.C. LISTING

We welcome to this month's listing, the first VK7—VK7LZ. Congratulations, but who is going to be first from VK6?

PHONE

	Zones	Countries
VK3JD (1)	84	125
VK6RU (2)	87	117
VK3BZ (3)	37	143
VK6KW (4)	36	113
VK3IG (5)	100	100
VK6DD (6)	100	100

C.W.

	Zones	Countries
VK3CN (1)	40	186
VK3BZ (6)	40	135
VK3VW (4)	39	181
VK4EL (9)	39	124
VK3EK (8)	39	122
VK3KB (10)	121	121
VK2EO (2)	40	116
VK4DA (7)	38	113
VK4HR (8)	38	113
VK2QL (5)	40	112
VK4RF (11)	34	107
VK3UM (12)	36	104

OPEN

	Zones	Countries
VK3BZ (4)	40	163
VK2DI (2)	40	160
VK3JE (12)	39	147
VK6RU (8)	37	146
VK3HG (8)	60	142
VK3KX (1)	136	136
VK6KW (13)	39	133
VK3MC (5)	39	132
VK4HR (7)	38	132
VK4EL (10)	39	124
VK2NS (16)	39	123
VK3OP (19)	108	108

New Open Members:—

	Zones	Countries
VK6DD (22)	105	105
VK7LZ (28)	100	100

COUNTRIES LIST

Due to the inclusion of Newfoundland and Labrador into the Dominion of Canada, they are to be deleted from the Countries List. As from the next listing, members' totals will be adjusted accordingly.

As DL calls are now being issued to German Nationals, all future cards from Germany from such stations will be accepted for DX C.C. provided that the contact takes place on or after the 24th March, 1949, the date of re-licencing. This does not apply to DL2, DL4 or DL5 stations.

Delete Newfoundland and Labrador (2, 5) .. VO

Cards for Israel are not yet being accepted until the date of official partition is announced. All cards are being recorded but not credited. The date will be announced in these notes.

AMATEUR PREFIXES

Elsewhere in this issue will be found the latest list of countries by prefixes. This has been compiled by the Awards Committee and should prove of interest to DXers and SWLs alike.

W.I.A. ACTIVITIES CALENDAR

- July 3: R.S.G.B. 144 Mc. Field Day Contest.
- August 13-14: Remembrance Day Contest.
- August 20-21: R.S.G.B. 420 Mc. Contest.
- Sept 25: R.S.G.B. Direction Finding Contest.
- Oct. 1-2: 1949 VK-ZL DX Contest (c.w.).
- Oct. 8-9: 1949 VK-ZL DX Contest (phone).
- Oct. 15-16: 1949 VK-ZL DX Contest (c.w.).
- Oct. 22-23: 1949 VK-ZL DX Cont. (phone).
- Oct. 29-30: European DX Contest.

SAN MARINO OPERATION

We have been notified by the A.R.I. that during their annual Convention to be held in Rimini, San Marino, many of their members will be operating portable using their normal I calls with "MI." The dates of operation will be from the 4th to 8th July inclusive. Here is an opportunity to work that rare one!

1949 TRANS-TASMAN CONTEST

The annual contest between the VKs and ZLs is over for another 12 months, and seems to have

received much more support than last year. The ZLs were very scarce in the c.w. section on all bands, but the open and phone sections appeared to have many starters. We trust that all who entered will send in their logs to assist in the checking.

W.A.C. CERTIFICATES

The following W.A.C. Certificates have been issued post-war to Australian Amateurs—
 VKs 2YC, 2DI (2), 2NF, 2HI, 2WD, 2TG (2), and 2XU.
 VKs 3XK, 3BZ (2), 3JA, 3YS, 3PG, 3YV, 3GG, 3CN, 3XJ, 3HO, 3EW, 3JE (2), 3EE, 3VW, 3ZC, 3CO, and 3WL.
 VKs 4HR (2), 4EL, 4RC, 4UX, 4EL, 4WF and 4FJ.
 VKs 5JS, 5MP, 5WG, 5LU, 5LC, 5FE, 5DG, 5LG, 5GD, 5MO, 5MD, and 5LB.
 VKs 6MU, 6RU, 6KW (2), 6WS, 6PJ, 6BG, and 6DX.
 VKs 7LJ, 7AB, 7DW, 7RK, and 7LZ.

The following Certificates have been received and will be issued in a few days:—
 VKs 4CG, 4SN, 4XJ, 5GN, and 8ZO.

W.B.E. CERTIFICATES

The following W.B.E. Certificates have been issued post-war:—VKs 2TG (2), 3BZ (2), 3JE (2), and 3VW.

SLOW MORSE TRANSMISSIONS

The value of these transmissions is now being realised and many reports are to hand extolling the merit of this service from official W.I.A. stations. All W.I.A. stations are asked to regularly announce times of transmissions for SWLs and potential Amateurs alike. The letter contained in the "Correspondence" column of this issue indicates what interest can be taken in this W.I.A. privilege—make use of it and, by your letters, we may assess whether its value is worthwhile.

The following are the times and dates of this service:—
 Sunday—VK3WI, 1100 to 1130 hours E.A.S.T.
 Monday—VK2WI, 2000 to 2030 hours E.A.S.T.
 Tuesday—VK4WI, 1930 to 2000 hours E.A.S.T.
 Wednesday—VK7WI, 2130 to 2200 hours E.A.S.T.
 Thursday—VK5WI, 1930 to 2000 hours E.A.S.T.
 Friday—VK6WI, not operating at present.
 All transmissions are on 3504 Kc.

1949 REMEMBRANCE DAY CONTEST

Elsewhere in this issue will be found the Rules for the 1949 Remembrance Day Contest. It was deservedly a popular contest last year—let us keep it that way. We have no doubt that it will be

THE Contest, bearing in mind the worthy reason for its inauguration.

One major change has been made in the Rules in relation to determining the Perpetual Trophy. This Rule should encourage everyone to enter, for by his entry he will be contributing to his State's score; and will not feel it is just another Contest for the few who win year after year.

FEDERAL QSL BUREAU

RAY JONES, VK3RJ, MANAGER

Numerous enquiries have been received as to the reason for the absence of Federal QSL Bureau notes from the past four issues of "Amateur Radio" and requests for their continuance. It is hoped that the Notes Editor will be able to find and maintain the space for their inclusion. (No copy was received for that period—Editor.)

In some districts of Vienna and in Lower Austria all letters from abroad are censored and in most cases QSL cards are confiscated. To avoid this, it is requested that cards for OE stations should not be sent direct but sent in care of the R.S.G.B.

Eric Trebilcock, B.E.R.S. 195, is now located in Williamstown, Victoria, after many wanderings through the various States of the Commonwealth. It is hoped that Eric will again become an active transmitter in the near future.

Writing under date of 27th April, Stan Mayne VR2AS states: "What is wrong with our VK cobs. Out of 16 QSLs, I only got two back." Do the right thing chaps, Stan is on 7147 Kc. with 60 watts and hopes soon to be on 14 Mc.

The QSL address for licensed Amateurs in Germany is Postbox 586, Stuttgart, Germany.

George Luxon VK5RX, the South Australian QSL Manager, has received his Certificate from EZ for contact with ten EZ stations, and is the first VK5 station to qualify for the award which is issued by the Canal Zone Amateur Radio Association. Other Australian stations who have received the award are VKs 2DI, 2FL, 3BZ. Three ZLs have also made the grade. The C.Z.A.R.A. also has a bigger and better Certificate for contacts with 25 KZ stations but so far no VK or ZL stations have made a claim.

VE5AFY John Scott, 150 Dowling Avenue, Toronto 3, Ontario, Canada, writes on behalf of his

wife who is a keen philatelist and would like to get in touch with VK Hams who are bitten by the same bug. Mrs. Scott will exchange W and VE stamps for Australian stamps or will exchange VE and W magazines for Australian stamps. Mrs. Scott's name is Alyce.

Arthur Milne G2MI, in a letter to the writer, mentions that as QSL manager, ably assisted by his wife, they get through up to 30,000 cards weekly. Arthur deplores the fact that this work restricts his activity on the air! He asks me to tip off the VK3 and VK6 managers to send their cards at commercial paper rates instead of letter rates and thus save their Divisions a poulitice in postage. Arthur states that despatches at letter rates inevitably arrive at the same time as those sent at the cheaper rate.

My South Australian colleague, VK5RX, who has just received his A.R.E.L. DX C.C. Certificate and is highly delighted with it, points out that I have an exact namesake in W land as the call book shows the license holder of W7KSF as Ray E. Jones. I must QSO that guy somehow, some day.

Any reader knowing of housing accommodation sufficient to cover the needs of a Czech Amateur, his wife, and two small children, should advise the Federal QSL Manager. The Czech, who is non-jewish and an electrical engineer, was just about to migrate to Australia when World War II intervened. He is still extremely desirous of migrating here but the problem now is enhanced by the housing difficulties and the additions to his family.

STATE QSL BUREAUX NEW SOUTH WALES

J. B. Corbin, VK2YC, 76 Maloney St., Eastlakes, VICTORIA

Outward.—Bring your cards into the General Meeting OR post to Outwards QSL Manager, Mr. F. O'Dwyer, 190 Thomas Street, Hampton, S.7. Price is 4d. per card. Cards to VK3 are free.

Inward.—Collect cards at the General Meeting OR supply Inwards QSL Manager, Mr. G. Roper, 26 Lucas Street, Caulfield, S.E.8, with stamped addressed envelopes.

QUEENSLAND

Outward.—R. Campbell, VK4RO, 30 Prospect Terrace, Kelvin Grove, Brisbane.

Inward.—E. Lake, VK4EL, Old Cleveland Road, Camp Hill, Brisbane.

SOUTH AUSTRALIA

G. Luxon, VK5RX, 8 Brook St., West Mitcham, South Australia.

WESTERN AUSTRALIA

J. Rumble, VK6RU, Box F319, Perth, W.A.

TASMANIA

T. Allen, VK7AL, 6 Thirza St., New Town, Tas.

MORESBY AREA ONLY

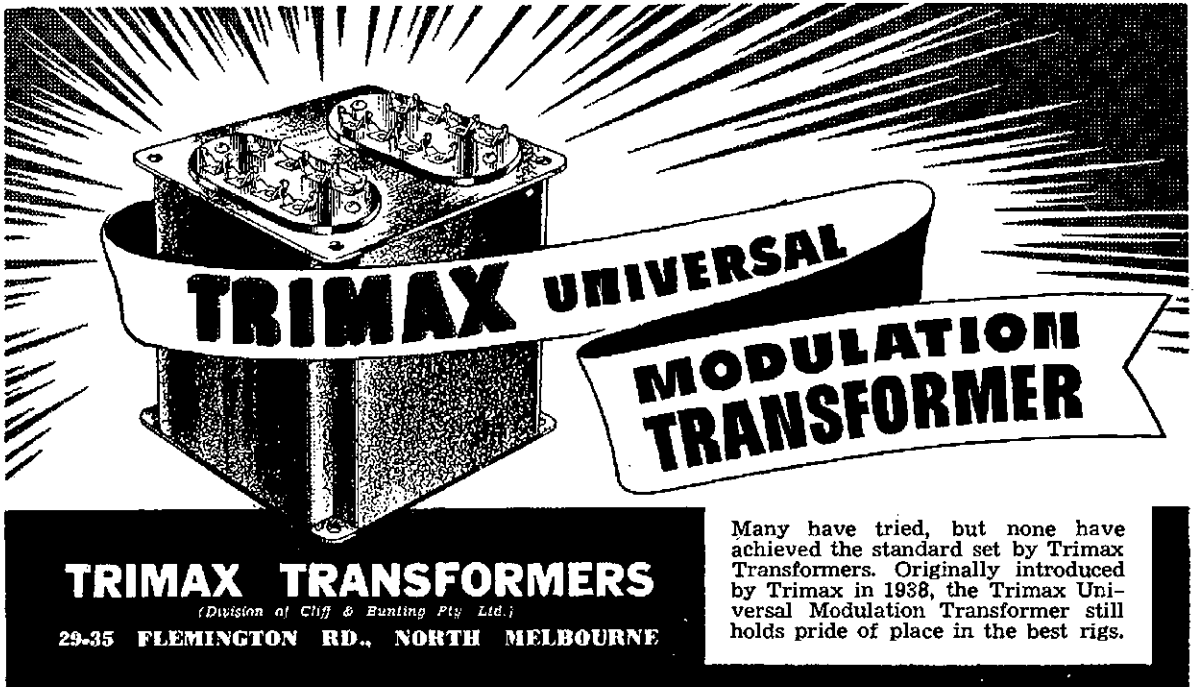
G. Warner, VK9GW, c/o. O.T.C., Port Moresby.

NEW SOUTH WALES

The monthly general meeting of the Division was held at Science House, Gloucester Street, Sydney, on Friday, 27th May. PA02C headed the list of visitors, and after they had been welcomed by the President, the Federal Councillor, John Moyie 2JU, delivered his report to the meeting, on the recent Federal Convention in Melbourne. At the conclusion of his report, carried out in his usual efficient style, the meeting dealt with a query as to the validity of the recent ballot for a new Council. This developed into such a lengthy and, at times, heated discussion that insufficient time remained for the lecture by Nev Williams, 2XV, on "Super Modulation." As this lecture had been awaited with great interest, disappointment was evidenced on all sides, and apologies were made to Mr. Williams, with the sincere request that he be kind enough to deliver his talk at the next meeting. Later, during general business discussions, various speakers made reference to the question of the Amateur position in regard to TVI, a matter of urgency with TV only a comparatively short time away.

NORTH SHORE ZONE

2BQ has a new six metre beam, and was so anxious to get it going he hooked up a long length of 300 ohm ribbon as a feeder, draping it all over the garden, bushes, across the path, and up into the shack. On his first attempt, he worked 2LY at Katoomba, getting an S9 report! So why worry about having the feeders in the clear! Congratulations to 2RA, who pulled off a smooth one by snagging that old stalwart in the Argentine, LU7AZ, on 80 metres. Very I.B. and how about the phone boys giving the c.w. DX men a bit of a go on this



TRIMAX TRANSFORMERS
(Division of Cliff & Bunting Pty Ltd.)
29-35 FLEMINGTON RD., NORTH MELBOURNE

Many have tried, but none have achieved the standard set by Trimax Transformers. Originally introduced by Trimax in 1938, the Trimax Universal Modulation Transformer still holds pride of place in the best rigs.

Interstate
Representatives:

BRISBANE
Chandlers Pty. Ltd.,
Cr. Albert & Charlotte
Streets.

ADELAIDE
C. N. Miller,
Worando Buildings,
Grenfell Street.

PERTH
R. D. Benjamin,
197 Murray Street.

TASMANIA
W. & G. Genders
Pty. Ltd., 53 Cameron
Street, Launceston.

band now and again. They don't ask for much, and your phone kings have the major portion of the band as it is. So how about it, gang?

2OR has worked his first post-war G on phone—it's not so long ago he was dishing it out from G to VK, as many of us remember. 2JX is now having himself fun on six metres, and should snag a bit of decent DX on that band with his ideal location, which is on one of the high headlands along the coast. 2ZH has his eye on transmitter design and re-build. Guess this must be in the nature of a revolt from receivers. 2PV has exciter finished and mast raised, and is at long last back in business—which means I am as well, since we share rigs. Long time no CQ, too, since circumstances have kept us off for very nearly a year.

2GQ may be working heavier to his home in future, which means another starter for the lunch-time tonzil exercisers! 2GO now has a Qser ahead of the receiver, and is in the seventh heaven of selectivity as a result. 2AGW runs his own private beam service to G land with that G8PO gadget of his—when no one else can hear 'em, he works 'em! Well, that's about all this month. I'd certainly appreciate hearing from some of the gang in the Manly-Warringah area, also from someone up the Hornsby way. Hows about it, anybody with a pen?

EASTERN SUBURBS ZONE

2AX will be off for a while as he is going South on a duty assignment in the near future. Andy's helpful and semi-technical matters will be missed for he has an uncanny knack for putting his finger on the spot when the boys get into trouble. 2CF finally finished the new receiver and is back on the air—after three months' absence. There is more than a suspicion that YLs had as much to do with his absence as the receiver. 2AJG has completed new frequency meter and is busy calibrating. 2AV is a.w.l.; not about much these days. 2QY possesses first class 40 metre phone and contemplating a lot of re-building in the immediate future.

2AJG still searching for 40 metre c.w. contacts. 2AHQ not heard these days. Has had frequent attacks of 'flu which have prevented him from DXing on the super rig he has just completed—100 watts input—all stages are on one chassis, 19 x 8 $\frac{1}{2}$, and a first class job. Congratulations, Ted, on the arrival of the new junior op. 2NO heard from time to time putting consistent sigs into G. How did your "props" take it in the recent Gals, Dou? That is what you must expect for possessing the best and, possibly highest, transmitting location in the metropolitan area! 2CE not heard for some time. That clock seems to be a problem, AH, heard you shift it away from the mike but the old local WWY sig still crept through. First class phone and good operating are points at 2CE.

SOUTH ZONE

As the majority of Amateurs in this zone operate on the v.h.f. bands, the main topic of the month is the 144 Mc. Contest. Three local stations have

taken part and 2ANB and 2WJ are well up among the leaders. The six metre band has been very quiet and 2ABC, 2WJ, and 2VW are the only locals heard.

The Kingsford Radio Club has at last managed to get a club room of their own and members are very busy fitting it out and getting the gear operating. By the time these notes are in print they should be heard on the air with the call 2AKC.

2ABM has been getting very good results with his two element beam on 20 metres and 2AB is also active on that band with a new transmitter. 2AC has been spending his time dodging between 20 and 49 metres and working his share of DX on both bands. 2VW is busy putting up new tower and overhauling beams for the coming DX season. They will consist of 4 element beams for 144 and 50 Mc. and 3 element on 28 Mc.

Not much heard from 2ABC as he is busy building a new garage and workshop at week-end and too cold in shack at nights, in fact the cold weather seems to be keeping quite a few of the boys by the fire. I use my power tranny to keep my feet warm.

DX NOTES BY VK2QL

Very little news this month gang, one reason being my own inactivity on the bands through force of circumstances, and the other no "gen" from the DX gang. With the exception of 5RX, I have heard nothing of the gang's doings, and as I have not 5RX's letter with me at the moment, I cannot pass on his "gen," but many thanks O.M. So, you see what happens to the column with no co-operation.

Congrats to 2RA, on contact with LU7AZ on 3.5 Mc. which gives him his 5th continent on that band. My apologies to 5KO, who has made W.A.C. on 3.5 Mc. I inadvertently omitted it from last month's notes. A fitting reward to some solid work on that band.

The bands have been very quiet for the month of May. I tried all bands except 28 Mc. when I was able to listen, and as predicted there was very little of interest. This was more or less expected from working out the prediction charts. Some peculiar effect should be noticed on 14 Mc. for June, when there is a possibility signals will arrive in Sydney via short and long paths from some continents at approximately the same time of day. Talking to a ZL one night on 3.5 Mc., he said VK sigs were not arriving by their normal path.

The gang should soon take one station off their "black list," FUSAA. He has received his 2,000 cards, and now has the mammoth job of getting them out, but mails are few and far between.

Cards received for the month, which may be of interest were FB8AB, AR1WW, ZP3BL, WOMCF/ Formosa, HS1SS, ZCSPM, UQ2AB, KV4AA for 3.5 Mc.

2HZ still calling the blokes in Zone 18 and 19 anything but gentlemen. Bad luck on those QSLs for your W.A.Z. Bill.

Finally, an appeal. What about adherence to the gentlemen's agreement re the clearing of the phone from the low frequency ends of the bands.

As has been proven, 3.5 Mc. is just as much a DX band as the higher ones, and of course 7 Mc., but many contacts on these bands are spoilt for the c.w. men, by the large amount of phone. I have been running a sked with KL7BE on 3520 Kc. but this channel is often ruined by phone, so there is very little hope of hearing the DX.

F.E. is being asked to draw the attention of N.Z.A.R.T. to our agreement, and ask for ZL co-operation as far as 3.5 Mc. is concerned.

Well that's the lot, but once again, please, please some material gang. My phone number again is UM 6861.

COALFIELDS AND LAKES

2RU trying out new gear on 144 Mc. 2AEZ says 14 Mc. quiet, also working on some new gear. 2AMU cramped for space, so re-designing shack with steel racks and distributing boards. 2KR, I hear and call you often on 40, listen for me towards end of months, re notes. The Wyong gang are apparently inactive at the moment as nothing heard from that area. 2AJB has consistent 40 metre phone sig.

Not much news from Singleton, last indication 2YU was doing some building and 2JZ active on 10 metres. 2TY keeps Lochinvar on the map on 10 and 5 metres. 2MK seems more interested in the local Archery Club than in Ham Radio at the moment. 2PZ still battling for time to make some building progress; toying with possibilities of 29 metre beam. 2YO, what's wrong, gave the game away? 2KF is active on 6 and 10 metres in the limited time he has; phone is quite good these days.

2KZ more or less given the game away; had modulation trouble, so may be heard pounding brass if the urge prevails! 2ADT very active with 144 and 50 Mc.; had cross-band QSO to Sydney, trying a 2 metre receiver out at moment and has a new beam on 144 Mc. 2YL progressing slowly with re-building, should be active in few weeks' time.

In middle of May 2EZ, 2KZ, 2RU, 2ADT, and 2YL made another trip to Sydney Hams and wish to thank all Hams visited for hospitality and helpfulness, with a special vote of thanks to 2XX, his wife and parents who kindly gave us accommodation.

NORTH COAST AND TABLELANDS

Much activity on 3.5 Mc. band by 2XO, 2AJB, 2ARY, 2JC, 2GI, 2OE, conditions have been excellent for ZL, evenings and early morning. 2JO using a new folded dipole with excellent results, much talk about starting on 7 m. 2EB now operating in Bellingen near 2XO, Grief did not know he was there till told by one of the Sydney boys. 2XO visited Sydney and the west, travelling by car, kept in contact using a Type A Mark III.

2AJB may be moving to Coll's Harbour shortly. 2DE now proud owner of a 640, runs complete outfit from vibrator supply. 2ASF very active on

LOOK FOR THE NAME—



When Buying: COMMUNICATIONS EQUIPMENT
ELECTRONIC EQUIPMENT
LABORATORY INSTRUMENTS
RADIO PLUMBING

GLORAD ENGINEERING SERVICES

186a Riversdale Road (Cr. Robinson Road)
HAWTHORN — VICTORIA

Phones—DAY: WA 3819

NIGHT: WX 3440

A.O.C.P. CLASS

The Victorian Division A.O.C.P. Class will commence on Thursday, 14th July, 1949. Lectures are held on Monday and Thursday evenings from 8 to 10 p.m. Persons desirous of being enrolled should communicate with Secretary W.I.A., Victorian Division, 191 Queen St., Melbourne (Phone FJ 6997 from 9 a.m. to 5 p.m.), or the Class Manager on either of the above evenings.

"HAM" RADIO SPECIALS

Here and Inside Front Cover

SALE SNAPS

Osram Neon Lamps. Ideal for VR Tubes. 2/6 each.
 Mazda 4 watt Pencil Type Fluorescent Tubes. Ideal for R.F. Indicators. 1/6 each.
 Low Impedance Headphone Leads. 1/- each.
 Standard Notes for Wireless Maintenance Mechanics, including Bendix AT5, AR8, etc. 5/- each.
 ODDMENTS.—Volume Controls, all types. Each 1/-.

SALE SNAPS

AT5 TRANSMITTER KEY CLICK FILTERS. Full of useful parts (weigh, 20 lbs.). Each £1.
 GENEMOTORS.—AT5, AR8 (complete). Slightly damaged switches, 24v. input, 550 and 300 volts output, at 250 mills. To clear—£3.
 Tranpro Valve and Circuit Tester. Very late model, had little use, excellent condition. One only available at £15.
 Relays, 24 volt, single contact in bakelite case. Ideal for the rig; Bargains at 3/6 each.

VALVES DRASTICALLY CUT

S.H. VALVES Out of Disposals Gear

VR105	10/-
2X2	7/6
879	7/6
6G6	7/6
12SA7	7/6
12SG7	7/6
12AH7	7/6
12H6	7/6
12J5	7/6
6SL7	10/-
6J5	7/6
6R7	7/6
6L7	7/6
6C5	7/6
6SA7	10/-
6F6	10/-
6N7	10/-
6B4	7/6

Huge Quantity of Assorted English Valves

VP41
 VR102
 VR92
 VR122
 VR21
 VU139
 VU111
 VU39

5/-

Each
 To
 Clear

Secondhand Valves, all types. Battery and A.C. to Clear.

6U7	5/-
6V6	5/-
1J6	5/-
6K7	5/-

Many others; you name, we'll supply them.

VALVES, TESTED

832 American	£2
6L7	9/6
955	7/6
6R7	9/6
7C7	9/6
6J5	7/6
6SH7	7/6
6H6	7/6
12J5	7/6
3B24	7/6

BATTERY TYPE VALVES

1J6	7/6
1K4	7/6
1H4	7/6
1M5	7/6
1K7	7/6
Locktal Valve Sockets	9d.

Wanted to Buy: Transmitters, Receivers, Valves, Components, Transceivers, Type 3 Mk. II., Type A Mk. III.; Good Prices Paid.

"HAM" RADIO SUPPLIERS

(KEN MILLBOURN, PROP.)

5A Helville Street, Hawthorn, Victoria

(East Kew Tram Passes Corner, opposite Vogue Theatre)

Phone: Hawthorn 4465

40 and owner of a new receiver, a 100 disposals job, which has been converted for plug-in coils, plans breaking ice on 14 Mc. shortly. 2ZS recently visited Sydney, and has not been in the best of health. The zone wishes you a speedy recovery Jerry OM.

WESTERN ZONE

2ACU still using AT5/ARS on 20, 40, 80, has new rig finished but only keeps it to impress visitors. Drove visitor 2XO round the town in the new gadabout, visiting all the watering places! 2HC and 2JC also had visit from 2XO. Both the former still faithful to 80. 2YN working DX on 20, has an 89er in front of 2YR. Received a visit from 2QA. 2QA re-ramped beam on 10, still likes rag-chewing with Ws on that band.

2ACT heard working portable from Katoomba. 2AMR working all bands still with his push button Tx. 2H works DX on 10 and 20. 2XP at last got going on 40 with some disposals gear; quality lousy. 2VZ apparently on 20, mad with the DX. 2NS has the rotary beam working on 10 and judging from the number of stations heard calling him must be getting out well.

2WII been holidaying in Sydney, and 2BT heard occasionally. 2JW still playing with n.b.f.m., with indifferent results. 2ALX has n.b.f.m. on his AT20, the results being very good. 2LY still doing the W.I.A.'s v.h.f. broadcast. 2LZ been heard on 40. 2HZ putting antennae on the new poles.

NEWCASTLE ZONE

2AGD had a great time up at the Urunga Convention and also caught the biggest fish that did not get away, as per fish fables. 2AGD and 2NX want to thank the Northern boys for the fine hospitality and good fellowship shown during their visit. 2AGY back from holidays to find half of the beam reflector missing, blame the kookaburras, ask 2ANG about it. 2BZ and 2AHA using n.b.f.m., both sound pretty good even on an a.m. receiver.

2AFS on 10 consistently, getting the DX too. Will be re-building soon, has a big aluminium box to house the works. 2TE is the beam expert, always trying new types and now reported using 4 elements wide-spaced on 10. When these notes are being read, the special beam at 2CS's will be on the air, the locals are going to supply the big push to elevate the works. 2XQ been working a bit on 20 and heard Sundays on 80. 2FP still chasing DX on 10, latest cards from 2D4, ZS3, OK3, and VU7; 100 up on 10 metre phone using 35 watts.

SOUTH COAST AND TABLELANDS

2OW mainly on 40 and amongst the DX too, worked WIRRL/RG6 on board the U.S.S. Hewell at Saipan, ZL1CH/VK4 on New Georgia, VK9, KL7, UAO; Tx: 2 stage v.l.o., 807 and 50 watts. New Rx AR8 on order. 2PN Tumut contacted 2BW in Wagga on 50 Mc., using separate rig on 80, 40, and 20—"Clapp" and 807. 2PI has a new double conversion super; up with the DX on 20.

2AJK at Cooma has a good signal and 2JQ heard on during the lunch hour. 2AJK happy with an 89 report from VK1ADS on Macquarie Island when other stations were weak down there.

2AFV passed through Yass, looking well after his accident. 2ALN nil heard of him. 2ALS busy with another new car and not heard for three weeks. 2AKE now set up in the new house and is on 80. 2OY also clicked with VK1ADS, but signals weak at Yass. Visitors 2ANR, 2ASB got together with 2PM, 2PI and 2TV at Canberra. 2PM has a super Rx in the building. 2DO another to collect VK1ADS, has a gremlin in the Rx.

VICTORIA

"STANDARD" FREQUENCY TRANSMISSIONS

Victorian Division members are advised that "Standard" Frequency Transmissions from VK3WI, scheduled for 22nd July and 22nd October will now take place on Thursday, 28th July, and Thursday, 20th October. This change has been made in order to fit in with staffing arrangements at the Frequency Measuring Centre.

Members are also advised that in order to obviate the possibility of confusion with international standard frequency transmissions, the Division's "standard" frequency transmissions will, in future, be known as "Accurate Frequency Transmissions" (A.F.T.).

Before making use of A.F.T., members should re-read the article by J. Duncan and R. Jepson "Using the VK3WI Standard Frequency Transmissions" in January, 1949, issue of "Amateur Radio."

SOUTH WESTERN ZONE

While tuning over the 80, 40 and 20 metre Ham bands, one hears very little of what our gang are doing. The "gentlemen's" band, 40 metres, is flat here from about 8 p.m. on for VK3 signals, and on 20 the same thing happens down here, and

of late 80 has been quite good. The only ones that I have heard on 80 are 3HG with an S9 plus signal, 3JA who runs an S8-9 signal here, and 3AKR who is always S9. Have heard 3II at times but not of late, what is the trouble Leigh?

Had a yarn to 3VA, one Saturday afternoon, when he tried out some type of cathode modulation which he claims to be just the thing, what about the circuit in "A.R." some day Bert? 3BE had a very fine signal while it lasted the other night, but during the Sunday afternoon, Andy was S9 plus and f.b. phone. Andy, by the way, is having VL trouble also, as he had to cut our over short.

3BI has fungus in the eyes again, so let's hope Bert you are over the trouble by the time you read this. Heard 3YE making a bit of a row on 40 other day with an S7 signal. Vern is only one heard from Colac these days, what about those two wires Vern? Have not heard any signals from Geelong gang, but was told that 3AKE has new super beam to put up when he gets the XYL's OK where to put pole up. 3AKR is erecting new super vec beam soon when he gets a mile of copper wire, it's to have a half mile on each leg, so I overheard the other night on 80 metres.

Geelong Amateur Radio Club.—At the first May meeting of the Club the recent field day, held by the Club, was widely discussed. The day proved to be a successful and enjoyable one besides being exciting, as two of the members located the hidden transmitter within minutes of each other. The transmitter was hidden approximately 10 miles away and with the aid of portable receivers and loop antennae, members set out to find it. One party travelled 35 miles before finally locating it.

Another (3APG) went on his push bike. The meeting was then left in the hands of Peter Cartwright who lectured on "Noise Limiting," which proved to be helpful in the elimination of different types of noises in receivers caused by interference. At a later meeting Jack Beckingham lectured on "Post Office Long Line Equipment, Trunk Lines, and Carrier Equipment." This lecture pre-empted the tour of the Post Office with Mr. Beckingham and proved very interesting to the members who went.

FAR NORTH WESTERN ZONE

Since our last notes appeared, the Zone in general has been very inactive; tuning the bands, reception of signals emanating from our corner of VK3 land are lamentably few. In fact your scribe is often informed during the course of a QSO that "you're the first one I've worked up there."

Had a very pleasant time with 3FC and 3AFC on a recent visit to Ouyen (yes those call signs are correct and what's more their antenna systems, well they aren't exactly touching, but you ask Frank or Fred some time). They are almost on our southern border for this Zone and we have hopes of 6 metre work with them later.

3FC is still piling up Ws on 40 c.w. with 10 watts to 807 and 3 tube t.r.f. He says the EF50 r.f. stage packs a clout even running on d.c. mains. Don't be alarmed if you hear Frank hit the band on phone, just a passing phase, or is it OM?

3AFC plus YF and first harmonic heading Sydneywards very soon, modulator will get a rest and you may even land that xtal needed for the receiver. Fell for a beaut on same trip and this may be a tip for other would-be car-borne ops. Was situated

Mornington Peninsula Sub-Branch Hold a Successful Field Day

The Mornington Peninsula Sub-Branch of the Eastern Zone held a very successful Field Day on Sunday, the 29th May, to celebrate the first year of the Sub-Branch's operation. The day was dull and overcast with cold winds. The members met at 11:30 hours under the 72 ft. antennae and adjourned to listen to the W.I.A. broadcast. We all agreed that the announcer (VK3IK) should have oiled his throat before attempting to sing "Happy Birthday," anyway thanks lan for your try anyway. After chatting, etc., and hurried manufacture of loops, etc., the party then adjourned to the cricket ground for lunch, where boiling water was waiting.

After lunch there was a photo of a group taken (reproduced herewith), but the group was not of everyone there as several parties had moved off to get their gear set up on location for the Field Day activity. There were six stations operating portable, namely 3ANW, 3AHZ, 3ASS, 3KT, 3RR, 3UG. 3ANW operated on 50, 144 and 580 Mc. bands; 3AHZ on 580 Mc.; 3RR on 50 and 580 Mc. bands; 3ASS, 3KT, and 3UG operated on 8.5 and 7 Mc. bands.

The afternoon proved to be a "screwy" day on 50 Mc. with QSB both ways with Melbourne stations, while reports on 580 Mc. were quite steady. The field day concluded at 1600 hours and then old Noel (VK4BT) pokes his nose down our way on 50 Mc. and was worked by Keith (3HK) from 1615-1645. Thanks for trying to come along to join in the fun Noel and the writer had a Scotch afterwards for you.

The hidden transmitter lived up to its name by not being located in the time allotted, viz.: 1615-1700 hours. There were two parties, 3KT and gang and 3RR's party; both were very close at the finish. 3KT drove off with his truck on the wrong side of the road, while Dick's party nearly

got covered in mud; but the creek was in the way when the transmitter closed down. It was a real good effort for two parties to be so close at the finish.

During the afternoon all parties were munching delicious apples brought along by 3ACL. There were 40 odd at the buffet tea and it was a "real do," everyone enjoyed themselves to the full! After the tea—and washing down the tea—log books were checked and the prizes given for the field day. 3ANW won the first prize, a 12 volt generator; 3RR the second, an 830B tube; 3KT, third, an RK34 tube. George Glover (3AG) had a few words to say and the members continued to yarn and have a good time until they left for home.

It is recommended that next year's turn must not be missed as it will be even better next year and will be held a little earlier in the year so that we may have better weather. Many thanks to all those who came along for the day and next year we hope to see over 100 there.

ELECTION OF OFFICE-BEARERS

The monthly meeting of the Mornington Peninsula Sub-Branch of the Eastern Zone was held on 6th June and office-bearers were elected for the next year:—President VK3RR, Vice-President Capt. Roberts, Secretary VK3KT, Treasurer VK3UG, Publicity Officer VK3ABO, Technical Advisory Committee VK3RR, VK3OD, VK3ACL; QSL Manager Lieut. J. Wright, A.O.C.P. Class Manager VK3KT.

The following is a brief summary of the first year's operations of the Sub-Branch:—17 new members for the W.I.A.; QSL Bureau was formed and functions smoothly; A.O.C.P. Class formed and running well. The Sub-Branch hook-up is now in operation each Thursday evening at 1900 hours on 3850 Kc.



Back Row, reading from left: Max Andrew, 3ACL, F. Hicowe, 3RR, 3ABO, Miss Tipton, 3KT, 3GE, Miss Johnstone.

Front Row: Sgt. Gillis, F. Nugent, K. Culliver, Mrs. Cairns, 3AJH (our photographer), K. Cairns, and 3rd harmonic, 3UG.

at a Southern Mallee township and very keen to hear last minute broadcast on recent disposals. Connected up the Type A and clamped on the cans only to be greeted with a solid whack of electrical interference; "d.c. mains" I muttered and promptly started up the bus and headed out of town. At half mile distance, level of interference was undiminished so moved to 2 miles but trouble was just as bad. You see fellers, it's hard to get far from the electric clock on the dashboard when the receiver is sitting on the front seat—wouldn't it. Anyhow 3IK's f.b. signal on 80 pushed through R5, so I was happy.

3AGF is well again after bout in hospital and is on receiver rebuild, Mark 7, or is it 8 Tom? Noel 3AUG, ex-UG, should have "Clapp" v.f.o. humming ere you read this and as I believe his power supplies are ready, should hit the ether very soon. 3GZ, after a successful month working DX on 20, has been on 40 phone; Max has a 6J6 for a really hot grounded grid pre-amp. and when his BC453 materialises, the receiver will need bolting down and how!

3TI still not progressed from the antenna raising stage, too bad so much of your time is taken up on local p.a. work Charles OB. 3AGY is punching out a nice sig on 40 and is a really f.b. operator with good business-like fist, "Clapp" v.f.o. used here. Code practice class got off to a good start here with five keen students of the art. Bad weather has caused attendance to suffer these past two weeks but your scribe has no doubt that they will all be into it again now that the rain has passed.

CENTRAL WESTERN ZONE

3AKP's pet tree was chopped down last week, so Keith will soon have to start digging and getting the pole-crew lined up, 50 odd feet of tree is almost sure to be weighty, however it will be very nice when erected.

A scratch disposals round-up went off very nicely this time, our good friend John, being in Melbourne, offered to pick up for the boys. Time was short, but some hectic staff work lined things up and John came home with a high percentage of catches. John, by the way, besides deserving our thanks, also merits our congratulations, as he has put his foot on the first step towards married bliss (better start training her early, John).

3ARM is now busy looking over the inside of a RA10FA receiver and command transmitter, both nice jobs Bob and should work out OK. 3AKW is

also delving into an RA10FA, there must be something good about these jobs for them to be so popular. 3GN is heard more often these days on 40 and 80, and is brewing a n.b.f.m. lay-out for the 28 Mc. rig. 3HL is also examining a TUB unit, just what Allan intends to do with it we don't know, but guess it will have to wait until after cropping.

3TY is very noticeable by his absence these days, must be all work and no play. 3AGB is another elusive one, heard you on 20 one day Fete, and also on 40 occasionally, Pete seems to be interested in 50 Mc. converters, and their various and many spots. 3DP is collecting cathode-ray tubes and now has his second VR139A, so Jim will soon be able to not only hear his pleasant voice, but see what it looks like also. 3AKP is another of the look and hear boys. Keith got some most original patterns until it was discovered the tube was crook. Zone hook-up on Sunday, 10th—7120 Kc. at 10 a.m.

EASTERN ZONE

The results of the Eastern Zone Portable Contest are to hand, and we wish to thank 3LS for checking the logs after 3QZ had sorted them all out. 3ALA was 1st with 114 points; 3VL 2nd, 110 points; 3WE 3rd, 106 points; 3RH, 98 points; 3TH, 96 points; 3ALS, 76 points; 3LV, 67 points; 3QZ, 52 points.

3ALA is to be congratulated for his fine effort. Ted is quite new to the game, yet he handled his gear like a veteran. 3DI operated as a portable station on the Sunday afternoon, gaining 56 points but did not submit his log as a competitive station.

The last month has been an inactive one again, mainly due to an influx of new cars to the Zone, plus the after-effects of the Contest. 3SS has been ordered a holiday from Ham Radio, so Keith is busy erecting some more sheds in his back yard. We hope you are soon fit again, Keith. 3DI has been running in his new car with visits to Hams, including a trip to 6VL/US. 3TH is motoring through the Oneco district on a fishing holiday, complete with a portable permit. We did hear you one Sunday, Gordon, but could not come on the air. 3PR also had a holiday in the city. Ron is very pleased with the way his new S meter is working in his receiver.

3CI went out portable in the V.I.F. Field Day, with a quad for 6 metres that works better backwards. Syd reported one QSO only, with 3ACL, though he had 6 and 2 metre gear with him. We are pleased to welcome 3AST, at Lindenow, to the

Zone. Hope you find VK3 as good as VK2, OM! How about joining our hook-ups on 2650 Kc. every Sunday night at 2000 hours?

3ANC is building a new all band 11 tube receiver, incorporating plug-in coils, back-to-back i.f.s. and all mod. cons. 3QZ is still busy on his estate. Graham is country councillor, and will carry out his duties with his usual efficiency. 3WE has migrated to the lounge for the winter, but hasn't quite sorted his audio out. 3VL/US are inactive, being in the throes of house-building, and chopping down trees, ready for their new business.

NORTH EASTERN ZONE

Your scribe is sorry for lack of notes lately, but 3ABG has been inactive, and as nobody sent dope, no notes. 3ABG is looking forward to the election in July to get out of this job. 3UI and 3TS went for a walk on a recent Saturday afternoon, returning about ten past six. It is not known whether they were celebrating something, or drowning their sorrow over disposals' ballot. 3UI has changed to parallel 807s final on six now. Allan's latest YL is Barbara Baker, 8021 Holy Cross, Los Angeles 45, California. Anyone wishing to cut him out, write to above address, or QSO W6BAL on ten phone. Allan also seems to go out (to the library, he says) a lot about 8 p.m.

3APP so engrossed in radio he is forgetting messages. Peter has excellent phase modulation going on all bands, and a 50 watt modulator will be for sale soon. A new converter for ten is now going well. Although a chemist, Peter believes in whisky for colds.

3KR heard on forty with improved modulation from Class B 807s. Ken was trying to get little paper QSLs, with gallons on them. 3YV is improving now, and we hope is right by next Convention. 3ACK heard on 40 with excellent signal. 3EZ has moved QTH next door to 3APP. 3CN still starts a phone versus c.w. fight whenever he meets a phone Ham. 3ACW working on twenty at present, but is re-building, v.f.o. and QRO (sensible chap). 3FD still not on the air, but bought more gear.

3KR wishes to stand for secretary again so please support him in the elections. He has been an ideal secretary, and would be impossible to replace. 3UI enjoys being president, and as he has had only six months, he should be supported for another term. We know he is a poor president, but we could do worse. It would be a good idea to make the president correspondent also, as at present he has nothing to do.

TRANSFORMERS, CHOKES, ETC.—

Manufactured to order. Following stock sizes available:

SOLVE YOUR MAINS TROUBLES WITH AN AUTO TRANSFORMER.

BENDIX FREQUENCY METER, complete with original crystal calibration book, in first-class order, £26/10/-.

FERRANTI 0-500 Micro-Amp. Meters, luminised dial, new, £2 each.

R.C.A. 834 Tubes, new, £1/8/- each.

Crystals as illustrated, 40 or 80 metre, AT or BT cut. Accuracy 0.02% of your specified frequency £2/12/6 each

20 metre Zero Drift £5/-/-

Large, unmounted, 40 or 80 metre £2/-/-

Special and Commercial Crystals. Prices on application.

CRYSTALS REGROUND £1/-/- each.

BRIGHT STAR CRYSTALS may be obtained from the following Interstate firms:— Messrs. A. E. Harrold, 123 Charlotte St., Brisbane; A. G. Healing Ltd., 151 Pirie St., Adelaide; Atkins (W.A.) Ltd., 894 Hay St., Perth; Lawrence & Hanson Electrical Pty. Ltd., 120 Collins St., Hobart; Collins Radio, 409 Lonsdale St., Melbourne.

A.W.A. SPLIT STATOR TRANSMITTING CONDENSERS, high voltage £2/15/- each.

SCREW TYPE NEUTRALISING CONDENSERS (National type) to suit all triode tubes, Polystyrene Insulation 19/6 each.

Prompt delivery on all Country and Interstate orders. Satisfaction Guaranteed.

BRIGHT STAR RADIO. K. G. Allen (Late R.A.N.)

1839 LOWER MALVERN ROAD, GLEN IRIS, S.E.6, VICTORIA.

Phone: UL 5510.

POWER TRANSFORMERS—

600 Volts aside, 250 Ma. £3 5 0

880 Volts aside, 300 Ma. 4 17 6

1250 Volts aside, 400 Ma. 6 17 6

Tappings taken out where desired.

POWER TRANSFORMERS and CHOKES
Re-wound—Reasonable Prices.

VALVES—

RCA 866A Rectifiers £1 5 0 each

Sylvania 6L6Gs 15 0 each

161B Rectifiers 17 6 each

6AC7s 12 6 each



QUEENSLAND

Since the last notes were written, two Council meetings and a general meeting have been held. The first, was a Council meeting held on the 13th May. At this meeting Squadron Leader A. Walz (4AW) was appointed Officer-in-charge of the R.A.A.F. Reserve in VK4. Mr. P. Kelly (4KB) was appointed to work in collaboration with Mr. J. Moyle (2JU) in drafting the new Federal Constitution. Owing to the volume of business, which included a report from the Convention by our Delegate 4ZU, the meeting was adjourned to a later date. The adjourned meeting was held on 24th May. The amount of business transacted at this meeting was so great that the meeting lasted over three hours.

A committee of three was appointed to frame a new Constitution for VK4, keeping in mind the proposed new Constitution for all VK. The sub-divisioning of the State was discussed and plans are at present being drawn up. Quite a long and serious discussion on the Sunday morning hook-up conducted by 4WI resulted in the re-organising of this part of the Sunday morning broadcast.

The general meeting was held as usual on the last Friday in the month. In the absence of the President, 4KB occupied the chair. The DX C.C. was awarded to 4RC. The meeting then discussed the Councillor's report on Convention and items for ratification were considered. A lengthy discussion on the increased cost of "Amateur Radio" took place, and it was decided that this Division could not stand the increased cost, and members would be asked to pay the extra themselves. Division of the bands was next discussed and the outcome of another lengthy discussion was that VK4 declined to ratify this item. The formation of a Technical Committee was agreed on, and a ballot for positions on this committee is to be taken.

We regret that in the news of the Annual Dinner the fact that 4KW was present was inadvertently omitted. An oversight Harry! Perhaps our reporter was not seeing straight that night.

Honorary Life Membership of this Division at present includes A. Walz (4AW), A. Couper (4BW), Mr. Leighton Gibson and Mr. L. J. Feenaghy. Two of these old-timers are still active. Hams. 4AW being active on the v.h.f. bands, whilst grand old-timer Andy Couper still takes a very lively interest in Amateur Radio and we understand, occasionally has a rag chew on 7 Mc. with the far northern boys. From information to hand recently, we would not be surprised if 4BW is once again looking for QSOs with the boys down south. Some old-timers reading this will remember the work done by 4BW during the cyclone of 1927. Incidentally, Andy Couper was one of the first to hold an experimenter's licence in Australia, his call sign in 1914 being XQM.

ZONE NEWS

Maryborough (4GH).—A club has been formed in this zone with 4GH as President, and 4AI as Secretary-Treasurer.

Bundaberg (4BJ).—4GE, big DX man, late of Townsville, paid a visit to the boys in this zone towards the end of May. 4OW has recovered from illness and is putting out a very strong signal on 7 Mc. band. 4HE has erected four mighty poles in the back yard for a lazy H. 4PG collecting DX on 28 Mc.

Gympie (4HZ).—4RA has moved to a new QTH and has come up on the 3.5 Mc. band. 4LN expects to do big things on 14 and 28 Mc. now that he has a new beam up. Barry recently had the pleasure of watching C.S.I.R. technicians making ionospheric checks in Gympie. 4CR on a big re-building programme and puts out a terrific phone signal at 7 watts input. Col is using automatic modulation control and peak limiter. 4HZ using two half waves in phase, but striking trouble with odd length feeders. 4HD going to town on 28 Mc. band, but has a pirate on 14 Mc. who not only works the W stations, but uses 4HD's name. What if he W.A.C.'s for you Max? Early in June between 1845 and 1855 hours Max heard a station just below the 50 Mc. band but unfortunately it was a foreigner and the only fact that could be gleaned was that it was a station signing FN—.

Mackay (4KW).—A club has been formed with President, 4FH, and 4NA as Secretary. A management committee consisting of five Hams and one Associate has been formed. It is hoped the club will have rooms of its own shortly, with its own transmitter on the air. 4BQ now has a two element vertical rotary for 14 Mc. 4KW has revived a xtal mike and is very active once again.

Ipswich Zone.—We understand that a club has been formed in Ipswich, but to date we have no details. What about appointing one of your number to supply us with information each month so that we can put a bit more news into these notes? 4LT is now very active on 7 Mc. band and putting Coominya on the map. Albert was the first VK4 to work VK1ADS on the 7 Mc. band. 4LT is now waiting for the P.M.G. to shift telephone wires so that he can put up the famous LT vertical.

Downs Zone (4UX).—Now that you have been appointed zone manager Claude, what about some news from your zone? The only information to hand at present is that 4CU has a three element 50 Mc. rotary 30 ft. high and that 4UX couldn't find his rotary. Perhaps it was covered with snow, Claude.

Townsville Zone (4GD).—Very little activity in this zone during the past month, have heard 4EJ and 4FC on the bands occasionally. Say fellows, what about opening up your hearts and giving 4GJ some dope on your activities? Len keeps weekly skeeds with the sub-editor so make good use of him if you want to see more notes under the heading of Townsville Zone.

The same advice goes to all members throughout the State. Help your zone manager to keep your zone paragraph going. News is very hard to get and zone managers' tasks of collecting the news could be made easier if everyone would give a helping hand.

SOUTH AUSTRALIA

Well, here we are again, fit and well, fairly itching to write and write, but unfortunately there is nothing to write about. Due to a new editorial policy beginning this issue, all copy must be in VK3 no later than the eighth of the month, and if it is any later than that, it will not be published. This of course cramps my style for this month very badly, as I can't cover the meeting (which is never held as early in the month as the eighth) nor can I write anything about the city chaps, as it is at the meeting I get most of my information.

The only bright light in my sea of unhappiness is the fact that the South East notes arrive like clockwork on the first day of the month. Thanks Col. I have been conducting some experiments on 28 Mc. for the past month (very hush hush and all that) and therefore have had no opportunity to do any snooping on the other bands. However I did hear on a friend's dual-wave (yes I still have a few friends left) the cheery voice of 5LW announcing to all and sundry that he had a sked coming up with WWV and that the said WWV were anxious to check their standards against his v.f.o. My friend was suitably impressed, but it took me a couple of days to completely recover. Personally I think that Ross has all the luck, for instance, he set out to make some waffles using his own special recipe, and believe it or not, the resultant job came out so well that every tyre repair man in VK5 is pestering him to sell his secret process. They say that his waffles are by far the best retreat mixture yet known to science.

Everybody was glad to see George Luxon (5RX) get his DX C.C. Certificate at the last meeting. Quiet and unobtrusive, George can be heard on 14 Mc. at all odd times and always seems to get his man. Big thing about him is that he is no "airhog," he doesn't grab that elusive station and put a stranglehold on it for hours, but passes it around, and is always anxious to tip anyone off that some new DX station is around. Here's more power to your wrist George.

I have received some very bad news this past week, up to now I have been the only wireless genius in my large and expensive family, but this week the P.M.G.'s Department dealt me a slap in the face by announcing that in some strange and inexplicable way they had discovered that my brother-in-law possessed sufficient intelligence to be granted an A.O.C.P. It's bad enough to have your brother-in-law getting a ticket, but when he is also your best friend, well I ask you. His name by the way is "Inky" Worrall, but so far he has no call sign, although I think he is getting around to biting me for the necessary "aid." I have installed large and expensive locks on all the doors and windows of my shack, but they don't call him "Fingers" Worrall for nothing. Jokes aside "Inky," welcome to Amateur Radio.

That young and handsome looking Associate member, Robert Turner (whom you will remember I made join the W.I.A. before he could step over the kitchen doormat to see my daughter) has rejoined the R.A.A.F. and is stationed at Laverton at present. I haven't been able to check up and see if he has paid up his subs for this year, but remember young man, you will have to get my consent one day, and one of my conditions before I say yes will be a complete pay-up of all outstanding subscriptions. No financial member gets my daughter. My daughter has been interjecting whilst I was writing this and I have taken time out to give her a whipping with barbed wire. (You've got the right idea "W.W."—the second "W" is for worker—as a fully financial member, and a batchelor I might be interested.—Editor).

As "Pansy" would say when he reads this, "the little bird" has been busy again—but it's too good to let pass. One 5PS spends his Easter each year

at a certain big picnic race meeting doing a certain job with lots of mechanical contraptions which do many calculations. I've been informed that 5PS thought that his mental calculations were much better than the mechanical marvel, with the result that the people in charge in consideration for our esteemed friend gently suggested to him that they thought he would be much happier looking after the mechanical side alone. I am not informed, however, if he made holiday expenses or whether he was considerably out of pocket.—Editor.

At the time of writing 5KU is on holidays and has been putting in some solid DX work on 40 metres. 5FD is still in the throes of building and has now started a "Clapp" v.f.o. Building and re-building seems to be the order of the day around the South East area and 5JA has been putting in some overtime on his AR7. He is now using a 6AK5 as first r.f., 1852 as second r.f., and has been getting extra results on 28 Mc. 6MS has just recovered from mumps, and can be heard to good effect on 20 metre phone. 6TW is another one who has built a "Clapp" v.f.o. and joins the ever-swelling ranks of enthusiastic and satisfied builders.

5CH is having the time of his life on 80 metre phone, and no b.c.l. complaints either, how do you do it Claude? The new rig is well under way too, they tell me. 5CJ is in a new shack and a new house (you see how well I look after my spies) and they say that the vegetables are growing that high that the cabbage stalks can be used as a base for a three element beam. Col. is also building a "Clapp" v.f.o. Thanks again for the notes OM, you sure saved my life this month. Well folks that is the lot for this month, aha, you say, he is slipping back, well, aha, yourself! and double in spades, and as they say on ten metres, "I am going to Moya Moya," gawd knows what that means, but they say it!!

WESTERN AUSTRALIA

The May meeting was held on the 17th (third Tuesday as usual); 43 members being present. VK6WS was admitted as a member—his VK6 call sign is on the way. 6MO was down town from Watheroo, came along to the meeting and gave us the once over.

6GM read his report on the Easter Convention. One of the items which interests us all is relative to "Amateur Radio." Steps have already been taken to get the publication to VK6 earlier in the month, and we will find hope on the ionospheric predictions, contest rules, etc., well beforehand so that they will be of more value to us, particularly in VK6 where the average date of arrival of "A.R." was 25th of the month. 6GM represented us well at the Convention, and more details of his good work have been given through VK6WI.

6RU, with QSL activities well in mind, told of his recent trip to VK2 and visits he made to a couple of shacks. Although our QSL Bureau fees are slightly higher, the daily service which is available, and the efficient despatch of our cards more than makes up for the additional cost.

6DD, representing our Contest Committee, announced the winners of the Emergency Network Contest held on Easter Saturday. 6MG romped home in the "miles-per-watt" section using a portable rig with an input of 0.45 watts! 6RU worked three bands with portable equipment and obtained the highest portable score. 6WT got the home-station section. Prizes and pennants will be given to them at a later date.

It was discussed that action should be taken to endeavour to have VK6 listed as a separate country. Our Council now have the matter in hand and we will be hearing more of it later.

6FC gave us latest information on the progress of the Emergency Net and dope on 50 Mc. activity.

The meeting closed after the auction of some useful gear which had come from the re-building of 6WI. Bidding was keen and the sale was most successful.

PERSONALITIES

Once again these notes are being written with the aid of a hurricane lamp. Perth's power house just hasn't been the same since 6GD put up a nice tower with a 1.6, 10 meter beam! Horrie has been working the DX. We hear that 6BE has gone East. Let's know when you get going over there Bob. Another to leave us is 6VB who is now a VK9. Radio gear is plentiful up there according to Dave, so what about letting us hear some of it even if we can't get it.

Yet another personality departing our shores is 6MX who is going home to California. Milo's home call is W6DJP and all his W6 gear is ready for use just as soon as he gets into the shack. We'll be looking for you on 14 Mc. v. Milo.

Noticed 6WS at our last meeting—hadn't seen Skipper about for quite some time. 6NL has been listening to dreams of 6JW's new receiver. Val is not saying much, but we think he will soon be building a new one himself. Also with the new

receiver bug are 6SN and 6GC who have designed a beauty. Both these chaps have BC348s! 6LL has a new receiver for 10 metres. How is it going Clarrie?

6WG, of Albany, had a holiday recently. His XYL paid us a visit in Perth. Very pleased to meet you Grace and hope everything is going OK. 6XG was also up town for a few days. Clarrie gave us the good oil from Kataning at 6XF! 6RT was another visitor to Perth on holidays.

Noticed 6JN getting along Hay Street the other day, with a very broad grin and a large hunk of disposals gear under his arm. John looked as though he had bought it at half price! He had! 6KW has invested in a wire-recorder and is now building up a hi-fi amplifier to go with it. How easily does the wire break Ron? 6PJ has super ideas for super-modulation and has gone into recess for the winter months to hatch it out in the spring.

6HR has the rig cranked up on 10 metre band, but conditions haven't treated him kindly yet. 6ND has a new 40 ft. pole ready to put up. Did not think you had room for another one Neville! 6MK working some rare DX as usual, but Tom is not satisfied with his 10 metre beam. He has a super sensitive field strength meter under construction.

6PW will be quiet for a few months. You are not missing anything Ray—conditions are worse here than in VK2. 6RF is now using an HEO receiver. In between exams Fred takes the opportunity to listen across the bands. 6HC has built a new modulator and now has audio to spare. What's happened to that S13 Leo?

6DD heard with phase modulation on 10 metres these days. How's it going John? 6TB has made up his mind to go v.f.o. at last. Your list of countries will multiply then Tom. 6OP heard on 40 metre band (when power is available). 6WM, of Kalgoolie, couldn't catch elusive 6WH when our mains went off the other night. 6GA doesn't appear very often these days—hope the exams are successful Bill.

Here is a list of "haven't-heard-lately's":—6EL, 6CN, 6BU, 6WZ (Geraldton please note), also 6FB, 6FD, 6DX, 6RL, 6FW, 6MY, 6CK, 6AK, 6BC, 6FR, 6TX, 6IG, 6KE, 6WL, 6WD—don't tell me my receiver is on the ice!

TASMANIA

Although the attendance was not up to standard at the June meeting of the Tasmanian Division, it was felt by all those who did attend that the evening was well spent.

The president welcomed Mrs. J. Batchler (7YL) who, I believe, is again to become a member and by the way boys, it has also come to my notice that VK7YL's QSLs are again in circulation. How many did you write out Joy?

At the conclusion of the general business, 7AF gave a very interesting description and demonstration of his method of converting the BC654A (Crosley) Transceiver. A good job Bob and I if may be permitted to say so, you did remarkably well to get all that gear in such a small space.

7YL, 7JB and myself made a visit to 7AJ's home on a recent Sunday morning and had no difficulty in finding the place because if any self respecting Ham ever passed by the three rotary beams without a second glance, I would suggest a visit to an eye specialist. Yes, OMs (and YLs) really a sight to behold. A close spaced 3 element on twenty with not the slightest suspicion of a bend in the elements and only supported by about eight feet in the centre, beautiful! The elements themselves are made from three foot sections of 28 gauge GI rolled into tubes and are tapered from about 2 inches in the centre to three quarters of an inch on the ends. The tower supporting this effort is a wooden one, made from 3 x 2 hardwood and suitably braced with 2 inch cover strips. Athol feeds this job with a tee match, and a quarter wave matching section made from two lengths of 72 ohm co-ax in parallel and then a 600 ohm flat line. The elements themselves are tuned from the centre by sliding the ends over a central 8 foot section.

The three element 10 metre beam is on a separate "A" frame mast while the three elements on six are lashed to the chimney. The eight wave length long wire and the full wave zep are only just "extras." The main rig runs 60 watts to a pair of 807s and the 6 metre job is a converted SCR622.

Apart from radio, Athol is a very keen model builder and has a workshop second to none. A lathe, a shaper, a milling machine, a horizontal borer, and two drill presses all his own make and design. He has also built among many fine pieces of radio gear, scale model locos, a 16 m.m. talkie projector, a disc recorder, and last but not least a 6 inch reflecting telescope, and if that's not versatility I don't know what is!

I also built things here at 7EJ—last week after much consideration, and drawing of plans I built a shelf under the bench to lay out some radio gear

which was under the aforesaid bench in an apple case. Well the shelf is one hundred per cent, but what I want to know now is how to get the apple case out—yes, I know, it's built in!

NORTHERN ZONE

The May monthly meeting of this zone was well attended and after the business of the evening was concluded our youngest Amateur, Mr. Peter Friih, gave an interesting lecture on transmitter construction. It is very gratifying to see such a young Amateur interested enough in the Institute to plan such a lecture and the way in which it was delivered shows that Peter had given much time and thought to the subject.

This month we have to report the loss of one of our zone members, 7IT having left us to become a VK2 again. The best wishes of all our members go with you Les and we are looking forward to contacting you on 7 Mc.

There is still very little activity to report. 7DB is busy building himself a house and is therefore not very active (on Ham Radio). 7BQ still keeping Sunday morning skeds on 7 Mc., also getting on to 50 Mc. again. 7RK now has some very nice phone, but is still chasing DX on c.w., so that he can get his 100 countries confirmed. 7RB is active again having been off the air whilst changing his place of abode. 7LZ at present taking things quietly. Probably caused through lack of DX, is on 50 Mc. occasionally with 7BQ. Still no news from 7GD, 7AM and 7NL.

DX appears to have reached an all time low over the May, June period. The best worked here were GC5OU, VP4TB, LX1AS, and VP5JB, all on 14 Mc. c.w. K54AI also on 14 Mc. has been very consistent and of an afternoon several EAs have been putting in good signals.

As I write these notes EA8MC is on approx. 14015 Kc. with a T7 note, but dozens of W stations calling him are making it impossible to QSO. Called CQ on W and right on my frequency a 69 W signal called CQ no VK7. Dear Editor, that's why you received these notes early this month. I just couldn't win.

months ago, of impending slow morse practice transmissions. But suddenly there were no more announcements and what was worse, no slow morse. Only blank silence. After about 5 or 6 months, announcements started again. A little bit sceptical this time, I listened at the appointed time and after a couple of disappointing mornings I at last heard the W.I.A. local transmission on Sunday morning. I got it for two or maybe three Sundays and then suddenly it stopped. Why? I tuned onto the official W.I.A. news at 11.30—no explanation, no nothing. I sharpened my pencil again, put on my headphones, adjusted my b.f.o. and tuned onto 3504 Kc. last Sunday. But once more no slow morse. No explanation—no nothing.

Night after night I have sought the slow morse from VE2, 4, 5, and 7 official W.I.A. stations. I have read the announcements in "Amateur Radio" and got the right times—but I haven't heard a darned thing. Maybe my set is not as good as I think it is—or maybe there haven't been any morse transmissions. I feel so discouraged that I have almost given up hope—however, I will have a listen for 7WI tonight.

One day I will have my ticket I hope, and maybe I will forget my earlier difficulties. But at present I feel that as far as people in my position are concerned, it is all a very bad advertisement for the W.I.A. We people who are outside have no right to expect the W.I.A. to help us to get our tickets, but if they do anything practical to help us—as with morse practice—we should and we no doubt do, feel very grateful.

But please, if you start to do anything, please do it properly—and if accidents and hitches occur, as they are bound to, do us the courtesy of telling us about it. I am trying to keep my wife interested in all this, but it is very difficult when I don't take her to the pictures as I wish to listen to a scheduled transmission which does not eventuate—and I cannot tell her why.

Well I think I have written enough, so I will get back to my "Radio Amateur's Handbook."

—EDWIN G. PONT.

CORRESPONDENCE

WHO IS THE OLDEST ACTIVE OLD-TIMER?

"Grand View," Cliff Drive, Katoomba, N.S.W.

Editor "A.R.," Sir,

As an old-timer I have frequently been asked if I can name the oldest old-timer who is still an active Ham, but this I have been unable to do. It would, therefore, be interesting to receive nominations for this honour from readers of the magazine.

My first Experimental Licence was issued to me in 1912 under the call sign XABQ, and except during war years when, of course, such licences were suspended, I have held one almost continuously ever since, and have been active, too.

On a number of occasions I have endeavoured to obtain a copy of the call sign book issued round about the time that my first licence was issued, but I have been unsuccessful. However, there may be amongst your readers somebody who has one of these relics of early Ham days, and thus help to throw some light on the matter.

—WILLIAM J. ZECH, VK2ACP.

SLOW MORSE TRANSMISSIONS

76 Gladstone St., Kew, E.4, Victoria.

Editor "A.R.," Sir,

You have asked, in the current (May) issue of "Amateur Radio" for reports on slow morse practice transmissions from official W.I.A. stations. Herewith are my reactions.

I am 41 years old, married with two young children and living in a small flat. My dearest ambition is to get my A.O.C.P., my call sign, and then get on the air—though heaven knows where I will find space to put my transmitting set! I have built myself what I think is a decent receiver, and I have a lot of fun with it. I have a job which necessitates my bringing home work for a couple of nights a week. On another two or three nights I study the mysteries of reactance and impedance and Q factor with a view to successfully coping with the theory paper in the exam. I have put a key and a buzzer on my bench at work and during lunch hours I buzz away with great enthusiasm. What with coping with my job and a family as well I am finding it a long slow job, but my enthusiasm is still there. I am sure I would get there save for one thing—lack of morse receiving practice.

It was therefore with very great interest that I first heard, in the official W.I.A. Sunday morning broadcast and in "Amateur Radio" about 6

FOR SALE, EXCHANGE, AND WANTED

9d. per line, minimum 2/-.

Copy must be received by 8th of the month, and remittance must accompany advertisement. Calculation of cost is based on an average of six words a line.

FOR SALE.—Equipment of deceased Ham; including Type 3 Mark II, rack mounted, speaker and Technico N80 Mike; new FS6 and 2 batteries; AR14, incomplete; H.M. Multimeter; 42 ft. steel mast; Battery Charger, etc. Prefer to sell as a whole. Contact Ted Jenkins, 415 St. Kilda Street, Elwood, Victoria.

FOR SALE.—V.F.O., BC457 Command Xmitter, perfect order, will triple to 14 Mc., includes switch for netting, complete with one each 1625, 1626, 1629 valves, £3. Regulated power supply to suit, less valves, £2. Vibrator power pack for Class C Wavemeter, complete as new, £1. S. Zeunert, 131a Oakleigh Road, Carnegie, S.E.9, Victoria.

FOR SALE.—100 Kc. Crystal from Loran Equipment, R.C.A. model VC5KS; also 1000 Kc. Bendix Crystal unit, type DC9J. Both new. What offers, F. Smith, Box 87, Forbes, N.S.W.

WANTED TO SELL.—SCR522 Xmitter and Rx (latest version), with instruction book, £12/10/-. Eric Wardle, WM 6647.

WANTED.—6J4s, three 829B, one T71 Receiver, original. Prices, particulars, A. H. Llewellyn, 425 Blaxland Road, Ryde, N.S.W.

RED  LINE

EQUIPMENT

High Fidelity Output Transformers for Negative Feedback Amplifiers

PRIMARY: 10,000 Ohms 807 (T.) P.P.

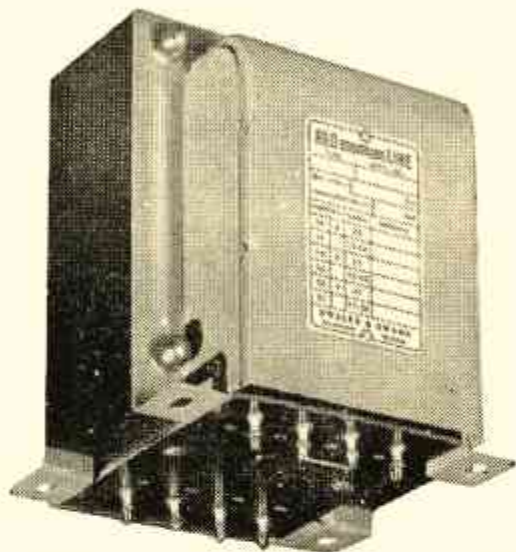
SECONDARY: as selected.

FREQUENCY RESPONSE: within plus/minus
0.2 Db from 20 c.p.s. to 30,000 c.p.s.

PRIMARY INDUCTANCE: 100 Henries at 3.5 v.

LEAKAGE INDUCTANCE: 17 Millihenries.

INSERTION LOSS: 0.4 Db.



Item 54 "AF15" to Goodman's Axiom 12" Voice Coil.

Item 54a "AF3" to Goodman's Axiom 80" Voice Coil.

Item 52 "AF8" to Rola G.12 Voice Coil.

Item 52a "AF2" to Rola 12-0 Voice Coil.

Item 53 "AF10" to 500 Ohm Line.

"AF" Series £5/15/2
Weight 7 lbs., 4" x 4½" x 4½" high,
Mounting VII.

"AF" series transformers may be obtained against special order for any primary or secondary impedance required and up to 30 watt rating.

RED LINE EQUIPMENT PTY. LTD.

TRANSFORMER ENGINEERS

WORKSHOP: Cent. 4773
2 Coates Lane, Melbourne.

Victorian Distributors:

Homecrafts Pty. Ltd.
Veall's Electrical & Radio Pty. Ltd.
Radio Parts Pty. Ltd.
Howard Radio Ltd.
A. G. Healing Ltd.
Healings Pty. Ltd.
Motor Spares Ltd.
Warburton Franki Ltd.
Lawrence & Hanson Ltd.



City Office: MU 6895 (3 lines)
157 Elizabeth St., Melbourne

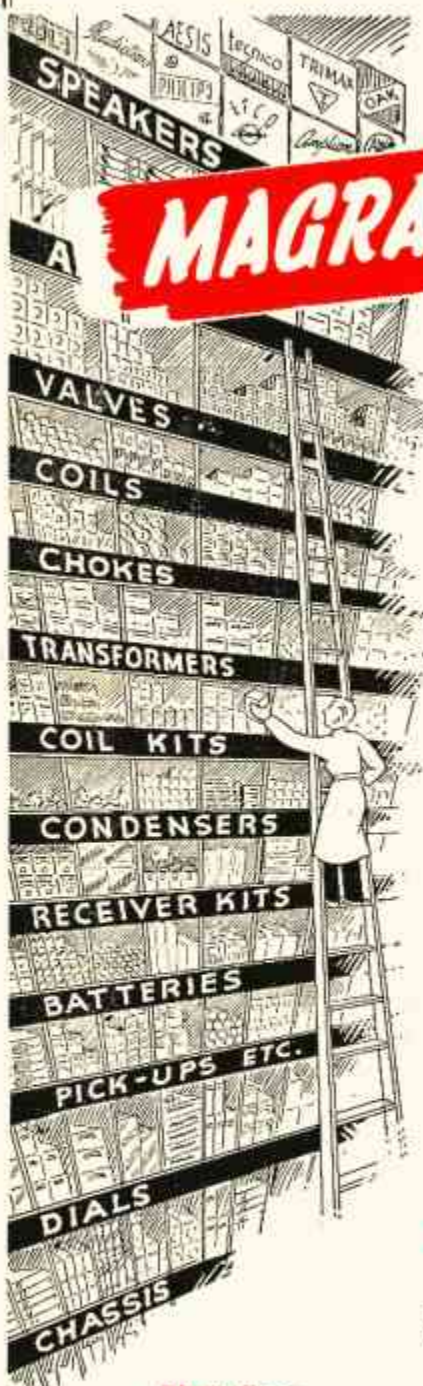
INTERSTATE DISTRIBUTORS:

New South Wales —	South Aust.—
U.R.D. Pty. Ltd.	Gerrard & Goodman Ltd.
Homecrafts Pty. Ltd.	Newton & McLaren Ltd.
	Unbehaun & Johnson Ltd.
Queensland—	Radio Wholesalers.
B. Martin Pty. Ltd.	Tasmania—
A. E. Harold.	Lawrence & Hanson Ltd.
Denradio Industries (Maryborough).	Noyes Brothers (Aust.) Ltd.
J. Michaelmore & Co. (Mackay).	

A GUARANTEE OF DEPENDABILITY

THE RADIO ENTHUSIASTS' SUPPLY STORE

MAGRATHS HAVE THEM..



**Trimming
Condensers**



A.W.A. 3/-
Philips 2/6
Ceramic postage
stamp type 1/6

Dial Lamps

Now available. Stocks
of 6.3 volt Dial Lamps.
Get yours early while
they last. Each 1/-.

**Aegis 10-15 Metre
Converter**

A huge success! ...
and now available for
£14/17/6.

**Wire Wound
Resistors**

3 watt 1/-
5 watt 1/6
20 watt 3/6

Car Aerials

Three-piece type and
heavily plated. A
really well made Car
Aerial, priced at 44/-.

Connoisseur Pick-up



A new shipment of these
famous English Pick-ups
is expected this week.
Price, £6/4/8.

Plate Caps

For 807 valve. Insul-
ated for safety, and
priced at 2/- each.

**Eddystone
Condensers**

Transmitting type,
split-stator—
611 with neut. conden-
ser, 25 pF./25 pF.,
£2/19/9. 612, 50 pF./
50 pF., £2/15/- 614,
100 pF./100 pF. £3/3/-

**Signal Strength
Meter**



In attractive black
crackle case, with octal
plug for Eddystone 640
Receiver. Adaptable to
any set. Priced at
£6/12/-.

Aegis R.F. Chokes

There's an Aegis Choke
for every purpose in
Radio.



Aegis 4 Pye 2.5 milli-
henries. Price 3/6 each.



Single pye broadcast,
as illustrated, 3/6 each.

**Metal Instrument or
Receiver Cases**



We have a splendid
variety of these Metal
Cases, finished in black
or grey crackle. Ask
us for a quote on your
requirements.



**A. & R.
Trans-
formers**



Our stocks are com-
plete. Ask for a quota-
tion.

I.R.C. Resistors

The stock position is
improving. We can
supply—
1 watt ± 10%
1 watt ± 10%
Also ± 10% for met-
ers, etc.

**Banco Speaker
Windings**



Save on Transformer
replacements! All types
available from stock.

J.H. MAGRATH & Co.

208 LT. LONSDALE ST., MELBOURNE *Phones* CENT. 3688 4414

AMATEUR RADIO

AUGUST
1949

JOURNAL OF THE WIRELESS INSTITUTE OF AUSTRALIA

NOW AVAILABLE...



TYPE
830B
£1/2/3

TYPE
834
£1/8/9

LOW-PRICED PHILIPS VALVES FOR TRANSMITTERS AND MODULATORS

That new rig you are planning or the re-building of your present set-up can be improved by using a pair of 834s in the final stage, while for modulation, of course, the answer is a pair of 830Bs in Class B.

TYPE 834 TRIODE

A transmitting triode designed for use as RF amplifier and oscillator, with maximum ratings up to 100 Mc. It may be used at 50% rating as high as 350 Mc. Power output at 1,000 volts anode supply is 60 watts. Filament voltage 7.5 at 2.1 amperes. Driving power 6 watts. The price is £1/8/9 (plus 2/- duty).

TYPE 830B TRIODE

With 6 watts driving power, two 830Bs in Class B audio service will deliver up to 175 watts. At 1,000 volts H.T. zero signal anode current is 20 Ma. and maximum 280 Ma. Filament voltage 10 at 2 amperes. This valve is also applicable as RF power amplifier for telephony and telegraphy. The price is £1/2/3 (plus 2/- duty).

There is a discount of 10% on both valves to Licensed Amateurs.

PHILIPS ELECTRICAL INDUSTRIES OF AUSTRALIA PTY. LTD., Sydney, Melbourne, Brisbane, Adelaide, Perth.



FOR THE EXPERIMENTER & RADIO ENTHUSIAST

Registered at G.P.O., Melbourne, for transmission by post as a periodical.

9_D.

"HAM" RADIO SUPPLIERS

5A Melville Street, Hawthorn, Victoria

PHONE: HAWTHORN 4465

PHONE: HAWTHORN 4465

Both here and on Page 16 we are again pleased to offer many sought-after items at astoundingly low prices. You are cordially invited to inspect our vast range of supplies at the new address—5A Melville St., Hawthorn, but if you are unable to do so, you can, with confidence, order by mail as goods are only of the finest and as described in advertisements on these pages.

BARGAINS — BARGAINS — BARGAINS

American Transceivers, Hi-Frequency I.F.F. Tube line up—three 7193s, seven 6SH7s, three 6H6s, four Relays, less Genemotor.

To Clear, be early £3 each.

Brand new dual Audio Units. Containing two 12A6s in grey crackle finished containers. These units offer many purposes. Pre-Amplifiers, Inter-Communication Units or for wrecking. Units are mounted on rubber stands.

Outstanding Bargains at £2 each.

Rectifiers, Copper Oxide, 12 volt at 100 Ma. Ideal for Relay Operations. 2/6 each.

Also 6 volt at 50 Ma. 1/- each.

DUCON TYPE, Small Block. 4 uF., 600 volts working. Snaps at 5/- each.

TRANSMITTERS.—AT5, 50 watt, Phone or C.W., crystal or V.M.O. Tube line-up—6V6 osc., 807 doubler, two 807s in final. Ideal Ham rig, covering 20, 40, 80 metres. Also broadcast band to 150 Kc. Meter for all stages; easily adapted to a.c. or d.c. power supply. Slightly damaged, secondhand.

Bargains at £7 each.

AMERICAN SWITCHING RELAY BOXES: Contain good wrecking parts, co-ax connectors.

Snaps at 5/- each.

Switching United, American type, housed in crackle-finished case 18" x 8" x 5", contains 24 volt d.c. motor and lots of useful gear.

Only £1 each.

This Month's Specials—

ENGLISH I.F.F. UNITS

Tube line-up: Two VR135 (high freq. triodes), two VR78 (diodes), four VR65A, Eddystone Butterfly Condenser, 1 uF. 1,00v. w. Block Condenser, Genemotor 11-12v. input at 3.8 Amp., output 480 v. at 40 Ma. Good assorted quantity of Resistors and Condensers, ideal for wrecking, condition as new.

A Real Bargain at £2/10/-.

COMMAND TYPE RECEIVERS

Frequency Range: 3 to 6 Mc. Tube line-up: R.F. 12SK7, Mixer 12K8, two I.F. stages 1415 Kc. 12SK7, Second Detector and B.F.O. 12SR7, output stage 12A6. Less the Genemotor.

A Snap at £4/10/-.

"HAM" RADIO SUPPLIERS

(KEN MILLBOURN, PROP.)

5A Melville Street, Hawthorn, Victoria

(East Kew Tram Passes Corner, opposite Vogue Theatre)

(Phone: Hawthorn 4465)

Country and Interstate Clients please add 10/- packing charge for heavy items.

EDITOR:

T. D. HOGAN, VK3HX,
Telephone: UM 1732.

MANAGING EDITOR:

J. G. MARSLAND, VK3NY.

TECHNICAL EDITOR:

J. C. DUNCAN, VK3VZ.

ASSISTANT TECHNICAL EDITOR:

A. K. HEAD, VK3AKZ.

COMPILATION:

R. W. HIGGINBOTHAM, VK3RN.

LIAISON:

I. K. SEWELL, VK3IK.

ADVERTISING REPRESENTATIVE:

W. J. LEWIS,
20 Queen St., Melbourne, C.1,
Telephone: MU 5154.

PRINTERS:

"RICHMOND CHRONICLE,"
Shakespeare St., Richmond, E.1.

MSS. and Magazine Correspondence should be forwarded to the Editor, "Amateur Radio," Law Court Chambers, 191 Queen St., Melbourne, C.1, on or before the 8th of each month.

Subscription rate in Australia is 9/- per annum, in advance (post paid) and A10/6 in all other countries.

Wireless Institute of Australia (Victorian Division) Rooms' Telephone is FJ 6997.

-- IN THIS ISSUE --

A Filter Type S.S.S.C. Transmitter	3
Technical College Lectures	8
Amateurs Maintain Communications	9
Ionospheric Predictions for the Amateur Bands	10
Results of 1949 Trans-Tasman Contest	12
Federal, QSL, and Divisional Notes	14

Published by the Wireless Institute of Australia,
Law Court Chambers, 191 Queen Street,
Melbourne, C.1

EDITORIAL



BAND-PLANNING

(Continued)

Last month we presented the deliberations and conclusions of the R.S.G.B. and European Societies of a band plan for phone and c.w. stations. As mentioned then, other Societies have been giving this matter a lot of thought and we here give the deliberations of the Americas in this regard.

The Radio Club of Argentina, which represents a fair cross-section of Latin-American opinion have adopted a band plan on a voluntary basis. The governing authorities in Argentina, also aware of the problem, endeavoured to make divisions mandatory, but when their proposed action was found to be invalid under their laws, the Radio Club of Argentina put forward the plan with the recommendation that it be adopted on a voluntary basis. It can be seen from this attempt that in some countries the governing authorities are perhaps not so co-operative with the Amateur representatives as in our own country. The band plan agreed to in Argentina was:

- 7000- 7050 Kc. Telegraphy only
- 7050- 7300 Kc. Telephony only
- 14000-14100 Kc. Telegraphy only
- 14100-14400 Kc. Telephony only
- 28000-28100 Kc. Telegraphy only
- 28100-30000 Kc. Telephony only

It may be seen that this plan did not follow the U.S.A. pat-

tern of a portion exclusively c.w. and the remainder c.w. and phone.

In the U.S.A., although it is at present mandatory for c.w./phone sub-divisions, the A.R.R.L. has seen fit to further explore the position in view of post-war changes and requests put to their Board of Directors. After several membership polls and further investigations by its Planning Committee, the matter was tabled before the Board of Directors' meeting.

The proposals were for an extension of the 3.5 Mc. band phone assignment from 3800 to 4000 Kc., extension of the 14 Mc. band phone assignment from 14200 to 14400 Kc., and continuance of 7 Mc. exclusively for c.w. The poll, which served merely as a guide to the Board, did carry all three proposals, but in their wisdom the Board asked the F.C.C. for only the 3.5 Mc. band increase as it realised that in the case of 14 Mc., more than local feeling was involved.

As yet, this plan has not come into operation, but it serves to illustrate how the problem is being tackled in other parts of the globe. We have given the European, North and South American "pictures" and next month will deal with our own plan.

—W. T. S. M.

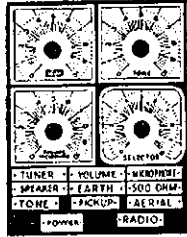
Homecrafts

PTY. LTD.

GREATER BARGAINS FOR THE RADIO ENTHUSIAST



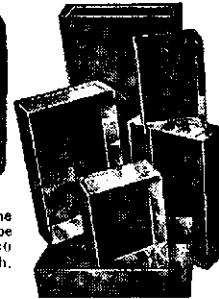
English Collaro Electric Gramo. Motors. The new AC17 Electric Motor with Magnetic Pick-up and Automatic Stop. As illustrated, £7/5/- complete.



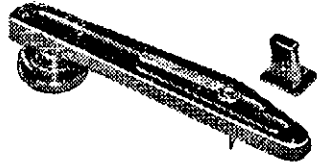
Capital Indicator Plates. Metal plates, large type. As illustrated, 1/6 each. Small types, as illustrated, 6d. each.



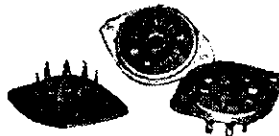
English B.A.I. Genuine Sapphire Trailer Type Needles. Guaranteed 2,000 playings. Only 9/9 each.



ALUMINIUM CHASSIS As illustrated.
 12 x 7 x 2 1/2 in. without ends 8/7-
 13 x 7 x 2 1/2 in. with ends 9/9
 7 x 5 x 2 1/2 in. without ends 6/6
 6 x 4 x 2 in. without ends 3/8
 13 1/2 x 10 x 2 1/2 in. with ends 12/3
 8 x 5 x 2 1/2 in. with ends 7/2
 10 x 6 x 2 1/2 in. with ends 8/4
 17 x 10 x 3 in. with ends 17/5
 13 x 7 x 2 1/2 in. with ends 9/9
 13 x 10 x 2 1/2 in. with ends 11/6



Pick-up Bargain. English Cosmocond. Brand new streamlined crystal pick-ups. As illustrated, reduced from £8/7/9 to 39/11.



Ceramic Type 9-Pin Local Socket, suitable for EF50 valves. As illustrated, 3/- ea.



Streamlined Steel Speaker Boxes with brown crackle finish. Suitable for up to 8 in. speakers. As illustrated, 27/6.

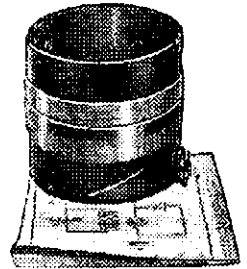
TEST EQUIPMENT BARGAIN

Palec Ohmmeter, 4 range, earth, continuity, and resistance tester.

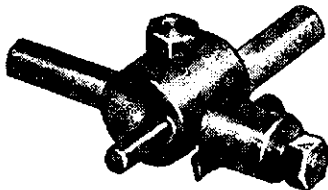


Ranges:—
 0.5/200 ohm.
 0.5/2000 ohm.
 100/100,000 ohms.
 1,000 ohms to 1 megohm.

Price £3.19/6



Baron Crystal Set, Coils. Complete with circuit diagram. 4/- each.



CHASSIS HOLE CUTTERS. Adjustable chassis hole cutters. Cuts holes from 1 to 3 1/2 inch. Price 16/7.



S.P.S.T. Toggle Switches. As illustrated, 1/6 each.

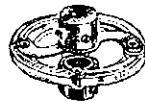
COUNTRY AND INTERSTATE CLIENTS ADD FREIGHT OR POSTAGE.



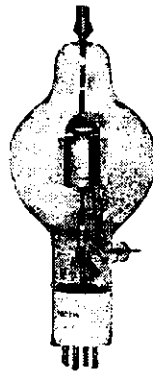
New B.A.I. High Fidelity Crystal Pick-up Heads. Suitable to replace all Collaro or Garrard Magnetic Pick-ups. When ordering advise if required for Garrard or Collaro Pick-ups. Price 45/.



Type TC60, R. C.S. Filter Chokes, 30-100 Ma. As illustrated, 13/6.



E.M.A. Flexible Couplings, polystyrene insulated. Sizes 1 x 1/2 or 1 x 1. Price as illustrated, 4/6.



Super Transmitting Tube Bargain. Brand new American imported Eimac 100TH tubes, as illustrated, reduced from 8 gns. to 49/6.

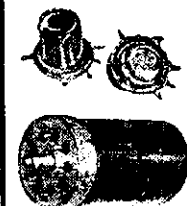


Block Condenser Bargains

- 0.5 uF, 500 volt working ... 2/6
- 0.02 uF, 8,000 volt Test ... 5/11
- 2 uF, 800 volt Test ... 4/3
- 1 uF, 800 volt Test ... 3/11
- 0.1 uF, 1,500 volt working ... 2/11
- 0.5 uF, 6,000 volt working ... 5/11
- 4 uF, 450 volt working ... 5/11
- 1 uF, 150 volt working ... 2/6
- 0.1 uF, 6,000 volt Test ... 3/11

SPECIAL SNAP BARGAINS

Brand new 100 Ma. Power Transformers with standard windings. Cut to only ... 24/11
 Speaker Transformers. Reduced from 12/- to 4/11
 Voltage Dividers 15,000 ohm. Reduced from 4/6 to 1/-
 English Crystal Pick-up Cartridges. Reduced from 27/6 to 9/11
 Large Full-Vision Dials. Reduced from 25/- to 9/11
 Iron Core Permatone Coils, Aerial, RF and Oscillator. Cut to only ... 8/11 per set
 Electrolytic Condensers 4 uF, 350v., 25 uF, 150v., 3 uF, 12v. Cut to only 1/- each



DISPOSAL VALVE BARGAINS—Available for Immediate Delivery

- Type EF50, high gain RF pentode, 6.3v, 9-pin lock-in socket ... 16/7
- Type EA50 6.3v, VHF diode, suitable for Vacuum Tube Voltmeter Test Probes ... 16/7
- Type 954 6.3v, det. amp. pentode, Acorn base. As illustrated ... 16/7
- Type 955 6.3v, det. amp. pent. Acorn base. As illustrated ... 16/7
- Type 7A6 twin diode ... 16/7
- Type 807 beam power amplifier ... 16/6

- Type 42 SPT 4 volt Cossor screened pentode 14/7
 - Type 5BP1 6.3v, cathode ray, 5-in. screen, elect. deflection ... 37/6 plus S.T.
 - Type 707 tripp. grid 6.3v, 8-pin lock-in. Price 16/7
 - Type 2X2 high vacuum rectifier, 4 pin ... 16/6
 - Type 834 7.5v, 4 pin power amplifier. Price 30/3
 - Type 6SH7 sharp cut off RF pentode. Price 16/7
 - Type 211 30v, jumbo 4 pin power triode ... 28/3
 - Type 830B 10v, triode, 60 watt ... 25/7
- All Prices include Excise.



Jumbo Valve Sockets. Suitable for 211E, etc. As illustrated, 20/- each.

290 LONSDALE STREET, MELBOURNE

Central 4311

A Filter Type S.S.S.C. Transmitter

BY L. W. EDWARDS,* VK7LE

Most Amateurs by this time will be familiar with what a single sideband suppressed carrier signal sounds like and the advantages to be gained by using such a system. However, the general opinion seems to be that it's all very complicated and involves a number of expensive and hard-to-get parts. This may be so up to a point, but any new technique always seems hard until one delves a little more deeply into the subject, when it is usually found that it is not so bad as it may first appear, and this is so in the case of the s.s.s.c. transmitter.

About all that is necessary is a good working knowledge of the process of amplitude modulation and a good junk box. The circuit of the transmitter described in the following article could be called a basic circuit for a filter type s.s.s.c. transmitter, and is adaptable to a wide variety of parts and tubes without affecting the working to any large degree.

The rig uses receiving parts and tubes right to the final amplifier, and an analysis of the circuit shows that it works like a receiver in reverse—instead of feeding r.f. in at one end and getting audio out at the other as in the receiver, we feed audio in and get r.f. out. We have in fact a triple conversion transmitter using the same basic principles as in the superhet receiver, the main difference being a conversion to a higher instead of a lower frequency, and the use of a balanced type of frequency converter or modulator to suppress the carrier. The transmitter described here has been in use for some time now and has proved very satisfactory in every way. A great deal of experimenting with various circuits was carried out, especially with the sideband filter, and the circuits shown seem to give the best all round results.

MICROPHONE PRE-AMPLIFIER

Referring to Fig. 1, all that is necessary here is a voltage amplifier to lift the output from the microphone to about 3 or 4 volts output and in this case a twin triode type 6C8G was used, but almost any combination may be used here depending on the type of microphone used. It is advisable to limit the high frequency response to about 3 or 4 Kc. so that the sideband signal will not be too broad, and this can be done by adjusting the plate by-pass condensers. The low frequencies should also be cut if possible to assist the filter to separate the two sidebands—a low value of coupling condensers between stages helps here and it should be adjusted so that the lower audio frequencies start to fall off at about 400 cycles.

It is advisable to include a r.f. filter at the grid of the first tube to prevent any undesirable feedback. In some cases this may not be necessary, but in this case trouble was had with r.f. getting back into the pre-amplifier and causing all sorts of queer effects.

* Strickland Avenue, Hobart, Tasmania.

Since Single Sideband Suppressed Carrier transmissions have been authorised by the P.M.G.'s Department for Amateur use, quite a number of stations have appeared on the bands using this type of transmission.

Judging by the number of Amateurs heard contacting the s.s.s.c. stations, great interest is being shown in this method of emission, so to present the facts to the Australian Amateur as soon as possible, the article in this issue has been given first priority.

The two popular methods of generating a s.s.s.c. transmission will be described—the Filter System by VK7LE appears herewith, and the Phase Shift method by VK4FN will appear next month.

MODULATOR NO. 1

This part of the circuit consists of a "ring" type modulator and together with the sideband filter is the heart of the rig, as it is here that the sidebands are generated and the carrier suppressed. The degree of success attained with the rig depends a great deal on the correct adjustment of this modulator and fortunately the circuit is quite simple to get working correctly.

In this case the circuit worked OK first time with 6H6 tubes picked at random and not tested for balance. The only alteration to the original circuit was the addition of an extra balancing pot., P2, which gave a little better carrier suppression. With tubes checked for balance, the carrier suppression is so near to complete that only the faintest trace is heard with the receiver side by side with the transmitter and the r.f. gain wide open.

The input and output transformers T1 and T2 were souvenired from a wrecked Japanese carrier telephone system, but almost any transformer with high impedance primary and low impedance c.t. secondary should be quite satisfactory for T1, such as single plate to 500 ohm line c.t. or single plate to p.p. grids Class B with loading resistors across each secondary winding. A push pull cathode coupled circuit would perhaps have possibilities for replacing T1.

The choice of the output transformer T2 is a little more critical and if possible should have a 1 to 1 ratio designed to work at a low impedance. It should have two separate primary windings so that the balancing pot., P1, can be inserted between the two halves, and not too much loss at the sideband frequency—that is for 3 Kc. higher than the oscillator frequency (13 to 16 Kc.). The low frequency response is not important as it only has to pass this upper sideband.

The P.M.G. type 4012A transformer should be ideal for this position, it being a balanced wound type with split windings and a good frequency response.

The modulator circuit should work at a fairly low impedance—in this case 600 ohms—and it is recommended that this impedance be used if possible as the filter shown is designed to work into this value. However this point is not very critical and the performance should not suffer very greatly by using different impedances.

A carrier suppression of more than 60 db can be obtained when the circuit is properly balanced, but in some cases it may be necessary to compensate for stray capacity unbalance in the transformers as well as resistance unbalance, and this can be done by connecting a small variable condenser across one of the primary windings on the output transformer (shown dotted) or one of the input transformer windings, or both.

A variety of tubes may be used in this modulator. 6H6s do quite a good job and any pair of twin triodes, connected to form four similar diodes, may be used. Germanium diodes or copper oxide rectifier units should also work quite well providing all four units have similar characteristics.

The 12.5 Kc. carrier for the ring modulator is supplied from a single tube oscillator of conventional design, T3 consists of a speaker output transformer with c.t. primary, the iron core being removed and the primary loaded with sufficient capacity to bring the frequency to approximately 12.5 Kc. In this case a transformer with a 500 ohm and a 2.3 ohm secondary was available and this worked very nicely.

The 2.3 ohm winding was used to feed a little 12 Kc. around the filter to insert a carrier into the transmission if desired. P3 controls the amount of carrier injected and enables the rig to operate as a normal a.m. transmitter with only one sideband, or as a single sideband suppressed carrier rig. If a suitable transformer having a 500 ohm winding is not available for T3 a couple of hundred turns wound on top of the voice coil winding of a normal speaker transformer should be quite satisfactory. The voltage output from this winding should be about 5 volts. The variable condenser C1 is used to adjust the frequency of the oscillator to the correct point on the filter attenuation curve.

"Now why," you ask, "is this oscillator tuned to 12.5 Kc.?" Well, it all depends on the design of the sideband filter, and in this case, after all the experimenting, the filter finished up with a very sharp cut-off at 12.5 Kc. and so the oscillator was adjusted to work at this frequency. A different frequency can, of course, be used providing the filter is designed for it; a lower frequency will place sidebands generated in the second modulator closer together, and makes them harder to separate, while a higher frequency, although making the sidebands in the next modulator further apart, makes the job of building the filter to have a sharp cut-off more difficult. A frequency of from 10 to 15 Kc. seems to be about optimum for the equipment available to the average Ham.

THE SECOND MODULATOR The purpose of this stage is to increase the frequency of the sideband signal from the first modulator, and it consists of a 440 Kc. oscillator, balanced modulator and a straight i.f. amplifier channel. The incoming sideband of from 12.5 to 16 Kc. modulates the 440 Kc. oscillator, producing two sidebands of approximately 424 to 427 Kc. and 453 to 456 Kc. The 440 Kc. carrier is balanced out in the modulator and the two sidebands are passed to the i.f. amplifier channel which is tuned to the upper or to approx. 455 Kc. The selectivity of the i.f. channel is quite sufficient to separate these two incoming sidebands and no extra filter is needed, but a trap circuit is used to eliminate any 440 Kc. carrier which may leak through.

The oscillator is a normal electron coupled type with a high C grid circuit and has proved to be very stable. It must be remembered that all oscillators used in this transmitter must be rock steady, otherwise the chap on the receiving end is liable to have a merry time keeping his local carrier right on the nose.

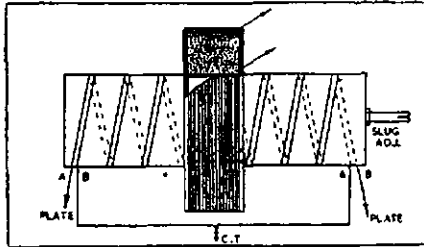


Fig. 4.—Construction of T5 and T9 S.S.S.C. Exciter. See text for details.

A number of various frequencies may of course be used for this second modulator, depending on the parts available, and a crystal oscillator would be the ideal arrangement. The choice of tubes for this stage is quite wide and a number of combinations may be used without greatly affecting the performance. It is, of course, necessary to have two similar type tubes for the modulators and a twin triode should fill the bill quite nicely.

The input transformer T4 can be any fairly good quality transformer with a

single primary to p.p. grids. The loss at the incoming sideband frequency of 12.5 to 16 Kc. should not be too great and the old time Ferranti types AF3C and AF5C ought to work quite well.

The modulator output transformer T5 is a special balanced wound job constructed as follows: The former is a standard commercial short wave coil former of approx. $\frac{3}{4}$ " diameter and $1\frac{1}{2}$ " long, tuned with a powdered iron slug. The commercial coil windings are removed and the former close wound for its entire length with two 32 B. & S. enamel wires side by side. The windings are connected in a push-pull arrangement as shown in Fig. 4. The secondary winding is tuned to 455 Kc. by means of the iron slug and consists of approximately 70 turns of 32 B. & S. enamel wire scramble wound on a cardboard bobbin $\frac{1}{2}$ " wide and $1\frac{1}{4}$ " diameter with a centre hole large enough to just slip over the wound coil former. This bobbin is placed centrally over the primary winding and loaded with sufficient capacity to tune to 455 Kc. with the slug approximately half way in. The whole unit is placed in a shield can obtained from an old b.c. receiver.

The 440 Kc. trap consists of half a 455 Kc. i.f.t., loaded with a small capacity so as to tune to the oscillator frequency; it should be well shielded. Transformers T7 and T8 are normal 455 Kc. i.f.s. and the amplifier is a straight i.f. channel, the usual comments on i.f. amplifier technique will, of course, apply. The 440 Kc. oscillator grid coil consists of a $\frac{3}{4}$ " diameter slug tuned former (similar to T5) with 70 turns of 26 B. & S. enamel close wound and tapped 22 turns from the earth end. The coil is placed in a shield can and tuned with a fixed capacity of 0.0025 uF. or so until the required frequency is reached, the slug providing the fine adjustment. The output transformer T6 is an old type i.f. transformer with the trimmer removed from one winding.

The frequency of 440 Kc. for the second modulator was chosen for two reasons, the first being that readily available parts could be used, and the second being that the sideband output is the same frequency as the station receiver i.f. channel, which is very handy for checking and tuning the output from this modulator. There is, however, one

small drawback here if the rig is to be used for duplex working, unless everything is well shielded the receiver is inclined to choke up every time the operator speaks. Proper shielding will, of course, eliminate this.

THE THIRD MODULATOR The arrangement here (Fig. 5) is all most identical with the No. 2 modulator, the purpose being to convert the 455 Kc. sideband to the frequency on the band desired. Once again a balanced modulator is used to generate two sidebands without a carrier, a straight r.f. amplifier channel separating the two sidebands and bringing the level of the wanted sideband up sufficiently to drive a single 807 Class A. Excellent shielding of the various stages should be observed here because the gain is quite high and poor

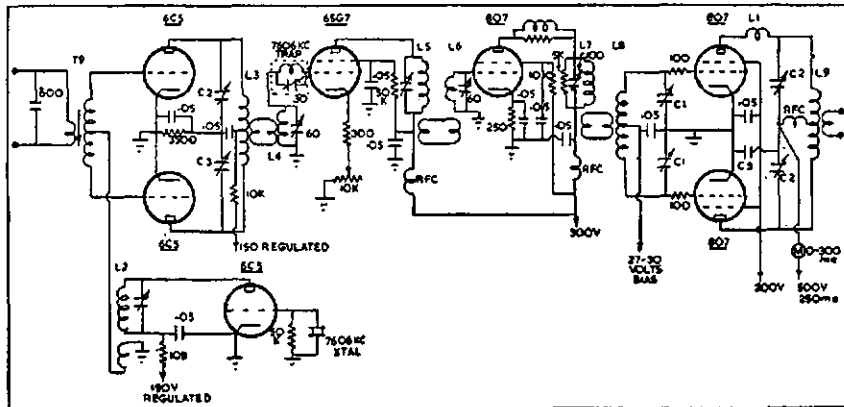


Fig. 5.—Third Balanced Modulator, fed by 7606 Kc. Crystal Oscillator, 7606 Kc. Trap, and 807 Driver Stage, giving output on 7141 Kc. Sideband, followed by Push-Pull 807 Final. C1—70 pF. per sect. split stator, C2—100 pF. per sect. split stator, C3—0.005 uF. high voltage rating, L1—Parasitic Suppressor of 6 turns of 16 g. $\frac{1}{2}$ " dia.

Powdered Iron CORES TYPES

407 and 408

ARE USED IN THE 12.5 Kc.
FILTER UNIT OF THE
EQUIPMENT DESCRIBED
IN THIS ARTICLE. WITH
MANY OTHER SHAPES,
THEY ARE OBTAINABLE
FROM—

R. W. STANE & CO. PTY. LTD.

8 EASTERN PLACE,
AUBURN, VICTORIA.

Phone: Haw. 3316.

★ ★

Manufacturers of
"Q Plus"
Components

Outstanding Value in Highest Grade Pick-ups



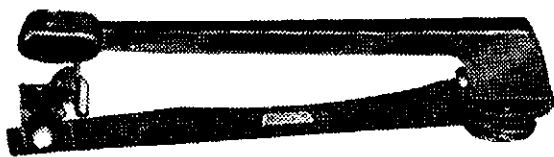
PIEZO ASTATIC PICK-UP

with Permanent Sapphire Needle.

Needle pressure only 1 oz. Frequency range 50-4,500 c.p.s. Overall length 9 1/2". VEALLS SPECIAL BARGAIN PRICE—85/-. (Postage within Victoria, 9d.)

PIEZO ASTATIC PICK-UP, without Needle.

A replaceable needle pick-up for general use with low needle pressure of 1 1/4 ozs. Frequency range 50-4,500 c.p.s. VEALLS SPECIAL BARGAIN PRICE, 67/6. (Postage within Victoria 9d.)



LEXINGTON MOVING COIL PICK-UP

This famous English Pick-up gives performance never before thought possible. Full reproduction of the total audio frequency range. Complete with transformer, screening box and sapphire needle. Prices: 12", £11/8/10; 16", £12/10/10.

— OTHER SNAPS AT VEALLS —

- ★ TAYLOR T21 TUBES available 22/6 each.
- ★ BA1 Sapphire Needles. Play back 2,000 recordings! 9/9 each. Discount to Hams!
- ★ AEGIS INSULATORS.—A type for every purpose at Vealls!
- ★ BLANK DISCS available! 10", 6/6 each; 12" 8/6 each. Ham discount!

- ★ FULL RANGE of Microphones, Amplifier Cases, etc. Discount to Hams!
- ★ UNIVERSITY A.S.T. Super Signal Tracer. A complete Tester, V.T.V.M. for A.C. and D.C. £47 (plus tax).
- ★ And Remember Vealls' Quick Chassis Cutting Service. Chassis for any circuits or special needs cut promptly and efficiently to suit you!

VEALLS

243 SWANSTON STREET, MELB.
299 CHAPEL STREET, PRAHRAN.

FJ 3145.
LA 1605.

Mail Orders: Box 2141T, G.P.O., Melbourne.
Associated with ARTHUR J. VEALL Pty. Ltd., Estab. 1911.

ELECTRONIC A&R EQUIPMENT

QUALITY DENOTES

FILTER REACTORS

The range of Filter Reactors, as listed in our Catalogue (page 8), is the result of considerable design and testing in our laboratory. Tests are made at full ratings on an Incremental Inductance Bridge. Each type is correctly rated with regard to A.C. and D.C. flux densities, the inductance value being definitely obtainable with the full maximum D.C. current specified. In order to achieve correct rating, a liberal amount of high grade core steel and winding wire is used in each Reactor. This makes the size, weight and price greater than for most other Reactors on the market, but is necessary to conform to our policy of manufacturing only quality products.

Write for the Latest Illustrated Catalogue

A&R

Electronic Equipment Co. PTY. LTD.

1 LITTLE GREY STREET, ST. KILDA, MELB., VIC.

Phone: LA 3657

leaking through the filter from modulator No. 1. The next thing is to set the frequency of the 12 Kc. oscillator at the correct position on the filter attenuation curve. This is done by unbalancing the balance pot. P1 so that the signal at the output of T8 rises slightly. Adjust the receiver i.f. gain until the S meter reads about S5 and increase the frequency of the 12 Kc. oscillator by means of C1 (reduce capacity) until the S meter rises to a maximum. Now increase the capacity of C1 until the S meter drops about two S points and this will mean that the 12 Kc. oscillator is correctly located on the filter curve.

The above procedure may be reversed in some cases, depending on the frequency of the 12 Kc. oscillator before adjustment. The fixed capacity in parallel with C1 may have to be varied, but the frequency can be set roughly by ear and the variable condenser C1 should then give sufficient variation.

(10) With the probe still at the output of T8 balance pots. P1 and P2 are varied for minimum signal, making sure that the audio gain control is right off. A good sharp minimum point should result when the circuit is properly balanced.

(11) Check again to see that a signal is obtained when the carrier pot P3 is advanced and if everything is OK. A single sideband suppressed carrier signal at the receiver intermediate frequency may be heard by speaking into the microphone. To check on the correct working of the first two modulators, this signal should be quite readable by injecting a carrier into the receiver from the b.f.o., remembering that a large amount of carrier is needed in relation to the incoming signal.

(12) The receiver probe should now be placed on the receiver aerial terminal and the receiver tuned to the oscillator in modulator No. 3 to check that it is oscillating correctly. Tune L2 for correct operation.

(13) Now turn up the carrier injection pot. P3 and tune the receiver to approx. the position that the radiated signal should be on the band. Place the receiver probe at the output link of L3 and tune the receiver until a strong carrier is heard which varies in inten-

sity when P3 is varied. Now tune T9 and C2 and C3 for a maximum signal, making sure always that the signal in the receiver varies when P3 is varied and that nothing is overloaded in the receiver as this may give a false reading.

(14) Now move the probe to the output link of L5 and tune L4 and L5 to resonance or for maximum signal on the S meter.

(15) The receiver probe should now be loosely coupled to the 807 plate tank or removed from the receiver completely, and L6 and L7 tuned to resonance, making sure that the signal will still vary with P3.

(16) The next step is to balance the modulators, and modulator No. 2 is balanced by leaving the receiver probe near the 807 tank and turning the carrier control right off. A low level signal will probably still be heard due to a slight amount of carrier getting through from modulator No. 1 and approx. 12 Kc. either side of this signal will be heard two other carriers which will not vary when P3 is varied. One is due to a slight amount of second harmonic from the 12 Kc. oscillator beating with the 440 Kc. oscillator and so on through the 7.6 Mc. oscillator, and may not occur at all in some cases. The other is due to unbalance in the 440 Kc. modulator stage letting some 440 Kc. carrier through to beat with the 7.6 Mc. oscillator.

Now tune to the one that varies when balance pot. P4 is varied and adjust P4 and the 440 Kc. trap circuit to give a minimum signal—this should cause the signal to almost entirely disappear. If the signal, due to the second harmonic in the 12 Kc. oscillator, is troublesome, then it may be necessary to insert a 25 Kc. trap section in the filter. Now tune the receiver to the 7.6 Mc. oscillator and adjust the trap circuit in modulator No. 3 for minimum signal—this signal should almost completely disappear. If C2 and C3 are made up of separate condensers and are not split stator, then adjusting one of these very slightly will give a further suppression to the 7.6 Mc. carrier.

Now the rig is all set to go on the air if desired, with about 10 watts peak output and should give quite a good account of itself.

The Final Amplifier, with its p.p. 807s Class AB₂ is quite straight forward and no trouble should be encountered in getting it working correctly. Bias is supplied from three 9-volt bias batteries, but any well regulated source of about 27 volts will be quite satisfactory. No real trouble was experienced with parasitics, in contrast with the case of the Class B 809s. The 100 ohm resistors in each grid and the suppressor choke consisting of 6 turns of 16 gauge B. & S. enamel, $\frac{1}{2}$ " diameter, in one plate lead cleaned up all traces of stray oscillations. Beware of similar r.f. chokes in both plate and grid circuits.

The grid tank L8 consists of 32 turns spaced $2\frac{1}{2}$ " on a 1" former and tuned by a small 70 pF. split stator condenser. The plate tank L9 has 24 turns of 12 gauge solid copper, $2\frac{1}{2}$ " diameter, with a winding length of $4\frac{1}{2}$ " tuned by a 100 pF. per section split stator condenser, double spaced. When tuning this stage before coupling to the aerial, it is ad-

visible to place a dummy load across the tank circuit. This may be a heavy duty 5,000 ohm resistor from plate to plate, or a 100 watt lamp tapped four turns each side of the centre of the coil.

To tune the final, advance the carrier control P3 and tune the grid circuit to resonance, indicated by a rise in plate current—increase the drive until the plate current reads about 180 Ma. Now tune the plate circuit to resonance, indicated by a maximum brightness of a pea lamp coupled to the tank or by maximum current through the dummy load. Now remove the load and couple up the aerial and adjust the coupling and aerial tuning until the maximum aerial current is had with the smallest possible plate current.

If an oscilloscope is available for checking the transmitter, it will simplify the adjustment quite a bit. The 'scope is connected to the final tank with a link of a few turns and if the carrier is completely suppressed there should be no pattern except the horizontal trace when the rig is switched on. When the operator speaks a series of peaks and troughs resembling the normal a.m. phone envelope should result, and return to zero when the operator stops speaking. By advancing the carrier control P3 the pattern will be that for a normal unmodulated carrier and on introducing some speech, a similar envelope pattern to normal a.m. phone will result, except that the carrier cannot be cut off by overmodulation.

It has been found that a small amount of carrier, transmitted along with the sideband, is a great help in receiving the signal, as it gives the chap on the receiving end something to zero beat. The amount of carrier need only be very small, otherwise it tends to interfere rather than assist in receiving the signal.

Acknowledgments go to "QST" for a great deal of information contained in this article and those interested are recommended to read articles in the January, 1948, and March, 1949, issues.

TECHNICAL COLLEGE LECTURES

A refresher course on Frequency Modulation and Pulse Modulation has been arranged by the Victorian Division with the Melbourne Technical College.

This series of eleven Lectures will be given on THURSDAY evenings at 7.20 p.m. at the Radio School commencing on 8th September and concluding on 24th November. The fee for the complete course is £1/1/- and applications for enrolment (with fee enclosed) will be received by the Administrative Secretary of the Victorian Division, 191 Queen St., Melbourne, up to the 25th August.

Marked interest in these Lectures has been shown and special arrangements have been made to enable W.I.A. members to participate in this unique opportunity.

QUESTIONS AND ANSWERS

Q.12.—VK4AG would like information on "Signal Corps U.S. Army Radio Filter FL-5-E," especially input and output impedances.

BENDIX FREQUENCY METERS

(BC 211)

Few Meters remain ex latest shipment at £27/10/- each F.O.B. Melbourne. These Meters are new and complete with crystal and spare tubes.

Also offering, new and tested 832 Valves at £3, sockets 14/6.

We now offer a manufacturing service to Amateurs for transmitters, etc. Quotes on application.

R. H. Cunningham & Co.
420 WILLIAM ST., MELB.
Phone: UY 6274

AMATEURS MAINTAIN COMMUNICATIONS

Hunter Valley Emergency Communication Network

BY HAROLD WHYTE, VK2AHA, AND VIC HOLMES, VK2AKP

Here is a complete report on the vital part played by the Hunter Valley Radio Amateurs in maintaining emergency communication during probably the worst floods in New South Wales' history, and compiled from the logs of the main stations participating.

The real Amateur Emergency Network began on Sunday, 19th June, although as early as Friday, 17th, when the flood waters had not reached their height, VK2TY, Bob Best, of Lochinvar, called Newcastle on 10 and 40 metres with urgent flood warnings for Newcastle Broadcast Stations. VK2BZ, H. Davies, was contacted on 10 metres at 1845 hours. Throughout Saturday, 18th June, VK2TY and VK2XQ, John Traill, of West Maitland, were standing by in case of emergency.

At 1145 hours on Sunday, 19th June, VK2AKP, Vic Holmes, of East Maitland, put out an emergency police call on 7162 Kc. "East Maitland isolated and requires immediate communication with West Maitland Police."

At the Police Radio Waratah VKG3, the operator on duty, incidentally an Amateur (Fred Meyer, VK2AGY), immediately put a call through his network to West Maitland Police requesting them to contact VK2XQ, West Maitland, and get him on the 40 metre band for communication between West and East Maitland.

Many Amateurs also heard this emergency call and immediately called Vic, however the first station to contact VK2AKP was VK2AIK, C. Horne, of West Wyalong, who then contacted VK2ADT, Jack Till, of Cessnock, Jack relaying to VK2YL, Harry Hawkins, who telephoned West Maitland.

VK2AHA, Harold Whyte, of Mayfield, also heard the emergency call and called VK2AKP, but VK2AIK made first contact, so VK2AHA telephoned Broadcast Station 2KO, Newcastle, who immediately broadcast the call to VK2XQ and listeners in Maitland area and Broadcast Station 2HR, West Maitland.

At 1210 hours, only a few minutes after the original call was transmitted from VK2AKP, VK2XQ, of West Maitland, was on the air on code and in contact with VK2AKP and VK2AHA who was relaying VK2XQ as the b.f.o. at VK2AKP was out of action. It might be pointed out at this juncture that VK2AKP had his transmitter down for a re-build, and on that Sunday morning he built the temporary transmitter we all heard, from limited parts available and got it on the air in the emergency. His gear was drenched with rain, the crystal at times refusing to oscillate. The power supply came from a dis-used broadcast receiver chassis, after all unnecessary valves had been removed. Vic was on the air with a whole 15 watts. A short time after the initial

East to West Maitland contact had been established, VK2XQ got his phone going.

At VK2AHA, Mayfield, communication was maintained with Police Wireless Waratah VKG3 on 1710 Kc. as well as VK2AKP, VK2XQ and VK2TY on 7162 Kc. This continued until 2200 hours Sunday night, Police messages being passed. VK2TY was relaying between VK2AKP and VK2XQ, and VK2NL, Thornton, to VK2AHA from VK2AKP when the skip had set in during the late evening.

At Midday Sunday, communication between Cessnock and Newcastle was established via VK2ADT, VK2YL, and VK2AHA. As the normal telephone service was out of action, due to the flood waters, the above stations were requested to take press from Cessnock for Newcastle. This could not be done as special permission had to be granted by the Radio Inspector for such traffic to be handled via Amateur Radio.

The Newcastle Radio Inspector was in the flood area himself and could not be contacted so VK2AHA sought permission from Sydney Radio Inspector through Amateurs VK2AKA, VK2ANF, VK2WF Sydney.

Station VNS Radio Inspector, Sydney, was contacted at 1630 hours and VK2CI, G. Kempton, of Merewether, was granted permission to take Press from Cessnock for Newcastle.

VK2CI took coal board messages from Cessnock.

The Press was passed by VK2ADT and VK2CI on Sunday evening on 80 metres.

Urgent messages for Hunter District Water and Sewerage Board were passed at 1450 hours by VK2AHA to Cessnock VK2ADT. No news of sub-stations in flooded coalfields area was known as all lines to Cessnock were out. Much co-operation was received from VK2CS Lionel Swain (President W.I.A. Sub-Branch, Newcastle), a water Board engineer.

The replies to above messages were received from VK2YL, Cessnock, by VK2AHA on 10 metres on Sunday night and telephoned to VK2CS for the Water Board.

All through Sunday, marvellous work was done by the following Amateurs in keeping the frequency clear of interference: VK2WH, VK2AIK, VK2WI, VK2ANF, VK2JQ, VK2AKA, VK2ML, VK2WF, VK2XO, VK2HZ.

The important job could not have been accomplished by the Network Stations had it not been for these Amateurs consistently clearing the frequency.

Monday, 20th June, was without any doubt the busiest day the Emergency Network encountered. No fewer than 140 Police messages were passed by VK2AKP and VK2AHA to and from VKG3, all between 1145 hours and 2350 hours, an average of almost 12 messages per hour (DX contest memories were revived at VK2AHA).

Before the above session commenced on Monday morning, VKG3 advised VK2AHA and VK2AKP that the Am-

ateur Emergency Network would not be required, but by 1145 they requested it be re-opened again as traffic via their channels and lines available was so heavy it would be impossible to handle it. Wonderful help was given to VK2AKP by the East Maitland Police. Vic was provided with typist and runners from his location to Police, although very often he and his son personally delivered messages. At VK2AHA every assistance was given by the operators at Police Wireless VKG3, all of whom are Amateurs, namely VK2TO, the O.I.C. VK2AGY, VK2NL.

The hardest job at VK2AHA was to write fast enough, as all operating on Monday was done solo. In order to get the messages down on paper, Ham abbreviations had to be resorted to, it was impossible to write them long hand. In addition to taking down messages, Logs at VK2AHA and VK2AKP were kept up, how we don't remember.

Through VK2MK, Lance Elpinstone, Cessnock, a couple of messages were passed from Broadcast Station 2CK to East Maitland Police via VK2AKP and VK2AHA.

VK2NL, Leith Squires, of Thornton, and VK2ADT were very helpful in relaying from VK2AKP, particularly when the skip was setting in late in the evening. The "band policemen" mentioned earlier were on the job right throughout, keeping the channel clear of interference, which was most important, and added speed to the handling of urgent supply messages.

Tuesday, 21st June, the Amateur Emergency Network continued. Early in the morning it was not required, however, but by 0940 it had recommenced with the passing of the first message at 1000 hours. The day's traffic was down considerably but the network was very important as communication was maintained all the time right up till 1800 hours, when the Emergency Network concluded. During the day about 40 messages were passed—23 being important ones.

The real value of the Network on Tuesday was not in the amount of traffic handled, but the fact that it was in operation all the time and during a couple of critical periods, firstly when line communication failed temporarily, and secondly when West Maitland Police receiver developed a fault.

All traffic passed through VK2AKP and VK2AHA to VKG3, and return, except for a few messages from VK2TY from Broadcast Station 2HR, and Police for listeners to Broadcast Stations 2KO and 2HD, Newcastle.

An excellent job was done by VK2TY who was requested from VKG3, via VK2AHA, to proceed to West Maitland Police Station and service faulty receiver. This was carried out successfully by Bob and during his absence from VK2TY, Keith Rudkin, VK2DG, operated his station. Keith, by the way, was on duty at 2HR for the entire period and phoned VK2TY's messages through to the Broadcast Studio.

Broadcast Station 2KO, Newcastle, and 2HR, Maitland, helped immensely in broadcasting numerous messages to listeners in the danger area and maintained an all night service during the critical periods. Messages, warnings,

(Continued on Page 10)

AMATEURS MAINTAIN COMMUNICATIONS

(Continued from Page 9)

etc., passed by the Amateur Emergency Network, were broadcast by these stations.

The final message to officially conclude the Amateur Emergency Network came at 1800 hours Tuesday, and thanks go to VK2JQ, Rev. G. A. M. Nell, of Crookwell, N.S.W., and VK2ADT, of Cessnock, who relayed it for VK2AKP and VK2AHA, as skip was making direct contact very hard. In the opinion of VK2AHA and VK2AKP, that last message was the most important of the 180 odd messages passed via the Network, "we had had it," and some good sleep was the order of the day.

The filaments of Vic's transmitter were never off from Sunday morning till Tuesday night and likewise VK2AHA's receivers, the bed in the shack being very convenient.

The Newcastle District Radio Inspector was on the job, and supplied me with an additional receiver, which took the place of my broadcast receiver that had been commandeered early in the piece to use on VKG3 Police Radio, Waratah 1710 Kc.

Another Radio Amateur who did a wonderful job was VK2ADX, Jack Brand, of Lorn, West Maitland, the City Engineer, who was on the job throughout the entire danger period and afterwards Jack was directing operations to prevent any more "break throughs" of river banks, filling and stacking sandbags, checking of bridges, etc. for damage. Jack was given authority to co-operate Hams to assist in emergency, but was unable to operate his own gear owing to more important duties.

On behalf of Vic Holmes, VK2AKP, and myself, VK2AHA, we would like to thank all who assisted in the Amateur Emergency Network, call signs of some we may have missed during the busy periods, but we could hear them in there clearing the interference for us, thanks OM's.

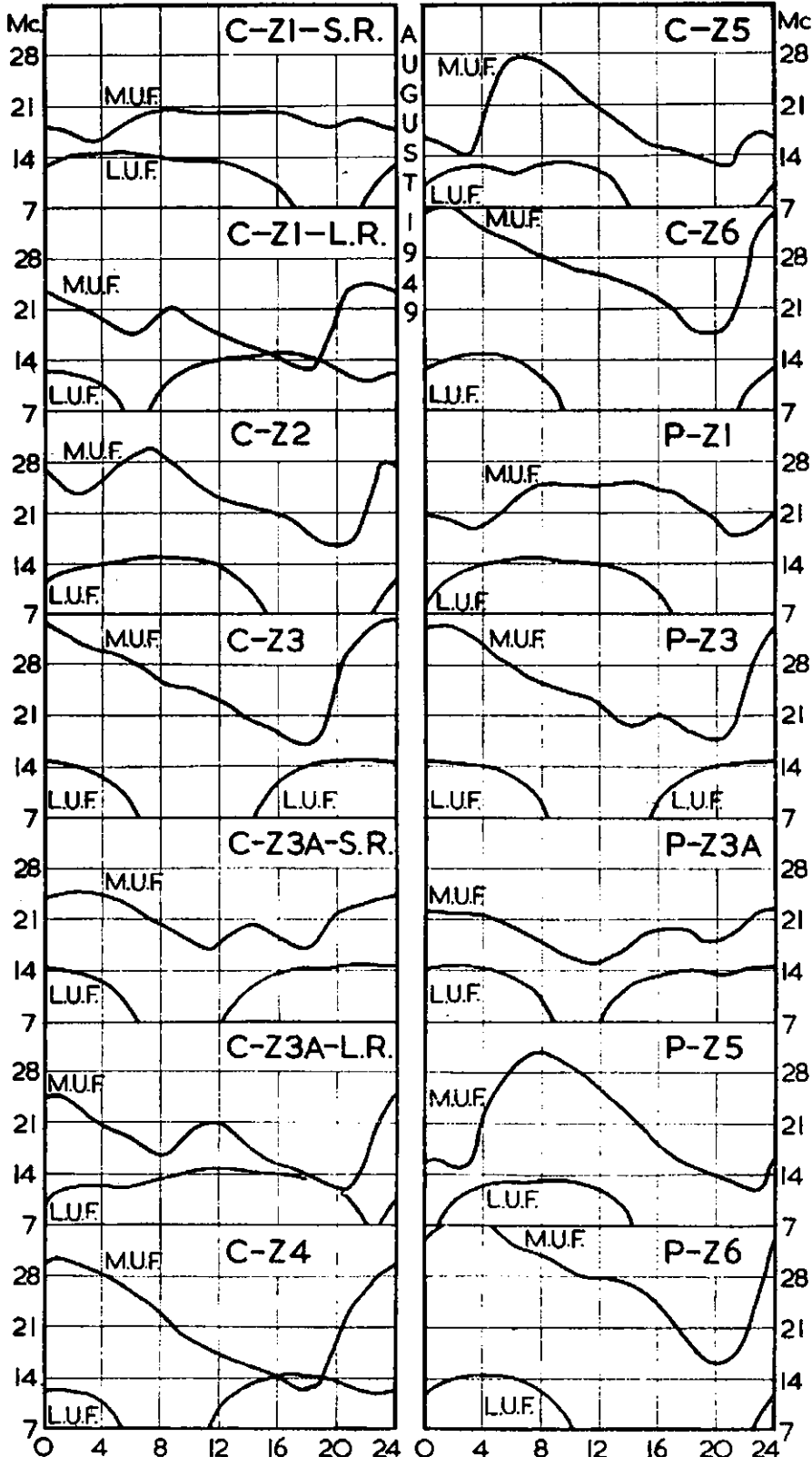
A few things were learned from the experience, the main being that the Hunter Valley should have an Emergency Amateur Network organised immediately, in case of future disasters, whether it be floods or bush fires.

The nomination of a control station at the emergency area would be an advantage, provided the frequency chosen for such a network was unaffected by skip distance and all stations in the network were audible, but in our recent experience such was not the case, hence much relaying and duplication was absolutely necessary, hence no one single control station could have controlled things.

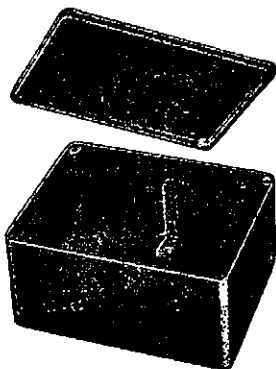
We mentioned before the transmitter used at VK2AKP, 15 watts, 6V6 oscillator, 807 final. At VK2AHA the transmitter was 100 watts to an 813, Class B modulated, although n.b.f.m. was used all day Sunday. All equipment at both stations being home made. Another point worth mentioning is, although Vic, VK2AKP, was putting out an excellent signal on 40 metres, the high noise level and skip prevent direct reception at Police Station VKG3, and also at VK2AKP only one receiver was available, hence he was unable to hear VKG3 direct.

IONOSPHERIC PREDICTIONS FOR THE AMATEUR BANDS

0 4 8 12 16 20 24 0 4 8 12 16 20 24 GMT.



BIG PRICE REDUCTIONS ON EDDYSTONE COMPONENTS



Cat. No. 850

● Shown on this page are just some of the Eddystone Components featuring in a big after-stocktaking clearance. Here is a wonderful opportunity to obtain world-famous Eddystone Components at greatly reduced prices. They won't last long—so don't delay!

A small zinc alloy Die-Cast Box, measuring $4\frac{1}{2}$ " x $3\frac{1}{2}$ " x 2". Ideal for V.F.O. Coil Screened Boxes, Frequency Meters, etc.

Usual Price—11/11

Sale Price—**8/6**



Cat. No. 1008

An Extension Control Outfit complete with panel bushing and 3" brass extension piece. Ideal for Tuning Condensers located remotely from panel. Paxolin tubing withstands at least 1,000 volts.

Usual Price—4/6

Sale Price—**3/11**

Order NOW from your local distributor:—

- VICTORIA: J. H. MAGRATH & CO., 208 Little Lonsdale Street, Melbourne.
- N.S.W.: JOHN MARTIN PTY. LTD., 116-118 Clarence Street, Sydney.
- Q'LAND: CHANDLERS PTY. LTD., Cnr. Albert and Charlotte Streets, Brisbane.
- WESTERN AUST.: CARLYLE & CO., Hay Street, Perth, and 397 Hannan Street, Kalgoorlie.
- WESTERN AUST.: ATKINS (W.A.) LTD., 894 Hay Street, Perth.
- SOUTH AUST.: GERARD & GOODMAN LTD., 192-196 Rundle Street, Adelaide.
- TAS.: W. & G. GENDERS PTY. LTD., 53 Cameron St., Launceston, and Liverpool St., Hobart.

Australian Factory Representative: R. H. CUNNINGHAM & CO., 420 William St., Melbourne, C.1

Low loss 6-pin Coil Former, threaded on plain ribs. Made from DL9 material. Outside diameter $1\frac{1}{4}$ ". Made for receivers or low power transmitters. For use with Cat. No. 964 base.

Usual Price—5/-

Sale Price—**3/11**

(Base—2/9)

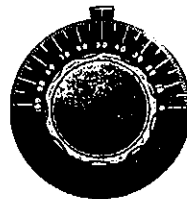


Cat. No. 537

A 10:1 ratio Miniature Precision Dial of extremely handy size (2" diam.). Finish, black. Complete with index strip.

Usual Price—23/10

Sale Price—**19/.**



Cat. No. 597

Send 1½d. stamp for your copy of the latest Eddystone Constructors Manual—it's FREE and full of good, practical designs for transmitters, receivers, converters, etc.

Results of the 1949 Trans-Tasman Contest

And so another Trans-Tasman is completed—this year with much greater interest and a larger number of entries. Outstanding scores were turned in by ZL1MB in the C.W. Section for the second year in succession, by VK2PA in the Open Section, and ZL3HC in the Phone Section. The ZL2s were particularly scarce due to a Convention being held in Wellington. The number of logs forwarded was somewhat disappointing in view of the large number of both ZLs and VKs known to have completed a number of contacts. To those who sent in check logs, the Committee extend their sincere thanks along with their congratulations to the winners in the various Sections.

Results below list in the following order:—Call, bands worked, average power used, districts worked, contacts and total points.

AUSTRALIA

Open

VK2PA	4	82	16	81	3888
VK7AB	4	90	16	52	2496
VK7LZ	4	42	16	48	2304
VK2OE	4	66	14	41	1722
VK6RU	4	100	12	36	1296
VK3JZ	4	80	12	27	972
VK4SN	3	10	10	22	660
VK3HG	4	75	11	16	528
VK2HZ	2	70	8	21	504

C.W.

VK2QL	4	55	16	40	1920
VK2ZC	4	66	16	34	1632
VK2PA	4	86	15	32	1440
VK3UM	4	35	15	30	1350
VK3XK/7	3	25	11	23	759
VK3ZC	3	30	8	19	456
VK5OU	2		8	19	456
VK2RA	2		4	7	*84
VK5JG	3	30	4	5	*60
VK5RK	1	30	3	4	46
VK3XB	1	25	1	4	36
VK4JF	1	30	2	2	*12
VK6AS	1		1	1	*3

Phone

VK2PA	3	78	9	49	1323
VK2CI	2	22	8	53	1272
VK4HD	2	45	7	23	463
VK3TE	1	70	4	20	240

NEW ZEALAND

Open

ZL3HC	4	100	22	88	5808
ZL4GA	4	70	19	80	4560
ZL1AU	3	75	13	31	1209

C.W.

ZL1MB	4	100	22	85	5610
ZL4GA	4	90	19	65	3704
ZL4JA	4	45	21	58	3654
ZL3HC	4	100	19	45	2394
ZL2MM	1	80	6	29	522
ZL3CP	1	48	5	11	185
ZL4CD	1	46	1	1	*3

Phone

ZL3HC	3	100	15	48	2160
ZL2GG	1	60	6	23	414
ZL1CU	2	30	7	16	336
ZL4GA	3	50	7	15	315
ZL2AIN	1	80	4	9	108

* Indicates a check log.

1948 VK-ZL DX CONTEST

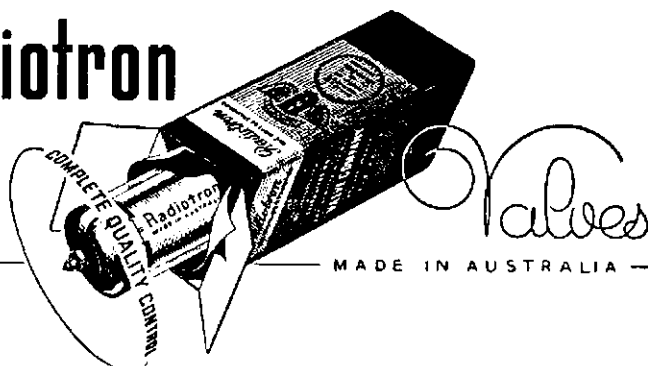
No word has yet been received from the N.Z.A.R.T. regarding the results of the VK-ZL Contest, however it is hoped that they will be in the next issue.



Radiotron's latest valve release
A.C. miniatures for 6.3 volt supply.

- Top performers on broadcasting.
- Outstanding on short waves.

Radiotron



Amalgamated Wireless Valve Co. Pty. Ltd.

47 YORK STREET — SYDNEY, N.S.W.



QSL CARDS

The DEE WHY PRINTING WORKS is making available to the Amateur Experimenter a Special QSL Card Printing Service. Knowing the requirements of Hams, we are confident the service offered will be unsurpassed in Australia.

Cards can be printed to your own specifications, and if illustrations or blocks are necessary, our Art Department can produce these for you.

- ★ The Ham specially catered for.
- ★ Quality Cards at economical prices.
- ★ Prompt Service.
- ★ One, two or three colours if required.
- ★ Interstate orders handled.

Dee Why Printing Works

67 HOWARD AVENUE, DEE WHY, SYDNEY.

Telephone: XW 8367.

Proprietor: GEOFFREY BOWER



McGILL'S (Est. 1860)

OVERSEAS AND LOCAL POPULAR MAGAZINES
OBTAINABLE ON SUBSCRIPTION

AMERICAN . . .

Audio Engineering, £1/6/-; CQ, £1/12/-; Communications, £1/4/-; Electronics, £7/6/-; Popular Science, £1/5/-; Popular Mechanics, £1/8/-; QST, 33/6; Radio News, £1/12/-; Radio Electronics, 29/6; Science Digest, 24/-; Science and Mechanics, £1; U.S. Camera, 28/-.

ENGLISH and AUSTRALIAN . . .

Australian Radio World, 16/-; AmateurRadio, 6/-; Electronic Engineering, £1/12/6; Radio and Hobbies, 12/-; Radio and Science, 12/-; Shortwave Magazine, £1/7/6; Wireless World, £1/12/6; Wireless Engineer, £2.

(Add exchange to Country and Interstate Cheques.)

Large Range of Technical Books, Stationery and Novels on Display.

Mail Orders by Return Post.

McGill's Authorised Newsagency

183-185 ELIZABETH STREET, MELBOURNE, C.1, VICTORIA.

(The G.P.O. is opposite)

M 1475-76-77



Federal President: W. R. Gronow, VK3WQ; Federal Secretary: W. T. S. Mitchell, VK3UM, Box 2611W, G.P.O., Melbourne.

NEW SOUTH WALES

Secretary.—Dick Dowe (VK2RP), Box 1784, G.P.O., Sydney.

Meeting Night.—Fourth Friday of each month at Science House, Corner Gloucester and Essex Sts., Sydney.

Divisional Sub-Editor.—L. D. Cuffe, VK2AM, 14b Watson Street, Neutral Bay, N.S.W.

Zone Correspondents.—North Coast and Tablelands: P. A. H. Alexander, VK2PA, Hill St., Port Macquarie; Newcastle: E. J. Baker, VK2FP, 13 Skelton St., Hamilton, Newcastle; Coalfields and Lakes: H. Hawkins, VK2YL, 27 Comfort Ave., Cessnock; Western: G. J. Russell, VK2QA, 116 Bgan St., Nyngan; South Coast and Tablelands: R. H. Rayner, VK2DO, 42 Pettit St., Yass; Southern: E. N. Arnold, VK2OJ, 678 Forrest Hill Ave., Albury; Western Suburbs: A. C. Pearce, VK2AHB, 48 Harrabrook Ave., Five Docks; Eastern Suburbs: H. Kerr, VK2AX, No. 4 Flat, 144 Hewlett St., Bronte; North Sydney: L. D. Cuffe, VK2AM, 779 Military Rd., Mosman; St. George: J. A. Ackerman, VK2ALG, 32 Park Rd., Carlton; South Sydney: V. H. Wilson, VK2VW, Cr. Wilson St. and Marine Pde., Maroubra.

VICTORIA

Secretary.—C. C. Quin, VK3WQ.

Administrative Secretary.—Mrs. O. Cross, Law Court Chambers, 191 Queen St., Melbourne, C.I.

Meeting Night.—First Wednesday of each month at the Radio School, Melbourne Technical College.

Zone Correspondents.—North Western: R. E. Trebilcock, VK3TL, 122 Victoria St., Kerang; Western: C. C. Waring, VK3YW, 12 Skene St., Stawell; South Western: W. H. Ross, VK3UT, Ballanleigh, via Warrnambool; North Eastern: J. A. Miller, VK3ABG, "Erinvale," Avenel; Far North-Western Zone: Harry Dobbyn, VK3MF, 42 Walnut Ave., Mildura; Eastern Zone: Mrs. P. M. Churchward, VK3US, "Shirley," Red Hill.

WI BROADCASTS

All Amateurs are urged to keep these frequencies clear during, and for a period of 15 minutes after, the official Broadcasts.

VK2WI.—Sundays, 1100 hours EST, 7196 Kc. and 2000 hours EST, 50.4 Mc. No frequency checks available from VK2WI. Intra-State working frequency, 7175 Kc.

VK3WI.—Sundays, 1180 hours EST, simultaneously on 3580 and 7196 Kc. and re-broadcast on 50 and 144 Mc. bands. Intra-State working frequency 7185 Kc. Individual frequency checks of Amateur Stations given when VK3WI is on the air.

VK4WI.—Sundays, 0900 hours E.S.T. simultaneously on 3750 Kc., 7196 Kc., 14342 Kc., 52.4 Mc. and 144.138 Mc. Frequency checks are given two nights weekly, and the times are announced during Sunday broadcasts. 7065 Kc. channel is used from 1000 to 1030 hours each Sunday as VK4 query service to VK4WI.

VK5WI.—Sundays, 1000 hours SAST, on 7196 Kc. Frequency checks are given by VK5DW on Friday evenings on the 7 and 14 Mc. bands.

VK6WI.—Saturdays 1400 hours, Sundays 0930 hours WAST, on 7196 Kc. No frequency checks available.

VK7WI.—Second and Fourth Sundays at 1000 hours E.S.T. on 7196 Kc. No frequency checks are available.

QUEENSLAND

Secretary.—W. L. Stevens, VK4TB, Box 638J, G.P.O., Brisbane.

Meeting Night.—Last Friday in each month at the State Service Building, Elizabeth St., City.

Divisional Sub-Editor.—F. H. Shannon, VK4SN, Minden, via Rosewood.

SOUTH AUSTRALIA

Secretary.—E. A. Barbler, VK5MD, Box 1234K, G.P.O., Adelaide.

Meeting Night.—Second Tuesday of each month at 17 Waymouth St., Adelaide.

Divisional Sub-Editor.—W. W. Parsons, VK5PS, 483 Eplanade, Henley Beach.

WESTERN AUSTRALIA

Secretary.—W. E. Coxon, VK6AG, 7 Howard St., Perth.

Meeting Place.—Pudbury House, Cnr. St. George's Ter. and King St., Perth.

Meeting Night.—Watch the Monthly Bulletin.

Divisional Sub-Editor.—D. Couch, VK6WT, Mary St., Waterman's Bay, Western Australia.

TASMANIA

Secretary.—R. D. O'May, VK7OM, Box 371B, G.P.O., Hobart.

Meeting Night.—First Wednesday of each month at the Photographic Society's Rooms, 163 Liverpool St., Hobart.

Divisional Sub-Editor.—Capt. E. J. Cruise, VK7EJ, Anglesea Barracks, Hobart.

Northern Correspondent: C. P. Wright, VK7LZ, 3 Knight St., Launceston.

FEDERAL

DX C.C. LISTING

As Newfoundland and Labrador have been deleted from the Countries List, due to their incorporation into the Dominion of Canada, members' totals below have been adjusted accordingly.

PHONE

VK3JD (1)	34	125
VK6RU (2)	37	118
VK6KW (4)	30	115
VK3BZ (8)	37	114
VK6DD (6)		100
VK3IG (5)		100

C.W.

VK3CN (1)	40	143
VK3BZ (6)	40	142
VK3YW (4)	39	124
VK2QL (5)	40	131
VK4EL (9)	39	129
VK3EK (8)	39	121
VK3KB (10)		120
VK4HR (8)	39	117
VK2EO (2)	40	115
VK4DA (7)	38	112
VK4RF (11)	34	109
VK3UM (12)	30	103

OPEN

VK3BZ (4)	40	167
VK2DI (2)	40	159
VK6RU (8)	37	149
VK3JE (12)	30	147
VK3HG (3)	30	141
VK4HR (7)	30	138
VK3KY (1)		135
VK6KW (13)	30	135
VK3MC (5)	39	131
VK4EL (10)	30	129
VK2NS (16)	39	122
VK2ZC (25)	38	108

New Open Members—

VK4KS (24)	103	
VK2ZC (25)	38	108

COUNTRIES LIST

The date of partition of Israel (mentioned in last month's Notes) is the 14th May, 1948. Contacts with stations in the new State of Israel and Palestine (Arab) will be counted from this date. Due to doubt on the actual geographic boundaries of both States, cards are only being allowed from one or the other State, until such time as the boundaries are made clear.

SILENT KEY

VK3UN

It is with deep regret we announce the passing of Robert (Bob) M. Dalton, VK3UN, ex-VK3UI, suddenly at his home in Camberwell, Melbourne, on 2nd July, 1949.

FREQUENCY ALLOCATIONS

The following is a list of the bands available for use by the Amateur Service in Australia, followed by the types of emission allowed on those bands.

3.5 to 7.0 to 14.0 to 26.96 to 28.0 to 50.0 to 114 to 288 to 576 to 1215 to 2300 to 5630 to 10000 to 21000 to 30000 Mc. and higher—	3.8 Mc.—A1, 3, 3a, 6FS.
7.0 to 14.0 to 26.96 to 28.0 to 50.0 to 114 to 288 to 576 to 1215 to 2300 to 5630 to 10000 to 21000 to 30000 Mc. and higher—	7.2 Mc.—A1, 3, 3a, 6FS.
14.0 to 26.96 to 28.0 to 50.0 to 114 to 288 to 576 to 1215 to 2300 to 5630 to 10000 to 21000 to 30000 Mc. and higher—	14.4 Mc.—A1, 3, 3a, 6FS.
26.96 to 28.0 to 50.0 to 114 to 288 to 576 to 1215 to 2300 to 5630 to 10000 to 21000 to 30000 Mc. and higher—	27.23 Mc.—A1, 3, FM.
28.0 to 50.0 to 114 to 288 to 576 to 1215 to 2300 to 5630 to 10000 to 21000 to 30000 Mc. and higher—	30.0 Mc.—A1, 3, 3a, 6FS.
50.0 to 114 to 288 to 576 to 1215 to 2300 to 5630 to 10000 to 21000 to 30000 Mc. and higher—	54.0 Mc.—A1, 2, 3, FM.
114 to 288 to 576 to 1215 to 2300 to 5630 to 10000 to 21000 to 30000 Mc. and higher—	148 Mc.—A0, 1, 2, 3, FM, Pulse.
288 to 576 to 1215 to 2300 to 5630 to 10000 to 21000 to 30000 Mc. and higher—	296 Mc.—A0, 1, 2, 3, FM, Pulse.
576 to 1215 to 2300 to 5630 to 10000 to 21000 to 30000 Mc. and higher—	585 Mc.—A0, 1, 2, 3, FM, Pulse.
1215 to 2300 to 5630 to 10000 to 21000 to 30000 Mc. and higher—	1800 Mc.—A0, 1, 2, 3, FM, Pulse.
2300 to 5630 to 10000 to 21000 to 30000 Mc. and higher—	2450 Mc.—A0, 1, 2, 3, FM, Pulse.
5630 to 10000 to 21000 to 30000 Mc. and higher—	5850 Mc.—A0, 1, 2, 3, FM, Pulse.
10000 to 21000 to 30000 Mc. and higher—	10500 Mc.—A0, 1, 2, 3, FM, Pulse.
21000 to 30000 Mc. and higher—	20000 Mc.—A0, 1, 2, 3, FM, Pulse.
30000 Mc. and higher—	30000 Mc. and higher—A0, 1, 2, 3, FM, Pulse.

Note.—6FS emission represents a maximum deviation from the quiescent frequency of plus or minus 3 Kc.

W.I.A. ACTIVITIES CALENDAR

- August 13-14: Remembrance Day Contest.
- Sept. 17-18: First Week-end Indian DX Contest.
- Sept. 24-25: Second Week-end Indian DX Contest.
- Sept. 25: R.S.G.B. Direction Finding Contest.
- Oct. 1-2: 1949 VK-ZL Contest (c.w.).
- Oct. 8-9: 1949 VK-ZL Contest (phone).
- Oct. 15-16: 1949 VK-ZL Contest (c.w.).
- Oct. 22-23: 1949 VK-ZL Contest (phone).
- Oct. 29-30: European DX Contest.

REMEMBRANCE DAY CONTEST

This annual Contest of the W.I.A., the Rules for which were printed in last month's "A.R." page 12, is to commence on 13th August at 1800 hours and concludes at 1750 hours on the 14th August. This Contest perpetuates the memory of those Amateurs who made the supreme sacrifice during the 1939-45 War, and we rejoice all active Amateurs to take part in this very popular event. It was very popular last year, but this year we expect a "bumper" entry as it is conducted under a spirit of "friendly rivalry" between the various States. We do, however, urge all non-participants (we hope there won't be many) to observe the "gentleman's agreement" on the use of frequency channels. As every Amateur who makes five or more contacts can assist his State's score, please send in those logs.

FEDERAL CONSTITUTION ALTERATION

Federal Executive, on behalf of the Federal Council of the Wireless Institute of Australia, hereby gives notice that it is intended to alter the FEDERAL CONSTITUTION OF THE WIRELESS INSTITUTE OF AUSTRALIA (as amended) 1947, Part III, Section 9, as follows:—

"Each representative of a Division on the Federal Council shall be elected annually during the period of sixty days immediately prior to the commencement of the annual Federal Convention by the voting members of the respective Division."

COPIES OF "A.R."

At the recent Federal Convention, a motion was passed by Federal Council that members in outlying districts may obtain their copies of "Amateur Radio" by airmail by making the necessary arrangements through their Divisional Council. Such extra expense will be borne by the member concerned.

STATE OBSERVERS

In order to ensure effective action in clearing the Amateur Bands of commercial-station operation, the Federal Council decided at the last Convention that the most efficient method of combating these "menaces" would be to appoint official observers in each State. Some Divisions have already appointed one or two observers in each State, but reporting will be more effective if a number of observers are available for this duty. Here is your opportunity to offer your services to your Division and assist the Institute as a whole. Associate members of the Divisions can be especially useful in this regard; so if you wish to undertake this important function please contact your Divisional Council at the earliest.

FEDERAL QSL BUREAU

RAY JONES, VK3RJ, MANAGER

Bud Woida, W9KQB, 2001 Washington St., Manitowoc, Wis., U.S.A., writes: "May I inquire what is the trouble with the VK gang who operate the 7 Mc. band? I have contacted eight of them and each one promised faithfully to be the first VK to send me a card but yet have nothing to show from your country. The ZLs QSL 100 per cent. Stations owing me a card are VKs 3AE, 3CC, 3MC, 3FX, 3ARS, 2GW, 5WG, 5KO. It is not often that we W9s work VK with QRP." Perhaps some of the listed stations will do the right thing by Bud.

David Watkins, MF2AC, care the British Forces Radio Station, via Belloguardo No. 8, Trieste, Free Territory of Trieste, desires all cards for contacts with his station to be sent to the above address.

George Hottin, 2654 North Palmer St., Milwaukee 12, Wis., U.S.A., writes enquiring for the present address of the station who signed VK4TA and worked the twenty metre phone band during May of 1948. He has forwarded a stamped addressed envelope for my reply. Can anyone help out with the information?

In the following flowery language, CO7GM sends out chaser cards for QSLs he has not yet received. I quote: "According to my log book is evident that in 1948 this sincere friend of you, had the great privilege of having a contact with your station. Likewise is certain from the records of my log book that to verify that pleasant contact it was mailed immediately to you my QSL card. To-day looking through my QSL file, invaluable treasure of my station, I note with great grief and sadness that the place of honour assigned to your card is empty. Perhaps misplaced in the mail, perhaps involuntary forgetfulness due to something unexpected out of your knowledge, have deprived me of the rejoicing and pleasure of receiving this attention in agreement of mine. Begging pardon for this sane reminder, and meanwhile, I hope that you continue having the sincere expression of my friendship and good fellowship, your always friend and colleague, Guillermo Melo Quiros." A little verbose, maybe, but exquisitely put, and should achieve results.

Has anyone any fresh dope on VE4SI, portable Gilbert Island, who is telling Yanks galore that he

is now licensed by the Australian Government.

Phil Padberg, WOSGE, advises that he has acquired himself a half acre allotment at 5910 S. Vandale, R.F.D.6, Wichita 16, Kansas, and plans to utilise it to advantage to solve antenna problems.

The most sought after VU—VU7AF—has now QRT for Ambass. "Too-too," the operator, was the Indian Ambassador in Nepal (a small independent state sandwiched between India and Tibet) and has now returned to India. We expect to hear him again soon under a YU2 call sign.

To compensate for the loss of this rare DX station, India offers two brand new stations, FN1G and FN8DC. Both are licensed and are situated in a French Indian town—Chandernagore—approximately 30 miles north of Calcutta.

VU2HM, well known to many VK stations, informs us that he has misplaced his log book and a bundle of QSL cards he had received from DX countries. He requests all stations who have not yet received his card to send a duplicate card to the A.R.C.I. QSL Bureau, Box 6866, Bombay 20, India, marked "duplicate." The Bureau holds a stock of blank cards and will send out a fresh one to Hams needing same.

The first DX contest organised by the Amateur Radio Club, India, will be held from 1130 hours G.M.T., Saturday, 17th September, to 1830 hours G.M.T., Sunday, September 18, and from 1130 hours G.M.T., Saturday, September 24, to 1830 hours G.M.T., Sunday, September 25. It is open to all countries bounded by longitudes 10 East to 180 East.

NEW SOUTH WALES

HEADQUARTERS NOTES

Owing to the present power restrictions, the meeting of the N.S.W. Division, set down for Friday, 24th June, was unable to be held. Science House, where the meeting is convened each month, has no auxiliary power supply of its own, and a few days before the meeting was due, it was announced that Science House would be closed to all night gatherings for the duration of the present restrictions.

Efforts are being made to secure a meeting place for the July gathering, but the situation is present-

ing difficulties, as may be imagined. However, we never know our luck.

Zone correspondents' notes are conspicuous by their absence this month. What about a bit of co-operation, chaps? You know "A.R." has advanced publication date, and the copy is needed just that much earlier.

NORTH SHORE ZONE

Not a great deal to report this month, since the present strike has curtailed the activities of most of the boys considerably. Quite an experience to turn on the receiver on Saturday afternoons and hear the DX rolling in with practically no QRM. But it won't last!

First and foremost this month, hearty congratulations are in order to Mr. and Mrs. 2VN. Morrie and his charming XYL are the proud parents of a new YL junior op., who will no doubt emulate her daddy in time and punch a key with the best of them; very f.b.!

Which reminds me that 2PV's three-year-old daughter has quite a professional touch on Pete's bug. 2TL having trouble with his 813 final, and is swearing he will re-build the thing. 2GO copying the commercials like fury, determined to bung his speed up a couple of notches. Says there is a slight difference in the formation of code characters between the commercials and the Hams!

2XM heard chasing some nice DX lately. 2AMB has received a QSL from TA, which tickles him more than somewhat. 2SV completed an f.b. clipper circuit, hooked it up in the modulator, had it working nicely, and then had the misfortune to have his final power supply tranny go up in smoke. He had dual secondaries on it, which shorted—bad luck. 2AJL finished off his mast, and rounded up a bunch of the boys to join a pole-raising bee. 2VE, says rumour, has won a communications receiver—half your luck! 2ZH in the throes of shifting location, which hampers DX to some extent. And, last but not least, congratulations from all on the North Shore to the Hams who did such an outstanding job in the Hunter River Valley during the recent disastrous floods.

SOUTH ZONE

The recent cold and stormy weather probably accounts for lack of activity this month, the v.h.f. bands being particularly quiet. 2WJ is active on 10 and 6 metres, but had trouble with his 10 metre



FOUNDATION

OF A GOOD AMPLIFIER



Acclaimed by users everywhere, Trimax Transformers are constructed from finest materials—and feature high Permeability, Nickel Iron Alloy heat-treated for optimum results. Available in Line to Line, Line to Grid, Plate to Line, Interstage, Single and Push Pull types.

TRIMAX Transformers

29-35 FLEMINGTON ROAD, NORTH MELBOURNE VIC.

(DIVISION OF CLIFF & BUNTING PTY. LTD...)

"HAM" RADIO SPECIALS

Here and Inside Front Cover

SALE SNAPS

Osram Neon Lamps. Ideal for VR Tubes. 2/6 each.
 Mazda 4 watt Pencil Type Fluorescent Tubes. Ideal for R.F. Indicators. 1/6 each.
 Low Impedance Headphone Leads. 1/- each.
 Standard Notes for Wireless Maintenance Mechanics, including Bendix AT5, AR8, etc. 5/- each.
 ODDMENTS.—Volume Controls, all types. Each 1/-.

SALE SNAPS

AT5 TRANSMITTER KEY CLICK FILTERS. Full of useful parts (weigh, 20 lbs.). Each £1.
 GENEMOTORS.—AT5, AR8 (complete). Slightly damaged switches, 24v. input, 550 and 300 volts output, at 250 mills. To clear—£3.
 Relays, 24 volt, single contact in bakelite case. Ideal for the rig; Bargains at 3/6 each.

VALVES DRASTICALLY CUT

S.H. VALVES

Out of Disposals Gear

VR105	10/-
2X2	7/6
879	7/6
6G6	7/6
12A6	10/-
12SG7	7/6
12AH7	7/6
12H6	7/6
12J5	7/6
6SL7	10/-
6R7	7/6
6L7	7/6
6SA7	10/-
6F6	10/-
6N7	10/-
6B4	7/6
6K7	7/6

Huge Quantity of Assorted English Valves

VP41
 VR102
 VR92
 VR122
 VR21
 VU139
 VU111
 VU39

5/-

Each
 To
 Clear

VALVES, TESTED

832 American	£2
6L7	9/6
955	7/6
6R7	9/6
7C7	9/6
6SH7	7/6
6H6	7/6
12J5	7/6
3B24	7/6

BATTERY TYPE VALVES

1J6	7/6
1K4	7/6
1H4	7/6
1M5	7/6
1K7	7/6
1J6	7/6

TYPE 3 MARK II.

TRANSCIVERS

Two only, as new—£28 each.

Wanted to Buy: Transmitters, Receivers, Valves, Components, Transceivers, Type 3 Mk. II., Type A Mk. III.; Good Prices Paid.

"HAM" RADIO SUPPLIERS

(KEN MILLBOURN, PROP.)

5A Melville Street, Hawthorn, Victoria

(East Kew Tram Passes Corner, opposite Vogue Theatre)

Phone: Hawthorn 4465

beam. The high winds broke his co-ax feeder, but a local working bee soon put things right again. 2ABU still working plenty of DX on 20 with his two element beam, but unfortunately his crystal microphone suffered from the damp weather. 2ABB is back from another trip to England and has been heard on 20 metres and threatens to put a signal on 6 metres soon. 2ABC has at last completed his garage and is busy punching large holes in 6 and 10 metres.

I saw one of the nicest beams yet when I had a look at 2VA's latest effort. It is three elements wide-spaced on 20 metres and judging by the construction should withstand all the winds that blow. It will have to as Vince has a very exposed position, right on top of a hill. 2VW also has his new tower and beams completed. Total height is 40 feet with a 4 element wide-spaced for 144 Mc. on top, then a four element wide-spaced on 6 metres, followed by a three element close-spaced on 10 metres. 2UV not heard much lately but I believe he is still active on 20 metres. Has a new folded dipole which works very well. Our congratulations to 2ANB for his effort in winning the recent 144 Mc. Contest. That corner reflector certainly pays dividends. No news from the rest of the gang, so what say, fellows, for next month.

SOUTH COAST AND TABLELANDS

2PI been re-building and has p.p. 807s going, also a modulation checker with a 5BP1, four band exciter under way and double conversion super going OK. 2TY working on new 10 metre beam, but has some more tuning up to be done. 2ANR, 2ASB, 2PM, 2TV visited 2PI at Hall. 2ASB using a Type A Mark III. from Canberra but expects to return to Sydney shortly. 2AMN has been heard but briefly. 'Gong' notes are to hand with thanks to 2MT who is finding DX very poor after some good contacts on 20. Has 80 up post-war and 38 zones, requires South America for W.A.C. on 10. 50 watts to an 807 does the trick and the receiver is 11 tubes double conversion. Chas has 144 Mc. gear going but can't get the 'Gong' crowd interested. 2VH has a folded dipole and with 30 watts doing well. 2UK busy cutting records at Eistedford, no time for Ham Radio. 2WP has had bad luck with some 7 Mc. crystals. Bill had the crystals out for cleaning and the junior op. played bouncy-bouncy with them! 2LA has no room to operate, so is off for the time being. The 'Gong Club' is still active with members swotting for the A.O.C.P. Eric Fisher is amongst the latest to sit for a ticket.

COALFIELDS AND LAKES ZONE

Practically no news from the Lakes area, although 2KR, Woy Woy, and some of the boys at Ettalong have been active on 40. Wyong Hams seem to have given the game away. At Gosford, 2AMU on 28 and 50, 2AEZ 14, and 2RU on 50 and 144 Mc. keep that town on the map. 2RU keeps quite a comprehensive record of conditions on 50 and hopes to make checks at similar periods over various years. Major has been hearing some of the Sydney gang on 144 Mc.

Old-timer 2XO has been heard on 40 phone. 2KZ more or less retired, hope to hear you soon again

Max. Bob 2KF has made some improvements in his rig, putting out a good signal on 28 Mc. 2AJB has left Muswellbrook and now residing at Bellingen or near there. 2VU has been heard with good phone on 40. 2JZ active on 28 although not heard much. 2TY mainly on 28, Bob did some good work for the public during the recent floods at Maitland. 2PZ still not active. 2MK gets out on 40 occasionally and was active during flood week-end. 2ADT has been hearing 2AH on 144 Mc. consistently for a month and has had several 144 Mc. contacts with Alan, also working into Sydney and the Mountains on 50 Mc. Jack did good work on 3.5, 7 and 28 Mc. during the floods.

2YL, who is not as yet very active, also did some valuable work on 7 and 28 Mc. bands during the flood week-end. Stations in the flood area and close districts who seemed to be on the job when the time arose, especially when the telephone wires were down, were: 2AKP, 2XQ, 2TY, 2AHA, 2CI, 2MK, 2NL, 2KF, 2ADT, and 2YL.

VICTORIA

NORTH EASTERN ZONE

These notes will be the last from 3ABG as a new correspondent will be elected at the Wangaratta Convention. As was to be expected after what has been written, your scribe was not invited, but intends going anyway. 3KR, our white plaster saint secretary, ran the last hook-up on 3rd July. Ken's signal was 80 plus, with beautiful quality, and his excellent operating and smooth voice were a pleasure to hear. He is a perfectly balanced Ham, using phone and c.w., v.f.o. and crystal and treats his family well. Research into his past failed to reveal anything interesting (That's what you think.—Ed.). 3UI also is not nearly as bad as reported in these notes during the year. Alan has alternate battery powered station going for power failures.

3UI and 3APP both have n.b.f.m. transmitters and receivers going. 3YV is recovering after his long illness. 3JK is trying to modulate his car 100 per cent. 3TS was out till 2 a.m. on a recent Saturday evening and was not feeling the best during the zone hook-up. Tom may have been celebrating working VK1ADS on 80 metres, or it may have been something else. 3KR's comment: "We were all boys once."

SOUTH WESTERN ZONE

Here we are again with the news of your zone for the past month, but conditions here on 20 and 40 has made it hard, though 80 has been good. Heard 3AKE trying out a new modulator with f.b. results, and Ed, by the way, is putting up an 80 ft. stick. 3BW has his Type A Mark III. on phone on 80 and 40 metres and is getting out well on QRP power. 3ABK has new motor-bike, so Geelong gang will be hearing Dick often now.

3AJF has new QTH but not active as yet. 3ALG had a go at f.m. on 40 and worked 3VF at Drysdale. Fred has been on 20 metre c.w., working some rare DX so I hear. 3BU had receiver trouble but has it cleared up now. 3WT still puts out an

f.b. signal with his QRP rig of only 8 watts. Had 3BE and 3VA down for a day a few weeks ago, but they were not impressed with gear here, of course it's only junk I know. 3BI is over his eye trouble, as I heard him working 3MH the other day, signals were f.b. both ways here and good phone.

3HG runs an S9 signal here on both 40 and 80, also old friend 3II is better here on 80 than 40. Had a short yarn to 3AGD other night and also 3AKR who is putting up a super special vee beam. 3JA can be heard working 3HG on Sunday mornings on 80 and at odd times on 20 c.w. 3YE has improved his signals on 40 now, what did you do Vern? A newcomer to Coiac is Gordon 3AGE who has an f.b. signal for only 15 watts, good work Gordon, keep it up.

Geelong Amateur Radio Club.—At the Annual Meeting of the Geelong Club on 22nd June a report on the activities of the Club during the past year was given by the Secretary Bob Wookey (3IC). The Treasurer, Alf Foster (3AJF), and the Publicity Officer, Fred Freeman (3ALG), gave their reports. New officers were elected by the members and are as follows:—Ed Kossek (3AKE), President; Messrs. W. Brownbill (3BU) and A. Bell (3ABE), Vice-

Low Drift Crystals
FOR
AMATEUR BANDS

ACCURACY 0.02% OF STATED FREQUENCY

3.5 Mc. and 7 Mc.
Unmounted £2 0 0
Mounted £2 10 0

12.5 and 14 Mc. Fundamental Crystals, "Low Drift," Mounted only, £5.

Spot Frequency Crystals
Prices on Application.

Regrinds £1 0 0

THESE PRICES DO NOT INCLUDE SALES TAX.

MAXWELL HOWDEN
15 CLAREMONT CRES.,
CANTERBURY, E.7,
VICTORIA

LOOK FOR THE NAME—



When Buying: **COMMUNICATIONS EQUIPMENT**
ELECTRONIC EQUIPMENT
LABORATORY INSTRUMENTS
RADIO PLUMBING

GLORAD ENGINEERING SERVICES

186a Riversdale Road (Cr. Robinson Road)
HAWTHORN — VICTORIA

Phones—DAY: WA 3819

NIGHT: WX 3440

Presidents; Bob Wookey (3IC), Secretary; Fred Freeman (3ALG), Publicity Officer; Committee: W. Barratt (3WT), Dick Heighway (3ABE), Peter Cartwright, and Jack Mitchell. We wish the Club every success in its second year.

FAR NORTH WESTERN ZONE

A form of hibernation seems to have effected most members of this zone as once again your scribe has little to report. However, we have commenced a zone hook-up every Sunday morning at 0800 hours on 7185 Kc. To date we have had f.b. five-way sessions with 3FC and 3AFC in Ouyen, 3GZ and 3MF in Mildura and our unofficial zone member, Joff 2AHM, who lives up in the sheep country 80 miles north of Mildura. Jeff is the boy whose watts are watts; 3 watts from his QTH and any signal strength meter needles within 200 miles get a terrific hammering. SAUG now has his modulator completed and tested, so we look forward to him joining the hook-up any time now.

Code practice classes continue but I fear that one or two have fallen by the wayside. However those associates that are sticking at it will get through OK as they are as keen as mustard. The big double conversion super Jim Power has had under construction for some time, is now completed and really is a joy to behold; band-switched with a dial giving 600 calibration points, alignment as yet not completed, but this receiver should be making short work of the DX 'ere you read this.

WESTERN ZONE

Our President evidently has something about him the Secretary hasn't got, as he drew the biggest attendance at the zone hook-up for years, nice work George. Feelers were put out for the Annual Convention and same has now been fixed for 18th September and will be held at Castlemaine. The Secretary and the willing local Hams are now busy devising ways and means, but whatever happens chaps, keep the date in mind—keep it free—talk about it over the air—and come along yourselves. We can promise an interesting day and lots of fun.

EASTERN ZONE

The Eastern Zone is planning its next Convention, and present indications are that the last weekend in November will see a large gathering in the Morwell-Yinnar district. More definite details will be available for the next issue of the Magazine. An interesting programme is being drawn up, so we suggest that you all do your best to come along to our Convention.

We are pleased to welcome two more v.h.f. men to the zone. 3TO has moved to Yallourn, from Camberwell, and we expect some 144 Mc. activity from him. There's a contact for you, Syd, on those field days! 3OD, late of Horsham, has recently moved to Frankston. Claude has quite a reputation for 6 metre DX, and his new location should prove satisfactory. We hope to hear you both in our weekly Sunday hook-ups, 2000 hours on 3660 Kc.

3PR had 3DI to help him erect his new masts in an area free from roving stock. You should put out an even better signal now, Ron. 3QZ is still waiting impatiently for the time when he can set up his gear in his new home. Graham seems to spend all his spare time on the Estate. 3SS is snowed under with work, and wistfully remarked recently that Junior Op., David, will soon be old enough to give valuable assistance. 3VE is still having trouble with his line to the lounge. The Omeo weather is living up to its reputation. 3TH is back from motoring through Victoria. Gordon enjoyed his well-earned holiday, though he did very little portable work. Two QSOs were all that he had.

QUEENSLAND

The June general meeting was held on the 24th June, 1949. The President 4AW was in the chair and the 25 members present were made up of 18 transmitting members and 7 students. The President called for volunteers to act as official observers to police the Ham bands and report on the commercial stations heard operating therein. There were few offers, the general opinion being that it was the duty of every Ham to report such matters and thus help to keep the bands free of all but Amateur transmissions. 4FN reported on the progress being made to establish emergency network. After which, those present were treated to a two-hour screening of films. Our thanks go to the generosity of the Poultry Farmers Association and to 4KO who made the screening possible. The films dealt with Electro Magnetic Induction, the Electron, the Diode, the Triode, plus a film titled "Pygmies of Africa." It is a pity that the fact that these films were to be screened was not publicised to enable many more members to have made arrangements to be present.

Sunday the 19th June marked the first of the regular Sunday morning transmissions of a.s.a.c. by 4WI. The frequency being used is 7100 Kc. This Sunday was also the first time that a station outside Australia took part in the round table chat after the news broadcast, the station being a VR2.

A Technical Committee has been formed with the following six being elected unopposed: VK4ES, 4WJ, 4TR, 4RL, 4AG and Mr. R. Henry. A Technical Director will be appointed later.

Frank, of "burnt out transformer" fame, has started a new trick, his latest being to set fire to tuning condensers. And speaking of fires, we regret that 4WF had the misfortune of having his HRO and most of the transmitting gear destroyed by fire.

ZONE NEWS

Townsville Zone (4QD).—On 18th June the Townsville Club held a Social Evening at which all the OMs, XYLA, YLs, and harmonics had a most enjoyable time. Clifford Arnold, of Amateur Hour fame, was also present, but the only talent he could find were "ear-bashers." The Townsville boys told him all about the Amateurs but not the same type the talent scout was looking for. Most of the gang up here have gone in for phase modulation. The Club has given up its rooms and now hold their meetings in the second studio of 4TO. 4RW is now using a G8FO on 20. The morning after the social we noticed that 4RU sounded like a very bad hang-over and complained of a sour taste, whilst 4RW in between hiccoughs wondered how his car was after the night's outing. Did they spoil the crackle finish Bob?

Mackay Zone (4KW).—Very little from this zone this month. Conditions have not been favourable for the keeping of our weekly skeds. Stations from this zone being very hard to copy on the last four Sunday mornings.

Rockhampton Zone.—Although we have no official correspondent for this zone, we have managed to get a little news from the boys up there. We are indebted for our information to 4XJ who has recently moved to Rockhampton. 4VD is using a peak limiter and a 4 element rotary beam. He has 160 countries post-war. 4DO uses a pair of 807s with 80 watts input. 4TD is very interested in 10 and 6 metres and is the only one in Rocky operating on 6 metres. 4ZB very active on 10 metres. 4EC re-building and still working on repairs to antenna which was damaged in the cyclone. 4ZL moving to a new QTH. 4WA heard occasionally on 40 metres working 4EW. Les was very impressed with the excellence of the rotary beams being used by practically every Ham in Rocky. We understand that the Rockhampton Radio Club has been abandoned.

Bundaberg Zone (4BJ).—4HE testing new system of break in operation. 4UK building Command receiver for use in the new car. During the month

TRANSFORMERS, CHOKES, ETC.—

Manufactured to order. Following stock sizes available:

SOLVE YOUR MAINS TROUBLES WITH AN AUTO TRANSFORMER.

T.C.C. 1.5 uF. 4,000 volt working Condensers, £2 each.

FERRANTI 0-500 Micro-Amp. Meters, luminised dial, new, £2 each.

R.C.A. 834 Tubes, new, £1/8/- each.

Crystals as illustrated, 40 or 80 metre, AT or BT cut. Accuracy 0.02% of your specified frequency £2/12/6 each

20 metre Zero Drift £5/-/-

Large, unmounted, 40 or 80 metre £2/-/-

Special and Commercial Crystals. Prices on application.

CRYSTALS REGROUND £1/-/- each.

BRIGHT STAR CRYSTALS may be obtained from the following Interstate firms:—

Messrs. A. E. Harrold, 123 Charlotte St., Brisbane; A. G. Healing Ltd., 151 Pirie St., Adelaide; Atkins (W.A.) Ltd., 894 Hay St., Perth; Lawrence & Hanson Electrical Pty. Ltd., 120 Collins St., Hobart; Collins Radio, 409 Lonsdale St., Melbourne.

A.W.A. SPLIT STATOR TRANSMITTING CONDENSERS, high voltage £2/15/- each.

SCREW TYPE NEUTRALISING CONDENSERS (National type) to suit all triode tubes, Polystyrene Insulation 19/6 each.

Prompt delivery on all Country and Interstate orders.

Satisfaction Guaranteed.

BRIGHT STAR RADIO. K. G. Allen (Late R.A.N.)

1839 LOWER MALVERN ROAD, GLEN IRIS, S.E.6, VICTORIA.

Phone: UL 5510.

POWER TRANSFORMERS—

600 Volts aside, 250 Ma. £3 5 0

880 Volts aside, 300 Ma. 4 17 6

1250 Volts aside, 400 Ma. 6 17 6

Tappings taken out where desired.

POWER TRANSFORMERS and CHOKES

Re-wound—Reasonable Prices.

VALVES—

RCA 866A Rectifiers £1 5 0 each

Sylvania 6L6Gs 15 0 each

1616 Rectifiers 17 6 each

6AC7s 12 6 each



4BG of Maryborough visited 4BJ and met the Bundy gang at their Club meeting.

Gympie Zone (4HZ).—4LN has been playing around with an ATR58 and is so taken up with it that Barry wants to buy one. 4RA using a semi-vertical and a 696 transmitter to rope in North Americans. 4KT still inactive but still manages to collect a nice batch of DX cards, so beware fellows, the 4KT at present operating is a pirate. Another in the Gympie Zone who has a very active pirate on 20 metres is 4HD. 4HZ has re-vamped his F56 and now has coverage from 3.45 to 7.3 Mc. Jim also experimenting with loop antennae on 80 metres but striking a lot of trouble with arcing across the final tuning condenser. Can anybody supply Jim with dope on how to construct and use loop antennae?

Downs Zone (4UX).—During the month 4ZU was operating portable near Pampas checking the F layer for the C.S.I.R. 4DA is now operating on 40 n.b.f.m. 4CU building a new rig for 50 Mc. using 815 in the final. Charlie switched on the receiver whilst his rig was running and blew a tube in the receiver. Charlie reckons that good use can be made of burnt out fluorescent tubes as dummy antennae. On the 26th June between 1830 and 1920 hours, 4XX worked 3PG and 3IN on 50 Megacycles.

SOUTH AUSTRALIA

The monthly general meeting for June was held to another capacity house when Mr. Bourne, of Phillips Valves, gave a very interesting and constructive lecture on "Valve Manufacture," illustrated with samples of valves, and also using the opediasco, that is to say the opeplask, the okeidiposk, oh well, have it your own way, the magic lantern. (I must get Dr. Adey to pronounce that word for me one day, he should know it, because he is always the operator.) The lecture was probably the longest we have ever had, but at no time did it appear so, and the vote of thanks so ably proposed by "Pop" Deane (5LD) was a clear indication of the meeting's appreciation, judging by the applause. The meeting for once closed on a quiet note, and I must do something about that as we sure do like a bit of noise to close the meeting.

Quite a number of members were very disappointed when Gordon Bowen (5XU) did not oblige with a little entertainment on the organ that was parked over in the corner of the meeting room, it was only a small organ, and that probably was the reason, because Gordon always plays on a large organ and would have been out of touch or something, mostly something I think.

Among the very welcome visitors were Messrs. D. Osborn, G. Stone, G. Britton (G3CXQ) and last but not least (SV1GR) S. Stephanou. Seeing him at the meeting called to my mind the time about two years or so ago when we heard his plea for help read out to the general meeting. For the benefit of the country member and any others who may be interested, it appears that some two, or two and a half years ago, SV1GR began to realize that his homeland of Greece could no longer offer him anything in the way of peace, comfort, or security, and he decided to write to the three Divisional Secretaries of the W.I.A., to wit, VK2, VK3, VK5, in the hope that they could help him regarding information, etc., as to how he could migrate to the land of promise that he had heard so much about during his many contacts with VK Amateurs.

The only secretary to reply was "Doc" (6MD), and he enclosed full particulars to SV1GR, who promptly replied, and it was this letter that "Doc" read out to the meeting. At this period in the proceedings, "Doc" realised that he could do no more in the matter, and handed the matter over to a Mr. Lewis who is the recognised leader of the Greek community in VK5. The results of this move can now be seen, and SV1GR must surely feel it was his lucky day that prompted him to write to the W.I.A., and also that one Divisional Secretary was not too busy to extend the helping hand of Amateur Radio to a fellow Ham in a distant country. SV1GR flew out from Greece to Sydney, and although he stayed there for a period, it now seems that the DX had broken through or something, because only one VK2 came to see him. He then took off for VK5 and was met on arrival by "Doc" and Hal Austin (5AW) who saw him safely installed in a hotel, and feeling as comfortable as possible under the circumstances. He then celebrated his arrival in VK5 by having 27 teeth out almost the next day, what a man! Well there's the story fellows, and without doing any "crawling" to Mr. Teddy Barbier (5MD), I think he has got what it takes to be a "white" man. Nuff sed!

Max Farmer (5GF) and Joe McAllister were two members of a syndicate lucky enough to get second prize in a certain Interstate consultation. Two thousand of the best. Phew! I succeeded in rubbing myself against Joe for luck, but couldn't get near enough to Max on account of quite a lot of other fellows had the same idea. Beet of luck fellows. There's only one other chappy, besides yourselves, that I would like to see get the same lucky break!!

I received a QSL card for my phone contact with G8MX from George Laxton at the last meeting, and some uncouth person had written on it, "I don't believe it." "White" man or no "white" man, Barbier, them's fighting words! 5MF has now 99 countries towards his DX C.C. I wouldn't have known this but every time I tried to get near the QSL Officer at the meeting I was tripping over Al-A few leading questions soon gave me the answer. 5FH, despite days of very bad conditions, manages to work at least one G station per day, and has been doing this for quite some time too.

The number of ten metre addicts who are drifting up to twenty these days is remarkable. Heard 5EG wandering around in the c.w. end of twenty the other day, seemed a trifle dazed too, and were the c.w. boys giving him a hiding, they were swooping on him like a lot of magpies. Heard Bert later on in the phone band and he seemed more at home there. Fancy you trying to take on the c.w. gang with phone Bert. Don't you remember how you and I used to gang up on the phone guys back in the bad old days!!

OUR REGRETS

We regret that owing to a reduction in the number of pages, "The Old Man" and "Fifty Megacycles and Above" have had to be deleted from this issue.

This next paragraph was intended to carry politely concerning the Northern Networks' super-colossal, stupendous, dynamic, soul-searing competition, but I received rather a sizzling note from the organiser 5UX telling me that it had fallen through for lack of interest and co-operation. Well Les, thus is the organiser's life, and after a few "Knockbacks" like that you will realise, as I do, that the average Ham is a good suggester, but a poor doer. I could tell you a few stories of some of my failures, but I draw the veil. If anyone suggests anything to me these days I simply put it right back in their lap, and they go cold on it quicker than you could think possible. By the way Les, "Doc" said that my referring to you as a fellow journalist was as good a piece of crawling as he had ever heard. We syndicated writers can afford to ignore such childish jealousy, can't we Les old palkey waly. Try that on your grand piano using the loud pedal, "Doc."

Why does it have to happen to me? Five candidates pass the recent A.O.C.P. exam and two of them live at Henley Beach. Wouldn't it transmit

you? 5JA has been very quiet, only a few local contacts. John has been waiting patiently for 5CJ to give him a 6 metre signal so that he can test his gear, but apparently the dishes have Col in a hammerlock. Don't say I didn't warn you. 5MS has his clipper and filter working extra well in his modulator and is now right in the middle of the carpentering work of erecting a tower for his 20 metre beam. 5FD is on the air with the new transmitter and so far there are no Gremjins, but conditions have kept him fairly inactive. Not much from "Erg" (5KU) this month, apparently the prevailing conditions make the dining room fire much more attractive. He is building a "Clapp" oscillator. 5CH is away on business and might just as well be in "smoke" for all the news I can rake up. Where the heck are you Claude?

5TW has been doing a little DX on 10 and 20 when the conditions permitted, which, as Tom says, is not very often. My spy, 5CJ, is still very busy, but is at last seeing the end of some of his extra jobs. Col tells me that the gang are looking forward to the visit of our respected Secretary, although they have locked up all their spare tubes, etc., in case he has been learning bad habits at "HOME."

I received a very welcome letter from an old friend of mine, to wit Laurie Sjoberg (6SL). Unfortunately nearly all the contents dealt with 144 Mc., and of course those details belong to another section of the "mag," anyway I have forwarded the letter to the appropriate sub-editor, and thanks a lot "Skinny." Heard 5QP on the air the other night and was surprised at the depth of his modulation considering that he was only talking a little above a whisper. Ken does not know it, but he is one of the old-timers who is the cause of my taking up Amateur Radio. I used to listen with bated breath to Les Fielder, Dougal (5BY) and Ken on a Sunday morning and wonder if I could some day be like them. You've got a lot to answer for Ken, if you had not given me the urge, I wouldn't have been sticking my nose into other people's business today, and many an Amateur could have kept his guilty secret buried.

I received a letter from 5BG supporting my open letter to 2JP. Thanks Roth, but I merely acted as the writer, on the suggestion of a large number of fed-up VK5 boys. And now to close for this month I will release the latest joke from Mount Gambler. It appears that "Doc" came back from fishing and told 5CJ that the fishing was very good, in fact "Doc" said he had just caught a fish that weighed fifty pounds. Col said that he had never been able to catch anything around that part of the coast although he had caught a hurricane lamp there once and strangely enough the lamp was still alight. "Break it down," said "Doc," "I can't swallow that!" "Well," said Col, "you knock thirty pounds off the weight of your fish and I will blow out the hurricane lamp." You can't trick these South East boys.

ALL-MODELS EXHIBITION

Exhibition Buildings, Melbourne

Saturday, Aug. 27, to Saturday, Sept. 3

11 a.m. — 10 p.m. continuous

SEE THE WIRELESS INSTITUTE OF AUSTRALIA'S (VICTORIAN DIVISION) STAND AT THIS EXHIBITION

Listen for and work VK3WI, which will be in operation on all Bands, at the W.I.A. stand. Join in the Special Contest during the Exhibition Week. Contest details will be heard from VK3WI in Sunday Broadcasts.

All Victorian Members are urged to help make the W.I.A.'s Stand at the Exhibition a huge success. You can all help in at least one way. For details of what to do, listen to the VK3WI Broadcasts or contact Mrs. Cross FJ 6997.

TIME IS SHORT — DO IT NOW.

WESTERN AUSTRALIA

The June meeting was held on the 21st and we were very pleased indeed to see two country members in our midst. From Geraldton came 6WZ accompanied by a fanfare of chin-wagging. Harry's hasty departure the following morning seemed to indicate he didn't bring the XYL down with him this visit! 6MG represented Manjimup. It is thought Mac came especially to collect the £11/- which he won as the 6JN Trophy in the Easter Contest. Anyway we were all mighty glad to have their company on the occasion and the same goes for any other country members who are in town on a meeting night.

Notice was given about the changes in distribution of "Amateur Radio" and from now on the mag. should be available during the first week of each month. Please advise our Secretary of any changes in mailing addresses. As it is intended to increase the price of "Amateur Radio," our annual subscription will also be increased. It was put to the meeting and tentative arrangements are that country members' fees be £1. whilst city members pay £1/5/- 6RU announced that he is donating a trophy known as the Contests Trophy to be awarded to the VK6 who gains the most points in participating in all eligible contests. Points being obtained for the number of contests entered for and best scoring figures.

6LW donated the Division £5 to commence a Building Fund. Thanks for this very fine gesture Wal, but what about attending a meeting or two these days? 6SR, being the official station of the Radio Society of Western Australia, was elected as a new member and brings our total membership figures to 150. The Geo. Scott Trophy (a beautiful globe of the world) was donated to 6RU for the best Amateur Station, 6KW being a very close second place. A small auction sale was conducted and the meeting ran late to 11 p.m. Unfortunately we were not able to hear 6KW's wire recorder, but we hope to hear ourselves as others hear us at the next meeting—if we can find some a.e.l.

PERSONALITIES

The forty metre scramble provided lots of fun and games for all on Sunday 26th. Here are a few notes from a participant. 6DJ pounded the brass nearly all day, 6KB being the only one to keep him company. 6WU put in a whale of a signal with his 40 metre vee beam. Ray's score was among the best too. 6RL had a good signal from Northam, as did 6MO from Watheroo—both these chaps keep their scores secret. 6RU and 6KW, together with their two metre link, had things organised—looks as though Ron should get top marks. 6GA had his rig running well, Bill has a spare receiver for me they say. 6MG and 6WZ were both in their respective home towns in time to turn a signal loose in the scramble. 6MB started up as crystal control and had to change to v.f.o. to be in the race.

We noticed that 6BG had his v.f.o. going in time, also that 6NW was now modulating towards 160 per cent mark. 6OR saw the game out using the one crystal frequency. 6KU was top scorer up to the midway break, and we found that 6ZZ had to come down from his high frequency perch to get the more elusive stations. 6DX raced all over the band in the scramble for supremacy. Who said Kalgoolie is behind Perth time, Bill? We had better ask 6DD about that!

6FC was heard on for a short while. The signal strength from 6MY was not great. Mal was almost as elusive as 6XF and 6XG at Katanning to say nothing of 6WG at Albany who we only heard for one short break in the QRM.

6WH spent a lot of time switching crystals and 6PW had more microvolts per metre than any other station (perhaps it was mega-volts not microvolts after all). 6GS not heard on sked with 6RK. 6WD had a nice signal from Northam. We heard 6IG saying something about frequency checks? 6JE went on phone for this rare occasion and put up a commendable score. 6WS said he would sooner be on the Murchison than 40 metres!

6FR came on for a while—long time no see Fred! The same applies to 6JB—good show Alan. 6RT had things wound up at Danguin. 6PL took things easy. VK2AKH/MM in the Indian Ocean provided an interesting QSO. Graham couldn't make out what all the fuss was about. 6JP at Bibra Lake had his batteries well charged as did 6WL at Brookton. Conditions were not good to work 6AH, Wiluna. 6LM did well though with quite a nice signal.

A few minutes to closing time (1600 hours) on came 6EL, 6CP, 6WM and the panic on the band to work these three was terrific. Let it be disorganised—it was! Practically the whole band called 6WX but he never came back to any one! 6RG provided a few rare contacts. Somebody said they heard 6MK. 6RF is going to build a 40 metre antenna for contest use only!

On the whole, a good day was had by all. The QRM, to put it mildly, was comparable to 20 metre phone in a DX Contest. It was more by good luck than good judgment if you had a single 100 per cent contact. If you did not get a mention in the

above list and you were on in the contest, please advise 6GA!

We spotted 6OR around town again after a visit to VK3. Thanks to 6OV, Jack had a right royal time. Guess he needed your assistance in the scramble Allan to operate those other receivers!

TASMANIA

The July general meeting was held as usual on the first Wednesday of the month and at the conclusion of the general business a very fine lecture was given by 7LE (Len Edwards) on the intricacies and wonders of single sideband suppressed carrier transmitter. Len did an excellent job and put on his story in a workmanlike manner, for, not only did he talk at length on the building of such a rig, but he brought along (per courtesy of 7CA), the whole box and dice including a receiver and a c.r.o. with which to hear and see the results.

There is no doubt about it, s.s.s.c. certainly has got something and to hear Len explain it makes one want to rush home and try the proverbial band. Thanks once again 7LE and I don't think I am putting my head out when I say the Tasmanian Division is proud of you and your effort.

Whilst I am on this subject, I have no wish to detract any credit from 7DH, Dave Hilyard, who is also a s.s.s.c. merchant. Dave is using a different system to Len, in that where Len uses a filter system to chop off a sideband, Dave uses a phasing system to achieve the same end. In any case the Tasmanian Division is very lucky to have two progressive Hams in Len and Dave because through their efforts, Tasmania can claim the first two-way Ham contact using single sideband suppressed carrier transmission!

At this month's general meeting we were without the services of our worthy Secretary 7OM (Bob O'May). Our President told us that Bob had had a large piece of boiler plate dropped on his left foot and naturally just couldn't make it. I'll lay even that it wasn't a c.w. man who said, "Lucky it was not his right foot or he wouldn't be able to go on the air!" Oh! Roy how could you? Pardon the crack Bob, but I'm sure I am expressing the feelings of everybody when I wish you a speedy recovery and lots of DX whilst you are convalescing.

The s.s.s.c. bug is catching on very quickly here, 7JP, 7MY, and 7CA are all tinkering. Leon has the first stage working. Alan has the rack built, and Max is somewhat of an unknown quantity although I believe "a signal" was heard a few nights ago.

NORTHERN ZONE

This month your usual scribe is taking a rest from his news hunting and reporting, so in his stead here is a brief chronicle of the news and views of the zone. The June meeting marked the conclusion of a very successful first year and to those who have made it so, our appreciation is due. The July meeting, scheduled for the second Friday will see the office-bearers elected for the coming twelve months. We do not expect any trouble from "rigged" ballots or the like, so members may safely leave all firearms at home on the shelf.

7BQ seems to have deserted the lower frequencies, has a hefty signal here on 6 metres with his three element beam only a few feet from the ground. Len's backyard offers the best bird trap ever seen—should a poor misguided bird ever get in he'd starve trying to thread his way out through the maze of beams, they all appear to work out very well however. 7DB's main trouble at the moment seems to be with blisters on the hands from the hard work put in at the prospective QTH, consequently not much time for radio.

7AM also with the building bug, and his new shack promises to be "a thing of beauty and a joy forever." 7RB heard quite frequently and his 40 metre phone makes very pleasant listening. 7DS, another of the clan bemoaning the state of the DX bands, is a very busy man these days, but anxiously awaiting the end of the football season to really get after those elusive ones. 7NL seems to have forsaken the ancient art as 'tis many moons since a signal was heard from his QTH. Blonde, brunette, red head or lazy Noel? 7HY beck on 40 metre phone again after some years absence. Heard 7HY's XYL complaining that she never sees Henry these days—now where have I heard that before?

Here at 7RK things have been getting a much needed spring clean so activity has been limited. 20 metres yielded only one good one for the month, UM8KAA with a doubtful T8 note on 14050 Kc. on a dead band. Haven't even a story about the one that got away, so cheers for now.

MORESBY AREA

By G. A. WARNER, VK9GW

I desire to correct a statement made in the May issue of "Amateur Radio." This appears in the Zone news on page 15, where the following information is given: "SADL (ex-9BM) building with p.p. 807s 100 watts and Bruce's receiver is still in

VK9 land, so 9GW has it and it's a BC342 . . ." It is true that the last I heard of 9BM's receiver, it was in VK9 land, but at no time was it in my care or possession, nor is it likely to be. The reason for its delayed departure for Australia is, I believe, due to quite another story altogether!

Activities around VK9 have dropped off a little lately, chiefly owing to the poor conditions on the higher frequency bands. 10 metres is useless, except for Pacific contacts at odd daylight hours. VKs being rare and weak. 9ML pins his faith in 7 Mc. and manages to place his 100 watts in VK despite the handicap of having mango trees growing through his zepp, and a small tin shed(?) directly in line of fire. 9AB, a newcomer from ZL1, is getting on spasmodically on 14 Mc., mainly interested in ZL QSOs it seems. Alf has the AR8/AT5 set-up and tons of ingenuity. 9PJ getting some DX with his 10 watts, judging by QSLs floating through.

9YY paid a hurried visit to Moresby recently and between Ham chat exchanged plenty of winge on cost of living, etc.—the main topic of conversation anywhere in the Territories these days. Reports little Ham activity in Wewak. 9NK QRT temporarily due QTH shift and re-wiring of old faithful HRO. The oldest (Ham) inhabitant around here is 9KC (ex-VK4KC), still thinking of getting back on, but so far has nice shack with nothing in it except space and plenty of it, when the bug really bites. 9GW to be seen lots lately in attitude (which might be mistaken for prayer) in front of modulator unit. Driven from 10 metre by poor conditions, occasionally landing a newie on 20 metres. Concentrating rather on North and South America, require ZP and FY8 to complete both continents.

FOR SALE, EXCHANGE, AND WANTED

9d. per line, minimum 2/-.

Copy must be received by 8th of the month, and remittance must accompany advertisement. Calculation of cost is based on an average of six words a line.

FOR SALE.—BC348 Communication Receiver, excellent order, with 8 valves, less power pack. Can be used for 28 v. d.c. operation. Write—M. Finlay, 19 Gordon St., Mont Albert, E.10, Vic.

FOR SALE.—BC348 Receiver in good order. Neat wooden cabinet. Ring UL 2628 (Melb.) week-ends only.

FOR SALE.—Type 3 Mark II., £22; 108 Receiver, £6; 109 Transmitter, £7; Class "C" Wavemeter, £3; RC16B Transceiver, £12; Traversing Gears and Cutting Head, £11; or exchange for Valve Tester, Oscilloscope, Audio Signal Generator, Signal Tracer. For full details, write P. J. Grigg, 3 Philpott St., Geelong East, Victoria.

FOR SALE.—16 principal pages of manual plus wiring diagrams for BC348 Communication Receiver. What offers? Lang, Glen Ave., Croydon, Vic.

SELL.—TA12D Bendix Transmitter, modified for 80, 40 and 20 bands, £15. Modulator, also Bendix, for TA12D, complete, £8. R. H. Cunningham, 62 Stanhope Street, Malvern, Vic., UY 6274.

WANTED: Coil No. C272 ex B.C.A.R. 230/430 series xmitters. Will swap C274 5-6 Mc. and a similar unit 3.6-4 ex CBY trans. F. G. Bail, 62 Shannon St., Box Hill (WX 2213).

WANTED.—Power Supply-Modulator unit or modulator transformer for TA12D Transmitter. Lang, Glen Av., Croydon, Victoria.

WANTED TO BUY.—Coil Units for BC-AR-229 Rx., any freq. Also buy, hire, or loan "Radio News," Feb. '48. C. Bird, 164 Glenferrie Rd., Melbourne.

RED  LINE

EQUIPMENT

High Fidelity Output Transformers for Negative Feedback Amplifiers

PRIMARY: 10,000 Ohms 807 (T.) P.P.

SECONDARY: as selected.

FREQUENCY RESPONSE: within plus/minus
0.2 Db from 20 c.p.s. to 30,000 c.p.s.

PRIMARY INDUCTANCE: 100 Henries at 3.5 v.

LEAKAGE INDUCTANCE: 17 Millihenries.

INSERTION LOSS: 0.4 Db.

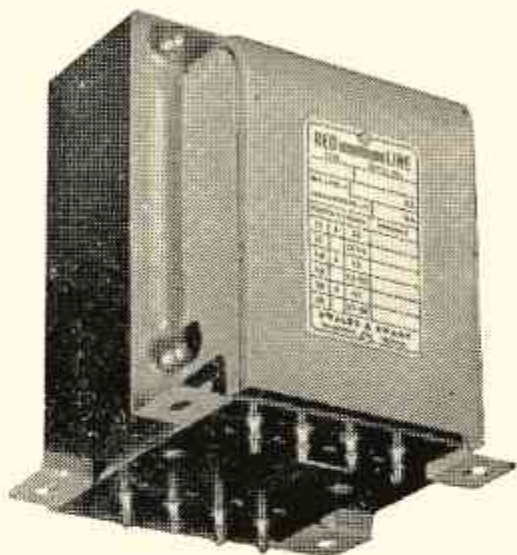
Item 54 "AF15" to Goodman's Axiom 12" Voice Coil.


Item 54a "AF3" to Goodman's Axiom 80" Voice Coil.

Item 52 "AF8" to Rola G.12 Voice Coil.

Item 52a "AF2" to Rola 12-0 Voice Coil.

Item 53 "AF10" to 500 Ohm Line.



"AF" Series  £5/15/2
Weight 7 lbs., 4" x 4 1/4" x 4 1/4" high,
Mounting VII.

"AF" series transformers may be obtained against special order for any primary or secondary impedance required and up to 30 watt rating.

RED LINE EQUIPMENT PTY. LTD.

TRANSFORMER ENGINEERS

WORKSHOP: Cent. 4773
2 Coates Lane, Melbourne.

Victorian Distributors:

Homecrafts Pty. Ltd.
Veal's Electrical & Radio Pty. Ltd.
Radio Parts Pty. Ltd.
Howard Radio Ltd.
A. G. Healing Ltd.
Healings Pty. Ltd.
Motor Spares Ltd.
Warburton Franki Ltd.
Lawrence & Hanson Ltd.



City Office: MU 6895 (3 lines)
157 Elizabeth St., Melbourne

INTERSTATE DISTRIBUTORS:

New South Wales —	South Aust.—
U.R.D. Pty. Ltd.	Gerrard & Goodman Ltd.
Homecrafts Pty. Ltd.	Newton & McLaren Ltd.
	Unbehaun & Johnson Ltd.
Queensland—	Radio Wholesalers.
B. Martin Pty. Ltd.	Tasmania—
A. E. Harold.	Lawrence & Hanson Ltd.
Denradio Industries (Maryborough).	
J. Michaelmore & Co. (Mackay).	Noyas Brothers (Aust.) Ltd.

A GUARANTEE OF DEPENDABILITY

The directly calibrated, illuminated dial gives quick and easy frequency reading on all six ranges.



"ADVANCE" SIGNAL GENERATOR Type "E"

The problem of poor attenuation, especially at frequencies above 10 Mc., has been overcome by the design of a properly shielded constant impedance 75 ohm ladder network whose output is taken to a matched transmission line. A Transitron R.F. Oscillator circuit is used, designed for high stability and giving the necessary constant output level to feed the 75 ohms attenuator system. Careful attention to shielding and filtering of the power supply has reduced leakage and stray fields to 3 microvolts at 60 megacycles.

SPECIFICATIONS:—

FREQUENCY RANGE: 100 Kc. to 60 Mc. in six ranges, calibration accuracy $\pm 1\%$. Using the second harmonic of Range A, the frequency range is extended from 60-120 Mc. Also on this range, British television sound and vision frequencies are marked. **OUTPUT VOLTAGE:** is obtained from end of a 75 ohm matched transmission line. Output continuously variable from 1 microvolt to 100 millivolts. **OUTPUT IMPEDANCE:** When transmission line unterminated, 75 ohms. When terminated, three values obtainable: 37 ohms, 10 ohms, or 10 ohms through standard all-wave dummy aerial. **1-VOLT SOCKET:** Steady output of approximately 1 volt is available at this socket. Output impedance is about 50 ohms. **INTERNAL MODULATION:** 30% at 400 c.p.s. approx. The output impedance is 50,000 ohms at maximum output. **R.F. LEAKAGE:** Oscillator section well shielded and external fields negligible (less than 3 microvolts). **ACCESSORIES:** 1 EF50 Valve (Mullard or Sylvania), 1 6J5G Valve, 1 6X5G Valve, 1 Pilot Lamp type M.E.S. 11 mm. 6.5 volt, 1 Termination Pad and Dummy Aerial, type T.P.1, 1 Shielded A.F. Lead, complete with Plug and Crocodile Clips, type P.L.22. **POWER SUPPLY:** 110-210-230-250 volts 40-100 c.p.s., consumption approx. 15 watts. **DIMENSIONS:** 13" x 10 $\frac{1}{2}$ " x 7 $\frac{1}{4}$ " deep overall. **WEIGHT:** 15 lbs. net. **FINISH:** Housed in attractive steel case, durable cream enamel, leather carrying handle.

"ADVANCE" AUDIO GENERATOR Type "F"

This instrument is a particularly flexible power source at audio frequencies, for measurements on the frequency characteristics of transformers, filters, transmission lines, and loudspeakers. Its attenuated ranges will also be found particularly useful. This instrument uses the harmonics of two radio frequency oscillators mixed together to give an audio frequency note of excellent wave form and free from effects of pulling. The instrument is entirely British made and is guaranteed for twelve months.

SPECIFICATIONS:—

FREQUENCY RANGE: 100 cycles to 10,000 cycles. **ACCURACY:** 2% \pm 25 cycles. **POWER OUTPUT:** 1 watt, level to ± 6 db over full range. **OUTPUT IMPEDANCES:** 600 ohms, 5 ohms, or 10 ohm attenuator. **DISTORTION:** Total undesired signal is less than 3%, measured at 1,000 cycles with matched 600 ohm load at 1 watt output. **VOLTMETER:** Range switched automatically with impedance switch. Two ranges: 0-40v., 0-4v. **POWER SUPPLY:** A.C. Power Supply 110-210-230-250v., 40-100 cycles. Power consumption is approximately 40 watts. **VALVES:** The following valves are supplied with the instrument—one ECH33, one 6J5, one 6X5, one EL33, one Indicator Lamp type M.E.S. 11 mm. 6.5v. **LEADS:** A complete set of leads is provided. **DIMENSIONS:** 13" x 10 $\frac{1}{2}$ " x 7 $\frac{1}{4}$ " deep overall. **WEIGHT:** 16 lbs. net. **FINISH:** The instrument is housed in an attractive steel case, the panel and case being sprayed durable cream enamel. A leather carrying handle is provided.



J.H. MAGRATH & CO

208 Little Lonsdale Street, Melbourne.

Phone: Central 3688-4414

AMATEUR

SEPTEMBER

1949

RADIO

JOURNAL OF THE WIRELESS INSTITUTE OF AUSTRALIA

Just Arrived from Overseas!

A New QUICK HEATING Valve for Mobile Services

PHILIPS QQCO4/15



The new Philips Double Tetrode type QQCO4/15 combines compactness, stability, and maximum output at 186 Mc/s.

ECONOMY OF OPERATION makes this valve ideal for use in mobile equipment. The directly heated filament requires only 6.3 volts at 0.65 amperes.

An important departure from the conventional type of double tetrode is that the anodes are brought out at the base and not at the top of the bulb. This feature facilitates wiring and allows a better orientation of components.

TYPICAL RATINGS FOR CONTINUOUS SERVICE

Frequency	186 Mc/s.	Screen voltage	200 V.
Anode voltage	400 V.	Screen current	8 mA.
Anode current	2 x 30 mA.	Bias	-80 V.
Watts output ... 19.5 W. (Two systems in p.p.)			

PHILIPS ELECTRICAL INDUSTRIES OF AUSTRALIA PTY. LTD.

SYDNEY:
Philips House,
69-73 Clarence Street.

MELBOURNE:
590 Bourke Street.

BRISBANE:
Reid House,
148 Edward Street.

ADELAIDE:
Wyatt House,
119 Grenfell Street.

PERTH:
381-5 Murray Street.



FOR THE EXPERIMENTER & RADIO ENTHUSIAST

Registered at G.P.O., Melbourne, for transmission by post as a periodical.

9_D

"HAM" RADIO SUPPLIERS

5A Melville Street, Hawthorn, Victoria

PHONE: HAWTHORN 4465

PHONE: HAWTHORN 4465

We are again pleased to offer many sought-after items at astoundingly low prices. You are cordially invited to inspect our vast range of supplies at the new address—5A Melville Street, Hawthorn, but if you are unable to do so, you can, with confidence, order by mail as goods are only of the finest and as described in the advertisement on this page.

BARGAINS — BARGAINS — BARGAINS

American Transceivers, Hi-Frequency I.F.F. Tube line up—three 7133s, seven 6SH7s, three 6H6s, four Relays, less Genemotor.

To Clear, be early £3 each.

Brand new dual Audio Units. Containing two 12A6s in grey crackle finished containers. These units offer many purposes. Pre-Amplifiers, Inter-Communication Units or for wrecking. Units are mounted on rubber stands.

Outstanding Bargains at £2 each.

Rectifiers, Copper Oxide, 12 volt at 100 Ma. Ideal for Relay Operations. 2/6 each.

Also 6 volt at 50 Ma. 1/- each.

DUCON TYPE, Small Block. 4 uF., 600 volts working.

Snaps at 5/- each.

TRANSMITTERS.—AT5, 50 watt, Phone or C.W., crystal or V.M.O. Tube line-up—6V6 osc., 807 doubler, two 807s in final. Ideal Ham rig, covering 20, 40, 80 metres. Also broadcast band to 150 Kc. Meter for all stages; easily adapted to a.c. or d.c. power supply. Slightly damaged, secondhand.

Bargains at £7 each.

AMERICAN SWITCHING RELAY BOXES: Contain good wrecking parts, co-ax connectors.

Snaps at 5/- each.

Switching United, American type, housed in crackle-finished case 18" x 8" x 5", contains 24 volt d.c. motor and lots of useful gear.

Only £1 each.

This Month's Specials—

ENGLISH I.F.F. UNITS

Tube line-up: Two VR135 (high freq. triodes), two VR78 (diodes), four VR65A, Eddystone Butterfly Condenser, 1 uF. 1.00v. w. Block Condenser, Genemotor 11-12v. input at 3.8 Amp., output 480 v. at 40 Ma. Good assorted quantity of Resistors and Condensers, ideal for wrecking, condition as new.

A Real Bargain at £2/10/-.

COMMAND TYPE RECEIVERS

Frequency Range: 3 to 6 Mc. Tube line-up: R.F. 12SK7, Mixer 12K8, two I.F. stages 1415 Kc. 12SK7, Second Detector and B.F.O. 12SR7, output stage 12A6. Less the Genemotor.

A Snap at £4/10/-.

"HAM" RADIO SUPPLIERS

(KEN MILLBOURN, PROP.)

5A Melville Street, Hawthorn, Victoria

(East Kew Tram Passes Corner, opposite Vogue Theatre)

(Phone: Hawthorn 4465)

Country and Interstate Clients please add 10/- packing charge for heavy items.

EDITOR:

T. D. HOGAN, VK3HX,
Telephone: UM 1732.

MANAGING EDITOR:

J. G. MARSLAND, VK3NY.

TECHNICAL EDITOR:

J. C. DUNCAN, VK3VZ.

ASSISTANT TECHNICAL EDITOR:

A. K. HEAD, VK3AKZ.

COMPILATION:

R. W. HIGGINBOTHAM, VK3RN.

LIAISON:

I. K. SEWELL, VK3IK.

ADVERTISING REPRESENTATIVE:

W. J. LEWIS,
20 Queen St., Melbourne, C.I.,
Telephone: MU 5154.

PRINTERS:

"RICHMOND CHRONICLE,"
Shakespeare St., Richmond, E.1.

MSS. and Magazine Correspondence should be forwarded to the Editor, "Amateur Radio," Law Court Chambers, 191 Queen St., Melbourne, C.I. on or before the 8th of each month.

Subscription rate in Australia is 9/- per annum, in advance (post paid) and A10/6 in all other countries.

Wireless Institute of Australia (Victorian Division) Rooms' Telephone is FJ 6997.

— IN THIS ISSUE —

The Phasing System of S.S.S.C. Series Tuned Electron Coupled Oscillator	3 7
Ionospheric Predictions for the Amateur Bands	8
The Old Man	9
Book Review	9
Emergency Network Activities	10
VK-ZL International DX Contest 1949	12
A.R.C.I. DX Contest, September 1949	12
Fifty Megacycles and Above	13
Federal, QSL, and Divisional Notes	14
Correspondence	20

AMATEUR RADIO

Published by the Wireless Institute of Australia,
Law Court Chambers, 191 Queen Street,
Melbourne, C.I

EDITORIAL



BAND-PLANNING (Continued)

We have dealt in previous Editorials with the methods used in other countries of the world to arrive at some equitable sub-division of our bands between telephony and telegraphy, without the imposition of regulatory restrictions. To complete the picture, we now deal with our own efforts in this direction.

The first post-war move was made at the 1946 Federal Convention when it was decided to allot 100 Kc. on the low frequency end of 28 Mc. to c.w. Again at the 1947 Convention, steps were taken to approach the I.A.R.U. with a view to arriving at an internationally agreeable formula. This proposal did not advance the position greatly as the I.A.R.U. were stalemated by other Administrations. At the 1948 Convention, and again confirmed at the 1949 Convention, all Divisions agreed to publicise and observe, on a "gentlemen's agreement basis," the following frequencies for exclusive c.w. use, the remainder of the bands to be phone and c.w.:

- 3500- 3550 Kc. c.w. only
- 7000- 7030 Kc. " "
- 14000-14100 Kc. " "
- 21000-21100 Kc. " "
- 28000-28100 Kc. " "

It must be remembered that in finally arriving at these set of frequencies much thought had first been given by delegates from all Divisions, and is representative of the average cross section of Australian Amateur feeling.

While the above represents the present position, what of the future? It is to the future we must look in all our deliberations so that a present plan may dovetail into any future scheme.

It is evident from these Editorials that no administration wishes to take the step to make such voluntary sub-divisions mandatory. We personally feel this to be a retrograde step, but how to face the problem in a few years. We have on record a motion from the 1948 Convention which reads: "That this Federal Council resolves to develop and foster the International exchange of information between Amateur Societies concerning the political and technical aspects of the most effective use of the amateur frequency spectrum."

This motion will be the guiding "star" for your Executive. Much has been done and is being done to this end by individuals. Single sideband suppressed carrier is a partial solution to the accommodation of additional phone stations within the spectrum. We foresee some such development in telegraphy technique with the greater need for sharper and yet sharper frequency discrimination.

The ultimate solution may be the entire exclusion of modulated carriers from c.w. operators' receivers and vice versa; the Amateur Radio Utopia of tomorrow. Our immediate aim is therefore to press on in the terms of the motion beforementioned, foster the technical developments that must eventually come and our longstanding problem of phone versus c.w. will be no more.

Right now, we must urge all Amateurs to recognise the present voluntary sub-division of our bands and at the same time, work and plan towards the ultimate goal enunciated above.

—W. T. S. M.

Homecrafts

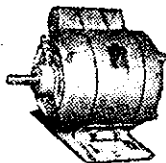
PTY. LTD.

BETTER SERVICE FOR THE RADIO ENTHUSIAST



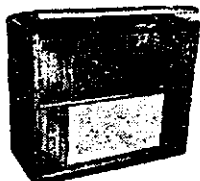
I.F. TRANSFORMERS

Brand new genuine Kingsley 455 Kc. I.F. Transformers. Latest type, as illustrated. Reduced from 13/9 to 6/11.



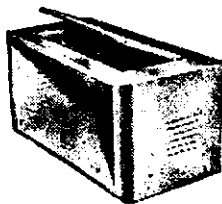
ELECTRIC MOTOR

Brand new English capacitor start, 1/2 h.p. 1400 r.p.m., 230v. Motors. Complete, as illustrated. Only 18/19/6.



RADIOGRAM CABINETS

Beautiful Walnut Piano Finish Radiogram Cabinet as illustrated. Standard model, 13/19/6. Model with deep well for record changer, 14/7/-. Also available in the latest blonde finish, this model for a standard motor, 16/9/6. Model with deep well for record changer, 16/17/-. Country and Interstate clients add 15/- packing charge.



STEEL INSTRUMENT AND COMMUNICATION CABINET

Finished in grey crackle finish as illustrated. Small 7-in. high, 11-in. long, 5-3/8-in. deep, 30/-; large 10-5/8-in. high, 22-in. long, 11-in. deep, 60/-.



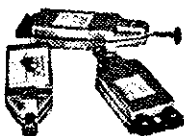
THE NEW ROLA 12/0 SPEAKER

Now available for immediate delivery. This amazing 12-inch speaker incorporates an entirely new magnet system making full use of the new Aniscope Alnico Magnet. Also a specially designed diaphragm and a power handling capacity of 7 watts. Price, as illustrated, 13/11/6.



CHOKES

Pye Wound R.F. Chokes as illustrated, 3/6 each.



CRYSTAL CARTRIDGES

Genuine English Cosmocrystal Pick-up Cartridges. Reduced from 31/- to 9/11.



PICK-UP BARGAIN

Brand new in original cartons. Streamlined Ebertone. Magnetic Pick-ups. Cut to 21/-.



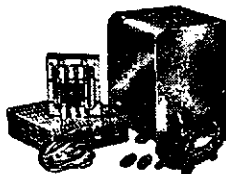
HOME-CRAFTS CAR RADIO KIT

Homecrafts offer this kit set absolutely complete to the last nut and bolt. Price, as illustrated, 18 Gns.



BARGAIN RADIO KNOBS

Large size Radio Knobs, as illustrated, 4/6 dozen.



BATTERY CHARGER KIT

Homecrafts' 6 volt 4 amp. Battery Charger Kit. Kit includes 6 volt 4 amp. English Selenium Rectifier, Transformer, black crackle finish metal case, 2 terminals, and hook-up wire. Complete kit as illustrated, only 14/10/-. Also available, 12 volt 2 amp. kit, 14/15/- complete.



COLLARO ELECTRIC GRAMO MOTORS

The new AC17 English Electric Motor with magnetic pick-up and the automatic stop. As illustrated, 17/6/- complete.



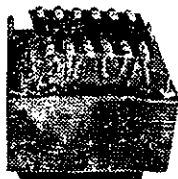
HIGH GRADE SPINTITES

Available in three sizes, 1/8, 5/32, and 3/16 inch. All priced at 6/- each.



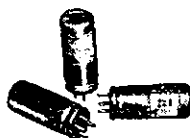
POLYSTYRENE TEST PROBES

For Vacuum Tube Voltmeter as illustrated, 9/6. Type EA50 Diode Tube for use with Probe, 16/-.



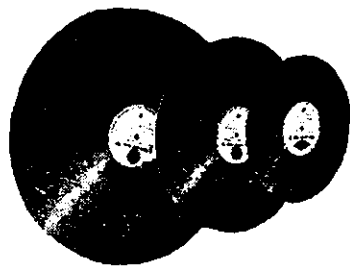
POWER TRANSFORMER BARGAIN

Brand new 100 Ma. Power Transformers with standard windings. Reduced from 44/- to 23/11.



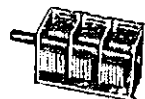
VIBRATORS

12 Volt 4-Pin Non-Synchronous Vibrators. Standard type. Usually 30/-, bargain price 12/11.



B.R.S. RECORDING BLANKS

High grade recording discs with highest quality aluminium base. Available in three sizes, as illustrated, 8-inch 5/2; 10-inch 6/6; and 12-inch 8/6.



BARGAIN IN MIDGET TUNING CONDENSERS

Two-gang with trimmers. Reduced from 19/- to 9/11. Three-gang with trimmers, reduced from 24/- to 12/11.



INSULATED MOUNTING STRIPS


As illustrated—2-lug type, 2/7 doz.; 3-lug type, 3/7 doz.; 4-lug type, 4/7 doz.; 5-lug type, 5/7 doz.; 6-lug type, 6/7 doz.; 7-lug type, 7/7 doz.; and 8-lug type, 8/7 doz.



EXTENSION SPEAKER

The new Capital Extension Speaker. In steel crackle finish cabinet with cord and switch. Colors are cream, grey or black. Price complete, as illustrated, only 45/-.

RECORDING ENTHUSIASTS!

Now available again, mechanical cutting heads. A low priced cutting head (500 ohms impedance) with outstanding performance. As illustrated, price only 15/-. 

290 LONSDALE STREET, MELBOURNE

Central 4311

The Phasing System of S.S.S.C.

BY F. M. NOLAN,* VK4FN

With the recent announcement that s.s.s.c. type A3A transmission is now permitted to Amateurs, quite a few of our members are asking what is Single Sideband Suppressed Carrier (s.s.s.c.). It is not proposed to go into deep theory on the subject, but instead to make the article as simple as possible and cover the practical side of the subject.

There seems little doubt that s.s.s.c. is destined eventually to supplant the now conventional double sideband system of modulation, because simple reasoning leads to the conclusion that a system of communication, which occupies twice the space required for the purpose it serves, cannot long last in view of the perpetual squeeze for more frequencies for every type of service.

When it is possible to eliminate one sideband and the carrier, one finds it impossible to find an argument in favour of the present system; more over, the use of s.s.s.c. will be a great help in solving the phone-c.w. controversy, which, as you know, has raged for years.

No, this single s.s.c. system of communication is not new—in fact it has been in use for many years in the P.M.G. Department on Carrier Telephone Systems, which is in effect wired radio; however, its use has been restricted because of the costly and exacting requirements of balanced modulators—several being required for satisfactory operation.

It is difficult to discover the originator of this system as applied to Radio, as we know it. In I.R.E. Proceedings for May, 1942, an article by Paul Loyet gives details of a system using balanced modulators, and in "Electronics" for November, 1945, a complete station is described by M. A. Honnell. However, this application is also very complex. It was not until 1946 when R. B. Dome, in "Electronics" for December, designed a simple audio network capable of giving 90 degrees phase shift over a wide band of audio frequencies, that s.s.s.c. became a practical possibility for the Amateur. This phase shifting network is shown in Fig. 1a.

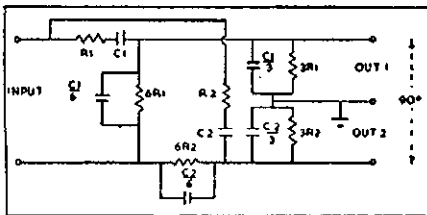


Figure 1a.

BASIC PHASE SHIFTING NETWORK

For Voice Frequency—

$$R1C1 = 100 \quad R2C2 = 453.$$

R in Ohms, C in Micro-Farads.

R1 should be 10,000 ohms,

R2 = 100,000 ohms.

* Dawn Street, Stafford Heights, Q'land.

Last month the Filter System of s.s.s.c. was fully described in "Amateur Radio," and this month the Phase Shifting System is presented by F. M. Nolan, VK4FN.

It seems s.s.s.c. has got something. With a.m. we waste power transmitting an unnecessary carrier, and two side bands which both carry the same intelligibility, and in addition takes up extra bandwidth into the bargain. Will we see the day when amplitude modulation is completely supplanted by s.s.s.c.?

As you know the sidebands generated in modulating a carrier are merely the sum and difference of the r.f. and audio signals. It is possible to produce the sidebands either by adding the audio and r.f. or subtracting the audio from the r.f. As subtraction is merely the addition of a negative quantity, this whole process could be called addition. Now if the device which effected the addition was arranged so that it would only produce the result of the addition and would not deliver the r.f. component without the audio first being present, a s.s. generator capable of operation at any radio frequency without filters would be possible. A device of this type has been known for years, but it has been wanting a simple practical way of producing the special type of audio modulating signals to make it work.

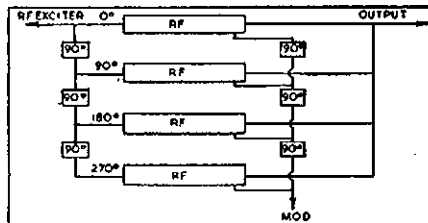


Figure 1.

Figure 1 shows the frequency adding circuit in block form, it consists of four r.f. amplifiers with their outputs commoned, the four amplifiers are excited from a common source with r.f. voltage which is shifted 90 degrees in phase from one amplifier to the next. They are all modulated by the same audio, but the audio is also shifted 90 degrees in phase between amplifiers. When there is no modulation present, the net output is zero; with modulation the output is either the sum of the r.f. and audio, or the difference between the two, depending upon the polarity of connecting the r.f. and audio amplifiers.

Now this system consists of two basic units.

- (1) A r.f. amplifier containing four tubes connected in such a way that the output developed in the load is progressively shifted 90 degrees in phase from tube to tube, and

- (2) A modulator delivering four outputs from the same audio signal which are also shifted 90 degrees from one output to the next to modulate the four r.f. tubes.

There is another way of looking at the progressive 90 degrees r.f. and audio shifts. Two 90 degree shifts in the same direction add up to 180 degrees, so one pair of r.f. tubes can be connected to deliver output to the load 180 degrees apart, while the other pair do the same thing, but is shifted 90 degrees in phase from the first pair. The same situation holds for the modulation, which can consist of two 180 degrees out of phase audio output with a 90 degree shift between them.

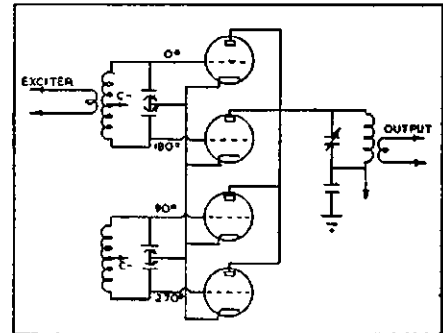


Figure 2.

Requirement 1 can be met in several ways. Figure 2 shows one possibility. Here a pair of two-tube amplifiers are used with the grid circuit of each amplifier consisting of an ordinary split tank. Excitation is applied to one grid circuit through a link, while the second circuit receives excitation by inductive coupling to the first. Two circuits inductively coupled and tuned to the same frequency, develop voltages 90 degrees apart, so the required 90 degrees between tubes is obtained. If the grid voltage in the upper tube of Figure 2 is assigned a reference of 0 degrees at some particular instant, the other tubes are seen to have relative grid voltage phases of 180, 90, and 270 degrees. To add the outputs of the four tubes in a common output circuit, the plates are merely tied together and connected to a single tank circuit.

The arrangement of Figure 3 accomplishes the same thing as Figure 2, as far as the output is concerned, because the tubes which are excited in parallel, induce voltages 180 degrees out of phase in the load circuit due to being connected to opposite ends of tank circuit. The advantage of Figure 3 is that single excited circuits are used in the position of the unit where the 90 degrees shift must be produced and any simplification of phase shifting simplifies the adjustment of the amplifier. The balanced plate circuit is also somewhat easier to handle in a practical set-up than the single ended job.

Requirement 2 can be met by using Dome's method of phase shift.

The r.f. amplifiers in either Figure 1 or 2 will not deliver any output as shown, in either case the excitation frequency is cancelled in the output. If, however, the amplifiers are unbalanced by changing the output of the individual tubes in respect to each other, there will be a net output in the load circuit; if a fixed or static unbalance is introduced, the r.f. excitation appears in the output. If a varying unbalance is introduced by applying the four modulator voltages in such a way that each pair of tubes, which are drawn from the same grid circuit, gets 180 degrees shifted modulation, with the 90 degrees audio shift being between tubes connected to different grid circuits, the unbalance under modulation is such that a single sideband is produced, as there is no unbalance when there is no modulation the excitation in carrier frequency does not appear in the output.

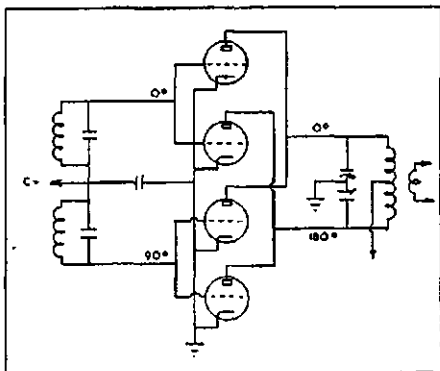


Figure 3.

Figure 4 shows in block form how the audio is applied to Figure 3. Any conventional system of modulation can be used with this system, provided that the modulated amplifiers are similar in at least one direction with respect to the modulation. Low level modulation has advantages due to the fact that phase shifting is best done at low levels. Also it makes for less audio power required in the modulator. Either control grid, screen grid or suppressor grid can be used to advantage, whilst screen grid modulation of tetrodes has certain advantages in efficiency.

Control grid modulation has a disadvantage in that the impedance looking into the grid varies over the modulation cycle. When the phase and amplitude of the r.f. grid voltage must be closely controlled, as it must be with s.s. generators, the grid must be heavily swamped with resistance to prevent changes under modulation. With screen grid modulation, tests have proved that the impedance change in the grid circuit is so small as not to effect the phase relationship in this circuit.

With screen grid modulation the audio requirements are small. For instance, two type 6L6 tubes can fully modulate 200 watts in this type of s.s.s.c. transmitter. The only catch is the modulation transformer. These require to match the plate of the modulator tube to some-

thing like 20,000 ohms and must be centre tapped very accurately. The balance of the windings must be good, otherwise the voltage delivered to each screen grid will not be exact, with the result distortion and non-linearity takes place.

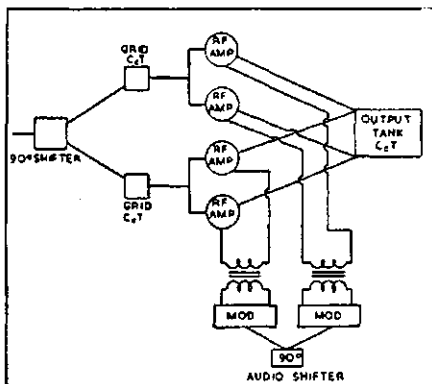


Figure 4.

In experiments with this system, two different commercially built modulation transformers have been tried, and results were very disappointing. The writer then set about designing modulation transformers for the job, which were wound in a pair by a local transformer winder, and they worked out very well indeed.

PRACTICAL CIRCUIT Several combinations of r.f. amplifiers were designed and tried before the one shown in Fig. 5 was finally adopted. In this amplifier you will notice the grid circuits of the four tubes are arranged so as there is a 90° phase shift between each pair; this is achieved by inductive coupling. The plate circuit of these four tubes is arranged in a push pull-parallel circuit, but with a 90° phase shift grids at 180° shift in the plate circuit; that is, they are connected to opposite ends of the plate tank. A study of this will show that our requirements of Fig. 3 are now met and we now have an amplifier that when driven, will not give any output because the r.f. is effectively cancelled in the plate circuit of the amplifier.

The purpose of L3 is to reduce the direct coupling effect of L2 on the co-ax line linking the exciter to the p.a. It

is mounted at right angles to the grid coils and acts as a terminating load to the exciter.

The modulation system decided upon was screen grid for the following reasons:—(1) It is easy to apply to our generator; (2) S.G. Modulation does not have the same loading effect on the grid circuit as does grid modulation; (3) The modulator is inexpensive and easy to construct.

In this modulator the Dome method of phase shift, mentioned previously, was used. This resistance capacity method is simple to construct, and the average Ham will have little trouble with it as long as reasonable care is taken in selecting the various condensers and resistors. These must be within very narrow limits of the specified value and where two or more values are the same, they must all be of identical values.

Suppose we want four condensers of 200 pF., and on measuring we find we have three whose values are 201 pF. All we require is another one which measures 201 pF. and all is well, but if you use random commercial values, or take for granted the marked value of components, you will run into trouble. Measure and match all resistors and condensers in the 6SN7 stage, also the two amplifier stages following this.

With the Dome phase network, the impedance of the driver must be low compared to the network and to achieve this was a problem, as the drive to the modulator stage must be even to each stage, and we had the problem of obtaining two signal outputs which were 90° out of phase. Finally it was decided to use a 6SN7 tube with both triode sections in parallel with a load of 2,000 ohms in both plate and cathode circuits, under these conditions this driver gives a good output voltage and the tube is quite stable when driving the network. The remainder of the circuit is self explanatory.

Now having built our modulator and side-band generator, let us put it to work. For this you require an audio frequency oscillator, a cathode ray oscilloscope, and also a dummy load.

The modulator section should be tackled first, connect a 20,000 ohm resistor across each modulation transformer secondary and check d.c. voltages on all tubes to make sure the circuit is correct. Connect the oscillator

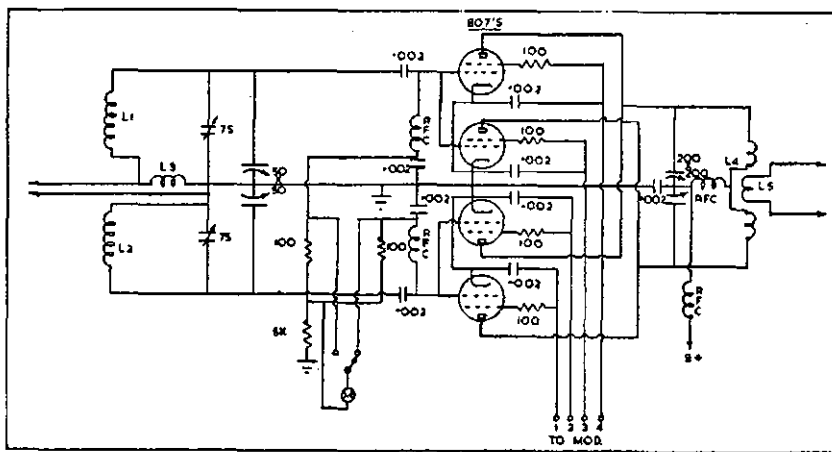


Figure 5.

September Radio Snaps at ..

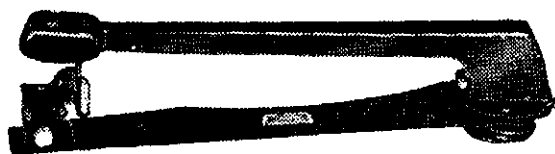
VEALLS

Full range Leather Speaker Boxes available from 20/4 to 33/3. Suit extension speakers. Discount to Hams. Speaker Mono Flares for outside P.A. work, suit 10" Speaker. 47/6 net. Also square flares for 8" speaker, 40/-.

Master 0-120 Microamp. Meter 34" 95/-
 Power Transformer, 350 mil. 385/385 75/-
 6-Core P.V.C. Cable 2/- yd. net.
 7-Core P.V.C. Cable 2/6 yd. net.
 6-Way Shielded Cable 1/6 yd. net.

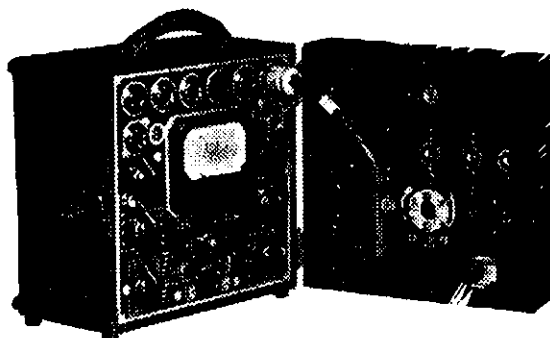
PICK-UPS SACRIFICED

Replaceable Needle Pick-up for general use, equipped with type L-40 Astatic Crystal Cartridge 67/6.
 Crystal Pick-up with permanent built-in sapphire stylus. Uses LP6 Astatic Crystal Cartridge 85/-.



LEXINGTON MOVING COIL PICK-UP

This famous English Pick-up gives performance never before thought possible. Full reproduction of the total audio frequency range. Complete with transformer, screening box, and sapphire needle. 12" £7/19/6 net; 16" £8/9/6 net. Few only available at these prices, slightly shop soiled.



TRANPRO VALVE & CIRCUIT CHECKER

For A.C. and 6 volt operation. This compact and convenient tester will be found not only necessary to Radio Servicemen, but also to Radio Experimenters. Few only, slightly shop soiled, £27/10/- net.

VEALLS

243 SWANSTON STREET, MELB. FJ 3145
 299 CHAPEL ST., PRAHRAN. LA 1605
 Mail Orders Box 2141T, G.P.O., Melbourne
 Ass. with ARTHUR J. VEALL Pty. Ltd. Est. 1911.

ELECTRONIC EQUIPMENT
Quality DENOTES

ANNOUNCEMENT!
75-WATT MODULATION EQUIPMENT

Now in Production for Early Release

Type M2/75 Modulator for high imp. microphone input. M3/75 Modulator for 600 ohm line input. MT/15 75 Watt Universal Modulation Transformer. IT588/6 Driver Transformer (single 807 tetrode to Class B 807 triodes). IT563/6 600 ohm line to grid Transformer.

WATCH FOR FURTHER DETAILS

Factory Representative: R. H. CUNNINGHAM & CO.,
 62 Stanhope St., Malvern, S.E.4, (Phone: UY 6274)
 Trade Sales: WM. WILLIS & CO., 428 Bourke Street, Melbourne,
 (Phone: MU 2426) and other leading Radio Houses.

A&R Electronic Equipment Co. PTY. LTD.

The Series Tuned, Electron Coupled Oscillator

BY R. J. WHITE,* VK2AHM

Perhaps the thing that is of most general interest to all Hams, both DX men and those who indulge in purely local QSOs, is a v.f.o.

Of these, the one that has been most in the public eye of late, is the series tuned, or "Clapp" oscillator, and an excellent job it is, too.

Unfortunately, its low output has several drawbacks to a person who cannot use a multiplicity of tubes to build up this small output, and also to multiply its frequency to the band desired. It was in an endeavour to overcome this difficulty that the following circuit was evolved.

Firstly a 6K8G was tried in an arrangement which was simply the triode section of the tube as a series tuned oscillator, but coupled to the hexode portion in the electron stream internal to the tube, instead of externally via the cathode, as is commonly used.

This worked well, having all the stability and quality of the "Clapp" with quite some gain.

Still it was not considered that this output was great enough—which led to trying yet another scheme which has proved to be the best v.f.o. seen so far.

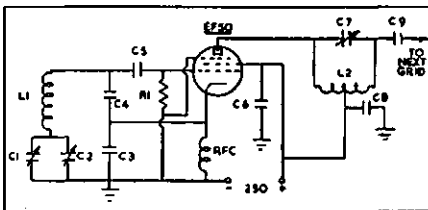
This time an EF50 was used as an electron coupled oscillator. But, instead of the grid coil with cathode tap arrangement, it used a series tuned grid. (The name "STECO" immediately came to mind.)

Results were extremely good! Owing to the high gain of the EF50, the output was greater than in any ordinary e.c.o. used, while retaining all the best features of the "Clapp." Not only is the "Steco" good on its fundamental frequency and as a doubler, but also gives

good output as a tripler and even as a quadrupler a useful amount of r.f. is obtained.

Stability is all that could be desired. Tests made, beating against WWV, show a drift of a few cycles over the first few minutes from cold and then a rock steady beat for seemingly an indefinite period.

This test was made with the grid coil on 14 Mc., doubling in the plate to 28 Mc.



- C1, C7—50 pF. variables.
C2—100 pF. variable.
C3, C4—500 pF. ceramicons.
C5, C9—100 pF. mica.
C6—0.01 uF. mica.
C8—0.005 uF. mica.
R1—100,000 ohms.

L1—All coils wound on 1½" plug-in coil formers. 80 metres: 43 turns of 24 gauge s.c. close wound; 40 metres: 17½ turns of 20 gauge bare, 1½" long; 20 metres: 7½ turns of 20 gauge bare, 1¼" long.

L2—40 and 20 metre coils are wound on 1½" coil formers. 40 metres: 27 turns of 22 gauge enamel, 1½" long, tap 14½ t.; 20 metres: 10½ turns of 20 gauge enamel, 1¼" long, tap 5½ t.; 10 metre coil is self supporting of 1½" diameter mounted in tube base: 8 turns of 18 gauge 1½" long, tap 4½ t. All taps counted from plate ends.

The note—from a series of critical reports asked for, especially on 10 metres—is T9X.

Keying was done in the plate of the second and final stage, a 6K7; which is not the best place. Although there is a difference of 20 volts between key up and down, there is no sign of chirp; the power supply being a genmotor. Keying in the cathode, as in the "Clapp," should prove quite in order, although it has not been tried.

Construction is simple as the writer deliberately made no attempt towards extreme care, meaning to try the oscillator out under adverse conditions. Coils are wound on ordinary 1½" diameter plug-in coil formers and only bakelite insulation used throughout for tuning condensers and tube socket.

One precaution was the mounting of the grid coil in a separate and very heavy aluminium box, which also contained the bandspread 50 pF. condenser.

It must be understood that the "Steco" is still in the experimental stage and has more to be done to it yet, e.g., the bandspread is not enough with the present condenser and some more work could be done on the coils. It is for that reason that this article is being written, for it wants someone who has much better facilities for frequency measurement, etc., than the writer has, to make one of these oscillators and try it out.

So anyone interested in a v.f.o. which, with say a 40 metre coil in the grid, will give an output on that band (there is some detuning in the plate circuit when used thus, and it is only used as a doubler), plus 20 and 15 metres and to a lesser degree 11 and 10 metres; this circuit is well worth a try. So let's hear your findings.

* Willow Point Station, Wentworth, New South Wales.

THE PHASING SYSTEM OF S.S.S.C.

(continued from page 5)

should be changed and the combination which results in only slight, or no drop in plate current, followed by a rapid rise as the modulation is increased, should be sought. When this has been found, a point will be noticed on the c.r.o., where as the modulation is increased, the output will stop increasing and the ripple begins to flatten off, this is the maximum modulation point at this stage. The loading and excitation should be adjusted so that maximum output is obtained before flattening occurs, checking to make sure that these changes do not cause a large drop in plate current at low modulation levels.

If the ripple is too slight to allow the flattening to be observed, a slight detuning of the condenser across L2 will produce the ripple. When adjusting for maximum loading and excitation, make sure to re-set this condenser to its former position, before the low modulation level test is made. The screen grid bias should be set to give minimum zero

modulation input, provided that the plate current shows an increase and not a decrease for low modulation input.

Remember when setting up and tuning a s.s.s.c. transmitter, modulation must be applied to obtain output.

The operating conditions at present in use here at 4FN and 4WI are:—

- Plate voltage: 530 volts.
Screen grid voltage: —25 volts.
Grid current: 8 Ma. per pair of 807s.
Plate current, unmodulated: 20 Ma.
Plate current, modulated: 150 Ma.

COIL DATA FOR 7 Mc.

- L1—17 turns of 22 gauge enamel, 1½" long, on trolitol former 1¼" in diameter.
L2—18 turns of 22 gauge enamel, 1½" long, on trolitol former 1¼" in diameter. Wire spacing about half the diameter of the wire.
L3—4 turns of 16 s.w.g. enamel, ½" in diameter and ¼" long.
L4—8 turns plus 8 turns of 10 gauge copper wire, with ¾" space in centre for swinging link. Overall length is 5½", and 2-3/16" inside diameter.

QUESTIONS AND ANSWERS

Q.13.—VK7LL is looking for a circuit of the BC659A. Can anyone help?

Q.14.—VK3AKZ has a burnt out metal rectifier in the power pack of an MCRI1 receiver. Has anyone got details of the electrical properties of this rectifier or suggest a suitable replacement?

BUY YOUR DX FRIEND A

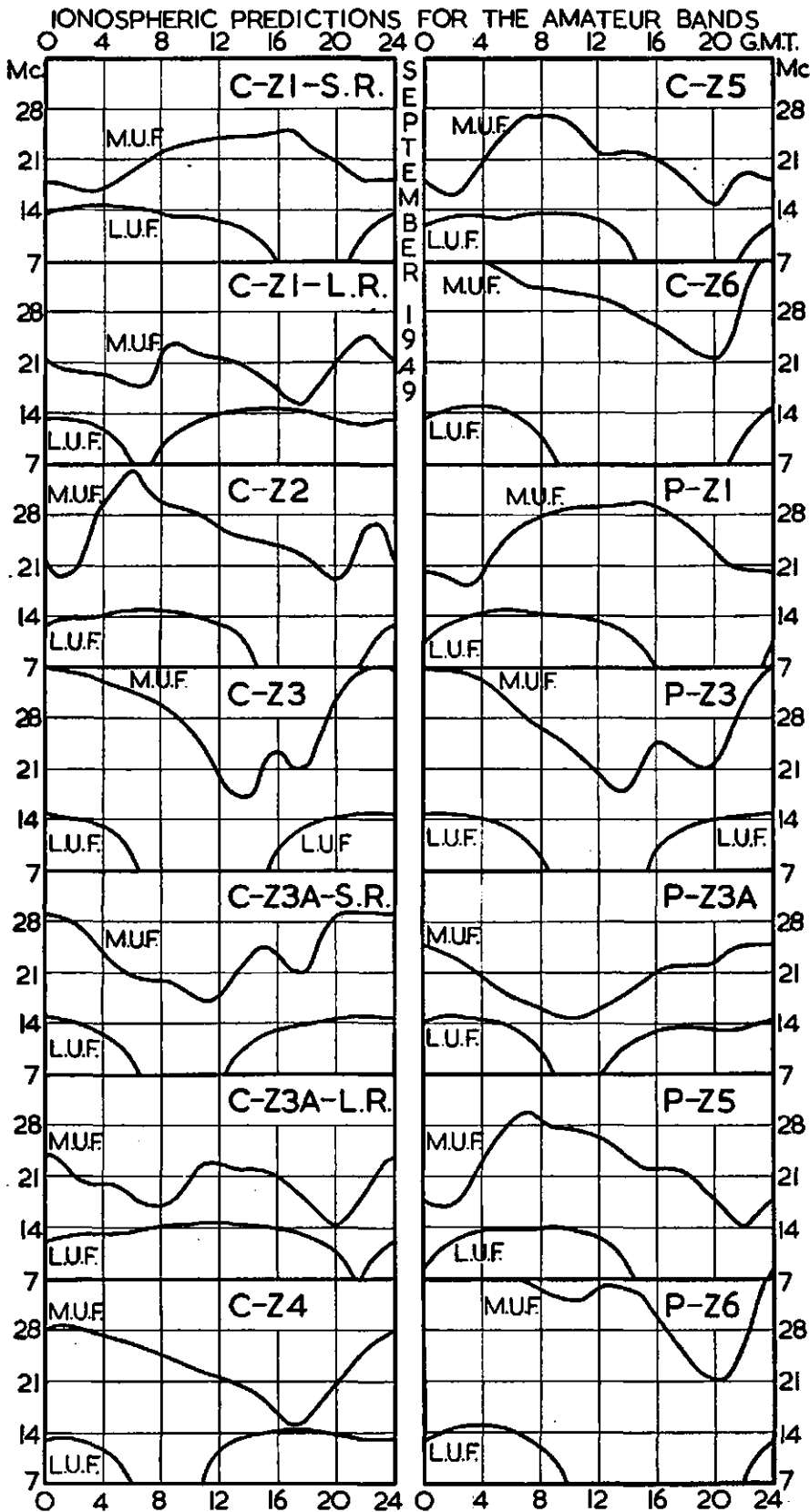
YEARLY SUBSCRIPTION

TO

"AMATEUR RADIO"

IONOSPHERIC PREDICTIONS FOR THE AMATEUR BANDS

SEPTEMBER, 1949



The accompanying charts have been prepared by the Ionospheric Prediction Service of the Commonwealth Observatory. The first set of the series was published in the November, 1948, issue of this magazine, together with an article explaining the nature of the forecasts and how to use them. Nine of the charts, prefixed by the letter "C" for Canberra, refer to forecasts for the South-Eastern Australian States. The remainder, prefixed by the letter "P" for Perth, are for Western Australia.

The Canberra charts refer to the following world zones:—

Zone	Region	Terminal
1	Western Europe	London
2	Mediterranean	Cairo
3	N.-West America	San Francisco
3a	N.-East America	New York
4	Central America	Barbados
5	South Africa	Johannesburg
6	Far East	Manila

The forecasts have actually been prepared for point-to-point circuits between Canberra and the overseas terminals mentioned in the above table. It is, however, to be expected that the charts will provide an approximate indication of ionospheric conditions for all Amateur contacts from South Eastern Australia to the various world zones.

The Perth charts are similar to those based on Canberra. No forecasts are given from Perth to Zones Z2 and Z4 for the current month, as chart P-Z2 would be essentially similar to chart P-Z1, while chart P-Z4 might be unreliable due to auroral activity in high northern latitudes.

USE OF CHARTS

All that is necessary in using the charts is to select a time (G.M.T.) during which a specified Amateur band frequency is below the maximum usable frequency (m.u.f.) of the F region of the ionosphere but above the lowest useful frequency (l.u.f.) for the desired contact. In two cases, Zones 1 and 3a it is necessary to consult both the short-route (S.R.) chart and the following long-route (L.R.) chart.

QUIZ

The Prediction Service welcomes comments on the accuracy of its predictions. In particular, answers to the following questions on the Canberra-Mediterranean circuit would be useful:

1. Was the 28 Mc. band workable for several hours before noon G.M.T.?
2. Did the 7 Mc. band regularly become workable soon after 1400 hours and unworkable at about 21 hours G.M.T.?
3. Were conditions good on the 14 Mc. band throughout the period noon to midnight G.M.T.?

Answers to the Quiz should be sent to the W.I.A. and should, if possible, refer to consistent results obtained on the majority of days in the month.

THE OLD MAN

"WE." On looking up the Oxford Dictionary I find the word "WE" given as the plural subject of I, Us or Our, why then do we have to listen to the nit-wit who, when working a station, lets fly the following "We have a three element beam and we have a 50 foot tower, we have a pair of 809s in the final and so on." If the station is licensed to one person, how on earth can it suddenly become plural. This is a most irritating thing to listen to, maybe you fellows haven't looked at it in this light.

"I can't possibly splatter, I have speech clipping in." How often have you heard those remarks and if you felt like I did, you would gnash your teeth and wonder at the child-like faith these people put into the fact that once having installed speech clipping, they can wind up the gain without any fear whatsoever of splatter.

If you do install clipping make sure that it is doing the job before you wind up the main. The limit, of course, is the bloke who knows it doesn't work and who goes along blithely taking up a quarter of the band. The outstanding exponent of this sort of thing this month is VK3UQ, as you said yourself, old man, your splatter suppressor definitely does NOT work.

Another of the Hams who knew his phone was bad, and believe me my analysis of it would have been putrid, was VK3ANT, the most dreadful phone I have heard in years with a horrible ripple and a hum on the carrier. If, as

you say, the hum is caused by the power supply being close to the dynamic mike, then for the love of mike get the darned thing away from it or keep off the air until your quality is lots better than when I heard you.

The best CQ merchant for the month is undoubtedly VK4TR. Dozens of CQs with an occasional call sign thrown in for luck. I bet you personally wouldn't have listened to a DX station who called like you did OM.

The palm for the best "butter-in" this month goes to VK2AGW. The story goes like this: VK2OQ was in contact with G3BI and with the QSO only half completed, up pops VK2AGW calling G3BI dead on 2OQ's frequency with a request to test a new antenna. However anxious you might have been to get a check 2AGW, it would have been abiding by the Regulations to have waited until the QSO was completed and it would have been gentlemanly. As I heard one well-known Ham say the other day, this attitude of intolerance is to be deplored, where has the HAM SPIRIT gone these days? I believe it is still present, but sadly overshadowed by acts such as this.

VK2BK is another of the selfish splatterers and if the Yank believed all the bull you were putting over to him, I under-rate his intelligence. Incidentally your frequency was so close to being out of the band that had you coughed, the deed would have been done.

I was very surprised to hear a member of the Church say that three polar bears had called at his shack, but found it so cold that they decided to go back to the North Pole, how could you "Monty."

I have mentioned backgrounds in phone transmissions before, and VK5RR would be well advised to reduce the gain on his microphone and speak closer to it. You would be surprised at what that mike picks up. The most unstable v.f.o. for the month goes to VK6VM, in fact the worst wandering v.f.o. I have heard yet. I would suggest you put an anchor on it next time OM and see if that would hold it steady.

VK3MZ sounds as though he might be selling rabbits or something when he calls CQ on phone. It sounds something like this: CQ CQCQCQCQCQ.

Breaking in without announcing call signs is taboo and VK5KE would have collected a Pro-forma B had the Department been listening when I was. Even if you had to get the car out for your wife, it was no excuse for not announcing your call.

And finally, according to theories advanced under mathematical laws of probability and averages, an "uneducated monkey, banging away at a morse key for a sufficiently long time would finally, though unknowingly, send a perfect three and three CQ and sign YOUR call." Cheers fellows until next month.

BOOK REVIEW.

A.R.R.L. ANTENNA BOOK

The new greatly enlarged 5th edition of the A.R.R.L. Antenna Book just published represents an accumulation of ten more years of the Amateur's experience in both war and peace in making the all-important ever fascinating "sky wire" carry signals to the ends of the earth. The data contained in this book are the result of practical experience both of the Authors and hundreds of Amateurs who have contributed to the practical know-how that this book expresses.

The book has two principal divisions, Chapters 1 through 5 deal with the principles of antennae and transmission lines, wave propagation and its relationship to antenna design, and the performance characteristics of directive antenna systems. These five chapters might be called a textbook on antennae; they enable the reader to design a system of his own to fit his particular needs.

Beginning with Chapter 6, there is a series of chapters in which complete data are given on specific designs for the various Amateur bands. The Amateur who has not studied the first section, or who wishes to avoid the necessity for making his own calculations, will find in these chapters the information necessary for putting up the system that appeals to him. The remaining chapters deal with the highly important mechanical features of construction and related subjects such as determining geographical directions.

The A.R.R.L. Antenna Book (Fifth Edition, 1949), by the Headquarters Staff of the American Radio Relay League, is the standard manual of design and construction of Amateur radio antenna systems and related subjects, completely

re-written and re-styled. 288 pages, 6½" x 9½", bibliography of antenna design, and a five-page topical index. There are 831 illustrations, including 72 charts and tables, 72 basic formulae. Available from McGill's Authorised Newsagency, price 10/6.

LOOK FOR THE NAME—



When Buying: COMMUNICATIONS EQUIPMENT
ELECTRONIC EQUIPMENT
LABORATORY INSTRUMENTS
RADIO PLUMBING

GLORAD ENGINEERING SERVICES

186a Riversdale Road (Cr. Robinson Road)
HAWTHORN — VICTORIA

Phones—DAY: WA 3819

NIGHT: WX 3440

North Coast Amateurs in Emergency Work

BY PETER ALEXANDER, VK2PA, W.I.A. ZONE OFFICER

Just over a month after the Hunter Valley floods, 26th and 27th July saw North Coast Amateurs in action during a cyclonic disturbance at Port Macquarie.

2SH and 2PA were authorised by the P.M.G.'s Department to handle urgent traffic to and from the town. Communications were cut on 25th July when gusts up to 84 m.p.h. and 12 inches of rain in three days damaged telephone circuits.

It was not until the local electricity authorities ran short of 11 k.v.a. chemical fuses, and a total black-out looked eminent, that the local engineer sought the assistance of local Amateurs. Doug 2SH, after interviewing the local post-master, contacted 2ANF who telephoned the Wireless Branch and informed them of the position. The official station VNS

opened up on 7 Mc. and traffic was handled on that frequency until 1700 hours. In the interim 2PA re-erected an 80 metre zepp, while not assisting at 2SH, and at 1700 hours 2PA was put into operation on 4720 Kc. using the call sign VNS1. A continuous watch was kept until 2100 hours and more traffic was handled.

Watch was again set at 0900 hours on the 27th on 7 Mc., working 2AA. In the meantime the P.M.G. had restored normal line communication and the emergency watch was closed at 1215 hours.

During the afternoon of the 26th July shifts were organised, in case it became necessary to run a continuous watch through the night. Operators available, in addition to 2SH and 2PA, were 2DS, Len Smith (awaiting a call sign), Bill

Smith P.M.G., and 2PA's father (a budding Ham).

Emergency battery operated equipment was ready to go, and it would have been set up at the local post office, but it was not required.

Most of the North Coast gang 2XO, 2GS, 2ANF and 2AEY were handy if needed.

Bill 2AEY was standing by in case the lines to Taree failed. The cyclone lasted three days and was the worst Port Macquarie had experienced for many years. Much damage was done to crops and some to buildings, not to forget the demise of beams and other Ham antennae. Considering the force of the wind, the town escaped very lightly.

"Operation Omeo"

When bad weather conditions prevailed in the Eastern and North-Eastern parts of Victoria, a state of emergency arose when road and wire line communications were interrupted on Wednesday, 20th July.

Omeo and districts suffered a terrific blizzard and heavy falls of snow which resulted in roads into and out of the town being completely blocked and telephone and telegraph lines being brought down for distances up to ten miles.

The roads to the Gap, Smith's Creek, Mt. Hotham, and Benambra were also closed for miles by heavy snowdrifts.

Bill Williams VK3WE opened up on the 7 Mc. band at approximately 1100 hours on 20/7/49 and called "CQ Emergency, Melbourne." This call was heard by Jerry Lane, of Nunawading, an Institute Associate, who rang the Institute Secretary, Mrs. Cross, at the W.I.A. office. Mrs. Cross contacted Reg Busch VK3LS who promptly alerted Bill Brownbill VK3BU (Geelong), Max Howden VK3BQ, and Bert Leckie VK3LH.

VK3BU handled a message from VK3WE for the P.M.G. This message was handed into the Geelong Post Office for transmission to the branch concerned. The telegraphic section contacted VK3LS later in the afternoon and gave an engineering telephone number that would receive any further P.M.G. messages from the Network. They also forwarded their regards for the co-operation rendered.

At 1800 hours VK3LS stood by on sked for VK3WE, but at 1750 hours the Omeo power supply failed and VK3WE was not on the air until later in the night.

No emergency messages were handled on 21/7/49, but on Friday afternoon Gordon Dennis VK3TF advised VK3LS that VK3WE was again calling "CQ Emergency, Melbourne." Ken Rankin VK3KR (Benalla) stood by while Ivor Stafford VK3XB received a message from VK3WE for D24 (Melbourne Police Department).

At 1630 hours, D24 asked VK3LS to pass a message via VK3WE to the Omeo police. Later D24 asked for full details of the Emergency Network and also offered their thanks for the help rendered.



WIRELESS LICENCES MUST BE RENEWED

TUNE IN WITH AN EASY CONSCIENCE

Every person must hold a yearly broadcast listeners' licence for each receiver in his or her possession, whether in the home, place of business, holiday residence, motor car, or elsewhere, including portable sets.

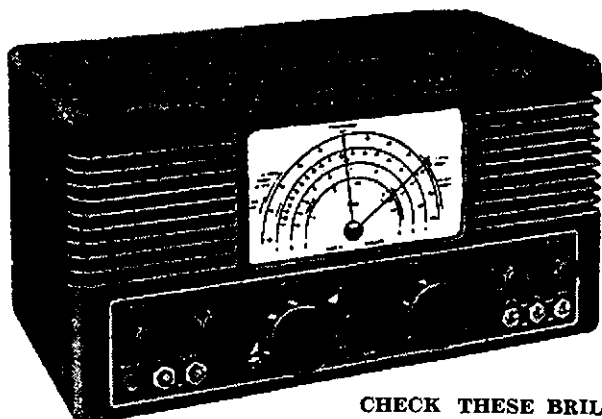
The Australian Broadcasting Act provides that unlicensed radio sets are liable to seizure and the owners to heavy penalties.

Licences may be obtained from
Post Offices

RENEW EACH RADIO LICENCE PROMPTLY!

WLV1.62.79

THE "TOPS" IN AMATEUR COMMUNICATION RECEIVERS—



THE EDDYSTONE "640"

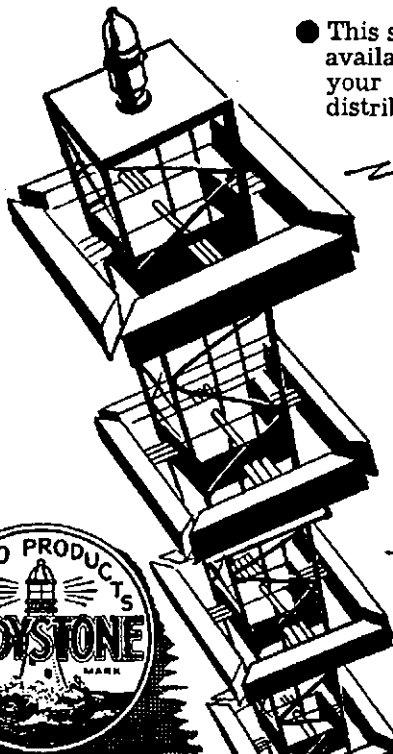
—ACCLAIMED EVERYWHERE
AS THE FINEST "HAM" SET
YET DESIGNED!

PRICE **£56/10/-** (Plus Sales Tax)

CHECK THESE BRILLIANT FEATURES:—

1. Receiver has been designed primarily for Amateur Communication purposes, tuning range from 31 Mc/s. to 1.7 Mc/s.
2. Designed to operate from Standard A.C. Mains with inputs of 110 volts, 200/240 volts, 40/60 cycles as well as from a 6 volt battery by the use of a separate Vibrator Unit (Cat. No. 687).
3. Inclusive all valves, the "640" is a 9-valve job with one tuned R.F. stage, F.C., two I.F. stages, detector-A.V.C.-1st audio, 2nd audio output, noise limiter, B.F.O., and rectifier. The valves used, in that order, are EF39, 6K8, EF39, EF39, 6Q7, 6V6, EB34, EF39, and 6X5. These are all international octal based on Mullard or Brimar versions and are therefore easily replaceable.
4. INPUT IMPEDANCE—400 ohms.
5. TUNING RANGE—(1) 31 to 12.5 Mc/s.
(2) 12.5 to 5 Mc/s.
(3) 5 to 1.7 Mc/s.
6. TUNING.—An electrical band-spread arrangement is used for this purpose. Fly-wheel control is utilised on the band-spread condenser drive. The scale is clearly marked with all Amateur bands, and is so arranged to enable accurate re-setting to a spot frequency.
7. I.F. FREQUENCY—1600 Kc/s.
8. CRYSTAL FILTER is vacuum mounted to provide a high degree of stability. Phasing control and "in/out" switch are brought out to the front panel.
9. Sensitivity is better than 2 microvolts input, for 50 milliwatts output, at all frequencies.
10. OUTPUT.—Audio frequency output exceeds 3.5 watts.
11. "S" METER.—A socket is provided for an external "S" Meter (Cat. No. 669).

● This set is now available from your local . . . distributor.



DIRECTORY OF DISTRIBUTORS

- VICTORIA: J. H. MAGRATH & CO., 208 Little Lonsdale St., Melbourne.
- WEST AUST.: CARLYLE & CO. LTD., Hay St., Perth, and 397 Hannan St., Kalgoorlie.
- N.S.W.: JOHN MARTIN PTY. LTD., 116-118 Clarence Street, Sydney.
- WEST AUST.: ATKINS (WA.) LTD., 894 Hay Street, Perth.
- QUEENSLAND: CHANDLERS PTY. LTD, Cnr. Albert and Charlotte Streets, Brisbane.
- SOUTH AUST.: GERARD & GOODMAN LTD., 192-196 Rundle Street, Adelaide.
- TASMANIA: W. & G. GENDERS PTY. LTD., 53 Cameron St., Launceston, and Liverpool St., Hobart.

EDDYSTONE OFFERS YOU
THE LATEST, MOST DEPENDABLE
COMPONENTS for FM., AM., & PULSE

Australian Factory Representatives:—

R. H. CUNNINGHAM & CO., 62 Stanhope Street, Malvern, Phone: UY 6274

VK-ZL International DX Contest 1949

The Wireless Institute of Australia, in conjunction with the New Zealand Association of Radio Transmitters has pleasure in announcing the Rules for the 1949 VK-ZL DX Contest, and trust that the Contest this year will be even more popular than in the past. This Contest has proved its popularity and been looked forward to by Amateurs, not only in VK and ZL, but by very many stations all over the world. So remember the dates, join in and have lots of good contacts.

Objects.—For the world to contact VK and ZL stations and vice versa.

When:
1401 G.M.T. 30th September to 1359 G.M.T. 2nd October—c.w. operation.

1401 G.M.T. 7th October to 1359 G.M.T. 9th October—phone operation.

1401 G.M.T. 14th October to 1359 G.M.T. 16th October—c.w. operation.

1401 G.M.T. 21st October to 1359 G.M.T. 23rd October—phone operation.

Duration: (a) For contest purposes, VK and ZL stations will limit their period of operation to any consecutive 24 hour period on each week-end, within the times given above. Once a station commences operation, the operator will not exceed 24 consecutive hours of operation reckoned from such commencing time.

(b) Stations in all other countries may contact VK and ZL stations at any time within the operating periods shown above.

RULES

1. There shall be three main sections to the Contest: (a) Transmitting c.w.; (b) Transmitting phone; (c) Receiving (phone and c.w.).

2. Contestants may compete in the open events (all bands) or on one or more individual bands, provided they submit a log for each individual band.

3. The Contest is open to all licenced transmitting Amateurs and receiving stations in any part of the world. No prior entry need be made. Marine mobile and expedition stations (excluding VK1 stations) are not permitted to enter the Contest.

4. C.W. will be used for the first and third week-ends, and phone for the second and fourth week-ends. Stations entering for both phone and c.w. sections must submit separate logs for each (see Rule 12).

5. All Amateur frequency bands may be used.

6. Only one contact per band per week-end with any one station (for contest purposes) is permitted.

7. Only one licenced Amateur is permitted to operate any one station under the owner's call sign. Should two or more operators operate any particular station, each will be considered a com-

petitor and must submit a separate log under his own call sign.

8. Each participant will assign himself a serial number of three figures. When two or more operators work from the one station, each will assign himself a different serial number. This serial number must remain unaltered for phone and c.w. operation.

9. Serial numbers to be exchanged during the Contest, will be as follows. The FIRST three numbers are those chosen in Rule 8, and will be retained throughout the Contest; and the SECOND three numbers will commence 00 for the first contact, and for subsequent contacts will be the FIRST three numbers of the Station of the previous contact.

SCORING

10. Three points may be claimed for a complete exchange of serial numbers. No points may be claimed unless the exchange of numbers is completed by both stations.

11. Multipliers.—(a) For VK and ZL stations. For each band, the multiplier will be the number of countries worked on that band, except that for the U.S.A. each call area shall be considered a country. The official A.R.R.L. or W.I.A. Countries List will be used.

(b) For other Stations. For each band, the multiplier will be the number of VK-ZL districts worked on that band. These are VKs 1, 2, 3, 4, 5, 6, 7, 8; and ZLs 1, 2, 3, 4.

(c) Stations entering the open (all bands) sections, will add together countries or VK-ZL districts worked on each band.

12. Total points scored (Rule 10) by the multiplier as applicable (Rule 11) shall determine the final score.

13. Logs.—(a) Logs must show in this order: Date, Time (G.M.T.), Band of Operation, Call of Station worked, Serial Number sent, Serial Number received, Points claimed, and new Country (VK-ZL district) worked.

(b) A separate log must be submitted for each band. For each band a summary must be given showing: (i) List of Countries (VK-ZL districts) worked; (ii) Total number of contacts made on that band; (iii) Points claimed for that band; (iv) Entrants in the open sections need only show (i) and (ii) for each band.

(c) A summary sheet to show the call sign of the station, name and address of the operator, whether phone or c.w., single band or all band operation, total points claimed, and finally a declaration that all contest rules and regulations for Amateur Radio in your particular country have been observed, and that the log is correct and true to the best of your belief.

14. The judges reserve the right to disqualify any station for (a) Consistent tone reports under T3; (b) Continuing key clicks; (c) phone splatter and/or excessive modulation, and (d) off frequency operation.

15. The Federal Executive of the W.I.A. shall be the sole adjudicators and their ruling will be binding in the case of any dispute.

16. Overseas stations should call "CQ VK-ZL" and VK-ZL stations "CQ DX TEST."

17. Awards.—Attractive Certificates will be awarded to the station returning the highest score from each particular country and each call area in the U.S.A. Additional Certificates may be issued at the discretion of the Contest Committee.

18. There shall be no World winner. VK-ZL trophies, awards, etc. will be announced by the W.I.A. and the N.Z.A.R.T. respectively.

19. Entries from overseas stations should be endorsed "VK-ZL Contest" and should be forwarded to reach the W.I.A., Box 2611W, G.P.O., Melbourne, by 16th January, 1950. Logs from ZL stations should reach the same address by the 26th November, 1949. VK logs will be sent to their respective Divisions and onforwarded to reach the Box by the 26th November, 1949.

RECEIVING CONTEST

1. The Rules for the Receiving Contest are the same as for the Transmitting Contest, but is open to all members of any Short Wave Listeners' Society in the world. No transmitting station is permitted to enter for the receiving contest too.

2. The Contest times and the logging of stations once on each band per week-end are subject to the same rules as for the transmitting contest, except that listening stations in Australia and New Zealand may listen and log stations over the whole period of the contest. Logs will be in the same form as for the transmitting contest.

3. To count for points, the call sign of the station being called, the strength and tone of the calling station, together with the serial numbers sent by the calling station must be entered in the log. Three points may be claimed for each entry in the log complying with the above.

4. It is not sufficient to log a station calling CQ Contest.

5. VK receiving stations cannot log VK stations and ZL receiving stations cannot log ZL stations. Only overseas stations may be logged, but VKs may log ZLs and vice versa. Overseas stations will log only VK and ZL stations heard operating in the Contest.

6. The awards in the receiving contest will be similar to those in the transmitting contest.

A.R.C.I. DX Contest September 1949

RULES

1. The Contest is open to all licenced Amateurs of countries lying between the longitudes 10°E and 180°E, i.e. roughly from South Africa to New Zealand in the South, and Eastern Europe to Japan in the North.

2. Distinctive certificates will be awarded to the three leading local and DX stations and also to the leading station of each zone from which at least five entries are received. Entries must be received not later than 8th November, 1949, and should be addressed to A.R.C.I. DX Contest (Sept. '49), P.O. Box 6666, Bombay 20.

3. The decision of the Contest Committee will be the final.

4. Only the entrant is allowed to operate a specific station during the contest.

5. The contest will extend from 1700 hours I.S.T. (1430 hours G.M.T.), Saturday, September 17, to 2400 hours I.S.T. (1830 hours G.M.T.), Sunday, September 18, and from 1700 hours I.S.T. (1130 hours G.M.T.), Saturday, September 24, to 2400 hours I.S.T. (1830 hours G.M.T.), Sunday, September 25, 1949.

6. All local stations will exchange with stations in the rest of the countries within the contest zone.

(a) For all phone contacts—Five figure groups, the first two digits indicating the signal report (R.S. only) and the last three digits indicating the serial number of total contacts made by the entrant e.g. for the eighth station contacted by the entrant whose signals are E5 S8 the five figure group will be 58008.

(b) For all C.W. contacts—Six figure groups, the first three digits indicating the report in RST system and the last three digits showing the serial number of the station contacted, e.g. for the eighty-fifth station contacted, the entrants' number will be 689085.

7. For the purpose of this contest, all stations in India, Burma, Ceylon, and Pakistan will be considered as local stations, the rest of the countries will be divided into zones according to the official country prefix list.

8. Bands.—Only 14 and 28 Mc. Amateur bands will be used.

9. Scoring.—Contacts will count only between one local station and a DX station. No contacts between two local stations or between two DX stations of the same country will count for points.

(a) For phone contacts one point per station worked in EACH band will count.

(b) For c.w. contacts a 30 per cent. bonus will be awarded to an entrant who works exclusively on c.w. during the contest.

(c) For mixed c.w. and phone contacts no special advantages will be permitted and points will be awarded as in para 9(a) above.

(d) Only ONE contact with any one station will count for points in one band during any one week-end. Stations worked during the first week-end may be contacted again during the second week-end.

10. Band monitoring stations under the auspices of the A.R.C.I. will be active during the contest and any station reported off frequency will be disqualified.

11. The conditions laid down in the entrants' license will be observed.

12.—Log.—A log sheet showing the following details should be forwarded at the end of the contest: (a) Date, (b) Time I.S.T. (or G.M.T.), (c) Frequency, (d) Call of the station worked, (e) Five or six figure group sent, (f) Five or six figure group received, (g) Points claimed.

13. In addition to the information required vide para. 12, the log sheet should also contain the following: (a) Call sign of the entrant, (b) Name of the operator (in blocks), (c) Address, (d) Details of his transmitter, (e) Input power, (f) Receiver, (g) Antenna, (h) A signed declaration as follows: "I hereby certify that my station was

operated strictly in accordance with the rules and spirit of this Contest and I agree that the decision of the A.R.C.I. Contest Committee shall be final in all cases of dispute."

14. Proofs of all contacts are required. It is suggested that when the entrant contacts DX stations, he should ask the latter to send their cards or other confirmation direct to P.O. Box 6666, Bombay 20, in the first instance from where these will be despatched to the respective owners after verification by the Contest Committee.

BENDIX FREQUENCY METERS

(BC 211)

Few Meters remain ex latest shipment at £27/10/- each F.O.B. Melbourne. These Meters are new and complete with crystal and spare tubes.

Also offering, new and tested 832 Valves at £3, sockets 14/6.

6AK5 Valves, brand new in cartons 18/6 each. Only a few available.

We now offer a manufacturing service to Amateurs for transmitters, etc. Quotes on application.

R. H. Cunningham & Co.

420 WILLIAM ST., MELB.

Phone: UX 6274

FIFTY MEGACYCLES AND ABOVE

Compiled by J. K. RIDGWAY, VK3CR.

Warwick Parsons (5PS) forwards a very interesting letter received from Laurie Sjoberg (5SL). 5SL is stationed at broadcast station 5RM, Renmark, the chief engineer of which is Hughie Lloyd 5BC. The letter contains so much of interest to South Australian, New South Wales and Victorian v.h.f. men that I think the best course is to quote it verbatim. Laurie writes:—

"We have formed a radio 'school' up here. 'We' being Fred Martens (5MA), Hughie Lloyd (5BC), and myself 5SL, and our class comprises four local chaps who are very interested in the game. The idea being to get these lads their tickets and then to form a radio club—'The Murray Net!'—in opposition to the 'Northern Net.' Our club frequency will be 144 Mc.—equipment for that being the first consideration for local rag chews, etc. The whole thing has very good possibilities as you can realise, being in a central position with regard to S.A., N.S.W., and Victoria, so when everything takes shape in the near future, plenty will be doing. We three Hams are all on shift work, but there is always one of us to take the class. Our meetings are held once a week and the boys are beginning to get ahead now. We had to start right from scratch—with both theory and code.

"The most important thing is a forthcoming 50 Mc. test from Accommodation Hill, to be carried out in the near future. Hugh is building a portable 7 Mc. rig to use for general communication and he will take his 50 Mc. transmitter with him, also some 144 Mc. gear if completed in time. Fred Martens is also going with Hugh—plus respective families, etc. (making a day of it—you see). I'll be at 5RM working things from there. 5AX at Gawler and 5GF, Adelaide, are two others joining in the fun and anyone interested is cordially invited too—not necessarily to go to Accommodation Hill, but perhaps from other points or from their local QTH. No date has been fixed, that depending on when gear is completed, but plenty of notice will be given. However more details of the equipment, etc., will be given as soon as more detailed plans are worked out. Accommodation Hill is the last of the hills of the Mt. Lofty Range on the main road to the River districts. It is about five miles on from Truno, and from it you look right out over the Murray Valley flats, ideal from 'line of sight' point of view!

"Hugh has been rather quiet of late, his activities being confined to a few QSOs on 40, and a lot of thinking about what to build for 144 Mc., that is, something bigger and better than the 7193 transceivers which we have been experimenting with. He has been buying odd pieces of disposal equipment too, so something worth while should be forthcoming in the future.

"For my part, I've bought up lots of odd disposals gear, an AT5 being amongst it, and I am gradually building up all the gear for a nice little Ham station. A few months should see me active on 40 and 20, and possibly 10 also. At the moment I'm building a 144 Mc. transmitter, using a 7193 as 72 Mc. (approx.) oscillator, a doubler using another 7193, driving an 832 final. With the four element beam (already in use with transceivers, etc.) and with the receiver set-up, to be built yet, I may do things with DX on 144! Who can tell? I hope to make Mt. Gambier, so watch out in a couple of months' time, boys. At the moment my receiver for 144 Mc. is a simple 'rush box,' no good at all for DX, but when I get this rig going, I'll let them know and will arrange a sked, but it will be a few weeks yet before I'll be ready.

"Fred Martens also is busy unwrapping boxes of disposal gear and trying to think of things to make. He too is keen on 144 Mc. and has a crystal controlled rig on that band. At the moment he is busy building a good receiver. The other day saw him rushing about with lengths of conduit and a gleam in his eye! Next thing we see a three element beam hovering precariously on a pole outside his house! He carried out tests with Hugh and strange as it seems, it worked quite well, miracles never cease!

"Recently we did a broadcast of the Morgan Races. Hugh went to Morgan while I was at 5RM. Hugh took his 50 Mc. receiver with him and I transmitted from 5RM, and we conducted tests at various points between here and there. Morgan is approximately 50 miles from Berr, but he couldn't hear me there, though he got me at a place called Taylorville—which is about eight miles from Morgan. Nothing like mixing business with pleasure—or vice versa!!"

Laurie concludes by promising to forward monthly reports from "The Murray Net."

FURTHER NEWS OF VIC. V.H.F. MARATHON

It has been realised that if the checking of logs is left until the conclusion of the Contest it will prove a terrific job for those responsible, so it has

been decided to ask stations participating (and we hope this is everyone active on the v.h.f. bands) to send in details of contacts for which points are being claimed EACH MONTH. These details must cover activity from the first day to the last day of the month, inclusive.

Points to be covered are: (1) Date, (2) Time of commencement of contact, (3) Band used, (4) Call sign of station worked, (5) Reports received and given, (6) Distance (see below), (7) Points claimed for contact.

The distance need be given only if more than 1 point is being claimed for the contact. The distance need be only given approximately unless it appears that the station worked is at such a distance that it is difficult to determine the number of points to be claimed for the contact. If this is so, make a note to this effect alongside details of the contact and the distance will be checked on an accurate map.

The multiplier will apply to each month's work. Thus if during one month a station works on 144 Mc. alone, the score for that month will be multiplied by one. If during the next month he works on 144 and 576 Mc., that month's score will be multiplied by 1 plus 2, i.e. by 3.

If entrants work out their total month's score and include it on the entry, it will be a help to those checking the logs; however, this is not essential and as long as the details asked for above are included all will be well.

Do not forget to include your name, call sign, and address and forward the details to reach Keith King, VK3AKI, c/o Vic. Division, W.I.A., 191 Queen Street, Melbourne, C.I., on or before the 8th of the month. A certain amount of extra time will be allowed this month, due to uncertainty of the date of appearance of this information.

We would once again appeal to all stations to support the Marathon, remember you do not have to be active over the entire period, but can send in a log for whatever times you are on during the six months of the competition. Don't forget those prizes that are being offered!

50 Mc. NEWS OF THE MONTH

New South Wales.—The signs indicate that the coming v.h.f. season will be by far the best yet. This combined with the Victorian v.h.f. contest and increasing interest being shown in v.h.f. work by stations who normally work 10-20-40 metres is most encouraging. The v.h.f. gang have better receivers, better antennae, and more efficient transmitters. More watts are skimming along the earth's surface owing to stacked antennae.

The v.h.f. contest in N.S.W. has brought 54 stations on the air on 50 Mc. Newcastle district stations heard regularly in Sydney are: 2BZ, 2YL, 2KQ (hard to work), and 2ADT. 2UF was worked by 2AH but has been silent for awhile. Frank will be going on 6 and 2 metres from now on and will be looking for contacts on both bands. 2BZ has r.f. on 2 metres now. 2ADT has cleaned things up after a little ribbon-in-pipe trouble, but has very solid signal now. 2KQ has 3 over 3 on six. 2ER listens on six and will be transmitting on two soon. 2YL is easier to contact now from poor location. The Sydney gang will be looking for 2UV and 2LH any time skeds can be arranged, also 2PA.

In Sydney stations re-building or completing new gear six are: 2AWZ 815 p.a., nice sig. 2HO same, yet to be put on air. 2NO something newer. 2XD will be going soon on six. 2YR has "halo" on mobile and works plenty of stations. 2XX has excellent signal with 5 watts, contacts Newcastle districts. 2ARG has 3 over 3 on six now up and is electrically rotated. 2BG has signal on 2 metres with 1143 and 3 over 3 antenna. 2UF also on six and two with beam on six and putting splendid signal out. 2AG went beam minded and increased signal plenty. 2AMV, of Gosford, back again. 2RU is always solid in Sydney. 2AH has transmitter that works from 80 to 2 metres. 2MQ re-building still, with complete re-arrangement of all transmitters.

2NP after hard local work. 2ZN has nice signal from "Harmonic Centre" (local s.s. matters). 2LS has beam from "Denistone Hollow" which is still remarkably directional. 2ARB now tuning up. 2AJR using a beam soon. Also has 2nd op. assisting. His 6J6-832 m.o.p.a. for 2 metres is great success. 2VP has nice quality and plenty of punch with "halo" on six. 2GU had fine signal recently in Sydney. Like to have more QSOs Arch.

The congestion around 50 to 50.5 Mc. is becoming really serious. Many distant stations are within these frequencies. Such are: 2OU, 2BZ, 2UF, 2LY, 2YL, 2KQ. Local QSOs could be carried out after initial contact on higher frequencies within the band. Interstate QRM later during break throughs is going to cause many spoilt QSOs.

No v.h.f. meetings have taken place in Sydney

owing to restrictions. The Committee have met for special occasions to arrange contests, etc.

Victoria.—There are a few sporadic E openings to report this month. On the 15th of July, 4XN was hearing harmonics from VK3 in the 50 Mc. band and at 1250 he contacted 3BQ who had just got home and had been informed over the phone by an s.w.l. that 4XN had been audible since 1200.

The next day short skip was observed on 28 Mc. from 1300 on but 4XN, about the only VK4 on the band these days apparently, did not get home until 1430. He then heard 3YJ and contacted 3VL, 3IM, 5GF, 3PG, 3YS, 3OD, and 3NW, the band remaining open until 1715. On the 17th 4HE of Bundaberg was heard working VK2s from 1200 to 1220, signals were not very strong however.

The band is much the same as it has been for the past few months in Melbourne, the usual sta-

(Continued on page 17)

Low Drift Crystals

FOR AMATEUR BANDS

ACCURACY 0.02% OF STATED FREQUENCY

3.5 Mc. and 7 Mc.

Unmounted £2 0 0
Mounted £2 10 0

12.5 and 14 Mc. Fundamental Crystals, "Low Drift," Mounted only, £5.

Spot Frequency Crystals Prices on Application.

Regrinds £1 0 0

THESE PRICES DO NOT INCLUDE SALES TAX.

MAXWELL HOWDEN

15 CLAREMONT CRES.,
CANTERBURY, E.7,
VICTORIA

FEDERAL, QSL, and DIVISIONAL NOTES



Federal President: W. R. Gronow, VK3WG; Federal Secretary: W. T. S. Mitchell, VK3UM, Box 2611W, G.P.O., Melbourne.

NEW SOUTH WALES

Secretary.—Dick Dowe (VK2RP), Box 1734, G.P.O., Sydney.
 Meeting Night.—Fourth Friday of each month at Science House, Corner Gloucester and Essex Sts., Sydney.
 Divisional Sub-Editor.—L. D. Cuffe, VK2AM, 14b Watson Street, Neutral Bay, N.S.W.
 Zone Correspondents.—North Coast and Tablelands: P. A. H. Alexander, VK2PA, Hill St., Port Macquarie; Newcastle: E. J. Baker, VK2FP, 13 Skelton St., Hamilton, Newcastle; Coalfields and Lakes: H. Hawkins, VK2YL, 27 Comfort Ave., Cessnock; Western: G. J. Russell, VK2QA, 116 Bogan St., Nyngan; South Coast and Tablelands: B. H. Rayner, VK2DO, 42 Pettit St., Yass; Southern: E. N. Arnold, VK2OJ, 678 Forrest Hill Ave., Albury; Western Suburbs: A. C. Pearce, VK2AB, 48 Harrabrook Ave., Five Docks; Eastern Suburbs: H. Kerr, VK2AX, No. 4 Flat, 144 Hewlett St., Bronte; North Sydney: L. D. Cuffe, VK2AM, 779 Military Rd., Mosman; St. George: J. A. Ackerman, VK2ALG, 32 Park Rd., Carlton; South Sydney: V. H. Wilson, VK2VW, Cr. Wilson St. and Marine Pde., Maroubra.

VICTORIA

Secretary.—C. C. Quin, VK3WQ.
 Administrative Secretary.—Mrs. G. Cross, Law Court Chambers, 191 Queen St., Melbourne, C.I.
 Meeting Night.—First Wednesday of each month at the Radio School, Melbourne Technical College.
 Zone Correspondents.—North Western: R. E. Trebilcock, VK3TL, 122 Victoria St., Kerang; Western: C. C. Waring, VK3YW, 19 Skene St., Stawell; South Western: W. H. Ross, VK3UT, Ballangate, via Warrnambool; North Eastern: J. A. Miller, VK3ABG, "Erinvale," Avenel; Far North-Western Zone: "Harry Dobby," VK3MF, 42 Walnut Ave., Mildura; Eastern Zone: Mrs. P. M. Churchward, VK3US, "Shirley," Red Hill.

WI BROADCASTS

All Amateurs are urged to keep these frequencies clear during, and for a period of 15 minutes after, the official Broadcasts.

VK2WI.—Sundays, 1100 hours EST, 7196 Kc. and 2000 hours EST, 50.4 Mc. No frequency checks available from VK2WI. Intra-State working frequency, 7175 Kc.

VK3WI.—Sundays, 1130 hours EST, simultaneously on 3587 and 7196 Kc. and re-broadcast on 50 and 144 Mc. bands. Intra-State working frequency 7185 Kc. Individual frequency checks of Amateur Stations given when VK3WI is on the air.

VK4WI.—Sundays, 0900 hours E.S.T. simultaneously on 3750 Kc., 7196 Kc., 14342 Kc., 52.4 Mc. and 144.138 Mc. Frequency checks are given two nights weekly, and the times are announced during Sunday broadcasts. 7066 Kc. channel is used from 1000 to 1030 hours each Sunday as VK4 query service to VK4WL.

VK5WI.—Sundays, 1000 hours SAST, on 7196 Kc. Frequency checks are given by VK5DW on Friday evenings on the 7 and 14 Mc. bands.

VK6WI.—Saturdays 1400 hours, Sundays 0930 hours WAST, on 7196 Kc. No frequency checks available.

VK7WI.—Second and Fourth Sundays at 1000 hours E.S.T. on 7196 Kc. No frequency checks are available.

QUEENSLAND

Secretary.—W. L. Stevens, VK4TB, Box 638J, G.P.O., Brisbane.
 Meeting Night.—Last Friday of each month at the State Service Building, Elizabeth St., City.
 Divisional Sub-Editor.—F. H. Shannon, VK4SN, Minden, via Rosewood.

SOUTH AUSTRALIA

Secretary.—E. A. Barbier, VK5MD, Box 1234K, G.P.O., Adelaide.
 Meeting Night.—Second Tuesday of each month at 17 Waymouth St., Adelaide.
 Divisional Sub-Editor.—W. W. Parsons, VK5PS, 483 Esplanade, Henley Beach.

WESTERN AUSTRALIA

Secretary.—W. E. Coxon, VK6AG, 7 Howard St., Perth.
 Meeting Place.—Padbury House, Cnr. St. George's Ter. and King St., Perth.
 Meeting Night.—Watch the Monthly Bulletin.
 Divisional Sub-Editor.—George W. Ashley, VK6GA, 33 Mars Street, Carlisle, Western Australia.

TASMANIA

Secretary.—R. D. O'May, VK7OM, Box 371B, G.P.O., Hobart.
 Meeting Night.—First Wednesday of each month at the Photographic Society's Rooms, 163 Liverpool St., Hobart.
 Divisional Sub-Editor.—Capt. E. J. Cruise, VK7EJ, Anglesea Barracks, Hobart.
 Northern Correspondent: C. P. Wright, VK7LZ, 3 Knight St., Launceston.

FEDERAL

DX C.C. LISTING

This month we welcome the first VK5 to the list—VK5FL. Congratulations to you, Ross.

PHONE

VK5JD (1)	34	125
VK6RU (2)	37	121
VK6KW (4)	36	119
VK3BZ (3)	37	119
VK6DD (6)		100
VK3IG (5)		100

C.W.

VK3BZ (6)	40	145
VK3CN (3)	40	143
VK3VW (4)	39	134
VK2QL (5)	40	132
VK4EL (9)	39	129
VK3EK (3)	39	121
VK3HR (10)	39	120
VK4HR (8)	39	117
VK2EO (2)	40	115
VK4DA (7)	38	112
VK4RF (11)	35	110
VK8UM (12)	36	105

OPEN

VK3BZ (4)	40	171
VK2DI (2)	40	159
VK6RU (8)	37	153
VK3JE (12)	39	147
VK3HG (3)	39	141
VK3MC (5)	39	138
VK4HR (7)	39	138
VK6KW (13)	39	137
VK3EX (1)		135
VK4EL (10)	39	129
VK3OP (19)		128
VK2NS (16)	39	122

New Open Member:—
 VK5FL (26) 116

COUNTRIES LIST

As an accurate map of the partition of Palestine is now to hand, cards are being checked for both Arab Palestine and Israel. Cards for contacts before the date of partition will only count for Palestine but for contacts after this date (14th May, 1948) will count for either Arab Palestine or Israel.

The following alterations to prefixes in the Countries List are notified:—
 For Bahrain Island substitute prefix MP4.
 For Guantnamo Bay substitute prefix KG4.
 For Roumania substitute prefix YO.

"VOICE OF AMERICA" BROADCASTS

As from the 15th June, 1949, the A.R.R.L., through the "Voice of America" stations in the 11, 15, 17, and 21 Mc. broadcast bands at 2045 hours G.M.T., Saturday (0645 E.A.S.T. Sunday), and again at 1300 hours G.M.T., Sunday (2300 E.A.S.T. Sunday) on the 9, 11, 15, and 17 Mc. broadcast bands, broadcasts a programme of interest to Amateurs throughout the Far East. These are each 15 minute programmes.

Items of interest from the broadcast of 31st July, and given by Bill Leonard, W2SKE, included a talk on V.I. and the steps being taken by U.S. Amateurs to combat it, DX news by Rod Newkirk (DX Editor of "QST"), an interesting interview with Pat Miller, W2AIS ex-ZO8PM, and ionospheric predictions for 28 Mc. for August.

These broadcasts should prove of great interest to all Australian Amateurs and help all to keep abreast with the latest news from Overseas.

W.I.A. ACTIVITIES CALENDAR

Sept. 17-18: First week-end Indian DX Contest.
Sept. 24-25: Second week-end of Indian DX Contest.
Sept. 25: R.S.G.B. Direction Finding Contest.
Oct. 1-2: 1949 VK-ZL DX Contest (c.w.).
Oct. 8-9: 1949 VK-ZL DX Contest (phone).
Oct. 15-16: 1949 VK-ZL DX Contest (c.w.).
Oct. 22-23: 1949 VK-ZL DX Cont. (phone).
Oct. 29-30: European DX Contest.
Nov.: "CQ" DX Contest.

CONTROL OF MODELS

The P.M.G.'s Department have notified F.E. that as from the 22nd July, 1949, Australian Amateurs are permitted to use A0, A1 and A2 type emissions for the control of model aircraft and boats. The frequencies on which this radio control may be used are the Amateur bands of 144 Mc. and upwards.

The P.M.G. have also informed that, on individual applications, permission may be granted for the use of the band 40.86 to 40.7 Mc. for the same purpose.

BROADCASTS FROM VK3WIA

Until such time as a Federal transmitter is obtained, these will be given by VK8UM with the call sign, VK3WIA. No regular schedules are planned as yet, but should any items of general interest

be necessary, they will be promulgated, if possible, at 2000 hours E.A.S.T. on Fridays on 7007 Kc., and again at 1200 hours E.A.S.T. on Sundays on 14038 Kc.

The first of these broadcasts promulgated the information in the previous paragraph on the 22nd July on 7196 and 7007 Kc. at 2000 hours E.A.S.T. and again on 14038 Kc. at 1200 hours on the 24th July.

Regular schedules are kept with WIAW and are being arranged with the R.S.G.B. and the N.Z. A.R.T.

FEDERAL CONSTITUTION ALTERATION

Federal Executive, on behalf of the Federal Council of the Wireless Institute of Australia, hereby gives notice of its intention to alter the FEDERAL CONSTITUTION OF THE WIRELESS INSTITUTE OF AUSTRALIA (as amended) 1947, Part III, Section 9, as follows:—

"Each representative of a Division on the Federal Council shall be elected annually during the period of sixty days immediately prior to the commencement of the annual Federal Convention by the voting members of the respective Division."

1948 VK-ZL DX CONTEST RESULTS

A letter has been received from the Contest Manager of the N.Z.A.R.T. apologising for the delay in notifying the W.I.A. of the results of the 1948 Contest. It is hoped to have these to hand for the next issue of "A.R." Elsewhere in this issue will be found the Rules for the 1949 Contest conducted by the W.I.A. The first contest held by the newly-formed Amateur Radio Club of India (the official Indian Society) is also notified, and the rules will be found to be somewhat different to the usual run of Contests. Give both these Contests your support, and make them a success.

COMMERCIAL STATIONS IN AMATEUR BANDS

By the time this note appears in print, the report sheets should be ready for distribution to all Observers who have been appointed to log and collate information on these commercial "pirates." Do not leave this job to one man—you can assist by sending the few stations you log to him for inclusion on the monthly list. This is a matter of concern for each and every Amateur. If you do not make these reports to your State Observer(s), you must be prepared to take the consequences of ever-increasing numbers of these tasters infiltrating into our precious bands. DO YOUR BIT.

FEDERAL QSL BUREAU

RAY JONES, VK3RJ, MANAGER

Here is a new one for the certificate hunters. The Radio Society of East Africa offers an annual certificate to any Amateur proving contacts with one VQ3 plus one VQ5 plus three VQ4 stations per annum (1st January-31st December) on telephony or c.w., or c.w.-phone on any band(s). Each certificate, which measures 15 by 10 inches, will be in the form of a special souvenir card bearing a large photograph of East African big game. There will be a different photograph each year. The possession of five of these annual certificates, together with proof of contact with one VQ1 station, will entitle the holder to claim the W.E.A. (Worked East Africa) Award that will be a very special and (we hope) treasured trophy. As the Ham population of East Africa is not very dense and finance is equally meagre, the R.S.E.A. regrettably are compelled to make a small charge for the annual certificate and the special award. It is therefore necessary to forward the sum of five shillings sterling with your claim for the annual certificate and a similar sum for the W.E.A. Award.

It is not necessary to forward QSL cards, merely quote log extracts when making claims for the 1946-47 and 1948 certificates. Claims for the 1949 certificate can also be made if the necessary contacts have already been made. Any profits that might accrue will be set aside for providing and maintaining an eventual headquarters station for the Society. The joint decision of the President of the Society and the Awards Manager shall be final and binding concerning all matters appertaining to the certificates and W.E.A. Award. A photograph of the certificate, which accompanied the above information, shows the certificate to be distinctly interesting and ornate. The address of the Society is: Awards Manager, c/o. East Africa QSL Bureau, Box 1313 Nairobi, Kenya Colony, Br. East Africa.

W4DRR, Fletcher F. Stephens, 511 N.E. 15 St., Miami, Florida, U.S.A., desires to swap stamps with any Australian philatelist.

From W5AQD, W. F. Worrall, Camden, Ark., U.S.A., comes the following: "I QSL 100 per cent. I notice from my log that cards are outstanding from VK3OJ and VK3BJ. Can you hurry them up

please. I don't know whether or not you get bulletins from this country on war surplus equipment. If you do not you can write Esage Sales Co., 1306 Bond St., Los Angeles 15, Calif., for a list. They have a big supply of good stuff you can pick up for a song."

From DL1UU, W. Kawan, comes the information dated April, 1949, that German Hams were re-licensed as from 14th March, 1949. Call signs issued to German stations will be DL1, 3, 6-0. The prefixes DL2, 4, and 5 have been reserved for members of the British, American, and French Forces respectively. Kawan is the secretary of the Deutscher Amateur Radio Club, Bohnenstr 7, Hamburg 11, Germany.

due to electrocution whilst operating his station on 28 Mc. phone. He was getting his rig in readiness for the Swiss National Field Day, an event he always participated with great enthusiasm. Bech was first licensed as HB9CE in 1937 and was engaged in the radio business in Zurich where he built a modest electrical business into a large and thriving radio concern. Just prior to the war he operated for a time from the principality of Liechtenstein under HEJCE and his station became one of the most sought after by DX operators. His business premises were a meeting place for Amateurs all over the world. We join with others in sorrow at his sudden passing.

Victorian Division members were pleased to welcome at the August meeting of the Division, OK1WE, Pavel Rohan, who has taken up domicile in Australia. Pavel, who is a graduate of the Prague University in Electrical Engineering, is desirous of employment in that profession or the radio field and also needs housing for himself, his wife and child. Anyone who can help out in either direction should contact this Bureau.

According to advices from VE4 the station now signing VR4AA is genuine. It appears that immediately post-war there was a Ham station operated by a Yank who signed VR4AA: He was the phoney. Latterly, however, another station has started up with a similar call sign and he is stated to be genuine and is located at Honoria. The operator is not the same as he who operated the earlier VR4AA.

Strong feeling exists in VK4 over KH6VF/VR4 being ruled out of DX C.C. calculations. They point out that the U.S.A. has a long tenure lease of Guadalcanal and the station abovementioned was properly licensed by the F.C.C. of the U.S.A., likewise WOCTV/VR1 in the Gilberts.

Please tell all your W friends that VK4SI/VR1 is a phoney. The P.M.G. officially has never heard of him nor has the U.S.A. F.C.C. and all cards arriving for him have been claimed by the authorities in VK4.

There is also a feeling up north that Thursday Island should be a separate country, but am afraid very few will agree. There must be an ultimate in the current artificial creation of "new countries" most of which is inspired by country hungry We.

IMPORTANT

Would all Magazine Contributors please note that all contributions must be addressed to "Law Court Chambers," 191 Queen St., Melbourne, and NOT to the old box number.

Contributions, particularly notes, if addressed to the box number may not be received in sufficient time to be included in Magazine for the month for which they are intended.

The Spanish National Society (Union de Radio Aficionados Espanoles) has revived its activities now that Spanish Amateurs have been re-licensed. The U.R.E. has its QSL service at Box 220, Madrid.

The new registered address of the Ceylon QSL Bureau is Box 907, Colombo, Ceylon.

Further details on the passing of F. A. Bech, HB9CE (HEICE) are now to hand. His death was

FOUNDATION OF A GOOD AMPLIFIER

Acclaimed by users everywhere, Trimax Transformers are constructed from finest materials—and feature high permeability, Nickel Iron Alloy heat-treated for optimum results. Available in Line to Line, Line to Grid, Plate to Line, Interstage, Single and Push Pull types.

TRIMAX Transformers

29-35 FLEMINGTON ROAD, NORTH MELBOURNE VIC.
(DIVISION OF CLIFF & BUNTING PTY. LTD.)



QSL CARDS

The DEE WHY PRINTING WORKS is making available to the Amateur Experimenter a Special QSL Card Printing Service. Knowing the requirements of Hams, we are confident the service offered will be unsurpassed in Australia.

Cards can be printed to your own specifications, and if illustrations or blocks are necessary, our Art Department can produce these for you.

- ★ The Ham specially catered for.
- ★ Quality Cards at economical prices.
- ★ Prompt Service.
- ★ One, two or three colours if required.
- ★ Interstate orders handled.

Dee Why Printing Works

67 HOWARD AVENUE, DEE WHY, SYDNEY.

Telephone: XW 8367.

Proprietor: GEOFFREY BOWER



McGILL'S (Est. 1860)

OVERSEAS AND LOCAL POPULAR MAGAZINES
OBTAINABLE ON SUBSCRIPTION

AMERICAN . . .

Audio Engineering, £1/6/-; CQ, £1/12/-; Communications, £1/4/-; Electronics, £7/6/-; Popular Science, £1/5/-; Popular Mechanics, £1/8/-; QST, 33/6; Radio News, £1/12/-; Radio Electronics, 29/6; Science Digest, 24/-; Science and Mechanics, £1; U.S. Camera, 28/-.

ENGLISH and AUSTRALIAN . . .

Australian Radio World, 16/-; AmateurRadio, 6/-; Electronic Engineering, £1/12/6; Radio and Hobbies, 12/-; Radio and Science, 12/-; Shortwave Magazine, £1/7/6; Wireless World, £1/12/6; Wireless Engineer, £2.

(Add exchange to Country and Interstate Cheques.)

Large Range of Technical Books, Stationery and Novels on Display.

Mail Orders by Return Post.

McGill's Authorised Newsagency

183-185 ELIZABETH STREET, MELBOURNE, C.1, VICTORIA.

(The G.P.O. is opposite)

M 1475-76-77

NEW SOUTH WALES

The July meeting of the N.S.W. Division was held at Federation House, Phillip Street, Sydney, on Thursday, 28th of July. That the meeting was held at all during the recent severe restrictions was due to the sterling efforts of members who secured the hall and arranged for emergency lighting, consisting of a series of six-volt globes run from an accumulator, and numerous hurricane lamps. Darkness rather permeated the rear corners of the hall, but sufficient light was there to enable Nev Williams (2XV) to deliver his eagerly awaited lecture on "Super Modulation." Large drawings helped the boys get a good picture of the scheme, and to say the whole affair was intensely interesting would be putting it mildly. If, as Mr. Williams said, the claims of the originator are at all accurate, the business is not only "super," but almost fantastic! Modulate your hundred watts with one watt of audio, or thereabouts. Yeah, I know, but that's what the man said, in effect!

The August meeting will deal with, among other things, certain amendments to the Articles of Assoc-

FIFTY MEGACYCLES & ABOVE

(Continued from page 18)

tions keeping it alive, yet getting a little tired of working the same chaps time and time again. It is high time for some new stations to get going on this interesting and useful band.

Queensland.—On 15th July 4XN in Dalby worked 3BQ at 1250 hours. On 16th July 4XN worked five VKs and 4CU worked five VKs between 1550 hours and 1720 hours. 17th July, 4HE in Bundaberg between 1145 and 1250 hours worked VE2s ZN, ADW, BZ, ADT, UD, ABC, AH, and between 1500 and 1520 hours worked 5CU and 5QR. On the same date, 4HD also worked a number of southern stations. Details not to hand. 4CU and 4KR are making exhaustive tests to discover the cause of the QSB which is most noticeable when the moon is waxing. When all graphs, etc., are compiled they will be forwarded to Canberra authorities for comment.

Western Australia.—GWG sends details of his 50 Mc. outfit at Albany W.A.

Transmitter: 6AG7 Pierce crystal osc., 6V6 doubler, 815 final with 17 watts input, modulated by 807s in Class AB1. Receiver: 6AK5 r.f., ECH35 mixer osc., one stage of 455 Kc. i.f. using 6E7, 6J7G anode bend det., 42 output. Antenna is a 4 element beam with folded dipole radiator fed with 300 ohm line, height about 25 feet.

144 Mc. JOTTINGS

Victoria.—This band has had a new lease of life over the past month with several new stations appearing and some who have been missing for the past few months making a come back.

In the former category are 3EZ of Macleod who is using a 522 transmitter and an ASV receiver, together with a 6 element Yagi beam. 3KE and 3WX have also arrived on the band and are putting out good signals, however the writer has not contacted them at the time of sending in these notes so details of their gear are not available for this issue. 3MD has re-appeared on the band using 522 transmitting and receiving gear, and a 4 element beam and is putting out a very good signal.

A large amount of testing of receivers has been carried out this month. 3ZL's converter continues to do the rounds and interesting comparisons have been obtained between it and the 6AK5-6AK5-6J6 band-pass converters used by 3CP and 3BQ. It has been found that the latter type give a definitely better signal to noise ratio than the trough line converter. 3ABA and 3IM have been carrying out tests with neutralised 6J8 pre-amplifiers. 3ABA uses a push-pull cross neutralised circuit while 3IM uses one half as amplifier and the other as neutralising condenser. In both cases a definite improvement in signal to noise ratio has been observed, so those who wish to dig weak signals out of the noise are recommended to try a triode as the first r.f. stage of the receiver.

3AKE of Geelong has installed a 329B as a final and is running fairly high power with the result that his signals are much improved in Melbourne and he is being heard by several stations who found his signals difficult to receive before. 3IM has put up an 8 element all driven array which is giving better results than the previous stacked parasitic array. The bi-directional feature is also a distinct advantage. With the advent of warmer weather it is to be hoped that field days will get under way again and the co-operation of country stations in this type of activity would be much appreciated.

575 Mc.—VICTORIA

This band has undergone a temporary eclipse in VKS due to most of the stations normally on the band being very much involved in the forthcoming Exhibition and not being able to spare the time for serious tests on the band. However, as soon as this matter is cleared up portable work will be resumed and it is also hoped that new inter-suburban paths will be opened up.

ciation. It is hoped that this meeting will be held back at our old stamping ground, but if restrictions are still in force, it will take place at Federation House as before.

The full report of the splendid work of Amateurs in the Hunter River Valley emergency has been reported in "Amateur Radio," and once again the congratulations and thanks of this Division go forth to all those concerned in this magnificent effort.

NORTH SHORE ZONE

Not a great deal to report this month, except that it's getting warmer, thank Heaven, and the fierce winds that delight in wrecking carefully assembled beams are becoming fewer. 2ES has ditched his rotary dipole in favour of a new three element 20 metre rotary, which is drawing envious glances from the gang. One of the elements on 2N's two element job took to pointing at the ground after one of the blows, and the whole affair is now down for repairs. 2TL is progressing slowly with his shortened two element affair, but when it gets up it should be there to stay. 2PV and 2AM have the final in their joint rig going now, so will be back chasing that last elusive zone for W.A.Z. from now on. Haven't heard 2VN much of late—either his new junior op. takes up most of his operating time, or I don't listen at the right moments.

2AND is determined to reduce his coming transmitter to the barest of bare essentials which might mean anything. 2XM appears to be scaring up some nice DX for himself, as does 2AMB, who is lucky enough to get on at times when most of the local QRM is at work. 2BG is having fun and games on 144—this v.h.f. stuff really gets them in! 2ARG is also interested in that direction, and enjoys a relatively QRM-free location. Hear that 2GQ is talking of three element rotaries, reckons they can do the job better than his present shortened two element. 2RA, 2ZH and others getting set for the forthcoming Remembrance Day Contest, which looks like eclipsing last year's effort. 2GC starting on a chase after his commercial ticket—good luck, George. 2AH in the midst of bigger and better beams for the v.h.f.s. Haven't heard from 2HO, the Squire of 'Art 'Olow, in a long time.

SOUTH ZONE

Due to power restrictions activity has been at a very low ebb this month so these notes will, of necessity, be very brief. Most of the v.h.f. gang are busy hotting up their 50 Mc. gear preparatory to participating in the V.E.F. Contest in August. 2WJ has just about completed his new double conversion super for 6 metres. I heard it working recently and it is pretty hot. Have not heard 2UY on for some time now. Hope you haven't blown another power supply Bill. 2ABC is planning a bigger and better transmitter with all mod. cons., such as f.m., remote control, etc. 2ANB will be on 6 metres soon and hopes to make it in time for the contest. 2VW is active on all bands from 2 to 20 metres and giving the gear a general overhaul in between contacts. 2AB is busy getting a BC348 going. Will be interested in your results Jim as mine could do with some hotting up. Nothing heard from 2CP lately. 2ABU sticks to 20. Alex says he can work all the DX he wants there. 2AC also very quiet lately. 2ABE is active on 20 and 40 metres with a new R.C.A. transmitter and is very pleased with the results. 2ABB is still away, in G land. I think.

EASTERN SUBURBS ZONE

2FJ recently acquired a steel tower, feathering motor and selyn indicators. With the able assistance of 2YF and 2AFZ, plus the usual willing helpers, Jack should soon have his rotary working. Expecting good results from this direction in the near future—especially on 144 Mc. 2AJG not very active but is heard occasionally on 20 and 40 c.w. and phone. 2AX re-building transmitter which is rumoured to be topped off with bandswitching from 10 to 80. 2KH heard on 20 after a long rest. 2TN back on the air after a lengthy spell. Still QRP, having re-built. Ivan has good phone on 20 and 40. 2EZ heard working DX on 20. Excellent fist and T9 sig. 2OF heard about once monthly! YL fever seems to be still in control—anybody know of a vaccine for this complaint? 2BY made a come-back after a long spell. Alex has re-built and is now running 818, Class B modulated. Super signal on 20 phone. 2NO heard working Gs in early evenings. Don's reports are generally better than 88. Recently heard using f.m. with a 1.5 signal.

2AIG still using low power phone and getting good results. 2AHQ blames his third harmonic for his lack of activity. Ted won't tell why he wants to reserve the call sign VE2GEQ. 2VA often heard working DX on 20 with his usual T9 sig and excellent fist. Got that beam erected again, Vince!

WESTERN SUBURBS ZONE

There appears to be reduced activity generally in the area at present. Few of the locals are to be tempted into letting loose even a solitary squeak

into the ether. A mysterious veil of silence hath descended over all. Poor conditions, worse weather, and the coal strike has put a damper on things. 2ALO is putting a lot of effort into a new beam for 20 metres. This is how Alan keeps warm. 2QO is endeavouring to build a new rig. Jeff is moving from 10 as he finds the problems of harmonic interference too tough. 2JA is busy putting in metal 6J8s and still playing happily with his v.f.o. 2FA nothing heard since he left for the States. 2AGL is working 288 Mc. Had success on 10,000 Mc., but the light in his lighthouse bottle flickered out. Much lamentation! 2AJC has fitted a motor drive to his beam. It's a nice job and the beam is of all steel construction. 2JT is still pounding the key. 2ADL isn't doing much, but keeps up an interest on 20 metres. 2AHU has a relay system which has worked successfully for a whole month. One switch does the trick.

The Experimental Radio Society of N.S.W. (2LR) hold meetings fortnightly at Greenwood Hall, Liverpool Rd., Enfield, N.S.W. President: Mr. Wells, Liverpool Rd., Enfield; Secretary: J. L. Carter, 132 Madeline St., Belfield, N.S.W. Visitors are welcomed and new or intending members are assured of a bright and interesting time. The Society now has a transmitter working on 7 Mc. and will welcome QSOs. Meetings are held on alternate Thursday nights and there is much of interest in store, both in technical and social fields.

NORTH COAST AND TABLELANDS

During recent rain and cyclone, 2PA lost all antennae and two masts, but was able to erect an antenna for emergency work. 2SH was luckier, his antennae stopped up, only mishap was broken feeder on GSP.O. Doug finds the beam does an excellent job and puts an i.b. signal into W land. He is convinced that a beam is necessary for phone DX. 2XO and 2ARY building two 6 metre transceivers, both working on 80 mostly. Harry will have a new transmitter on 80 soon and accepts no responsibility for broken or bent S meter pointers.

2DK still putting out a nice signal on 40 and 80 with battery operated equipment, has scrapped vee beam and is using end fed zepp. The North Coast gang are organising an emergency network and anyone interested in becoming an active emergency network station are asked to contact 2XO or 2PA and supply details of battery operated equipment that is available. If permission is granted, full details will be supplied later.

COALFIELDS AND LAKES

2AEZ has receiver going on 50 Mc., get the Tx going. Ernl 2RU getting ready for 6 metres and the Contest, doing a lot of 2 metre listening. 2AMU busy calibrating a grid dip oscillator. 2KR is able to listen on 6, but only active on 40. 2KZ still not going, what about coming on 8 Max? 2KF has not been heard since flood week-end. 2TY mainly to be found on 10. 2VU putting out nice phone on 40, what about 10. 2KX has ideas for an auxiliary supply in case of emergency. 2ADT looking forward to the 6 metre Contest, has new beams on 8 and 2 and testing them out. Hears Sydney well on 144 Mc. 2YL at last has station re-built, took seven months, complete now 80 to 6 metres.

WESTERN ZONE

2ACU has been off owing to failure of local power supply, but can be heard now on 10, 20, 40 and 80. 2BT and 2WH have been coaching an embryo Ham in the person of John Meagher who sat for his ticket at the last exam. Dubbo also had two candidates so we might have something to write again soon. 2AMR has an auxiliary power supply so is on as usual. 2VZ was working portable from Sydney with good results.

Nothing heard of the Orange boys, guess the power cuts are affecting them. 2NS had a few Hams one Sunday to erect the new 20 metre beam—three elements! During the process they dismantled all the other antennae. 2QA is re-building the receiver. 2LY threatens to make the lower frequencies soon, has been on holidays. 2LZ active on occasions. 2EP sticking to 144 Mc. 2HZ hibernating for the winter, no DX—too cold!

SOUTH COAST AND TABLELANDS

Efforts were made to co-opt Amateur assistance during the heavy snowfalls around Delegate and Cooma and calls were made over 3CA for assistance. It was unfortunate Delegate's only Amateur is now Postmaster at Hay—his is Jack Woodman 2ZE. 2PI was on watch on 40 metres for any emergency calls and a completely portable rig for 80 metres was offered plus operator, but it was declined due to the fact that it was impossible to reach the snow bound towns.

I understand that Les, 7LT, has forsaken the Apple Isle for warmer climes. He is living at

Wyalong which is the home town of his brother George 2AFV. Tassie is too cold for Les and Wyalong too hot for his YF, so perhaps a search for Shangi-la is eminent. 2AIK heard handling traffic with emergency stations in the Hunter Valley. Monty 2JQ also assisted when skip worried 2AKP and 2AHA. 2ALS and 2PI had few minutes matter when 2ALS visited Hall. P.P. 807s with about 80 watts input is now the gear at 2PI. 2OY heard for a few minutes with usual solid signal, no news of other Goulburn boys. My own rig gave off frantic smoke signals and then blew up, but hope to make R.D. on c.w.

VICTORIA

EMERGENCY COMMUNICATION NET

The Emergency Network is now operating on a frequency of 7130 Kc. This frequency will be used for all exercises and emergency operations. Stations wishing to partake in this work can advise VKSLs or come up on 7130 Kc. when exercises are being held. Exercise time—Sunday mornings at 1030 hours.

All stations holding W.I.A. emergency frequency crystals are asked to forward them to R. Busch, 5 Hillyde Parade, North Essendon, W.G. by registered mail as they are needed for re-grinding to the new frequency.

VK3BU (Geelong) acted as control station for the network for the month of August.

CENTRAL WESTERN ZONE

Castlemaine, 18th September, is a place and date to be remembered. The Annual Convention of the zone will be held on that date and an attractive programme has been arranged. Here it is: 1200 hours assemble at Castlemaine Town Hall; 1315 hours Luncheon at Cumberland Hotel, drinks will be served in lounge at 1300 hours. Afternoon demonstration of v.h.f. gear and technique. 1700 hours Annual Meeting (formal business only). 1800 hours Dinner at Cumberland Hotel, drinks will be served with meals. 1930 hours resumption of the Annual Meeting.

Catering costs will be 6/- per head per meal. During the day two prizes will be given: (1) An 818 and socket for a lucky door prize at the luncheon. (2) A pair of good blankets for the best piece of home-built equipment on display at the convention, entries may come from any zone,

but must be accompanied by the builder; entries will be received up to 3 p.m. on the day and judging will be by secret ballot of those present.

Both prizes have been donated by 3XP, who has been a tower of strength in the organisation of the convention. Will all those intending to come (and you will miss a good show if you don't), please notify the Secretary, C. O. Waring, VK3YW, Shene St., Stawell, or Gordon Weynton, VK3XU, Box 10, Castlemaine, by Monday, 12th September, so that adequate catering arrangements can be made. Those requiring accommodation please contact 3XU as early as possible, we don't want you to sleep in the park, and we don't want you to stand, so hop to it chaps.

Mildura boys will be interested to know that 3FX has at last discarded the old t.r.f., and is very busy assembling a super-het. Cheers chaps and see you at Castlemaine.

NORTH EASTERN ZONE

The Fifth Convention was held in Wangaratta on 17th July, and was attended by 3IK, 3WQ, 3ML, 3PI, 3HP, 3KR, 3UI, 3TS, 3XU, 3ACK, 3APF, 3AT, 3FD, 3RT, 3ACW, 3ABG, 3JK, 3WZ, 3YV, 3BP, 2EU, 2ANQ, R. Anderson, R. Gibb, J. Harrington, G. Shelton, K. Tennant, K. Sloper, and J. Tilson (Mayor of Wangaratta). Several things kept more from coming. The hotel was next door to the police station, an R.I. was present, and with 3IK, 3ML and company in town from Friday, many doubted if any grog would be left by Sunday. 3YV reports Ian 3IK got away by himself on Saturday morning inspecting the large range of bottles in the rig at the Wangaratta Club, although 3ML, 3JK and 3PI joined him for the afternoon.

Business started about 10 a.m. Office-bearers for the coming year are 3AT President, 3APF Secretary, 3KR and 3YV Vice-Presidents, 3UI Communications, and 3ABG Zone Correspondent (not co-respondent as someone suggested).

Main discussion was on emergency work and frequencies. Gear by 3RR, 3UI, 3AT and 3APF was shown while waiters kept glasses full.

After an excellent dinner, the gang visited 3JK, 3YV and 3WZ. A description of these stations will appear later. Power levels will be withheld only on receipt of some 818s.

3IK was up to his usual form, and was more interested in basketball than radio. The YL concerned in the affair is afraid of publicity (her family read "A.R."), so by a little blackmail we now have an honorary assistant correspondent and typist.

3ACW had a few (?) over the eight and this poem was the result:—

Lorna's Little Ham

Lorna had a wireless man,
All mad on radio,
And everywhere that Lorna goes
This Ham would like to go.
She went along to Wang one day,
According to the rule,
And while the Hams were talking, they
Held hands out of school.
But when the day was over
He should have lingered near
And not gone back to town
Leaving his blue-eyed Dear,
But ABG, the big bad wolf,
Was not to be outdone
He let her drive his car back home
Oh Geel Oh Gosh! What fun!

EASTERN ZONE

After some discussion, we have decided to hold our next Convention the first week-end in February. 3TH and 3BB, of Ginnar and Morwell respectively, are making arrangements and, even at this early stage, they have some interesting tours planned.

Distressed to learn that fire had destroyed all of VK3GI's gear except for two 522s. The Zone got together, with the result that Syd has a Type 3 to use until he can re-build his rigs with gifts from Hams all over the State. We are all very pleased to know that you won't be giving the game away, Syd, and wish you bigger and better DX etc. in the future.

We have to thank ZL8MS for sending us a copy of "Break-In," giving a list of ZL calls and QTHs. It was a very pleasant surprise. Bill 3WE is living up to his reputation of always being on the spot in times of emergency, by providing communications when Omco and district were snow-bound. 3AKM has hit 6 metres again with a brand new set-up. Mac is running 90 watts to a pair of p.p. 807s, into a three element cross-spaced beam 35 feet high. Receiving equipment is a 16 tube double-conversion receiver with a three tube converter for 6 metres. 3DI is re-building an old broadcast set into a really good communications receiver, and building up a new 6 metre portable, EF50 e.c.o., EF50 buffer, CV8 p.a. Jim is very pleased with the results from the EF50 oscillator, and is happy to be back on his old game after passing that exam.

TRANSFORMERS, CHOKES, ETC.—

Manufactured to order. Following stock sizes available:

SOLVE YOUR MAINS TROUBLES WITH AN AUTO TRANSFORMER.

T.C.C. 1.5 uF. 4,000 volt working Condensers, £2 each.

FERRANTI 0-500 Micro-Amp. Meters, luminised dial, new, £2 each.

R.C.A. 834 Tubes, new, £1/8/- each.

Crystals as illustrated, 40 or 80 metre, AT or BT cut. Accuracy 0.02% of your specified frequency £2/12/6 each

20 metre Zero Drift £5/-/-

Large, unmounted, 40 or 80 metre £2/-/-

Special and Commercial Crystals. Prices on application.

CRYSTALS REGROUND £1/-/- each.

BRIGHT STAR CRYSTALS may be obtained from the following Interstate firms:—

Messrs. A. E. Harrold, 123 Charlotte St., Brisbane; A. G. Healing Ltd., 151 Pirie St., Adelaide; Atkins (W.A.) Ltd., 894 Hay St., Perth; Lawrence & Hanson Electrical Pty. Ltd., 120 Collins St., Hobart; Collins Radio, 409 Lonsdale St., Melbourne.

A.W.A. SPLIT STATOR TRANSMITTING CONDENSERS, high voltage £2/15/- each.

SCREW TYPE NEUTRALISING CONDENSERS (National type) to suit all triode tubes, Polystyrene Insulation 19/6 each.

Prompt delivery on all Country and Interstate orders.

Satisfaction Guaranteed.

BRIGHT STAR RADIO. K. G. Allen (Late R.A.N.)

1839 LOWER MALVERN ROAD, GLEN IRIS, S.E.6, VICTORIA.

Phone: UL 5510.

POWER TRANSFORMERS—

600 Volts aside, 250 Ma. £3 5 0

880 Volts aside, 300 Ma. 4 17 6

1250 Volts aside, 400 Ma. 6 17 6

Tappings taken out where desired.

POWER TRANSFORMERS and CHOKES

Re-wound—Reasonable Prices.

VALVES—

RCA 866A Rectifiers £1 5 0 each

Sylvania 6L6Gs 15 0 each

1616 Rectifiers 17 6 each

6AC7s 12 6 each



3VL has his emergency 40-80 metre rig set up in the brooder house, so that he can get on the air whilst watching the chickens. With 3 watts input, and using the hoist-rope of the main antenna, Rex has worked 2L and VK6 on 80 phone! 8US is too busy to get on the air. 3PH has his new rig just about ready to hit the air. 3ACL and 3TH are still active on 6 metres, some good contacts being made. 3QZ is now working from his new house. 3RH was heard recently on 80 metres putting in a very good signal.

SOUTH WESTERN ZONE

This month many strange things have happened in this zone. I hear that AKE has v.h.f. in his blood and cracks 80 at times. GR has some type of super modulation that is all his own, by reports 3VA and 3MH split their sides laughing. 3BE had a break in Geelong after doing in his power tranny. 3VA cracked up his 100 watt modulation tranny, but hear that it's OK now. 3ZU has moved to a new house and hopes to put up a good antenna soon. 3DX has all elements on his rotary beam now, what about some r.f. in it Les? 3HG is thinking of getting a 680 receiver, Neil hasn't been the best of late. 3II had a fling at 20 the other day, and now finds that his back fence can be pulled down as he worked VK6 and 4 with f.b. reports. 3BI thinks that the scale may be coming over his eyes again, this time Bert is going to pump 100 watts of i.f. into them for a change. Heard 3AGV on 40 the other day with a fine signal.

3JA can be heard on 80 at times working 3HG and 3BW, but Jack is waiting on a new rig under the title of a TA12D covering all bands, 10 to 80 metres. 3HW can be heard any night working the DX on phone with a fine signal; John is putting up a new special four element wide-spaced rotary. A big surprise came the other day when 3HF stalled to say hello to the scribe; had a good yarn. Harry still has hopes of the 20 metre band coming good again; I hope it will also. Have not heard any news about the Geelong gang, but trust that they are getting their share of contacts. By the time this is printed, I hope to be adding another new call sign to our notes, it's none other than Mr. C. Churnside. You will notice I have put "Mr.," as if I did not do this I would not get my supper whenever I called upon him and his XYL.

Geelong Amateur Radio Club.—Members of the Geelong Amateur Radio Club started off their second year with 3AKE officiating. The programme for the next 12 months was drawn up and includes lectures, visits to Ham shacks and field days. So members are assured of a good time. The second meeting was in the capable hands of 3BU, who gave us an interesting lecture on narrow band f.m. The Secretary of the Club, Mr. Bob Wooley VK3IC, has been advised by the Wireless Institute of Australia that the Club has been accepted as a "Member Club" of the W.I.A.

QUEENSLAND

Owing to the power restrictions there has been very little activity in VK4 during the month of July. No general meeting was held and no Council meeting.

During the month the VK4 Division was unfortunate in losing its two meeting rooms in the city. When power restrictions are lifted it is expected that the next general meeting will be held in the Y.M.C.A. Building, Edward Street. When something definite has been arranged, official notice will be altered.

Conditions on all bands during the past month have been very erratic and 3.5 Mc. has been the only band with much activity.

ZONE NEWS

No news has been received this month from Townsville, Mackay and Downs Zone. We understand that our Downs correspondent is changing his QTH and so yours truly will have to look for another in that zone to collect the news.

Gympie (4HZ).—4XR and 4RA have been having a little competition all of their own. 4XR using 60 watts and a doublet, 4RA using 10 watts and a semi-vertical, so far 4RA is 4 S points up on 4XR according to the W stations. 4LN using a Hammock antenna which the local lads describe as weird and wonderful. Barry has been entertaining the C.S.I.R. gang and finds little time for the Gympie-Buderim 50 Mc. channel. 4CR has a new antenna tuning unit, but very busy at local h.c. station. 4HZ has a pitch fork antenna and new tuning unit. (Don't these fellows get some fancy names for their antennae?)

Maryborough Zone (4GH).—The local club has a number of very keen associates and QRM in this area is on the up and up. 4BG has a beam on 28 Mc., a new receiver and converter and a new third harmonic. 4BY off the air with tube trouble. 4AI has installed a splatter suppressor, new converter for 28 Mc., a new exciter, a new iron rack, a WBJE beam, and a brand new Broadcast Operator's Certificate. Congrats OMI!

Bundaberg Zone (4BJ).—4PG presided over the July meeting when a Field Day was arranged to be

held shortly. This will give the gang an opportunity to test their emergency gear. 4CW still working a few VEs on 14 Mc. 4HE filling the time working on 28 Mc. and in his spare moments building a new all band receiver.

Enrolment of the Division at the end of July was 199 members, made up of 60 students and 139 transmitting members.

SOUTH AUSTRALIA

The monthly general meeting for July was held at 17 Waymouth Street to a capacity house when Mr. Ralph Turner (5TR) gave a very interesting and instructive lecture on "The Design of Coils for V.F.O.'s." Ralph dealt with his subject in a very commonsense manner and made what could have been a very technical lecture, appear as almost too simple for words. This system of lecturing always goes over well, as the average Ham is not a very technical minded cove and likes the lecturer to talk to him in his own language. Strangely enough it always seems that the man who knows his subject best always talks in the simplest language and does not attempt to blind his listeners with science. Ralph definitely succeeded in pleasing his large audience as was evident from the hearty applause that greeted the vote of thanks proposed by 5BY.

Among the very welcome visitors were Messrs. G. Dawson, D. Milton, 5LP, and from the country, 5RJ. Pleased to see you fellows, come again. Nothing of any note took place after the lecture, and but for my sparring partner, 5JD, and myself becoming entangled in a little verbal encounter, the meeting would probably have died on its feet. Don't let anything that Jack and I might stage bluff you fellows. Jack has very definite opinions and is not frightened to express them, and as that goes for me too, it is only natural that we should become entangled now and again. Anyway, you got a good laugh out of it, and it never cost you anything, you should worry!

I notice that one or two VK5 boys are over stressing their QTH in calling CQ. Without wishing to be personal, the fact that you say in calling CQ, "this is VK5ABC in the BLACK FOREST," thus conjuring up in the mind of your DX listener that you are surrounded by ogres, gnomes, tarantula spiders, seventy foot pythons, with a couple of witches and devil doctors thrown in for good measure, won't get you any more DX answers than the next fellow. It will get you plenty of horse laughs from those who know just what and where Black Forest really is. If everybody started this habit, just think what could happen. For instance, take 5MD, his QTH adjoins the Adelaide railway yards, better known in railway circles as the Y cabin area. Now supposing he became affected with this habit, and started yelling "Hullo CQ, this is your roofig', tootin', ripsnortin', cowpuncher Eddie Barbier of the lonely Y cabin at the mike. What about a call from some buzzard, YIPPEE!—Over to you!" Sounds ridiculous doesn't it, but if not, why not? (You little devil Eddie!!).

The VK5 Hams have all played the game during the recent power shortages and have stayed off the air as much as possible. It was, of course, a matter of using one's own judgment, and aside from one or two who apparently lost their judgment the day they secured their Amateur ticket, the gang here have done a fine job.

During the visit of the Secretary to Mount Gambier, 5TL took over the duties from "Doc" and if all is to be believed, did an excellent job. "Doc" reports that the South East gang are a fine bunch of boys and very W.I.A. minded. Don't you believe anything he said about me chaps, he is blessed to cut-off about me.

Amateur Radio is a grand hobby and has no greater advocate than me, but a few of the younger VK5 boys are letting their hobby take charge of them. They eat it, drink it, and sleep it, which is all wrong. A hobby should be a means of relaxation, something to come home to and forget the ordinary world in which we live, but quite a few are making it their world in which they live, and believe it from one who once passed through that stage, it will get you nowhere. I well remember how badly I had it before the war. I couldn't get into the shack quick enough, and would stay there until all hours of the morning. My poor XYL hardly ever saw me, and when she would come to the shack door and say "Petals" (that's her favorite name for me), "Petals, don't you think it is time for you to get some sleep," I would snarl at her like a wounded jaguar. Later on "Petals" would be sneaking into the bedroom about three in the morning, and having stubbed his big toe on the end of the bed, the XYL would softly say, "Petals, I think that Junior will learn that sort of talk soon enough without any help from you, so please be more quiet." Take it from "Petals," brothers, don't let it get you that bad, or it won't be long before you give it away and take up stamp collecting or something!!

Received a very welcome letter from 5XK who is on Kangaroo Island. Arch is the only Ham on

the island although Bert Winter (a W.I.A. member) is having a go at the ticket and this should be a help to Arch. Bert is finding the code the obstacle (don't we all), but it looks as though it won't be long now. Anyway Bert keep on pegging away at it, the first ten years are the hardest. Arch is on battery power with a Mark II, and finds it hard to QSO VK stations, although Yanks are too easy. Strangely enough the most reliable and consistent station heard on the Island is VK4KD, of Thursday Island. Thanks for the letter Arch, always pleased to hear from country Hams.

Was very pleased to hear 5XY back on the air again. Give him a shout gang, he welcomes contacts. Hope to contact you myself Neil. Congratulations go out to John Hampel (Associate member) for passing the broadcast operator's ticket. You will have to get that Ham ticket now John, as it has always been our proud boast that all the technicians at the best station in the State are Amateurs!

5TW is busy gargling his throat and improving his pronunciation in readiness for the new modulation transformer that is expected any day now. In between his vocal exercises, Tom has been snaring them in on ten. 5JA is airing the fact that he gave his transmitter a frequency check and found that it was flat from 40 cycles to 20,000 cycles. Whilst do doubts are cast on his statement, it has been suggested that John's measuring instruments may have been a little on the liberal side? 5CH is still very busy turning out the "ergs," but has managed to do a little bit toward the new transmitter, and should be using it on the air before these notes are published. He is anxious for VK5 city contacts and will be on twenty on Sundays.

5MS continues to work his share of the DX, judging by the number of stations I hear calling him. Why you nearly worked me once, didn't you Stewart? Understand the new wooden tower for the 20 metre beam is well under way now. 5FD is having a spot of bother in the new rig, not in the parallel 507s as expected, but in a buffer stage. John is seriously thinking of scrapping his "Clapp" v.f.o. in favour of the oscillating 6L6 buffer stage. I guess all will be well now that "Doc" has left the district. I'm not one to cast nasturtious, mind you. 5KU "ergs," true to his name is after more ergs in his aerial, and with this in view has started on a new transmitter. The QRM position in the South East area should be lovely soon with all these new transmitters. "Erg" hopes to have the a.c. installed by the time the rig is ready.

5MD/Portable, Mt. Gambier. Say, this guy bobs up everywhere, I've just about had him. Close the door on your way out please Eddie. 5CJ has obtained a tapped armature-type rotary converter and has been busy winding auto-transformers, etc., and Col expects to be using a.c. by the time you read this. Of course if the noise from the d.c. side is too bad, back to d.c. he will have to go. OK about the holidays in August Col, and thanks again for the budget of news. By the way, "Doc" isn't as good a guy as you jokers paint him, I could tell you a few things. Very purky, very murky.

Once in a while some paragraph in my notes gets under the skin of one of the "Bigwigs" of Amateur Radio, usually because what I have written is an obvious lie or an obvious truth. Whoever it is that I have offended at once sits down and writes a very stiff letter on brown paper to "Doc" suggesting that I be suitably chastised. The latest gentleman to look over the top of his spectacles at me is Bill Mitchell, none other than the Federal Secretary, and really and truly I don't know whether to be overcome with pride, or cast down with shame, tinged with awe. Anyway Bill, my apologies to you or anybody else who may have attempted, unbeknown to me, to do something for Sotirious Stephanou (ex-SVIGR). In extenuation of my serious offence and in fairness to me as publicity officer for VK5, if I can ethically paint VK5 as the good fairy and all the other States as the wicked witch, then I consider that I have done a good job. I tell you what Bill, make me an offer over what they pay me in VK5 and I will come over and be publicity officer for the Federal Executive, and you will be surprised what lovely things I will say about you chaps. Seriously Bill, I am not as bad as I sound, just a little over imbued with VK5 spirit.

5GF threw a small hamfest at his QTH recently to celebrate the arrival of a little daughter (Jennifer Ann, so my spies tell me). All present were six metre addicts, and great care was taken to see that no twenty metre boys wangled their way in. The party had been in progress for about half an hour when a twenty metre guy was discovered. Yes, you have guessed it, "Gatcrasher Kelly" (5LW), who upon being challenged to prove himself, calmly said that he had had an S9 harmonic on six metres for months and if this didn't entitle him to be present, well what did. So staggered were his questioners with this reply that they were speechless, and Ross immediately took charge of proceedings and a good time was had by all. Everybody extends congratulations, Max.

A suggestion was submitted to Council at its meeting last month from 5JD that a committee of

four or five Hams be formed to compile the VK5 notes, with the idea of possibly improving the quality of the said notes. The President (5AW) said, after a short discussion by Council, that formation of a committee to compile the notes was quite unnecessary, but if any member felt like sending in items of news or short personal notes to the Sub-Editor, they would be more than welcome. So what about it Jack, it is back in your lap now.

WESTERN AUSTRALIA

The July meeting was held in the Institute Rooms on the 19th and, despite the threatening weather, there was a good roll-up of members. Amongst the regular attenders a few rare ones were seen—6GH, 6CM, 6HW, and 6IG. One of our newest members, John Wilson (VK6BW), was also present and was welcomed into the ranks in the usual manner. John has since been heard on 7 Mc. with a good phone signal.

Our Federal Councillor, 6GM, informed the meeting that Council had approached Federal Executive with a suggestion that the R.D. Contest be held over until the power position was stabilised to avoid giving some States, particularly VK6, an unfair advantage.

6JW, who ably handles the Sunday broadcasts from 6WI, told how the news reached members despite the power cuts. 6WZ, in faraway Geraldton—where the lights still shone—stepped into the breach and arranged to stand in for 6WI on the first two "black" Sundays. Nice work Harry! For the last Sunday we were without power, a portable rig was loaned by 6MB. This enabled 6WI to push out a lusty 7 watts which, we are told, was well heard by country members, much to 6MB's delight. To complete his report 6JW exhibited a few samples of 6WI's new QSL and presented 6WH with the first official post-war QSL from 6WI.

In presenting his report from the Contest Committee, 6DD dealt mainly with the recent 7 Mc. QSO "Scramble." This popular event was won by 6KW with the fine score of 42. A possible was 45. 6DD also informed members of an anonymous donation of an 0-1 Ma. meter as a trophy for the highest scoring country entrant. This resulted in a photo-finish between 6WU, 6DX and 6WG. 6WU was finally selected as the winner by a very close margin. Points stressed were that logs should be compiled strictly in accordance with the rules of the Contest Committee and all stations should submit a log if only to assist in checking. Out of 46 stations known to be operating, logs were received from only 33.

Presentation of the President's Trophy was then made to the winner, 6KW, by the President (6WH). It was different to the usual run of contest trophies, being a piece of silverware of the fruit-dish vintage. Jim Rumble, 6RU, gave a few more details of a trophy he is donating. Points will be allotted to members for winning, entering, and submitting a log in a W.I.A. contest, during the 12 months commencing the 1st of July. Such W.I.A. contests as the "R.D.," "VK-ZL," "National Field Day" will be covered as well as any local contests organised by the VK6 Contest Committee.

During general business 6DD again brought up the subject of the Institute offering assistance in the disposal of a deceased member's radio equipment so as to allow of a fair return to dependants. This was favourably received by the meeting and, after some discussion, was adopted.

A prolonged discussion over the old question of v.f.o. operation was started when 6HL resumed his June meeting request that the Institute give consideration to adopting the A.R.R.L. Operator's Code. After a lengthy debate, a motion that the code be left to the member's discretion was adopted.

Soon after the meeting adjourned for the ever-popular rag chew. The auction, however, was not so popular, only a couple of items being submitted.

PERSONALITIES

6FG of Mullewa is reported to have been batching recently. Find any time for Ham Radio after the dishes Frank? Heard 6RG QSOing 7LE with the VK7 using s.s.c. Sure sounds strange at first. 6RB is still inactive—blames the housing shortage—how about a portable rig Eric? 6HR has a nifty three element array on 28 Mc., more of this later we hope. 6DJ has become a frequenter of 7 Mc. these days with occasional bursts on 14 Mc. c.w. Lost the DX urge Bill? 6AP has a very efficient set-up including a 45 ft. tower with 10 and 20 metre beams. 6WT is one Ham whose countries list is creeping up. 93 worked, wasn't it Dave? with a big percentage confirmed. Dave says the salt air may be OK for the operator, but it's not so hot on the rig! It didn't take 6RU long to blow the cobwebs out of the rack after our big black. Heard him out after the rare ones on 14 Mc.

6RS last seen tussling with a TA12D; hope you tame it Ron. 6VM heard consistently on 7 Mc. phone working the East. The great mystery around Carlisle is what has happened to the 7 Mc. marker station, 6YZ. Did those 2A5s finally quit Dick? It would appear that 6GD has moved to 28 Mc.

permanently. Don't blame him either, it's a shift worker's band alright! 6IG was heard to comment at the meeting that, in his opinion, c.w. is a dying art. Ian was on key in the "Scramble" and finally had to fire up the modulator to get into double figures with his contacts!

6LW was last heard of somewhere way up around 14 Mc. Heard 6AZ in Perth on 14 Mc. working VK5s at midday. 6LL busy on ten making good use of that new receiver. 6SA not heard so often nowadays. How's that new receiver coming along Jim? Ask 6WZ what l.l.f. is next time you hear his 30 odd watts on 7 Mc. Harry is now operating a baby bunniesong—a rotary d.c.-a.c. converter to you—and keeps Geraldton on the 40 metre map. Passing 6ND's QTH, noticed a very business-like version of the twin three antennae. A line from 6WG tells of much re-building in preparation for the open season on 50 Mc. 6DW, believe you snagged a bit of 10 metre DX when the band opened the other week-end. A letter to hand from 6AR tells of doings up in the Kimberleys. Apparently that district is one place in VK6 where the rare South Americans are workable any night the band is open. Alan writes "one or two PYs and YV4s and 5s nearly every night!" Other points of interest are: crystal mines don't bounce! v.f.o.s. are handy items for DX chasing, and Alan's next antennae is to be a G8PO. Say Alan how about coming down to 7 Mc. to yam with the locals.

Heard the Country Net going places on 3.5 Mc. the other Wednesday evening. All signals extra solid chaps. Any notes on activities, particularly in the country, please forward to 6GA, address is in the book. Almost forgot 6AS, Alec is preparing for the next DX season in a big way with a new shack and a steel tower for his three element on ten metres.

TASMANIA

NORTHERN ZONE

This zone has now been active for twelve months and at our June meeting, it was necessary to elect our new office-bearers. Mr. Don Brookes 7DB was re-elected as President, and Col Wright 7LZ was elected Secretary and Treasurer. Mr. Len Crooke agreed to arrange an itinerary of lectures for the year. It is possible that these lectures will start with a visit to the aerodrome in September; this will be followed by an inspection of the f.m. station controlling Launceston's radio equipped taxis, possibly the following month.

Mr. Les Templeman, ex-7LT has now been issued with the call sign VK2AEL and is looking forward to QSOs with his many Tasmanian friends. DX is still very poor, however 14 Mc. shows signs of livening up and most of our members have either been checking up or re-building in preparation for the coming season.

TTE advises that he will not be as active on 14 Mc. in future owing to pressure of work, however Peter Frith has now reached the required age and been allotted VK7PF for his call sign, so it looks as though we will have just as much QRM as ever. 7RK also promises to give the DX a thrashing this season. Owing to the fact that Mr. Perc Crawford will be out of the city for some months, it will be necessary for the zone to arrange for another meeting place, however all financial members will be duly notified in advance so keep the evening of Friday, 9th September, free.

CORRESPONDENCE

ACCURATE FREQUENCY TRANSMISSIONS

Box 86, Apotiki, N.Z.

Editor "A.R.," Sir,

Perhaps you will be interested to know that I was able to copy the Accurate Frequency Transmissions from VK3WI last night and make good use of it. For some time now I have been unable to check the calibration of my frequency meter against anything more reliable than locally generated h.c. harmonics and it was most satisfactory to copy the transmissions last night at RST 579. Only one frequency was missed due to QRM.

We have no service of this kind on this side of the Tasman as yet, although it has been given consideration on a number of occasions. I look forward to receiving my copy of "A.R." and think it is a splendid magazine. Keep up the good work.

—JAMES H. PARKINSON, ZL1DU

A FURTHER OPEN LETTER TO VK2JP

25 Panoramic Rd., Nth. Balwyn, E.9, Vic. Dear OM,

No doubt by now you have headed the sound advice given in these columns recently by VK6PS and taken it in the spirit in which it was given.

But, to convince you beyond all doubt that the criticism is general and not isolated to VK5, I must relate an incident in which you almost robbed a rare DX station of vital news concerning the operator's mother who was very ill in a Melbourne hospital.

The station was YJ1AA at Vela, New Hebrides. It is owned and operated by Frank Palmer, one of the finest men in the DX game. Frank, who hails from Melbourne, is living on the island with his wife and three children.

Some few weeks back Frank told me he was very concerned over his mother's ill health and her possible operation. Mails were all delayed and he was very worried. I arranged to have Frank's father and brother standing by next day and schedules were arranged.

When contact was established next morning (signals were S7 both ways), you had to persist in jamming us to call Frank. You knew we were QSO but evidently you felt that, you "The Uncrowned King of 20 metre phone" had to bust the QSO for a new country.

You made the going tough and I've been copying through QRM for many years. Frank was worried—his wife and three children were all concerned. But you still can not keep old hands down for we can always pound brass and through the old reliable c.w., I was able to assure Frank all was well with his mother. Strangely enough you did not bother us during the c.w. QSO!

Remember old-timer, Amateur Radio is democracy itself. It is founded on the highest of all democratic principles. We do not want honorary organizers and dictators in the game. We have our W.I.A. to run our affairs. Please do not abuse the fine standard of tradition, unselfishness and co-operation we have built up.

I admire you for your ability to work DX but plenty of us in VK3 issue an open DX challenge to you but insist that with us it's "nothing below the belt." We'll take honest QRM with the best of them.

I raise my glass to a new VK2JP. Will you please join me in the toast?

—73, ROTH JONES, VK3BQ.

FOR SALE, EXCHANGE, AND WANTED

9d. per line, minimum 2/-.

Copy must be received by 8th of the month, and remittance must accompany advertisement. Calculation of cost is based on an average of six words a line.

FOR SALE.—Marconi B28 Receiver 60 Kc. to 30 Mc. in first-rate condition. R. H. Cunningham, 26 Stanhope St., Malvern, Vic., Phone: UY 6274.

FOR SALE.—Type 3 Mk. II, modified for plate and screen mod. with 7 Mc. xtal, £21 or best offer. Mod. for same consisting of 6SC7, 6N7 and p.p. AB1 6L6s, Red Line 25w. mod. xformer, housed in Abac cabinet with plate current meter, £10. One 60w. output xformer 5,200 ohm p.p. to 500 and 250 ohm line, 30/- . One 32v. input 180v. 50 Ma. output A.W.A. power supply with filtering, £2; vibrator cartridge needs replacing. J. F. Harris, 28 James St., Mt. Gambier, South Australia.

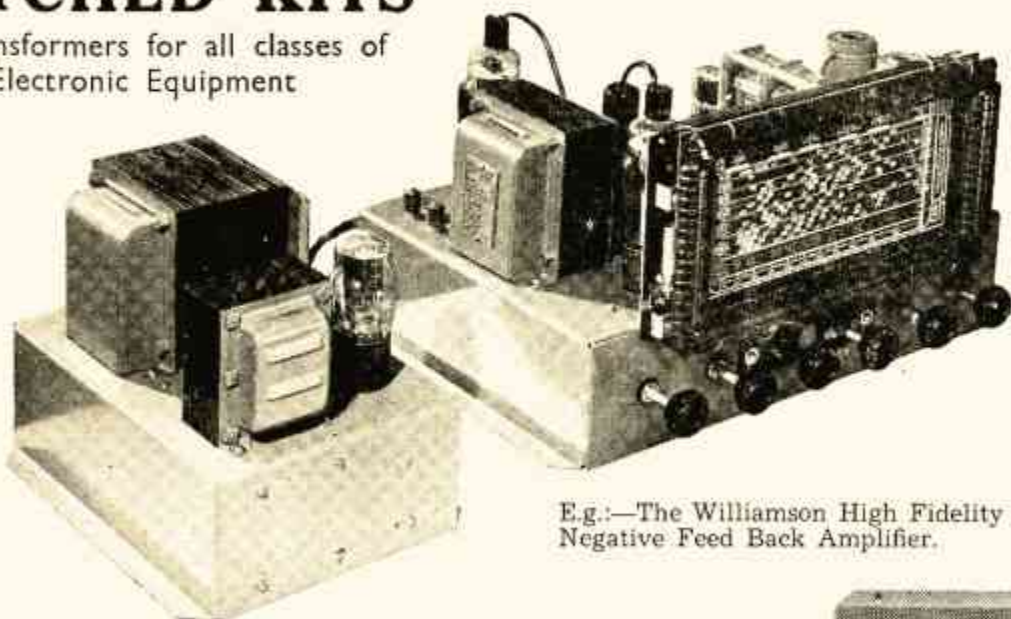
SELL OR EXCHANGE.—Rotary Converter, 230v. d.c.—230v. a.c. 0.3kv. Details H. R. Fitzsimmons, 26 Frederick Street, Horsham, Vic.

WANTED.—R.A.A.F. 61 plate Transmitting Condenser. Ident. No. Y10C/66510. Reply price, etc., F. R. O'Sullivan, Box 92, Bundaberg, Queensland.

WANTED TO SELL.—BC348, with crystal controlled converter, also Type 3 Mark II. Write M. O'Connor, 28 Osborne Street, Brunswick, Vic.

MATCHED KITS

of Transformers for all classes of Electronic Equipment



E.g.—The Williamson High Fidelity Negative Feed Back Amplifier.

Professional Equipment for the Amateur

We are specialists in the design of transformers and chokes to individual requirements, and it is practically certain that you will not pose a problem of this nature that our very wide experience and manufacturing facilities cannot solve.

Unlike most manufacturers in this field, we operate our own tool room, press shop and laboratory and this close integration of our internal organisation has been of particular benefit to manufacturers using our products.

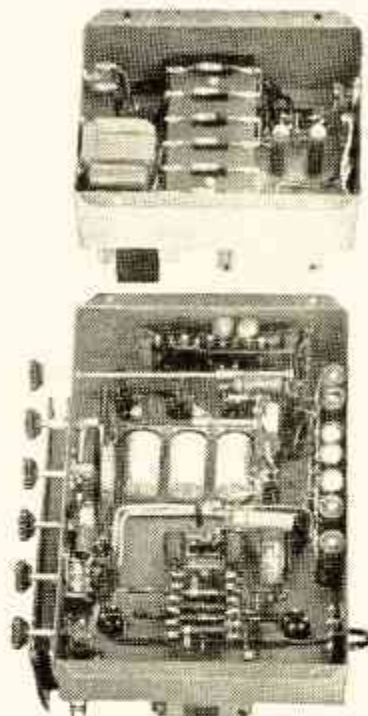
- ★ Power Transformers
- ★ High Tension Plate Transformers
- ★ Low Tension Filament Supplies²
- ★ Output Transformers
- ★ Class B Driver Transformers
- ★ Multi Impedance Modulation Transformers
- ★ Heavy Duty Power Supplies
- ★ Swinging and Smoothing Chokes
- ★ Wide Range Audio Equipment
- ★ Frequency Dividing Networks

²Insulated for High Voltage if required.

A GUARANTEE



OF
DEPENDABILITY



RED LINE EQUIPMENT PTY. LTD.

Veall's Electrical & Radio Pty. Ltd.

Homecrafts Pty. Ltd.
Radio Parts Pty. Ltd.

Howard Radio Ltd.
A. G. Healing Ltd.

Healings Pty. Ltd.
Motor Spares Ltd.

Warburton Franki Ltd.
Lawrence & Hanson Ltd.

NEW SOUTH WALES:
U.R.D. Pty. Ltd.
Homecrafts Ltd.

QUEENSLAND:
H. Martin Pty. Ltd.
A. E. Harrold.

INTERSTATE DISTRIBUTORS:
Denradio Industries
(Maryborough).
J. Michaelmore & Co.
(Mackay).

SOUTH AUST.:
Gerrard & Goodman Ltd.
Newton & McLaren Ltd.
Unbehauen & Johnson Ltd.

Radio Wholesalers.
TASMANIA:
Lawrence & Hanson Ltd.
Noyes Bros. (Aust.) Ltd.

WORKSHOP: 2 Coates Lane, Melbourne (Central 4773).
CITY OFFICE: 157 Elizabeth St., Melbourne (MU 6895, 3 lines).

**AEGIS KC4
Four-Band
Tuning
Unit**

The most advanced
COIL ASSEMBLY
ever offered in
AUSTRALIA

Here's something for
the EXPERTS

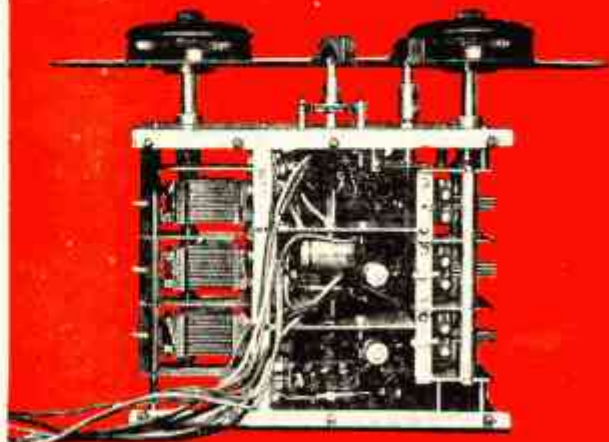
The new Aegis 4-band, bandspread tuning unit illustrated at the right is definitely the answer for the Amateur who desires to build his own communication receiver. Here are the plain facts of this latest Aegis triumph:—

4 Wave Bands		Band-Spread—5 Bands	
550 Kc. — 1500 Kc.	3.5 — 4.0 Mc.	80 Metres	
1500 Mc. — 4 Mc.	6.5 — 7.3 Mc.	40 Metres	
4 Mc. — 11 Mc.	14.0 — 14.4 Mc.	20 Metres	
11 Mc. — 30 Mc.	20.5 — 22.0 Mc.	15 Metres	
	27.0 — 30.0 Mc.	10 Metres	

Actually constructed in three sub-sections comprising R.F., Converter and Oscillator stages. Finally assembled in one unit, which incorporates Band Set and Band Spread Condensers, together with two Slow Motion Drive Assemblies 55/3 and directly calibrated Plastic Dial. Valve Sockets for R.F. (6SK7GT), Mixer (6AG7), and separate Oscillator (6SK7GT) stages are already wired. Concentric air trimmers are used throughout, and the six section "Oak" Type Switch includes shorting banks for all coils not in use. Aerial Trimmer is brought out to front panel with 1-inch shaft. Screws for iron core adjustment in all coils are readily accessible from top of unit, as are also the Trimmer Screws.

For use with the KC4, we recommend Aegis I.F.'s, Type Nos. J22 and J23, specifically designed for communication work. A complete set of blueprints for connecting this unit plus a most comprehensive Communications Receiver Circuit are supplied with each Kit.

See your distributor right away for your Aegis KC4 Coil Assembly.



AEGIS

MANUFACTURING CO. PTY. LTD.
208 LIT. LONSDALE ST. MELB.
PHONE CENT 4414, 5171

DISTRIBUTORS IN ALL STATES

MELBOURNE:

Lawrence and Hanson
Electrical Pty. Ltd.
Replacement Parts Pty.
Ltd.
Vexils Electrical &
Radio Pty. Ltd.
Homecrafts Pty. Ltd.
J. H. Magrath & Co.

SYDNEY:

John Martin Pty. Ltd.
George Brown & Co.
Pty. Ltd.
Fox & Macgillivuddy
Ltd.
Cook Bros. Pty. Ltd.

ADELAIDE:

George Procter (Fac-
tory Representative)
Newton, McLaren Ltd.
A. G. Healing Ltd.
Harris, Scarle Ltd.
Oliver J. Nilson & Co.
Ltd.
Gerard & Goodman
Ltd.

BRISBANE:

Chandlers Pty. Ltd.
A. E. Harrold Pty.
Ltd.
B. Martin Pty. Ltd.

PERTH:
Nicholsons Ltd.

TASMANIA:

Lawrence and Hanson
Electrical Pty. Ltd.
(Hobart).

Lawrence and Hanson
Electrical Pty. Ltd.
(Launceston).

AMATEUR RADIO

OCTOBER
1949

JOURNAL OF THE WIRELESS INSTITUTE OF AUSTRALIA

Just Arrived from Overseas!

A New QUICK HEATING Valve for Mobile Services

PHILIPS QQCO4/15



The new Philips Double Tetrode type QQCO4/15 combines compactness, stability, and maximum output at 186 Mc/s.

ECONOMY OF OPERATION makes this valve ideal for use in mobile equipment. The directly heated filament requires only 6.3 volts at 0.68 amperes.

An important departure from the conventional type of double tetrode is that the anodes are brought out at the base and not at the top of the bulb. This feature facilitates wiring and allows a better orientation of components.

TYPICAL RATINGS FOR CONTINUOUS SERVICE

Frequency	186 Mc/s.	Screen voltage	200 V.
Anode voltage	400 V.	Screen current	8 mA.
Anode current	2 x 30 mA.	Bias	-80 V.
Watts output ... 19.5 W. (Two systems in p.p.)			

PHILIPS ELECTRICAL INDUSTRIES OF AUSTRALIA PTY. LTD.

SYDNEY:
Philips House,
69-73 Clarence Street.

MELBOURNE:
590 Bourke Street.

BRISBANE:
Reid House,
148 Edward Street.

ADELAIDE:
Wyatt House,
119 Grenfell Street.

PERTH:
381-5 Murray Street.



FOR THE EXPERIMENTER & RADIO ENTHUSIAST

Registered at G.P.O. Melbourne, for transmission by post as a periodical.

9_D

"HAM" RADIO SUPPLIERS

5A Melville Street, Hawthorn, Victoria

PHONE: HAWTHORN 4465

PHONE: HAWTHORN 4465

BARGAINS — BARGAINS — BARGAINS

AMR300, S.T.C., band coverage 1.4 Mc. to 24 Mc., Crystal Filter, nine Valves, two R.F. stages, fly wheel tuning, Noise Limiter, etc., S Meter and Speaker £50.

Eddystone 640. Complete with S Meter, Instruction Book, few months old. £57/10/-.

BC348, Single Ended Valves. Complete with Power Supply, Crystal Filter, 200 Kc. to 18 Mc. Excellent condition £45.

AR8 RECEIVERS, A.W.A., 11 Valves, 150 Kc. to 25 Mc. less Power Supply. Tested and working 100% £20.

Army Amenities Australian Sound System Dual Wave Receiver. Complete with Vibrator Pack. Very clean condition. One only £17/10/-.

American A.M./F.M. Receiver, 27 Mc. to 39 Mc., 10 Valves, four-gang Condenser, and Speaker. Uses 6AC7s, 12SG7, 6SL7, 6H6, 6V6. One only, as traded £10.

Brand new dual Audio Units. Containing two 12A6s in grey crackle finished containers. These units offer many purposes. Pre-Amplifiers, Inter-Communication Units or for wrecking. Units are mounted on rubber stands. 35/-.

813 Valves £3 each.

6AK5 Valves 17/6 each.

English Transceivers, frequency unknown. Nine Valves including one EF50, one VT501, one EL32, two EF39, one EK32, one EBC33, two EF36. Chock full of useful parts, relays, genemotor, etc. £5 each.

American Transceivers, Hi-Frequency I.F.F. Tube line-up: three 7193s, seven 6SH7s, three 6H6s, four Relays, less Genemotor £3.

Complete with 18 Volt type Genemotor £4.

English I.F.F. Units. Tube line-up: two VR135 (high frequency triodes), two VR78 (diodes), four VR65A, Eddystone Butterfly Condenser, 1 uF, 1,000 v.w. Block Condenser, Genemotor 11-12 v. input at 3.8 Amp., output 480 v. 40 Ma. Good assorted quantity of Resistors and Condensers, ideal for wrecking, condition as new. £2/10/-.

High Frequency Receivers (unmodified), English Type R3984A, Slug Tuned R.F. and Mixer Stages. Two RL7s, one RL16, seven EF50 I.F. Stages. Aerial switching motor. Easily converted to 144 Mc. band. Few only £7/10/- ea.

High Frequency Receiver, Australian AR301, uses three 954s, one 995. Six 6AC7 I.F. Stages at 30 Mc. Easily converted to 144 Mc. £10 each.

Prop. Motors, suitable for beams, 28 volts input £5

VALVES, Tested, Out of Disposals Gear

10/- each—

7/6 each—

1625	6F6	2X2	12SK7
1626	6N7	879	12SJ7
1629	12A6	6G6	12SH7
6SL7	VR150	12SG7	6B4
6SN7	12SR7	12AH7	6K7
6SA7	RK34	12J5	2A3
6AC7			

"HAM" RADIO SUPPLIERS

(KEN MILLBOURN, PROP.)

5A Melville Street, Hawthorn, Victoria

(East Kew Tram Passes Corner, opposite Vogue Theatre)

(Phone: Hawthorn 4465)

AMATEUR RADIO

Published by the Wireless Institute of Australia,
Law Court Chambers, 191 Queen Street,
Melbourne, C.1

EDITOR:

T. D. HOGAN, VK3HX,
Telephone: UM 1732.

MANAGING EDITOR:

J. G. MARSLAND, VK3NY.

TECHNICAL EDITOR:

J. C. DUNCAN, VK3VZ.

ASSISTANT TECHNICAL EDITOR:

A. K. HEAD, VK3AKZ.

COMPILATION:

R. W. HIGGINBOTHAM, VK3RN.

LIAISON:

I. K. SEWELL, VK3IK.

CIRCULATION:

S. I. ZEUNERT, VK3SZ.

ADVERTISING REPRESENTATIVE:

W. J. LEWIS,
20 Queen St., Melbourne, C.1,
Telephone: MU 5154.

PRINTERS:

"RICHMOND CHRONICLE,"
Shakespeare St., Richmond, E.I.

MSS. and Magazine Correspondence should be forwarded to the Editor, "Amateur Radio," Law Court Chambers, 191 Queen St., Melbourne, C.1, on or before the 8th of each month.

Subscription rate in Australia is 9/- per annum, in advance (post paid) and A10/6 in all other countries.

Wireless Institute of Australia (Victorian Division) Rooms' Telephone is FJ 6997.

— IN THIS ISSUE —

Compact 75 Watt Modulator	3
Modifications to AR8 Receiver	5
Amateur Emergency Work During Kempsey Floods	7
The Old Man	8
Questions and Answers	9
Ionospheric Predictions for the Amateur Bands	10
Disposals	10
1948 VK-ZL Contest Results	12
W.A.S. (Aust.) Rules	12
"CQ's" World-Wide DX Contest	12
Fifty Megacycles and Above	13
Federal, QSL, and Divisional Notes	14
Correspondence	20

EDITORIAL



THE AMATEUR'S CODE

Many years ago, somewhere about the time the A.R.R.L. came into existence, some very wise men laid down a code of ethics for the Radio Amateur. The times and techniques have changed, but one thing remains unchanged—the Amateurs' Code. For the benefit of those who have forgotten and the edification of those who don't know it, we present it in all its brevity and truth.

1—THE AMATEUR IS GENTLEMANLY.

He never knowingly uses the air for his own amusement in such a way as to lessen the pleasure of others. He abides by the pledges given by the W.I.A. on his behalf to the public and the Government.

2—THE AMATEUR IS LOYAL.

He owes his Amateur Radio to the W.I.A. and the I.A.R.U., and he offers it his unswerving loyalty.

3—THE AMATEUR IS PROGRESSIVE.

He keeps his station abreast of science. It is built well and efficiently. His operating practice is clean and regular.

4—THE AMATEUR IS FRIENDLY.

Slow and patient sending when requested, friendly advice and counsel to the beginner, kindly assistance and co-operation for the broadcast listener; these are marks of the Amateur Spirit.

5—THE AMATEUR IS BALANCED.

Radio is his hobby. He never allows it to interfere with any of the duties he owes to his home, his job, his school or his community.

6—THE AMATEUR IS PATRIOTIC.

His knowledge and his station are always ready for the service of his country and his community.

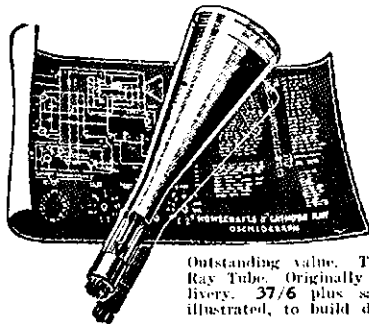
The above principles should need no clarification—it is there in all its stark truth. Read and inwardly digest. If your memory is good, remember well—if it isn't, cut this out and keep it on your operating desk.

—W. T. S. M.

Homecrafts

PTY. LTD.

LARGE STOCKS— GREATEST BARGAINS



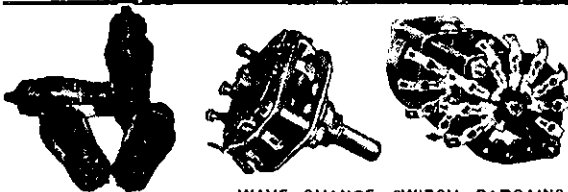
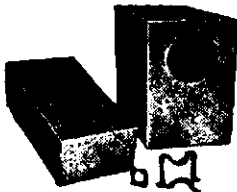
BUILD YOUR OWN DE LUXE OSCILLO- GRAPH

Outstanding value. The famous 5BP1 Cathode Ray Tube. Originally cost £15. Immediate delivery. 37/6 plus sales tax. Blue print, as illustrated, to build de luxe Oscillograph, 1/6.

Sockets for 5BP1 tube, 9/6 each.

Cathode Ray Oscillograph Cabinets. Black crackle finish, steel drilled cabinets and chassis, complete with brackets. As illustrated, 87/6.

Power Transformer for 5 in. Cathode Ray Oscillograph, price 99/-.



Outstanding Valve Bargain. Type 6K7G, equivalent to type 6U7G. Electrically perfect. Loose base only. Bargain, 4/11.

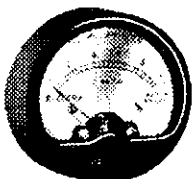
WAVE CHANGE SWITCH BARGAINS

Single bank oak double sided—

- 6 x 2 switches—2/11.
- 2 bank 3 x 3—2/11.
- 2 bank 6 x 2 single sided—2/11.
- 4 bank hand spread type—3/11.



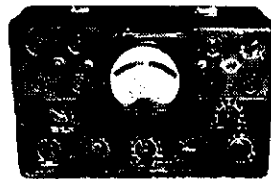
JUST ARRIVED. The new English Collaro record changer. Type RC49. This modern streamlined record changer is fitted with a high fidelity crystal pick-up and will change eight 10-in. and 12-in. mixed records. Price, as illustrated, only £14/8/6 complete.



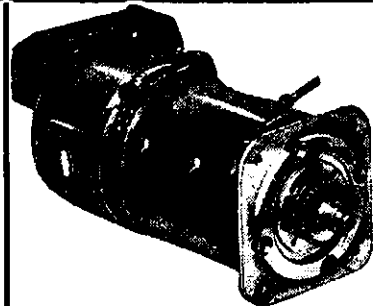
SUPER METER BARGAIN. English Metropolitan Vickers 0-1 d.c. Moving Coil, 0-1 Ma. Meters with 2 in. scale. Brand new in original cartons, only 29/6.

New B.A.I. High Fidelity Crystal Pick-up Heads. Suitable to replace all Collaro or Garrard. Magnetic Pick-ups. When ordering, advise if required for Garrard or Collaro pick-ups. Price 45/-.

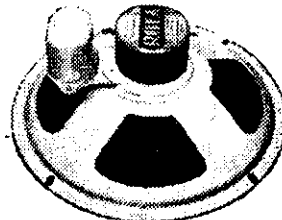
MORSE KEY BARGAIN. Brand new Army type Morse Keys, small type, as illustrated, only 1/11. Large type, as illustrated, only 2/11.



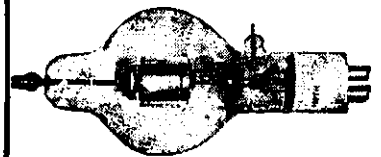
The new Palee VCT2 Valve and Circuit Tester. This outstanding instrument is now available for immediate delivery. 10,000 ohm per volt. Will test 800 types of valves. Price complete £33/15/- plus sales tax. Easy terms, £7/10/- dep., 13/6 weekly.



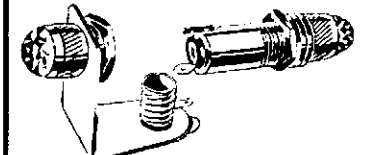
R.A.A.F. 24 volt, 1,500 watt high charging rate Generators. Super disposal bargain. Originally cost over £60. Our price only £13/15/-.



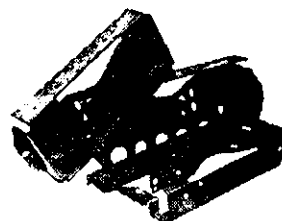
Now available for immediate Delivery THE NEW 12" O ROLA SPEAKER This amazing new 12 in. Speaker incorporates an entirely new magnet system making full use of the new Anti-scope Alnico Magnet. Also a specially designed diaphragm and a power handling capacity of 7 watts. Price, as illustrated, £3/11/6.



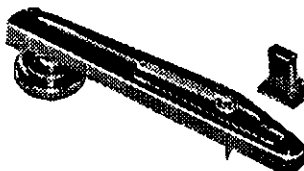
Super Transmitting Tube Bargain. Brand new American imported Eimac 100TH Tubes. As illustrated. Reduced from 8 Gns. to 49/6.



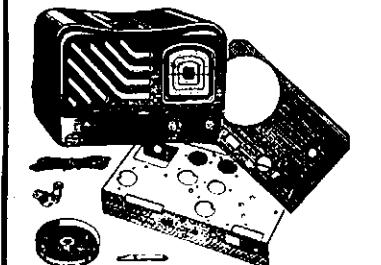
E.M.A. Type F (faceted) Jewels, wide vision type with nut and saucer for 1 in. hole mounting, 1/9 each. With back loading pilot light assembly, 3/9 each. Front loading type, 6/- each. Colors: Red, Green. Finish: Nickel Plated.



Bargain Radio Chassis. 5-v. steel drilled dished Chassis. As illustrated, 1/11 each or 19/- dozen.



PICK-UP BARGAIN. English Cosmochon Crystal Pick-up. Streamlined bakelite Crystal Pick-ups. As illustrated, reduced from £3/7/0 to 39/11.



BAKELITE CABINET, STEEL CHASSIS, BAFFLE PLATE AND DIAL ASSEMBLY. Bargain for the set builder. Complete, as illustrated. Price only 45/-.

COUNTRY AND INTERSTATE CLIENTS PLEASE ADD FREIGHT OR POSTAGE.

290 LONSDALE STREET, MELBOURNE

Central 4311

Compact 75 Watt Modulator

A & R Modulators, Type M2-75 and M3-75, are complete units (less power supplies) designed for voice frequency modulation of a transmitter, and each is capable of 75 watts audio output at the secondary of the modulation transformer when terminated in a suitable load, and used in conjunction with adequate power supply equipment.

The units are available ready for use (less valves and cabinet), assembled, wired and tested, and any or all of the major components may be purchased separately. The chassis, panel, handles, and brackets, etc., are also supplied separately in sets.

Both types are similar, except that M2-75 includes a two stage pre-amplifier for use with a high impedance microphone and M3-75 is provided with a 600 ohm line input transformer (no pre-amp.) requiring an input level of 1 milliwatt or 0.75 volt (zero d.b.m.) for full output.

Each unit of either type includes a negative peak clipping circuit with a special filament transformer for the valve.

The modulator circuit is based on information appearing originally in R.C.A. "Ham Tips," re-printed in "Amateur Radio, August, 1948, and "Radio-tronics," 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

Here are the details of a compact 75 Watt Modulator, based on the circuit, of 807s as zero bias Class B triodes, that appeared in "Amateur Radio," August, 1948. A & R Electronic Equipment Co. Pty. Ltd. advise that they are now manufacturing Modulation Equipment suitable for use by Amateurs, and provide the following information, illustrations, circuit, etc.

tions 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.

Test results were as follows:—

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 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 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.

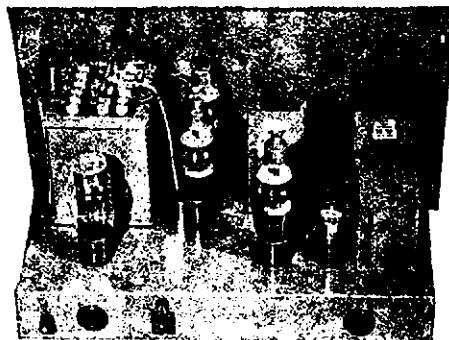
The negative peak clipping circuit is included in the modulator so that those who use the equipment will be provided with the basis for possible improvement of their transmissions if they desire a high average modulation level with minimum interference to other stations.

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 r.f. channel width will be found in "QST," April, 1948; R.S.



Underneath view of the Unit.



Rear view of the Modulator Unit.

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. In designing the mechanical layout of the modulator, it was apparent that the most useful and universal arrangement would be a standard 19" x 10 1/2" rack mounting panel and chassis, as this can also be mounted in a metal cabinet, which is available for this panel size.

External finish of the equipment is grey brocade, with chrome plated handles and panel screws.

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 modifica-

G.B. Bulletin, February, 1949, and in other publications.

The following description and details of operation of the M2-75 modulator apply also to the M3-75 unit, allowing for the difference previously explained.

Type M2-75 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. The 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.

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 "	

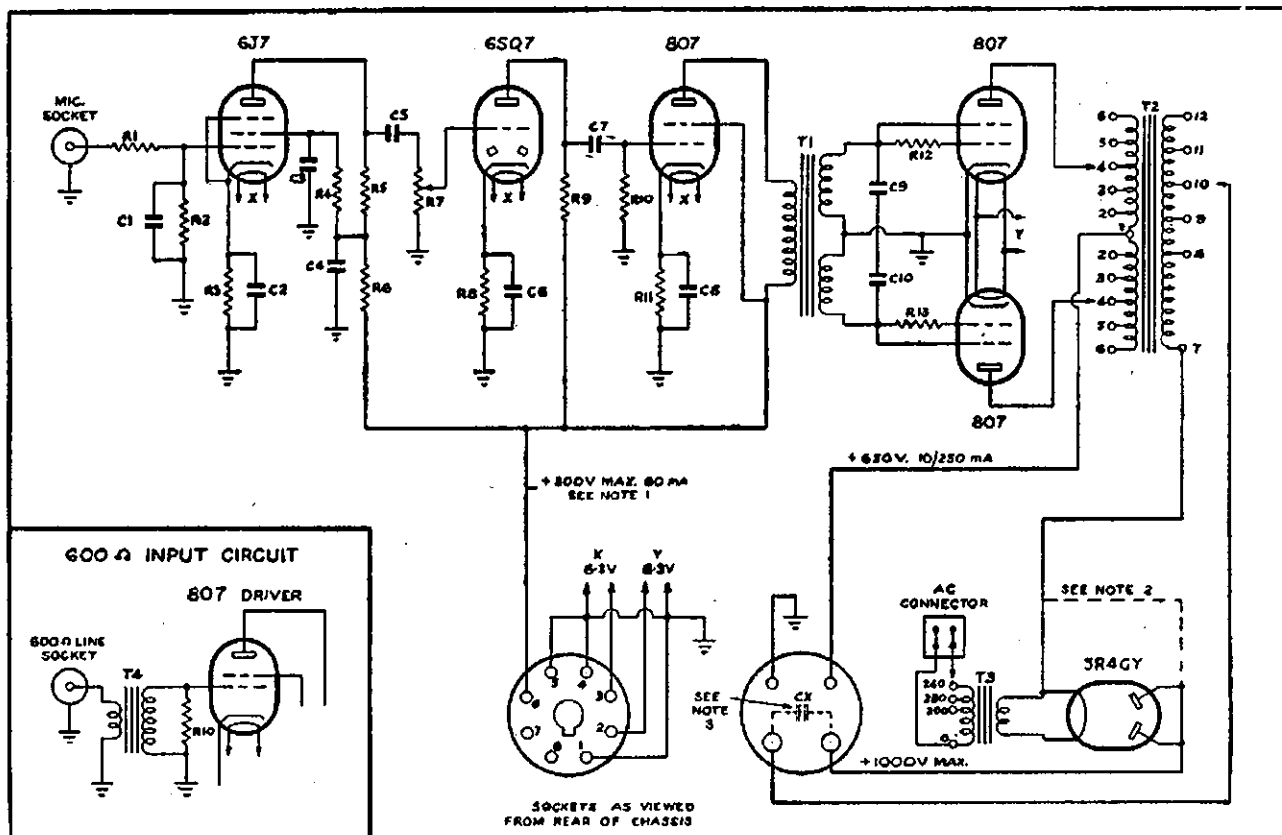
It is necessary now to point out that full power output with low distortion from this or similar audio equipment, is not possible without power supplies having the necessary voltage regulation

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 5R4GY). 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.

(Continued on page 5)



- T1—Type IT588 A & R Transformer.
 T2— MT15
 T3— " PT1516
 T4— " IT563
 C1—50 pF. Mica.
 C2, C6, C8—10 uF. 40 v.p.
 C3—0.1 uF. 200 v.w.
 C4—8 uF. 525 v.p.
 C5, C7—0.01 uF. Mica.
 C9, C10—400 pF. Mica.
 CX—2,000 volt working, see text.

- R1—20,000 ohms, ½ w.
 R2—5 megohm, ½ w.
 R3—1,500 ohm, ½ w.
 R4—1.5 megohm, ½ w.
 R5—0.25 megohm, ½ w.
 R6—50,000 ohms, ½ w.
 R7—0.5 megohm pot.
 R8—5,000 ohm, 1 w.
 R9—0.25 megohm, 1 w.
 R10—0.5 megohm, ½ w.
 R11—225 ohm, 3 w.
 R12, R13—20,000 ohm, 1 w.

NOTES

1. If voltage exceeds 300, reduce with a resistor and by-pass with an 8 uF. condenser.
2. Short circuit plates to filament if negative peak clipper is not required.
3. Up to 0.01 uF. by-pass may be required (inc. r.f. by-pass).

Modifications to the AR8 Receiver

BY L. W. JOHNSON*

The original parts from an AR8 are re-built on an aluminium chassis in the writer's case employing the h.f. unit only. All values of condensers, resistors, etc., are the same as original and the wiring is copied from the R.A.A.F. circuit.

The modifications effected are as follows:—

1. A 6V6 output tube has been added after the final (diode-triode) stage.

2. An 0-10 Ma. meter, with a low resistance shunt (an old rheostat), is inserted in the cathode circuit of the r.f. and mixer tube, making an effective S meter. (An 0-1 Ma. would be more effective still.)

3. Band spread is effected by the addition of three 2-plate midget condensers, ganged, in parallel with the main tuning condenser.

By disconnecting one 5 pF. trimmer from the oscillator section of the gang and bending the small band spread condenser plates, good tracking can be obtained; ordinary midget 3-plate condensers, with one fixed plate removed, being used. This is sufficient to cover the 20 metre band, but two bites are needed for 40 metres.

It was found that it is very hard to track the set correctly again if trimmers are used. It apparently upsets the balance very badly.

The band spread condensers are mounted very close to the gang, in the writer's case, being bolted onto the actual frame. The drive to the dial is accomplished by two sprockets and some Meccano chain. There are two sprockets in the AR8 suitable for this purpose—they connect the tone control to another control in the original version.

To anyone re-building AR8s, the following suggestions are made to avoid some common pitfalls.

Don't get the i.f. transformers mixed. They also contain condensers and resistors as well as coils. Don't try and re-build the coil units unless it is absolutely necessary. They are a real headache. The writer's coil unit is mounted on one end of the chassis with the leads to the i.f.s., h.t., etc., coming through the bottom of the chassis.

If any alterations, such as re-arranging of parts, etc., takes place, get a good oscillator to line up on. You can be 100 Kc. out on the i.f.s. and still get good results, but lined up properly makes a big difference. You can not line an AR8 up by ear and get the best from it. The i.f. frequency is 755 Kc.

300 volts h.t. from an ordinary power pack is quite satisfactory for the h.t. supply with no excessive heating.

When all boiled down the circuit is quite conventional and a good receiver for Amateur use if a little band spread is added.

The AR8 series Disposals Equipment has been very popular with Amateurs throughout Australia, due mainly to its convenient size and convertability, and these suggested conversion methods are submitted to help the new Amateur who want a cheap, reliable receiver for use on the low frequency bands.

BY R. TORRINGTON,† VK3TJ

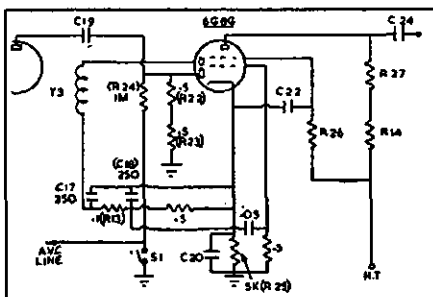
Replaced V5 (6J7) with 6V6 and changed bias resistor. Removed T4, C30 and C31, as speaker used (an electro-dynamic) had speaker transformer attached.

Re-wired all heaters for 6 volt operation, deleting the dropping and balancing resistors, also chokes and filter condensers (R11, R32, L2, C110, C32, C34, etc.).

Re-ground the conductors leaving the receiver into power supply socket, thereby leaving the junction box socket vacant. A plate was made for this hole and the telephone jack fitted in lieu of junction box socket.

Removed T5, microphone transformer, and joined ends of R14 and R27.

Removed V6 (6X5), associated resistors, and wiring.



Schematic of Modified 2nd Detector.

I was interested in operating this receiver over the entire frequency range offered (not only the Ham bands) and found great difficulty in getting near perfect tracking on all bands despite the trimmers and slugs provided. It was decided to provide adjustable trimmers to aerial and r.f. stages. Accordingly, trimmers C104, C105, C106 (aerial), C114, C115 and C116 were removed and (after experimentation) a 5-plate midget variable ("Wetless"—2 moving, 3 fixed plates—about 30 pF.) was found to be suitable capacity range for resonating all frequencies from 2 to 20 Mc.

Owing to the variation in capacity required at different frequencies, it will be found difficult to satisfy all conditions and some alterations to the fixed capacities (C109, 135, 120, 136) may be necessary. As manual trimming is to be installed, the temperature compensators are not really necessary. In my case it was necessary to remove C135.

† Thistle St., Pascoe Vale Sth., Victoria.

It was possible to mount the variable condensers in the position previously occupied by the semi-fixed trimmers and the hole provided for access to C105 and C115 was used for mounting purposes. With the type of condenser used, satisfactory clearance of the ends of the coils is obtained. The connection for the stator plates was made from the point to the wave-change switch to which the main gang is connected.

While, perhaps, the improvement is not quite so marked on the lower frequencies, a definite improvement has been made to band "F" and a definite peaking of signals on the 14 Mc. band is a distinct improvement and advantage.

Modified the second detector as follows:—

(a) Removed the audio a.v.c. from grid No. 1 of 6G8G.

(b) Removed audio pot. R18 and replaced with 0.5 meg. resistor (taken from R21).

(c) Eliminated switching—detector stage is same for c.w. and phone. The "Phone-C.W." switch still performs two functions in the c.w. position, i.e., earths the a.v.c. line and applies h.t. to the b.f.o.

The r.f. gain is now the only gain control.

COMPACT 75 W. MODULATOR

(Continued from page 4)

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 uF. after the first choke and 4 uF. after the second choke.

For those who wish to assemble and wire their own unit, illustrations show the layout of the various components. All necessary holes are included in the chassis and panel assembly.

The top view of the M2-75 modulator shows the 600 ohm input transformer mounted in the r.h. corner near the panel. This transformer is not normally fitted unless the pre-amplifier is omitted as in Type M3-75 modulator. A cover plate is provided for the mounting hole. Behind the 807 driver valve is seen the driver transformer, to the right is the 6SQ7 valve, and at the extreme right is the die cast case shielding the 6J7 valve and R1, R2 and C1. A taller metal shield would be required if a 6J7G valve is to be used.

The underneath view shows the location of the filament transformer T3 adjacent to the 5R4GY socket, and the a.c. mains connector on the back of the chassis. The four-pin power socket is near the earth terminal, the eight-pin power socket being at the back r.h. end of the chassis. At the front from left to right is the pilot lamp socket, volume control and microphone connector.

When wiring, make all earth connections to a bus-bar, and earth at one point only on the chassis.

* 17 Grovedale Road, Surrey Hills, E.10, Victoria.

HAMS and HOBBYISTS!

These and many more Spring Snaps at

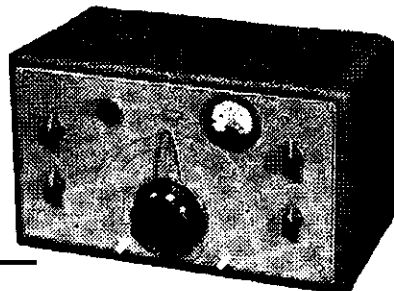
VEALLS

"UNIVERSITY"

S.G.A.

Signal Generator

Frequency 155 Kc. to 110 Mc. Seven bands! £47 (plus 10% tax).

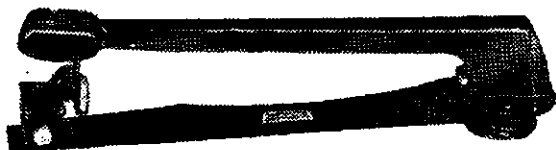


- ★ Transro Valve and Circuit Checker, for A.C. and 6 volt operation. Slightly shop soiled. Sacrificed at £27/10/-.
- ★ Full range of University Meters available. Volts, Mils., Amps., Microamps., etc.
- ★ Magnavox Speakers 10 in. P/M 380M, 38/6. 10 in. P/M 380L 49/6.
- ★ Square Flares for 8 in. Speaker, 40/-.

- ★ Speaker Mono Flares for outside P.A. work. Suit 10 in. Speaker, 47/6 each NET.
- ★ 4 uF. 600 volt Tubular Condensers, 1/3 each net.
- ★ Amplifier Cases, 53/6 each.
- ★ 350 Ma. 385/385 Power Transformer, 75/-.
- ★ Full range Aegis Insulators, stand off and feed through, available.

PICK-UPS SACRIFICED!

- ★ Well known make, Replaceable Needle Pick-up for general use, equipped with type L40 Astatic Crystal Cartridge—67/6.
- ★ Well known make, Crystal Pick-up with permanent built-in sapphire stylus. Uses LP6 Astatic Crystal Cartridge—85/-.



LEXINGTON MOVING COIL PICK-UP

This famous English Pick-up gives performance never before thought possible. Full reproduction of the total audio frequency range. Complete with transformer, screening box and sapphire needle. Price: 12 in. £7/19/6 net.

VEALLS

243 SWANSTON STREET, MELB. FJ 3145
299 CHAPEL ST., PRAHRAN. LA 1605
Mail Orders Box 2141T, G.P.O., Melbourne
Ass. with ARTHUR J. VEALL Pty. Ltd. Est. 1911.

ELECTRONIC A & R EQUIPMENT

ANNOUNCEMENT!

A & R MODULATION EQUIPMENT IS NOW AVAILABLE

MODULATOR Type M2-75 is a complete unit with Standard 10 $\frac{1}{2}$ " Panel and Chassis and including high impedance microphone pre-amplifier, driver stage, 807 triode Class B final stage, and a negative peak clipping circuit. It is capable of 75 watts output in the frequency range 200-7000 c.p.s. when used in conjunction with suitable power supplies.

The modulation transformer is carefully designed and is a semi-universal type providing adequate primary and secondary taps for many modulator and transmitter valve combinations. It is fitted with an adjustable protective spark gap, ceramic insulators, and the mounting is reversible.

MODULATOR Type M3-75 is similar but does not include the pre-amplifier section. The input impedance is 600 ohms, transformer coupled to the driver valve, requiring an input level of 0 d.b.m. (0.75 volt, 1 mW.) for full output.

Major components such as Transformers, Cabinets, Chassis and Panel, etc., may be purchased separately if so desired. A descriptive leaflet showing full details, illustrations, circuit, parts list and prices is available on request.

A & R ELECTRONIC EQUIPMENT CO. PTY. LTD.

1 LITTLE GREY STREET, ST. KILDA, MELBOURNE, VICTORIA.

PHONE: LA 3657

Available from:—

WM. WILLIS & CO., Bourke St., Melb. (MU 2426).
J. H. MAGRATH & CO., 308 Lt. Lonsdale St., Melb.
(Phone: Central 3688).

Wholesale Distributors:—

R. H. CUNNINGHAM & CO.,
62 Stanhope St., Malvern, S.E.5 (Phone: UY 6274).

AMATEUR EMERGENCY WORK DURING KEMPSEY FLOODS

By CRIEFF RETALLICK, VK2XO, and HUGH STITT, VK2WH

For the third consecutive month, N.S.W. Amateur Radio Stations have supplied emergency communication from isolated areas, when normal services failed. The third occasion was during late August when Kempsey was devastated by flood waters. Reports on the previous activity have been given in this magazine. Again Amateur Radio added to its previous fine record of public service.

The first request for Amateur co-operation was made by the authorities on the evening of Friday, 26th August, when Crieff Retallick VK2XO, of Raleigh, was requested by P.M.G. Technicians, Mr. Vince MacDougall of Kempsey and Mr. Eric Spring of Grafton, to stand by and contact the P.M.G. Emergency Flood Station at Lawrence VL2JA on 5390 Kc. The first request was made at 2100 hours and contact was established cross-band from 3.5 Mc. at 2330 hours. Tests were carried out and instructions given to VK2XO.

Saturday 27th saw Doug Gill VK2SH and VK2XO in contact at 0730 hours on 7 Mc. VK2XO reported that the a.c. supply to Kempsey had failed and that high tension poles had been carried away by flood waters. Enquiries were also made about the whereabouts of VK2ZS and VK2ASF, Kempsey's most active Amateurs. VK2SH informed him they had left for Sydney. VK2SH from then on monitored VK2XO's frequency.

As arranged at 0900 hours, VK2XO and VL2JA made contact and continued on half hourly schedules. The flood position at Kempsey had deteriorated and it was known that Kempsey was completely isolated and out of contact by telephone. Incidentally all areas north of Kempsey were out of communication with the south.

A general call for assistance was transmitted on 7 Mc. by VK2XO, as was a similar message relayed over National Station 2NR. Within a few minutes VKs 2ARE, 2JK, 2ARY, 2UR, 2UC, 2TB, 2CU, 2ADX, 2SH and others were all standing by for emergency work with VK2XO acting as control station. VK2AA, official P.M.G. Station, called on the net frequency and requested that traffic be taken for Bellingen and area, and Harry Hine VK2ARY of that town relieved VK2AA of the telegrams. Traffic between these two stations was handled throughout the day.

A request was made from VL2JA that VK2SH endeavour to establish telephone contact with Kempsey, but Doug reported that this was impossible at this stage. Earlier at 0800 hours, Kempsey Post Office reported two feet of water in the telephone exchange and from then on no news had been received.

VK2AER broke into the net to inform VK2XO that two battery operated portable radio stations were housed in the Forestry Department's office at Kempsey. This information was relayed on to VL2JA by VK2XO.

First news from stricken Kempsey came via Amateur Radio when at 1330 hours Chas Peddell VK2KN opened on

7000 Kc. and broadcast a QST for the urgent despatch of Army Ducks to the area for rescue work, VK2KN stating he had no receiver operating. This QST was received by VK2XP of Dubbo who relayed the message to the local police, he also informed the net of the position giving VK2KN's frequency. VK2XO immediately broadcast a request that Amateurs listen out for VK2KN in Kempsey. By 1415 hours a receiver was in operation at VK2KN and Chas established contact with Bill Allworth VK2OE of Maclean and the request for Army Ducks was relayed to VL2JA from VK2OE.

The 7 Mc. band, by this stage, was a hive of activity. Police messages, telegrams were flashing back and forth and Amateurs were performing valuable work.

Five channels operated from the flood area; VK2KN from Kempsey, VK2ARY from Bellingen, VK2XO from Raleigh, VK2DX and VK2DZ using an FS8 and operating for the Macksville Police and at Clybucca Mr. N. C. Harrison of the Dept. of Civil Aviation operated a No. 11 set lent by VK2ADN to a relief party which left for Clybucca from Coffs Harbour.

It is extremely difficult, if not impossible, to clearly trace the events in emergency communication that happened during the remainder of Saturday. Some of the work performed included the following: VK2CU monitored VK2KN's frequency and passed information to VK2XO for relay to VL2JA. VK2AKA established communication with the R.A.A.F. Catilinas flying over Kempsey and informed VK2KN that the aircraft was operating on 4495 Kc. Chas. was able to contact the planes flying overhead and greatly assisting in the direction of relief work. VK2AQQ passed news to the R.A.A.F. VK2KN later in the afternoon requested permission for the handling of press; VKs 2AKA, 2GC and 2WH assisted and VK2AA obtained permission.

The first press message of 384 words was cleared after great difficulty. VK2KN was only using very low power and many stations assisted to fill in the gaps in the message. Hugh Stitt VK2WH at Forbes seemed to receive VK2KN best of all and provided many fills. Nearly three hours elapsed before the message was finally cleared. Many telegrams were also handled between VK2KN and VK2AA. VK2KN finally closed at midnight after a contact with VK2SH.

The greatest problem during the evening was that of commercial interference from two ZK stations. VK2KN operated on 7,000 Kc. and the two ZK stations were about a kilocycle outside the band. The resultant din can easily be imagined. At one stage Chas tried c.w. and as he had no key tapped two wires together. The keying was excellent under the circumstances, but the chirp from the emergency equipment made it impossible to copy.

VKG3, the Newcastle Police Station on 4,400 Kc., was also contacted by VK-

2XO and stated that the Army Ducks were standing in readiness for departure. These Ducks left for Kempsey during the afternoon. Jack Brand VK2ADX earlier during the day informed VK2XO of the availability of the Ducks. During Saturday evening the Ducks lost radio contact with their base and Amateur Stations were requested by b.c. stations to listen out on 6,235 Kc. and report progress on the trip north.

Sunday morning saw the emergency nets re-established at 0700 hours. VK2WH and VK2KN were in contact. VZSY, Mascot Aerodrome Station, notified they would stand guard on 7,000 Kc. VK2AA, VKG3 and VK2XO all opened on that frequency. Message handling continued throughout Sunday, many stations again co-operating.

Other activity included: VK2SH handling police messages from Port Macquarie to VK2AA Sydney, VK2DX from Macksville requesting urgent supplies and Clybucca also opened up. Clybucca's first CQ was answered by VK2ARY and VK2AQQ and with the assistance of VK2GC and VK2ASM messages were passed to official station VK2AA by phone. VK2FZ also assisted in the receiving of the messages from Clybucca.

By evening the position in the flood area had improved and at 1745 hours VK2AA reported no outstanding traffic. It was interesting to note that practically all this emergency work had been performed on telephony except for the handling of some of the telegrams.

VL2JA, main station of the P.M.G.'s Flood Emergency Net, was active right throughout the emergency. Operating with 200 watts on 5390 Kc., they were worked duplex by VK2XO on 7 Mc. The P.M.G.'s flood network extends to the Queensland border and converted 109 sets operate from the following locations: Murwillumbah, Tyalgum, Lismore, Nimbin, Kyogle, Bangalow, Woodburn and Copmanhurst. All stations operate on 5 Mc.

All credit must go to Chas Peddell VK2KN for his sterling effort in operating under great difficulty. Chas set up his emergency equipment at the Police Station at Kempsey, using vibrator power supplies. He kept the town in contact with the outside world for 36 hours when no other form of communication was available.

It was a clear demonstration of the value of Amateur Radio as a National asset in times of emergency. Amateurs gave full co-operation to official stations VL2JA, VK2AA, VZSY and VKG3 at all times; the latter had the responsibility of routing the traffic handled.

The emergency net, during the weekend, developed into a State wide hook up, and the following stations assisted either by relaying messages or acting as guard stations: VKs 2KN, 2AKA, 2WH, 2XO, 2ARY, 2OE, 2CU, 2UC, 2SH, 2LH, 2XP, 2ADV, 2LN, 2GC, 2AIM, 2ASM, 2CI, 2FC, 2DZ, 2DX, 2CZ, 2TG, 2AHZ, 2AQQ, 2ADX, 2GI, 2VR, 2TE, 2SR, 2CW, 2DO, 2AX, 2NY, 2SZ, 2DS, 2AMM. Apologies to any Amateurs missed in the above list.

Here in Australia the elements are generally fairly kind to us, but in these rare times of emergency the VK Ham has shown his ability to perform one of his necessary functions, that of providing communication when other methods fail.

THE OLD MAN

The Remembrance Day Contest is over, and what a grand contest it was, what a pleasure to work those fine operators. Seriously, I'm supposed to comment on bad signals, but one felt very proud of the operating skill of those boys on c.w. They certainly rattled those numbers through and the short "Good day Bill," "Good luck old son," gave one that warm feeling of friendship and rivalry; let's have more of these type of contests. It was noted that although participants were asked not to select three consecutive numbers, there is always the fellow who wants to be different. Didn't you get your "Amateur Radio" in time 6DX to read the rules?

There are times that I want to listen to an Interstate broadcast on 7196 Kc. and inevitably I find a few who admit they are not aware of the time and wonder if they might be causing interference. Why, oh why, must you pick 7196 Kc. on a Sunday morning when the Interstate Institute Broadcasts are

on? Noticed on this frequency one Sunday morning recently were VKs 2AHM, 3FC and 3GZ and did they mess up the broadcast from an adjoining State.

Why is it that you fellows take exception to using the phonetic alphabet? It proved itself during the War and is laid down in the Regs., for our use by the Department, but still we hear "this is VK2LK Two Leaping Kangaroos," or "this is VK6 Mexico Kilowatt." How much easier it is for the Station overseas to decipher Two Love King than to listen to Two Leaping Kangaroos.

VK2JP has again been in evidence, with his persistent jamming of local stations, trying to work that elusive bit of DX. Just how you get away with your obvious flouting of the Regulations in passing "Messages," and I mean third party messages, makes one wonder what the Experimental Advisory Committee is doing in your State. Either they deliberately do not hear you or put it down to your dotage.

The splatterers are still going strong; VK4DO, VK3UO, VK2EX and VK2JP are having a neck and neck race to become the worst offender. The same thing applies here as in the former paragraph, either the E.A.C. in the States concerned are not doing their jobs or are turning a deaf ear to this worst type of offence.

The worst signal in the Contest emanated from South Australia and VK5VO was heard on with a c.w. signal that would have been outlawed way back in 1929. Why not try a Clapp OM, it's a very simple circuit and even you should have no trouble in getting it going.

The phone in the c.w. band on 7 Mc. is still cropping up, in spite of the "Gentlemen's Agreement." Are you, or are you not, a gentleman VK3HV? You were heard there recently trying to blast your way through dozens of c.w. signals.

The key click merchants are again in evidence, just a small choke and a condenser and resistor fellows. VK4RA and VK3AAW should have heard of this method of reducing clicks, but one wonders.

Numbers of stations have been heard butting into QSOs already in progress and flipping their carriers on and off without any mention of a call sign. This is particularly noticeable in the various hook-ups of country Hams on Sunday mornings. The Regulations state very definitely that the call sign of the station transmitting and the call sign of the station being worked, must be announced on each over.

With all this criticism I feel that a word of praise may not go amiss, and I hand top place to those VK6 Hams who participated in the R.D. Contest. Without exception their signals were outstanding, their operating procedure excellent, and if they win the Contest it will be well deserved. Cheers until next month.



WIRELESS LICENCES MUST BE RENEWED

TUNE IN WITH AN EASY CONSCIENCE

Every person must hold a yearly broadcast listeners' licence for each receiver in his or her possession, whether in the home, place of business, holiday residence, motor car, or elsewhere, including portable sets.

The Australian Broadcasting Act provides that unlicensed radio sets are liable to seizure and the owners to heavy penalties.

Licences may be obtained from
Post Offices

RENEW EACH RADIO LICENCE PROMPTLY!



THE
BEST
VALUE
IN VK

Modern Attractive

QSL CARDS

YOUR DESIGN or OURS
Prompt Efficient Service

Write for Quotes and Samples

FRANK MAHER
209 Melville Road
Pascoe Vale South, Victoria
Interstate Orders Accepted

QUESTIONS AND ANSWERS

In August issue of "Amateur Radio" VK4AG asked for information on the FL-5-E Radio Filter. We are indebted to W0SGK for his reply in this matter.

"While I may be in error, not having one of the Filters in question on hand, I'm of the opinion that this is one of the aircraft 'Range' filters used in planes for monitoring low-frequency radio range beams. In the U.S. we have a network of ranges in the 200-400 Kc. region. One carrier is sent out from four vertical towers, another carrier sent out from the centre tower, just 1020 cycles off the outer tower carrier frequency.

"The outer towers are modulated with c.w. signals, 'A' and 'N,' transmitted from opposite towers. The centre carrier is voice modulated with weather reports, transmissions to planes not otherwise equipped with radio gear, and the like. These filters are therefore so arranged that they may be switched to reject all but 1020 c.p.s., in 'range' position. To reject 1020 c.p.s. and pass all others, in 'voice' position, or may be switched out of the circuit entirely in 'normal' position. Thus, a pilot may 'fly the beam' or receive weather reports, landing instructions, whatever he prefers, while another pilot may be desiring the exact opposite without any interference between the two.

"Signal Corps equipment was standardised with two impedances—head-phones were 8,000 ohms and 600 ohms. Output transformers in receivers were 4,000 ohms, to handle two phones in parallel, and in most cases were tapped at 600 ohms. The FL-8 series were the high impedance filters and the FL-5 series were the 600 ohm type, both in and out. These were made by different manufacturers, and in some cases had minor modifications to specifications. The last letter indicated either manufacturer or modified type, but to my knowledge never indicated a radical departure from operating specifications.

"All things considered, it appears that he has a nice gadget to use in cleaning out QRM on c.w.—600 ohms in, 600 ohms out. Some lads over here complain that the 1020 cycles tone is too high pitched and have done some tinkering with these filters to try to change the pass frequency. I haven't heard of their being too successful. I've never torn into one; have a FL-8-B, myself."

AMATEUR STATION INSPECTIONS

Inspections of ALL Amateur Stations are to be carried out within the next few months.

Under P.M.G. Regs. 61 and 62, it is necessary to have available the station licence and the operator's A.O.C.P.

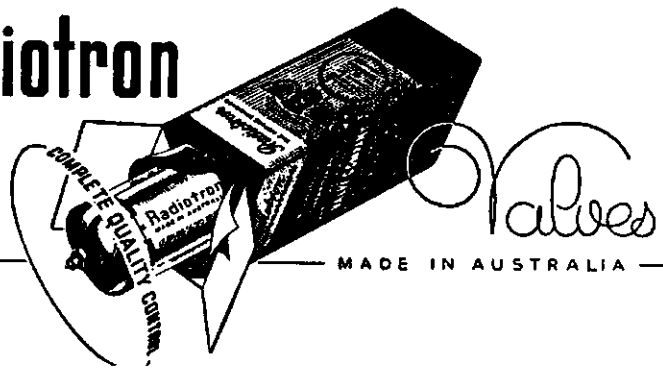
Log Books and records of tests and experiments are also to be available for inspection. Wave meters and/or frequency meters to be viewed.

Where possible, Amateurs are requested to arrange for access to their stations during the day by leaving a key or authority to enter with a responsible person.

No equipment will be turned on except in the presence of the licensee.



Radiotron

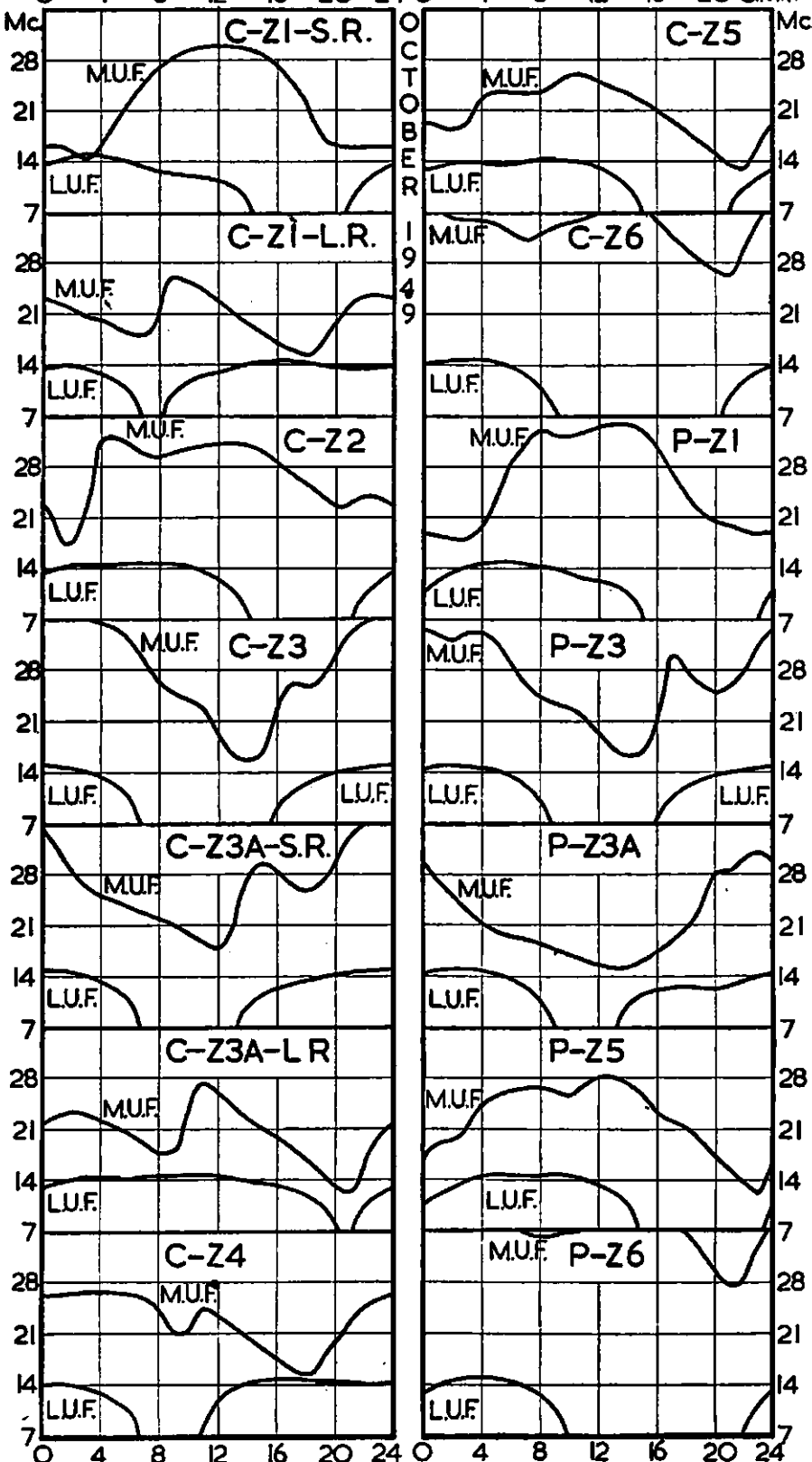


Amalgamated Wireless Valve Co. Pty. Ltd.

47 YORK STREET — SYDNEY, N.S.W.

IONOSPHERIC PREDICTIONS FOR THE AMATEUR BANDS

0 4 8 12 16 20 24 0 4 8 12 16 20 GMT.



DISPOSALS

The following is a copy of a series of questions asked in the Federal Parliament. The answers supplied by the Minister responsible are very interesting. These questions and answers were published in Hansard.

QUESTION—

To ask the Minister representing the Minister for Supply and Development:

(1) Has the Disposals Commission been in the habit of selling wireless parts by private negotiation to the Wireless Institute at prices lower than obtainable at public auction.

(2) If so, what is the total quantity of such sales made during the past three years.

(3) If the quantities sold are sufficient to enable the Institute to enter into competition with other traders who buy at auction, does the Government intend to continue such sales?

(4) As the goods are, or were, Commonwealth property, what was the reason for the departure from the usual sales procedure.

ANSWER—

(1) The Commonwealth Disposals Commission sells wireless parts direct to the Wireless Institute but only at prices which are at least equal to those obtained for similar items at auction.

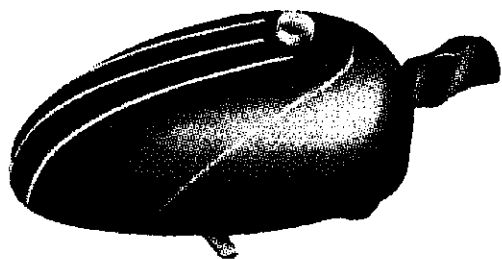
(2) During the past three years, sales to the Wireless Institute throughout the Commonwealth have been in the vicinity of £11,800.

(3) The Wireless Institute is not a trading organisation and with each order gives an undertaking that the items are for personal experimental use of its members and not for re-sale by members. The Commission has been advised that each member of the Institute has signed a special undertaking not to re-sell equipment purchased for them by the Institute. The Commission proposes to continue selling to the Wireless Institute.

(4) The approved sales procedure of the Disposals Commission provides that after the requirements of Government authorities have been met, special consideration will be given to the needs of bodies engaged in educational, charitable, health, and general community activities. The Wireless Institute is regarded as an educational body as it exists for the encouragement and scientific development of radio communication. Amateur radio enthusiasts operate under a licence from the P.M.G.'s. Dept. which prohibits the use of their equipment for pecuniary gain. Members give valuable community service in times of emergency and rendered outstanding service to the Commonwealth during the war. In addition to supplying trained operators for Navy, Army and Air Force Signal Corps, they assisted the operations of Air Observation Posts by reporting the movements of aircraft. It is in the interests of the Commonwealth to encourage members of the Institute by enabling them to obtain their requirements without the necessity of purchasing at enhanced rates through radio dealers.



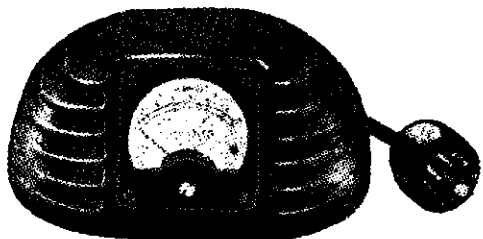
NEW ADDITIONS TO THE FAMOUS EDDYSTONE RANGE



SEMI-AUTOMATIC MORSE KEY

As the illustration shows, this key is of really modern design, being totally enclosed in a streamlined diecast housing, which is finished a fine ripple black with chrome relief. The movement has received special attention and is a fine example of first class light engineering. Words cannot do justice to the beautiful action, you must try the key for yourself to appreciate it. It is fully adjustable to enable any operator to make full use of the wide range of speeds provided. The handle has been designed to give equal facility to right or left handed operators. A short circuiting switch is fitted to the base, which is a heavy diecasting provided with rubber feet and with holes for screwing down.

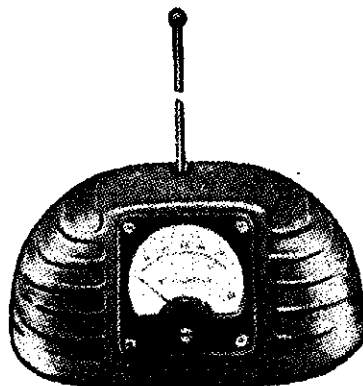
Cat. No. 689, £8/6/3 (plus tax).



SIGNAL STRENGTH METER

This "S" Meter has been designed primarily for use with the "640" Receiver. It is contained in a neat diecast housing, finished a fine ripple black to match the Receiver. The necessary resistors, including the zero adjuster, are fitted inside. The meter, which has a 200 microampere full scale deflection, is calibrated in "S" units and decibels above S9, on the basis of a 4 db increase in carrier strength for each "S" point. The leads terminate in an octal plug, or permit direct connection to the socket on the rear of the "640" Receiver.

Cat. No. 669, £9/3/9 (plus tax).



MODULATION LEVEL INDICATOR

This instrument is contained in a neat diecast box, finished a fine ripple black. The circuit employs two Germanium Crystal Rectifiers. The small pick-up aerial provided, plugs into a socket on top and a socket at the rear takes a coil for the particular frequency band in use. No external connections are necessary. In use, the R.F. pick-up is adjusted until the meter reading coincides with a special mark on the scale. On switching over, modulation percentages can be read off instantly against the directly calibrated scale. In addition, the instrument may be used as a phone monitor, a telephone jack being provided at the rear for this purpose. The meter itself is a very sensitive one (200 microamp. full scale deflection) which permits the instrument to be used as a field strength meter. In the latter service, it will assist materially in such experiments as lining up a beam aerial, determining radiation patterns, effect of variation of coupling and matching systems, etc. The calibration holds good over the whole range of Amateur Bands, up to 28 Mc.

Cat. No. 678, £14/7/- (plus tax).

Now Available from . . Your Local Distributor

- VICTORIA: J. H. MAGRATH & CO., 208 Little Lonsdale Street, Melbourne.
- VICTORIA: WILLIAM WILLIS & CO., 428 Bourke Street, Melbourne.
- N.S.W.: JOHN MARTIN PTY. LTD., 116-118 Clarence Street, Sydney.
- WEST AUSTRALIA: CARLYLE & CO. LTD., Hay St., Perth, & 397 Hannan, St., Kalgoorlie.
- WESTERN AUSTRALIA: ATKINS (W.A.) LTD., 894 Hay Street, Perth.
- QUEENSLAND: CHANDLERS PTY. LTD., Corner Albert and Charlotte Sts., Brisbane.
- SOUTH AUST.: GERARD & GOODMAN LTD., 192-196 Rundle Street, Adelaide.
- TASMANIA: W. & G. GENDERS PTY. LTD., 53 Cameron St., Launceston, and Liverpool Street, Hobart.

1948 VK-ZL DX CONTEST RESULTS

The following are the results of the 1948 VK-ZL DX Contest as received from the N.Z.A.R.T. These are as yet incomplete and the full list of entrants, with scores, will be published as soon as received.

Approximately 300 logs were received in all. The prizes will be despatched to the winners very shortly, and two plaques, and certificates, will be sent by the N.Z.A.R.T.

VK TRANSMITTING—C.W.

Open—

VK3EG 113,318 Pts.

Highest District Scores—

VK2DG 91,834 Pts.

VK3EG 113,318 "

VK4XJ 4,491 "

VK5FM 25,984 "

VK6RU 35,430 "

VK7RI 15,267 "

Highest Individual Band Scores—

VK2RA 1,482 Pts. 40 Metres

VK2DG 91,834 " 20 "

VK2RA 384 " 11 "

VK2YL 15,840 " 10 "

VK3EG 1,564 Pts. 40 Metres

VK3EG 111,114 " 20 "

VK3XK 480 " 11 "

VK3HT 7,168 " 10 "

VK4XJ 27 Pts. 40 Metres

VK4XJ 3,420 " 20 "

VK4XJ 1,044 " 10 "

VK5JE 880 Pts. 40 Metres

VK5FH 33,615 " 20 "

VK5FM 3,040 " 10 "

VK6RU 27,846 Pts. 20 Metres

VK7RK 189 Pts. 40 Metres

VK7KB 28,028 " 20 "

VK7JT 2,166 " 10 "

TRANSMITTING—PHONE

Open—

VK2AHA 39,525 Pts.

Highest District Scores—

VK2AHA 39,525 Pts.

VK3LN 33,016 "

VK4KS 24,864 "

VK5 No. Entry

VK6KW 16,735 Pts.

VK7AZ 33,570 "

Highest Individual Band Scores—

VK2AHA 34,800 Pts. 20 Metres

VK2ADT 12,600 " 10 "

VK3LN 32,916 Pts. 20 Metres

VK3QK 3,336 " 10 "

VK4KS 24,864 Pts. 20 Metres

VK6KW 10,465 Pts. 20 Metres

VK6HL 9,440 " 10 "

VK7AZ 31,400 Pts. 20 Metres

VK7AZ 2,170 " 10 "

RECEIVING—

E. Trebilcock, Wynyard, Tasmania, B.E.

R.S. 195, 53,955 Pts., Phone, C.W.

A. J. Gibbs, Mt. Hawthorne, Western

Australia, 18,912 Pts., Phone.

A. E. Moore, Brisbane, Queensland,

12,510 Pts., Phone.

PRIZES FOR 1949 VK-ZL DX CONTEST

As the lists of prizes for the 1949 VK-ZL Contest is not as yet complete, it is regretted that they cannot be announced in October's issue of the magazine. Listen to the W.I.A. broadcasts for news of the prizes.

W.A.S. (AUST.) RULES

1. This Award has been created in order to stimulate interest in the v.h.f. bands and is of a high standard to fully acknowledge the proficiency of the recipients on their v.h.f. achievements. The award is to be known as the W.A.S. (Aust.) Certificate and is to be issued to any Amateur in Australia or overseas who satisfies the following conditions.

2. The Certificate will be awarded for contacts on the 80 Mc. band and higher frequency bands. All contacts must be made on the same band, and cross-band contacts will not be allowed.

3. Portable operation will be permitted provided that such portable location shall be within the same State and not more than 25 miles from the fixed location in the case of Australian stations, and in the same call area and not more than 100 miles from the fixed location in the case of overseas stations.

4. The applicant is required to submit verifications from the following areas of the Commonwealth of Australia:—

- New South Wales, Australian Capital Territory, or Lord Howe Island.
- Victoria.
- Queensland.
- South Australia.
- Western Australia.
- Tasmania.
- Northern Territory.

In all, seven (7) verifications are required.

5. Additional credit will be given for verifications from other overseas countries, say, New Zealand or the Territory of Papua and New Guinea, in the form of a sticker to be attached to the Certificate.

6. It will be necessary for the applicant to produce documentary proof in the form of QSL cards or other written evidence which completely verifies

a two-way contact has been made. By completely is meant that the time and date, signal strength, type of emission used, location of the claimed station and the frequency used must all be clearly shown on the verification.

7. Contacts may be made using any authorised type of emission and must be in accordance with the current P.M.G.'s. Regulations or those applying in the country of the applicant.

8. Submitted verifications must be exactly as received and not altered or marked. Failure to comply with this rule will lead to the disallowance of that card and may lead to the disqualification of the applicant.

9. All applications must be accompanied by a list setting out the details required by Rule 6, and stating whether any of such contacts were made while portable, and if so, giving that location. Sufficient postage must be enclosed for the return of verifications to the applicant, registration being included if desired.

10. The verifications and list (Rule 9) will be addressed to the "Awards Committee, Box 2611W, G.P.O., Melbourne, Australia."

11. The verifications so submitted will be examined by the Awards Committee, who will arrange for the successful applicants' names and call signs to be listed monthly in "Amateur Radio." Certificates will be forwarded to successful applicants through Divisional Councils or direct to overseas applicants as the case may be.

12. The decisions of the Awards Committee of the W.I.A. in the interpretation and application of these rules shall be final.

13. Notwithstanding anything to the contrary, the Federal Council of the W.I.A. reserve the right to alter these Rules from time to time as necessary.

"CQ'S" WORLD-WIDE DX CONTEST

For the 1949 Contest, separate 48-hour periods for phone and c.w.—awards for individual and group-operated stations—no limit on contacts per country—and a new feature, awarding prizes for the highest 1-band scores as well as multiple-band scores.

1. Contest Period.—PHONE SECTIONS: 0200 G.M.T. October 29 to 0200 G.M.T. October 31.

C.W. SECTIONS: 0200 G.M.T. November 5 to 0200 G.M.T. November 7.

2. Bands.—The Contest activity will be confined to three Amateur Bands: 7, 14, and 27/28 Mc.

3. Competition will be divided into four sections as follows:—

- One-operator phone section.
- Multiple-operator phone section.
- One-operator c.w. section.
- Multiple-operator c.w. section.

Stations in both phone sections may contact each other, and stations in both c.w. sections may contact each other, but no contacts between phone and c.w. stations will be allowed.

4. Equipment.—There will be no limit to the number of transmitters and receivers allowed, and competitors may use the maximum transmitter power permitted under the terms of their licenses.

5. Serial Numbers.—C.W. stations will exchange serial numbers consisting of five numerals, the first three being the RST report, and the last two being their own zone number. Stations in Zones 1 through 9 will prefix their zone number with zero (01, 02, 03, etc.). Phone stations will exchange serial numbers consisting of four numerals, the first two being the readability and strength report, and the last two being their own zone number. Phone stations in Zones 1 through 9 will prefix their zone number with a zero (01, 02, 03, etc.).

6. Contacts.—Contacts between Amateur Stations on different continents shall count three points; contacts between Amateur Stations on the same continent, but not in the same country, shall count one point; contacts between stations in the same country, for the purpose of obtaining zone and/or country multipliers, shall be permitted, but no points will be allowed for these contacts.

7. Multipliers.—Two types of multipliers will be used: (1) a multiplier of 1 for each zone contacted on each band, (2) a multiplier of 1 for each country worked on each band.

8. Awards.—1st, 2nd and 3rd place certificates will be awarded for each of the four Sections as follows:—

A. To the highest scoring stations on each SINGLE BAND in the following areas:—

- Each call area of the U.S.A.
- Each licensing area of Canada and Australia.
- All other countries.

B. To the stations having the highest combined total on ALL BANDS (or more than one band) in the following areas:—

- Each call area of the U.S.A.
- Each licensing area of Canada and Australia.
- All other countries.

Certificates will also be awarded to each operator of each winning station in the multiple-operator sections.

9. Scoring.—The Contest score will be the sum of all contact points multiplied by the sum of the zone and country multipliers.

A. Everyone who sends in a log for a single band is eligible for a single band award only.

B. Those who submit logs for two or more bands will be eligible for the all band award, as well as the single band award.

10. Zones and Continents.—The W.A.Z. boundaries as defined in "CQ" and the "CQ DX Handbook," as well as on the W.A.Z. maps, will be recognised, and for continental boundaries, the same as used for W.A.C. will be recognised. Should any question arise as to the positive location of any station, the official definitions will be final. Copies of the country list and contest logs are available from the "CQ" editorial offices upon receipt of a stamped, self-addressed envelope, or in the case of overseas stations, unattached postage stamps.

OPERATING SUGGESTIONS

We suggest that overseas phone operators indicate which end of the band they are tuning, or which portions of the phone band (American or foreign) they intend to tune. On 28 Mc., where the band is 1700 Kc. wide, it is extremely important that overseas phone stations specify the approximate frequency they intend to tune. C.W. stations, likewise, could greatly assist by indicating where they intend to tune. We think if the above principle is used by all, it will result in far less QRM, as well as fewer useless calls.

Foreign Amateurs, remember, scores are based on the greatest number of different countries and zones as well as stations worked. Do not concentrate on working only U.S. stations, this is a world-wide competition!

FIFTY MEGACYCLES AND ABOVE

Compiled by J. K. RIDGWAY, VK3CR.

NEW SOUTH WALES

The contest on 6 metres drew fifty-five stations out all told. As always, contests create considerable interest. No DX broke through, but Canberra was worked twenty-one times by one contestant. 2TA also worked. Newcastle district was particularly co-operative. Stations such as 2KZ, 2KQ, 2YL, and 2UF being phone QSOs in Sydney. The regulars like Dave and Jack 2BZ and 2ADT reaching nine plus at times. 2VU of Singleton is active again. 2OS also fixing antenna and been heard in Sydney.

In spite of power restrictions, postponed meetings, etc., the contest got under way, due largely to the efforts of our V.H.F. President, Vaughan Wilson 2VW. Suggestions had been called for regarding the contest rules and were to be discussed at the following meeting. This meeting, owing to the coal strike, did not eventuate. Rather than postpone the contest, which was being eagerly awaited, a previous contest rulings were adopted and used. General opinion being favourable except in the matter of duration. Such opinion is unanimous in having shorter contests. Discussion at a future meeting will take place.

2ARG, who has a very fine station, held a "Ham Fest" on the 27th August. Present were 2KF, 2ADT, 2BZ, 2RU, 2KR, 2HO, 2AH, 2KR will be on 2 metres ere long and six too, we hope. All keen v.h.f. men including contest leaders. The combined efforts of eight Hams was required and re-adjust the L/C ratio of a nine watt transmitter tank. "C" was removed and "ell" left.

Amateurs suffering from b.c.i. due to stray rectification can have complete relief by using f.m. The writer was forced to rapid action during the contest and looked like going off with unfinished score. Co-operation proved that stray rectification was responsible. No trace of b.c.i. could be noticed when f.m. was used on maximum deviation. All reports indicate more audio on f.m. than a.m., although an oscilloscope showed full modulation on a.m. Results vary slightly, being dependant upon the receiver band-pass and slope of i.f. channel. If this slope is very gradual (alignment also important) the report will say audio down and vice-versa. When signals are very weak, f.m. as listened to on an a.m. receiver is poorer than a.m. Narrow band adaptors are needed and will become general in time. F.M. results in a tremendous saving of gear. Sydney v.h.f. men are seriously interested and stations using f.m. now are 2VF and 2AH. Stations contemplating are: 2WJ, 2AWJ, 2MQ, 2ARF, 2BZ, and 2GU of Canberra.

The arrangement giving good results used by 2AH is as follows: 6AG7 e.c. Clapp oscillator with input on 3.334 Mc. 6SA7 resistance modulator connected to the cathode. (The circuit used is very similar to that described in Sept. "A.R."). The fifth harmonic is used and the next 6AG7 tripler to 50 Mc. and drives an 815 to 3-4 Mc. grid current with 40-60 watts input. It is a three stage rig multiplying the fundamental 15 times and is simplicity itself. The pre-amp can be used to feed the 6SA7. This rig also provides an excellent driver f.m. rig for 2 metres. The Clapp is tuned to 3.2 Mc. The 815 now receives 48 Mc. and is loosely coupled to an 832 tripler to 144 Mc. which in this case drives an 829B to 100 watts on 2 metres. As a result of this, further frequency multiplication (45 all told), the deviation is sufficient for broader receivers on 2 metres. Don't lose sight of the Class C telegraph conditions for your tubes when f.m. is used. Reports indicate better quality on f.m. than a.m. here.

Realising how difficult it is to make full use of the high g.m. modern v.h.f. valves, several of the gang have found the 1852 is excellent despite its high input loading. We may well ask ourselves what g.m. we realise in circuit with the r.f. stages of receivers? Regeneration and noise are synonymous.

A visit recently to 2GU provided the answer to the reason for consistently being heard in Sydney. Arch has efficiency all-round. The final is disc type condenser tuned. The receiver uses RL7 (VR136) and EF50 mixer. Is a triple conversion job finishing up at 60 Kc. While on visit, in daytime a Sydney station was heard very well. The location has one favourable feature in as much as the ground falls away in front and towards Sydney. However, 2TA, of Young, is worked over immediately rising ground.

VICTORIA

Surprise of the month was the break-through on the 14th of August, during the Remembrance Day Contest, allowing those competing to add substantially to their scores. DX stations worked were 4HD, 4RT, 4FN, 4XN, 4CU, 2LH and 2ADE. The VKs on being 2AJH, 3YS, 3RR, 3FM, 3ACL and 3HK. Peak signal strengths were very high, however fading was rather severe. A selective effect was noticed with the skip alternating between VK2 and VK4. It is of interest to note that the band has opened in June, July and August, at exactly 27 days intervals.

With the improved weather in Victoria, conditions as far as country stations are concerned have been noticeably better, with 3APF and 3UI putting through much steadier and more reliable signals than they have during the past few months. It is hoped that a Melbourne to Sydney six metre relay will be possible before long. The only gap now to be covered is the one between 3UI or 3APF and 2BW, a distance of about 150 miles.

In Melbourne the V.H.F. Marathon has coaxed a few more onto the band, however there is plenty of room for more. A new station to appear during the month was 3AUX of South Yarra who is putting out a good signal from a single 807 and dipole antenna. 3BD has at last got into a location where he is not hampered by lack of space or (we hope) b.c.i. troubles. Eric is now at Gardenvale and hopes to have a 4 element beam up 35 feet before very long. He is putting out a very strong signal from a temporary dipole, so should be one of the best signals on the band when the beam is up.

144 Mc. ACTIVITY

New South Wales.—Two metres has been rather quiet. Much preparation though is taking place. Activity amounts to cross-band working mostly. 2BZ has 65 watts on a 829B to 3 over 3 and can cross-band Sydney almost any time. 2ADT has a 829B also nearly installed on 2 and will be audible in Sydney soon. Looks as though we need a cross-band contest!! 2LY has 829 and is fixing 2 metre gear. Stations heard with very good signals recently on this band are: 2XG (xtal), 2AAS (xtal), 2AWV (xtal), 2ABZ (xtal), 2HO (xtal), and others. 2AAJ puts S meter off scale on horizontal here.

Victoria.—Activity on this band continues at a high level with new stations 3OP and 3BZ making an appearance, while several others are getting receivers and transmitters going and should be on before this appears. 3AKE of Geelong has been carrying out some interesting antenna tests. Ed now has three antennae available, these being a 16 element beam at an average height of 25 feet, a 3 element beam 40 feet high co-ax fed, and a 3 over 3 45 feet high fed with 300 ohm line; the last antenna appears to give the most reliable signal on both transmission and reception, allowing several Melbourne stations who were difficult to work previously to be copied with ease.

In Melbourne 3UJ has reappeared on the band after a couple of months absence. Andy is busy building a 4 over 4 beam to replace the present 4 element, the new beam will be much higher than the old one.

Over the week-end of the 3rd and 4th of September, 3IM paid a visit to 3VL and 3US at Red Hill, taking with him his 144 Mc. converter. Using a 3 element beam 44 feet high as antenna, 3ABA and 3NW were worked cross-band to 50 Mc. with extremely strong signals over this 42 mile path. Several other stations on 144 Mc. were also heard at good strength. Due to being very busy building a new house, Rex and Gwen will not be on 144 themselves for several months.

228 AND 576 Mc. ITEMS

Victoria.—At last a move to populate this band is under way in VKs. 3AFN and 3AWE have already been testing out gear; 3NW hopes to be on with an 8025 and an 8 or 16 element beam before long, and several others are planning gear. This band should prove very useful for the simpler type of gear now that 144 Mc. is entirely crystal controlled in VKs. Provisionally it has been decided to use vertical polarisation.

At last the 576 Mc. gang have finished the other tasks connected with the Exhibition that have been holding them back from the band and are preparing to start afresh. 3NW is obtaining a pair of 8012s from England and hopes to be running 80 watts before long. This will be quite a change from the low power previously used and should make a great difference to signals. 3QO has also obtained an 8012, however there is some doubt as to whether it is a good one or not.

"TWO AND SIX" JOTTINGS FROM N.S.W.

2AO has beam and f.m. receiver on 6, but not much time these days. 2BC hears things when power leak stops and works 2GU. Delighted with cross-band two and six. Dave starts lots of things and used 2 metres nearly two years ago. Also f.m. 2DF has tremendous sigs when using out-door antenna. Has discriminator going on 6 and says f.m. stations sound excellent. 2EQ's phone nice and hope for more QSOs. 2NO would like to build more, but very busy now. 2RU soon transmitting on 2. 2UD pushes band-pass apart, 2 and 6 very loud! 2WJ rebuilding f.m. v.t.o. and receivers. 2YL nice c.w. and phone in Sydney Harry. 2VU f.m. plus and very nice to listen to. 2ZN worried about harmonics and fundamentals just now. 2VW has a P104 receiver.

2ABC has few contacts now and again. 2ADT on two metres soon. Jack has 2KF (Kurri-Kurri) on 2 and 6 to talk to now. 2ADW has a new modulator and halo. Sounds good Dick. 2AEZ Ernie from Gosford nice sig now, beam helps. 2AJR a beam soon, and then Jim will make fine sig. 2AMU 3 over 3 on 6 soon. How about more power Ernie. 12 watts only now. 2ARG new six metre transmitter on the way. Beams 3 over 3 on six and two. Also 10 metre beam on same pole. 2AWZ 815 and beam on 6, and going well now Dave.

Gladesville Radio Club will be holding a Field Day on Sunday, 18th October. Two metre Direction Finding competition. This type of "Contest Come Field Day" has proved very popular. More details next month.

The 6 metre contest is finished and the unofficial places are 2AH, 2ADT and 2WJ.

The above notes were received from VK2AH and VK3IM.

Low Drift Crystals

FOR

AMATEUR BANDS

ACCURACY 0.02% OF STATED FREQUENCY

3.5 Mc. and 7 Mc.

Unmounted £2 0 0

Mounted £2 10 0

12.5 and 14 Mc. Fundamental Crystals, "Low Drift," Mounted only, £5.

Spot Frequency Crystals Prices on Application.

Regrinds £1 0 0

THESE PRICES DO NOT INCLUDE SALES TAX.

MAXWELL HOWDEN
15 CLAREMONT CRES.,
CANTERBURY, E.7,
VICTORIA

FEDERAL, QSL, and



DIVISIONAL NOTES

Federal President: W. R. Gronow, VK3WQ; Federal Secretary: W. T. S. Mitchell, VK3UM, Box 2611W, G.P.O., Melbourne.

NEW SOUTH WALES

Secretary.—Dick Dowe (VK2RP), Box 1734, G.P.O., Sydney.

Meeting Night.—Fourth Friday of each month at Science House, Corner Gloucester and Essex Sts., Sydney.

Divisional Sub-Editor.—L. D. Cuffe, VK2AM, 14b Watson Street, Neutral Bay, N.S.W.

Zone Correspondents.—North Coast and Tablelands: P. A. H. Alexander, VK2PA, Hill St., Port Macquarie; Newcastle: E. J. Baker, VK2FP, 13 Skelton St., Hamilton, Newcastle; Coalfields and Lakes: H. Hawkins, VK2YL, 27 Comfort Ave., Cessnock; Western: G. J. Russell, VK2QA, 116 Bogan St., Nyngan; South Coast and Tablelands: R. H. Rayner, VK2DO, 42 Pettit St., Yass; Southern: E. N. Arnold, VK2OJ, 673 Forrest Hill Ave., Albury; Western Suburbs: A. C. Pearce, VK2AHB, 48 Harrabrook Ave., Five Docks; Eastern Suburbs: H. Kerr, VK2AX, No. 4 Flat, 144 Hewlett St., Bronte; North Sydney: L. D. Cuffe, VK2AM, 779 Military Rd., Mosman; St. George: J. A. Ackerman, VK2ALG, 32 Park Rd., Carlton; South Sydney: V. H. Wilson, VK2VW, Cr. Wilson St. and Marine Pde., Maroubra.

VICTORIA

Secretary.—C. C. Quin, VK5WQ, Administrative Secretary.—Mrs. O. Cross, Law Court Chambers, 191 Queen St., Melbourne, C.I.

Meeting Night.—First Wednesday of each month at the Radio School, Melbourne Technical College.

Zone Correspondents.—North Western: R. E. Trebilcock, VK3TL, 122 Victoria St., Kerang; Western: C. C. Waring, VK3YW, 12 Skene St., Stawell; South Western: W. H. Ross, VK3UT, Ballangetich, via Warrnambool; North Eastern: J. A. Miller, VK3ADG, "Erinvale," Avenel; Far North-Western Zone: Harry Dobbyn, VK3MF, 42 Walnut Ave., Mildura; Eastern Zone: Mrs. P. M. Churchward, VK3US, "Shirley," Red Hill.

WI BROADCASTS

All Amateurs are urged to keep these frequencies clear during, and for a period of 15 minutes after, the official Broadcasts.

VK2WI.—Sundays, 1100 hours EST, 7196 Kc. and 2000 hours EST, 50.4 Mc. No frequency checks available from VK2WI. Intra-State working frequency, 7175 Kc.

VK3WI.—Sundays, 1130 hours EST, simultaneously on 3580 and 7196 Kc. and re-broadcast on 50 and 144 Mc. bands. Intra-State working frequency 7185 Kc. Individual frequency checks of Amateur Stations given when VK3WI is on the air.

VK4WI.—Sundays, 0900 hours E.S.T. simultaneously on 3750 Kc., 7196 Kc., 14342 Kc., 52.4 Mc. and 144.188 Mc. Frequency checks are given two nights weekly, and the times are announced during Sunday broadcasts. 7065 Kc. channel is used from 1000 to 1030 hours each Sunday as VK4 query service to VK4WI.

VK5WI.—Sundays, 1000 hours SAST, on 7196 Kc. Frequency checks are given by VK5DW on Friday evenings on the 7 and 14 Mc. bands.

VK6WI.—Saturdays 1400 hours, Sundays 0930 hours WAST, on 7196 Kc. No frequency checks available.

VK7WI.—Second and Fourth Sundays at 1000 hours E.S.T. on 7196 Kc. No frequency checks are available.

QUEENSLAND

Secretary.—W. L. Stevens, VK1TB, Box 638J, G.P.O., Brisbane.

Meeting Night.—Last Friday in each month at the Y.M.C.A. Rooms, Edward Street, Brisbane.

Divisional Sub-Editor.—F. H. Shannon, VK4SN, Minden, via Rosewood.

SOUTH AUSTRALIA

Secretary.—E. A. Barbier, VK5MD, Box 1234K, G.P.O., Adelaide.

Meeting Night.—Second Tuesday of each month at 17 Waymouth St., Adelaide.

Divisional Sub-Editor.—W. W. Parsons, VK5PS, 483 Esplanade, Henley Beach.

WESTERN AUSTRALIA

Secretary.—W. E. Coxon, VK6AG, 7 Howard St., Perth.

Meeting Place.—Padbury House, Cnr. St. George's Ter. and King St., Perth.

Meeting Night.—Watch the Monthly Bulletin.

Divisional Sub-Editor.—George W. Ashley, VK6GA, 33 Mars Street, Carlisle, Western Australia.

TASMANIA

Secretary.—R. D. O'May, VK7OM, Box 371B, G.P.O., Hobart.

Meeting Night.—First Wednesday of each month at the Photographic Society's Rooms, 163 Liverpool St., Hobart.

Divisional Sub-Editor.—Capt. E. J. Cruise, VK7EJ, Angiesea Barracks, Hobart.

Northern Correspondent: C. P. Wright, VK7LZ, 3 Knight St., Launceston.

FEDERAL

DX C.C. LISTING

As new applicants seem to be in some doubt of the actual Rules for application to DX C.C. membership, we hope to be able to publish next month the Rules once again for general information. The Rules were last published in "A.R." for August, 1947, and amended in Federal Notes for April, 1948.

PHONE

	Zones	Countries
VK3JD (1)	34	125
VK3KW (2)	34	122
VK3RU (3)	37	121
VK3BE (3)	37	116
VK6DD (5)	37	105
VK3JE (7)	100	
VK3IG (5)	100	

C.W.

	Zones	Countries
VK3BZ (6)	40	147
VK3CN (1)	40	143
VK3VW (4)	39	134
VK2QL (5)	40	132
VK4EL (9)	39	129
VK3ER (3)	39	124
VK3KE (10)	40	120
VK4HR (8)	40	119
VK2EO (2)	40	115
VK4DA (7)	38	112
VK4RF (11)	35	110
VK3UM (12)	36	106

New C.W. Members—

	Zones	Countries
VK4RO (13)	38	106
VK3APA (14)	36	101

OPEN

	Zones	Countries
VK3BZ (4)	40	171
VK2DI (2)	40	159
VK6RU (8)	37	153
VK3JE (12)	39	153
VK4HR (7)	40	145
VK3HG (3)	39	141
VK6RW (13)	39	141
VK3MO (6)	39	138
VK3KX (1)	39	135
VK4EL (10)	39	129
VK3OP (19)	38	128
VK2NS (16)	39	122

New Open Member—

	Zones	Countries
VK4UL (27)	38	104

COUNTRIES LIST

We have received preliminary information (not confirmed as yet) from the International Telecommunication Conference now sitting in Berne, Switzerland, that some time in the near future, Amateurs in the following countries will no longer be able to communicate with other Amateurs. At present we do not know the reasons behind this, but will keep all informed of developments. The countries concerned are:—Austria, Burma, French Oceania, Greece, Indo China, Indonesia, Iran, Israel, Lebanon, Madagascar and dependencies, Mauritius, Netherlands, Slam, St. Pierre and Miquelon, Togo and the Antilles (which covers all the Caribbean Island countries).

W.I.A. ACTIVITIES CALENDAR

- Oct. 1-2: 1949 VK-ZL DX Contest (c.w.).
- Oct. 8-9: 1949 VK-ZL DX Contest (phone).
- Oct. 15-16: 1949 VK-ZL DX Contest (c.w.).
- Oct. 22-23: 1949 VK-ZL DX Cont. (phone).
- Nov. 25-27: Third European Contest (c.w.).
- Dec. 3-4: Third European Contest (phone).
- Dec. 19: Motions for 20th Federal Convention due.

I.A.R.U. CALENDAR

The June, 1949, Calendar of the Union contains a resume of the 25 years since the formation of the Union. It was first founded in Paris on the 12th March, 1924, at which nine countries were represented. The 1950 I.A.R.U. Congress is also proposed to be held in Paris next year and all Societies have been asked to pass comment on this proposal. Interesting information on the outcome of the Fourth Inter-American Radio Conference and the proposals adopted is given, as well as notification of the Voice of America Broadcasts mentioned in last month's "A.R." The United Nations and the I.A.R.U. have re-affirmed their mutual agreement for an additional year ending 17th April, 1950.

Three proposals for membership voting, moved by the W.I.A., are the other major items contained in this issue. These proposals deal with matters brought up at the 19th Convention of the W.I.A. in April last. Some interesting figures on the number of licenced Amateurs in the various member societies, which reveal that the W.I.A. have the third highest in the world. The R.S.G.B. are second and of course the A.R.R.L. the first.

AMATEURS LICENCED IN AUSTRALIA

As at the 1st August, 1949, the following are the number of licenced Amateurs in each of the districts of Australia:—

VK1—8, VK2—954, VK3—868, VK4—296, VK5—298, VK6—179, VK7—96, VK9—30; total 2,727.

The above figures are those to be used in determining the State winner for the Remembrance Day Trophy.

1949 REMEMBRANCE DAY CONTEST

The 1949 R.D. Contest is once again past and, judging by the comments of those who took part, a really bumper Contest resulted. This may well be when it is realised that over 400 Australian stations took part, and some 200 logs have been received. The checking appears to be a big job this year, and is growing to the proportions of the VK-ZL DX Contest. This alone indicates the success of this event.

From a check of those taking part, it appears that the phone stations are greatly in the majority, most operating exclusive phone. This should be truly an open event with a 50-50 proportion of both phone and c.w. The general standard of operation was excellent, and very few poor c.w. signals were heard, but a greater number of phone stations should watch that gain control. To all those who did not enter, we can only say they missed an excellent Contest—next year's should be better still.

W-VE 1949 CONTEST

Some preliminary results have been obtained which reveal that in the c.w. section, W8BHW ran up the colossal total of 390,450, followed closely by W2IQP with 269,528, and W4KFE with 235,536. Outside of the U.S.A., once again Juan Lobby, Lolo XFLA continues to pile up "Superman" scores like his 796,311 from 8,051 contacts. Then came CM9AB with 498,840 and KV4AA with 491,222. High Europe scorer was EI4Q with 238,508, PA0UN and HA5B with 203,550.

COMMERCIAL STATION LOGS

By now all State observers should have received their report sheets. It is hoped if possible that each State observer will have access to a typewriter so that a legible log may be furnished to the P.M.G.'s Department. It may not be possible to re-type all the logs we expect to arrive in the near future, so please endeavour if no typewriter is available, to make a neat job of the entries.

MORSE PRACTICE TRANSMISSIONS

The following transmissions from the official W.L.A. stations are given on 3,604 Kc. on the days and times shown below:—

Sunday—VK3WI, 2030 to 2100 hours E.A.S.T.
Monday—VK2WI, 2000 to 2030 hours E.A.S.T.
Tuesday—VK4WI, 1930 to 2000 hours E.A.S.T.
Wednesday—VK3WI, not operating at present.
Thursday—VK5WI, 1930 to 2000 hours E.A.S.T.
Friday—VK7WI, 2030 to 2100 hours E.A.S.T.

FEDERAL QSL BUREAU

RAY JONES, VK3RJ, MANAGER

Congratulations to Noel, VK9NR, on the arrival of a fine daughter, born towards end of August, on location at Norfolk Island. Nice going Noel. As there is a distinct possibility of Noel moving in the near future, QSL Managers and others are advised not to send further cards to the Norfolk Island QTH, but to hold them until Noel's future location is decided. It may be VR2.

Frank Clarke, VK3FC, of Ouyen, who visited Melbourne during August, is also to be congratulated on the safe arrival of another junior YL, now making the splendid mixed total of five.

An event which was scheduled to take place a few months ago and which had all Australian Hams friended with excitement was the projected phone contact between Jim VK2YO and Dave VK2EO. This sensational QSO was to take place on 7 Mc. and arrangements had been completed to clear all adjacent channels and the ringside seats were filled to capacity, but alas, at the last moment the power tranny in Jim's modulator (?) unit took off. Instead of regarding this providential happening as the writing on the wall and abandoning the project, the two conspirators are again planning for a bigger phone contact. Advance information will be published in these columns.

From Fred Haas, VK5FH, came advance results of the B.E.R.U. on 21st August but a shade too late for inclusion in the September issue of "A.R." In case the information is not published elsewhere, here it is as received by radio by VK5FH from G5DQ:—Senior: VK2DI, G5WP, ZL1MB, ZL2FA, ZE2JV, G0RH, GW8ZV, VE3KE, ZS6GI, G8KG, VK2EO, VK6RU, G5DQ, VK3XK, ZS5U, G6GN, ZS6CT, G8PB, VK2RA, VK5FH. The winner, VK2DI, amassed 2,365 points, while the 20th place, VK5FH, totalled 1,604 points. In the Junior section the following positions are of interest: 1st ZB1Q, 2nd VK2QL, 3rd ZD4AD, 5th VK4TY, 9th VK8UM, 10th VK5RX.

A complaint from OE1AD that from 50 QSOs, only 10 QSLs received. As QSLs appear to mean so much to these Europeans, please chaps do the right thing and acknowledge his QSL.

Regret to chronicle that Jack McMath, VK3JJ, was, during August, set upon by four thugs who in the usual wolf pack manner battered him, breaking an arm, one rib and blackening both his eyes and in addition relieving Jack of £4. The arm having been re-set, Jack is now improving and would relish the opportunity at a later date of meeting each of the bushy gang on even terms. If that opportunity is given Jack, my money goes on him.

Melbourne Hams were pleased to greet "Bo" Williams, VE3BO, on a short visit to our City during early August. "Bo" is to be heard thrice weekly on 14 Mc. keeping skeeds with that ardent and interesting personality, "Al" W2CC.

Felix, FK8AC, in QSLing the writer states that there is only one other active Ham in Noumea besides himself and that is FK8AB. A third, FK8AA, has a licence but has not come back post-war. FK8AD at Tontouta Airfield also has a ticket but has not finished his rig as yet. Felix adds that FK8AD will make a good contact when he does get on as his operating ability is above average. The QTH of FK8AO is Felix Franchette, Box 104, Noumea, New Caledonia.

Welcome back to the air to Neil Hart, VK5XY, who after 13 months in hospital has been so far restored to health that he is able to periodically take up his old hobby. My R.A.A.F. associations with Neil have assured me of his ability.

Any VK who worked HS1LA and did not receive a card may obtain one by advising W6DLX, 201 Jefferson St., Vallejo, Calif., U.S.A. As a complete log has been retained, try outs will meet the fate they deserve.

ZS5EG complains that he is not receiving VK cards back in near the numbers that he sends, being a 100 per cent. QSL man. Do not let our International reputation down, please chaps.

A chap in Lima, Peru, who desires to swap postcards with anybody in VK is:—S/Sgt. Lee Fletcher, U.S. Mission to Peru, U.S. Embassy, Lima, Peru.

HZ1KE, via VK5FH, advises that from now until further notice he will be operating on 3615 Kc. each Friday, Saturday and Sunday at 1000, 2300, and 0100 hours G.M.T. He is especially looking for VK and ZL contacts. The two latter times seem to be rather late for VK, but the first at 5 a.m. E.A.S.T. may prove to be successful for the 80 metre gang.

A request has been received for the publication of the QTHs of the State QSL Managers:—

VK2—Jim Corbin, 78 Maloney St., Eastlakes, Sydney.
VK3 (Inwards)—Graham Roper, 26 Lucas St., Caulfield, S.E.8.
VK3 (Outwards)—Frank O'Dwyer, 190 Thomas St., Hampton, Vic.
VK4 (Inwards)—Eric Lake, Old Cleveland Rd., Camp Hill, Brisbane.
VK4 (Outwards)—Bob Campbell, 30 Prospect Terrace, Kelvin Grove, Brisbane.
VK5—George Luxon, 8 Brook St., West Mitcham, South Aus.
VK6—Jim Rumble, Box F319, Perth, West. Aus.
VK7—T. A. Allen, 6 Thirza St., Newtown, Tas.
Federal—Ray Jones, 23 Landale St., Box Hill, E.11, Vic.

NEW SOUTH WALES

The August meeting of the N.S.W. Division was held at Science House, Sydney, on Friday, 20th August. The meeting commenced at 7.30 with the Extraordinary General Meeting which was held to consider certain amendments to the Articles of Association. So much discussion developed that an adjournment was made till September. The General Meeting which followed consisted mainly of the "Setyn Indicators and Their Uses," given by Mr. Ray Howe, VK2ARH, which proved of great interest to all members, especially those who had purchased the units.

Our new baby, the Library, is growing apace and now has numerous text books and periodicals on its yet to be constructed shelves!

NORTH SHORE ZONE

Very little to report this month, due to other activities taking up almost the whole of my time, unfortunately. Anyway, it's f.b. weather, and DX seems to be improving slightly, which ought to be all to the good for the forthcoming contest. It is no, repeat NO, fun to try and maintain interest in a contest when the shack is like the interior of a refrigerator.

2AON has been fairly busy on the air whilst his ship has been in port. 2AJ heard once again with his usual f.b. phone. 2TL still working on the beam, and is also planning to re-build his final as a band-switching doohickey—pity you can't band-switch the beam as well, boy! 2AH reported dreaming up another beam. 2GC believed to be tinkering with the idea of installing a Q5'er on his Q5'er, for further selectivity—you'll eliminate everything but thermal noise soon, George! 2ZZ now back to his old receiver, but is likely to pop up with something super before long. 2JG very quiet of late—given the game away, Noel? 2NY's beam still down for repairs.

WESTERN SUBURBS ZONE

Power restrictions appear to have put a damper on the activities of many of the locals, but the enthusiasts wont be beaten. 2MIQ has just got his new rig working on 5 metres and from Bill's description it sounds a honey. 2VP has fofesaken 20 metres for the thrills of 6, being lured by the afore-said 2MIQ. They tell me your n.b.i.m. sounds great Ron! 2AHU is tickled pink with his operating set-up. Press to talk, etc., and can Curley talk! Needs no pressing. 2PG was going great guns on 20 until stonkered by power cuts. 2ADA promised action on 20 soon, but no signs of life as yet. 2TD hasn't been sighted since leaving the area and getting married. His hamming must be jamming. 2BF should have that quadruple conversion super going on 144 Mc. by now! What's doing Allen? 2IHW, haven't heard you lately Joel New modulator coming up?

The Gladsville Radio Club, VK2ADY, has arranged a number of lectures and more evenings of popular interest are planned. Mr. J. Reed, VK2JD, gave an interesting lecture on 1st Sept., the subject, "Ionospheric Predictions and Rotary Antennas." A Field Day on 144 Mc. is planned for 18th Sept. and it is to be the same novel type of direction-finding contest as the one held last May. 9th October is devoted to a social outing and members will have a great time picnicing at Eden Park.

NEWCASTLE ZONE

Things have been very quiet, possibly due to power restrictions and poor conditions during the month. The most important news this time is of the marvellous emergency work done by 2KN and the Northern gang. All here in Newcastle offer their congrats on a wonderful job well done. Three times in three months Northern N.S.W. Amateurs came to the rescue when the communications failed—becoming a habit—let's hope full recognition is given to the efforts. 2NX just out of hospital after a small operation and has given phone away to catch up with some c.w., only way to get that commercial ticket Shorty. 2CW very busy with W.L.A. Branch work, arranged for bumper official opening for the Hunter Branch and we are all expecting a big roll up. The gang are very pleased to be part of the W.L.A. now.

R.D. Contest was better supported this year. Stations operating in the Zone included 2ZC,

T.C.C. 1.5 uF, 4,000 v.w. Condensers, £2 each.

Chanex 2 uF, 3,000 volts d.c. working, £1/15/- each.

Ferranti 0-500 Microampere Meters, luminised dial, new, £2 each.

R.C.A. 834 Tubes, new, £1/8/- each.

VALVES—

R.C.A. 866A Rect., £1/5/- ea.

Sylvania 6L6Gs, 15/- each.

1616 Rectifiers, 17/6 each.

6AC7s, 12/6 each.

R.C.A. 6U7Gs, new, sealed cartons, 9/- each.

6SH7s, S.H., 5/- each.



Crystals as illustrated, 40 or 80 mx., AT or BT cut. Accuracy 0.02% of your specified frequency, £2/12/6 each.

20 metre Zero Drift, £5 each.

Large, unmounted, 40 or 80 metre, £2 each.

Special and Commercial Crystals.

Prices on application.

CRYSTALS RE-GROUND,

£1 each.

BRIGHT STAR CRYSTALS

may be obtained from the following Interstate firms: Messrs. A. E. Harrold, 123 Charlotte St., Brisbane; A. G. Healing Ltd., 151 Pirie St., Adelaide; Atkins (W.A.) Ltd., 894 Hay St., Perth; Lawrence & Hanson Electrical Pty. Ltd., 120 Collins St., Hobart; Collins Radio, 409 Lonsdale St., Melbourne.

A.W.A. Split Stator Transmitting Condensers, high voltage, £2/15/- each.

Screw Type Neutralising Condensers (National type) to suit all triode tubes, Polystyrene insulation, 19/6 each.

Prompt delivery on all Country and Interstate orders.

Satisfaction Guaranteed.



BRIGHT STAR RADIO

K. G. ALLEN (late R.A.N.)

1839 LOWER MALVERN RD.,

GLEN IRIS, S.E.6, VICTORIA

Phone: UL 5510.



QSL CARDS

The DEE WHY PRINTING WORKS is making available to the Amateur Experimenter a Special QSL Card Printing Service. Knowing the requirements of Hams, we are confident the service offered will be unsurpassed in Australia.

Cards can be printed to your own specifications, and if illustrations or blocks are necessary, our Art Department can produce these for you.

- ★ The Ham specially catered for.
- ★ Quality Cards at economical prices.
- ★ Prompt Service.
- ★ One, two or three colours if required.
- ★ Interstate orders handled.



Dee Why Printing Works

67 HOWARD AVENUE, DEE WHY, SYDNEY.
Telephone: XW 8367.

Proprietor: GEOFFREY BOWER

McGILL'S (Est. 1860)

OVERSEAS AND LOCAL POPULAR MAGAZINES
OBTAINABLE ON SUBSCRIPTION

AMERICAN . . .

Audio Engineering, £1/6/-; CQ, £1/6/-; Communications, £1/4/-; Electronics, £7/6/-; Popular Science, £1/5/-; Popular Mechanics, £1/8/-; QST, 33/6; Radio News, £1/12/-; Radio Electronics, 29/6; Science Digest, 24/-; Science and Mechanics, £1; U.S. Camera, 28/-.

ENGLISH and AUSTRALIAN . . .

Australian Radio World, 16/-; Amateur Radio, 9/-; Electronic Engineering, £1/12/6; Radio and Hobbies, 12/-; Radio and Science, 12/-; Shortwave Magazine, £1/7/6; Wireless World, £1/12/6; Wireless Engineer, £2.

(Add exchange to Country and Interstate Cheques.)

Large Range of Technical Books, Stationery and Novels on Display.

Mail Orders by Return Post.

McGill's Authorised Newsagency

183-185 ELIZABETH STREET, MELBOURNE, C.1, VICTORIA.

(The G.P.O. is opposite)

M 1475-76-77

VICTORIA

VICTORIA RUNS AN EXHIBITION

Much midnight oil was burnt during the organization and planning of this Division's exhibit at the All Models Exhibition which ran from 27th August to 3rd September, 1949, and held in the Exhibition Buildings, Melbourne.

First obstacle to be overcome was the erection and placement of suitable antennae for all bands. Obstacle is the correct word, as the height of the roof (which incidentally is corrugated iron) is 100 feet. For those who do not know the size and shape of the building, it is in the shape of a "T" with a dome rising from the centre of the "T" over the base of a tower 850 feet above the main roof to a height of over 250 feet. Main floor of the building is 82,000 square feet. Several other buildings adjoin this main building and one of these was utilised as is mentioned later.

Two 2-metre dipoles were erected at right angles to one another approx. 30 feet apart at the base of the dome (150 feet high), connected to the transmitter by 264 feet of co-axial cable.

A 6-metre dipole was mounted on a flagpole about 150 feet high at the western end of the building with a run of 200 feet of 75 ohm twin lead.

A 10-metre "plumbers' delight" four element beam was mounted atop of a 3 element close-spaced 20 metre beam on an 8 ft. tower on the main stand, the base of the tower being 14 feet above floor level. These beams were not used during the Exhibition; being kept in rotation by a 24 volt d.c. motor continuously throughout the day.

A vee beam with 8 wavelengths (640 feet approx.) in each leg was erected with the high end of the base of the vee, tied to the small room on top of the dome (250 feet high). The lower ends were fixed, one atop of a street lamp post 25 feet high (permission duly sought and granted!), the other to a tower on the nearby Museum about 50 feet high. The wire used was 11 gauge hard drawn copper, and has stood up to quite high velocity winds. This beam faced East, towards U.S.A. and was coupled to the transmitter by means of a 300 ohm line about 350 feet long.

80 and 40 metre folded dipoles made from 300 ohm line were strung from the other side of the room at the top of the dome to a flagpole 50 feet above the main roof, end to end with about 20 feet between them. These antennae did not stand up to the high winds, the ribbon of the 80 metre antenna twisting over its full length, thus fracturing the junction. After coming down twice, we ran a halyard for the entire run in order to support them, but only had time to string up the 40 metre dipole prior to the opening of the Exhibition.

To help display the simpler type of hamshack, an 80 metre single wire fed antenna was strung inside the building about 50 feet above the floor.

So much for antennae. It does not sound much, but this occupied much tramping up and down the steps and stairs and clambering up and down the various large and small areas of roof covering the building. The main attraction(?) of anchoring antennae to the room at the top of the dome involved climbing of some 160 steps and many landings to the bottom of a 60 foot vertical ladder with rungs spaced 2 feet apart. This had to be climbed in "free air" on the outside of the base of the dome with the wind plucking pretty madly at you as the author well knows. After this, almost vertical stairs lead to the "room" which was about 6 feet across, hexagonal shape—the last step before entering through a trap door being only wide enough for one shoe to fit, well! We ask you—the boys of Ham Radio!

All this work was carried out in the few weeks notice we had prior to the Show. In order to familiarise ourselves with conditions pertaining at the location, many tests had of course to be carried out, so 2, 6, 40 and 80 metre VK3WV Sunday broadcasts etc. were conducted. Main difficulty encountered was the shock excitation of receivers by the various commercial stations operating within a mile of the Exhibition Building. In this regard, antennae had to be properly coupled to receivers, using of course Faraday shields and for lower frequency operation, high pass filters.

Erection and design of the stand was our next problem. Due to our last-minute participation—our exact location was not fixed until about ten days before opening day. Jack Groves did a remarkable job as all who saw it will agree; the result of his work being a most agreeable presentation of Amateur activity. The stage of the Exhibition was a very awkward setting, being 40 feet deep at the centre (almost "U" shape), 50 feet across, and 20 feet deep at each side.

Some interesting comments of operation of the various items are as follows:—

Two metres continuous operation throughout the Exhibition provided some interesting contacts, but no unusually long distances were covered. A mobile station operating over the whole metropolitan area, provided some unusual sidelights and much public interest. Contacts were also had with a "walkie-talkie" in the building. "Walkie-talkie" also had contacts up to 5 miles outside the building on a

2 foot rod aerial. Some interference from simultaneous transmissions on other bands resulted, but these did not hamper operations.

Six metres, likewise continuous operation, also made many contacts but no interstate contacts. Also experienced difficulty with harmonics from other transmitters.

Ten metres.—Good DX was worked, utilising the 20 metre vee beam, but band could not be used much owing to poor conditions at various times.

Twenty metres.—Continuous operation, when not on 10 metres, provided contact with 18 countries and W.A.C. Public interest, stimulated by several Ws making recordings of transmissions, played back and put over p.a. system.

Forty metres.—Very little operation on this band as a transmitter was not available until the last two nights. No operation was made on 80.

Considerable electrical noise from the ignition of some of the model speed boats, cars, and aeroplanes also model railroads and a.c. motors on other stands caused us no little worry. However, over 60 contacts were made over the period of the Exhibition.

The television display caused a great deal of interest, but the picture presented was an image of Abraham Lincoln provided by a Phasmatron, loaned to us for the occasion by the Melbourne Technical College. This was not on view until the closing days as an iconoscope was not available, although arrangements were made to have two flown out from U.S.A. and they were still en route at the close of the show. However a running commentary over a small p.a. describing the apparatus (containing 69 tubes) was given and make-up of raster, etc., was demonstrated so that the public could get some idea of just "how it is done." Three r.f. power supplies provided the necessary h.t. to the "camera," receiver, c.r.o. illustrating the raster and the c.r.o. projecting the final picture.

Outside electrical and radio interference did not upset the final picture although slight interference from the r.f. power supplies was caused to some of the various receivers on the stand. This was not serious and some experimentation could have obviated the trouble if it had been bad. We know that many, many hours were spent on this apparatus.

Two large horns alongside the beam tower provided contact with the public in the body of the hall and helped to draw the crowd when it got thinner, also to locate missing persons and articles. There was the small boy who visited the show and should have been home by 5.30. His frantic parents rang at 8.30 and he eventually found his way home. Then the brother Ham tuning up the 20 metre transmitter dodged around holding the mike (not plugged in) and claimed there was no modulation.

Argument resulted as to whether one or both lamps of a twin lamp indicator should light when the transmitter and antenna are properly coupled. These twin lamps really work—try it and see—only the lamp nearest the transmitter should light.

The 40 metre transmitter nearly caused a fire when a metal-cased meter arced over to a steel panel, burning up relay contacts. The flames rose 2 or 3 inches and three people made separate dashes to switches, local distributing board and fuses, and main switch—all located several feet apart. Result was that a great yell came from all the operators: "Hey! We're off the air." Somebody else went crook because all the clocks stopped and had to be started again.

20 metres was dead one night until a YL c.w. operator got on the mike; you should have heard the Ws fighting for a contact—she not being used to phone had to hand over to an OM before long.

The lad who saw the commercial television receiver, with the tube showing a few lines, remarking, "You should see the television set—it's gone blue in the face." And the sweet young lady who said, "Do you know Mrs. —, she works at the factory, which advertises on the front page of "A.B.""

Using the 300 ohm line to provide 280 volts for an iron to solder leads to the vee beam on top of the dome and running the Don V. via the 23 meter beam for communication. Also the cook-toot's laughing at Hams on roof!

And the young lady who wanted to know where all the crystal sets were.

Also the lad who was asked which model stand he liked best and replied: "The doughnut stand." Also the man of 75 who had known of radio since it was considered witchcraft in England.

The television picture was altered in horizontal gain to show different faces. Of course we just had to have a visit from a B.B.C. engineer to put it through its paces—we won out.

In conclusion, the Exhibition Committee are really appreciative of the fine assistance given them by the general member, both "old faithful" and some new faces. This assistance was at times overwhelming and helped to make our exhibit the outstanding one of the whole show. No names have been mentioned as it was impossible to know who provided the most assistance.

We have learnt many lessons, the main one being that the average Ham is never prepared for a show such as this. Much planning is required to present

2AHA: 2CI, 2PT, 2AMM, 2ANA, 2TE, 2PQ; two highest scores should be 2ZC about 400 points and 2AHA 333 points, both having to operate during working hours with QRP! 2FP and 2AFS both re-building—2FP QRO on 807, 70 watts and guess you will be still S9 in G and Ern. 2AFS only home twice weekly, but things under control. Not much from 2AGD, have an idea he might be lying low for the VK-ZL Contest. 2BZ keeping Newcastle on the map on the V.H.F.s on 6 and 2 metres. New-comer to 6 is old-timer 2UF. Frank has a nice signal and works through to Sydney. 2CI frequently found on 40 and 80 with a nice signal too. New Ham and member of the W.I.A. is Norm, 2ANA, who burns a hole in the Mayfield air on 20 and 20. Has new folded dipole on 20 and S9 from VE was the first report.

2PT, of Stockton (DX man's paradise), works plenty of Ws with a fixed beam. 2AMM put up a good score in the R.D. Contest. 2TE has two nice beams working, three elements on 20 and four on 10 metres. They overlook the Pacific and Bert works its all. 2PQ on 80, 40 and 10 and on the latter band manages plenty of DX. Not much from 2WU but with three elements on 20 mainly chases 20 metre DX. Nil from 2LV, presumed still busy with exams. 2AHA has taken over the zone notes from 2FP, but is QRL while wrecking beams for a change of QTH. Is going out to Birmingham Gardens to worry 2AGD who will be worried by local QRM for the first time. The main reason for the change is to select a good location for the DX. No news of Maitland since the floods.

COALFIELDS AND LAKES

2KR listening on 6 and working 40, had a week-end with the boys at 2ARG. 2RU working the 144 Mc. rig, quite active on 50. 2AEZ has at last opened up on 50 Mc. using a folded dipole and hopes to have a beam up soon. 2AMU playing about with converters and active on 50 and 28 Mc. 2KZ is on the air again after an absence of two months, re-built part of the modulator and works 28 and 50 Mc.

2ZF, besides 28 Mc., is going on 144 and looking for contacts, also did the trip to 2ARG. No news of 2TY or 2MK. 2PZ still busy on his disposals rig and maybe active soon. 2ALR is a new Ham rig, Cossnock, was previously in flood area at Maitland. 2YO is active on 10 metre phone, how long remains to be seen as he is running 40 Ma. grid current to a pair of 807s. 2YL working all bands, mainly on 50 Mc., one new country up in 2ZD. 2ADT should be on 144 Mc. with 829B soon, still battling along in 50 Mc. test which seems to have lost some interest. Jack reports 28 and 27 Mc. improving.

SOUTH COAST AND TABLELANDS

Last month I forgot to farewell VKEVS who left for England, he will be away for about a year and all the zone wish him the best. Not a great amount of news on the subject as the only details were received from a message from his workmates at 2CA (b.c. station). 2PI has been heard working from the kitchen with plenty of sound effects noticeable. It is nice to see such co-operation, washing up and Ham Radio at the same time. 2OW, at Temora, is putting out a very fine signal and 2ALS not heard often, still keen on the Rugby League. Oec. has replaced phase splitting with transformer coupling, much improved quality and freedom from broad edgy transmissions.

2PN heard during the R.D. Contest and appeared to be collecting plenty of points. 2OY heard only briefly but was extremely solid and extra f.b. quality from a carbon mike. A new station in Forbes is 2AMV, Tx AT20, Rx AMR50 and a three element rotary on 20; owner, John Meagher, Jr. No news from the "Gong gang, but 2WP heard chasing 40 metre DX. Would like one and all to send news along and also photos and we will endeavour to have them published in "A.R." Activity in the R.D. Contest was good and operating more interesting due to this fact. Congrats to the State that takes the Trophy out and the same to 2PA, for his good tally for VE2.

WESTERN ZONE

Things in this zone have nearly returned to normal now the power restrictions have been eased. We have two new Hams in the persons of Des Kelly at Parkees, VK2AAF, who is using p.p. 807s and a Window antenna, the receiver being a Eddystones 8504; the other, John Meagher at Forbes. John had a shack warming with 2NS, 2WV, 2BT, 2OW and 2AAF. John runs an 807 line up on 40 and 20, his call is 2AMV. The Eddystone 640 is becoming quite popular. 2VC, 2DE and 2ACU run one and are loud in their praises. The Dubbo gang are apparently in recess. 2AMR and 2ACT heard seldom. 2NS has his three elements on 20 working satisfactorily and has raised a few new countries. 2JV and 2ALX are still working on the a.s.c. to find all suppressed carriers, they maintain it can be done with about six tubes. I wish you luck boys. Ten metres is on the improve to W and ZL and 80 sees the old stalwarts active. 2LY making terrific noise on 40, sounds as if the big rig is on at last. 2HZ been tamping a v.l.o. for weeks, just won't stop in the one place for long. 2EF still using 144 Mc., while 2FH has been heard on 80.

Amateur Radio to the public who don't know who or what we are, except a lot of cranks who burn midnight oil. All our gear should be suitably labeled, such as what this knob or that switch is for, which tube goes in which socket, what is a.c. inlet and d.c. outlet, what voltages are used and which contact is which on tag strips. You never know when someone else may have to use your set-up in an emergency.

Which brings us to another point. What would you do in a state of emergency, such as flood, etc. Some of the transmitters, etc., could be operated from primary supplies from what we could see, but we repeat, are you ready?

Well chaps, we do hope we haven't left anything out from this description, but look forward to your active participation in the next Exhibition.

A special QSL Card with photo of stand will be sent to all stations contacting VK3WI during the Exhibition.

SOUTH WESTERN ZONE

Latest news is that the South Western gang are going to hold their Convention about the 19th and 20th of November in Ballarat, but chaps listen to 3WI for further details.

The Geelong gang seem to be doing a bit of DX, as 3VF has a long wire up and 3IG has worked 1A3S. 3BW has Type A Mark III on 80, and 3CM has been working 2Ls with 3 watts. 3WT has a Type 3 Mark II, now and running high power of 10 watts. 3ALG has mike trouble, but OK now so I hear, and Fred hopes to have new modulation tranny going soon. 3AKE will not work on 3.5 or 7 Mc. now, what's the trouble Ed? 3BU has tried out some n.b.f.m.

3GR has f.b. phone now. He, 3MH, 3VA, and 3BI went down to see the gang at the Exhibition. 3BE has a new power tranny and hopes to be on soon. I wondered if the YLs in Ballarat had you cornered Andy. Was sorry to hear that 3ALM had a serious operation, best of health Liord old pal. Have not heard 3JA or 3HG on of late, but Jack has been off due to the children being sick with some wog.

3DX has the prop motor on his beam, so it won't be long now. Had a yarn with 3EQ the other day. Norm, by the way, seems to like the idea of riding on the old grid, he tells me that it saves his legs! Have not heard 3ZU on of late, what's the matter Frank, must be the football. 3PS has

had a spell with the flu. 3HF has everything under control, seeing that he has a nice YL in the shack talking to the Ws and VEs. Heard Vern on the other day with a better signal, also 3AKR and 3AGD. By the way John, what have you done to 3IL, it seems as though you gave Leigh a dip in his duck pond.

Geelong Amateur Radio Club.—An interesting Lecture was given by club member Jack Mitchell on "Pulse Modulation." Jack used drawings to illustrate his lecture. The following club night some of the members travelled to Melbourne to see the display of gear at the Models Exhibition by the W.I.A. Many old and new friends were made there. 3ALG met an s.w.l. whom he had not seen for approx. 18 years. Alf Forester has started on a Radio Course for members on Monday nights following the Wednesday meeting. This should be very interesting as it progresses and a good roll up is expected on the Monday nights before the course has gone very long.

EASTERN ZONE

Those members of the zone who were fortunate enough to visit the Models Exhibition all voted it a great success, though we are a bit concerned in case our worthy secretary deserts Ham Radio in favor of Morley Transit!

Lindsay, 3OI of Stratford, is working a bit, and expects to join in the zone hook-up very soon. Rumours say that Graham, 3GO, is suffering from a bad attack of YL trouble, which threatens to develop into XYL trouble shortly. We all hope he will be able to join in our hook-ups after the event. Graham has been busy studying, with the result that he has passed the P.M.C. Technicians' exam. Ron, 3LY and Howard Vinning are shift technicians at 3GL. Ron is building a new home, and has an impressive 66 feet vertical made of water pipe. When are you going to connect a rig to it?

Jack, 3AJL, is in Melbourne still at a P.M.C. Technicians' School. 3ALA, Ted, is on 40 metres with an AT5/ARS. 3ANC has been holidaying at Maffra for three weeks. 3WE has been commended by D24 for his recent work when Omeo and District were snow-bound. 3ADC, Doug, has been visiting 3DLs shack of an evening, discussing v.h.f. work with Jim and 3VL. Doug will soon be on from Leongatha. 3VL has been operating his low power emergency set-up from bed, and fireside,

whilst taking it easy after an experimental eye operation. 3US has been setting the rig up for 3VL! 3PR lost his newly-erected poles in a wind storm. Syd, 3CL, is active on 80; paid a short visit to 3UI of Tatura. Eric, 3ACL, is experimenting with n.b.f.m.

NORTH EASTERN ZONE

As usual no dope from anybody on their radio activities, and from listening everyone must be doing other things, as no N.E. signals heard. The correspondent's staff has been further increased. Mr. Brown, Yea Associate, is sending in anything tasty he hears of. 3JK has had Riley up to 90 m.p.h. 3HP has new Chev, 3MPF not game to try MG over 60. 3TS thinking of having Chev. rebored, as speed is down to 70. 3ABG has just run in new motor, after blowing up old one. Top speed only about 85. An MG is on order.

3TS has another 313 rig going but waiting on new 2 k.w. alternator before going really QRO. SYV back on his feet after months in bed, but not on the air much yet. 3APF has QRP 822 rig on six. 3AT working on f.m. rig. 3UI did well in R.D. Contest. 3GD changing QTH again. Buy a caravan George. 3ACK heard on forty. 3APP bought a new mike.

QUEENSLAND

The September monthly meeting was held in the new rooms in the Y.M.C.A. Buildings. There were 33 members present. The President JAW welcomed a visitor VK2DE. Two Council reports were presented and this was followed by a long discussion on "Amateur Radio." Everyone present seemed to have something to say on the subject, as members in this Division are not at all pleased with having to pay more for a magazine that has been reduced in number of pages. A suggestion is that more articles of interest to the Radio Enthusiast be published in the magazine. The business side of the meeting having been dealt with, an article by 4FN, "Putting S.S.S.C. To Work," was read by the Secretary.

ZONE NEWS

Downs Zone (4CG).—4UX finding it hard in the Granite Belt. DX should be "fruit" up Strathorne way. Sold tower and chopping up beam.

FOUNDATION OF A GOOD AMPLIFIER

Acclaimed by users everywhere, Trimax Transformers are constructed from finest materials—and feature high permeability, Nickel Iron Alloy heat-treated for optimum results. Available In Line to Line, Line to Grid, Plate to Line, Interstage, Single and Push Pull types.

TRIMAX Transformers
 29-35 FLEMINGTON ROAD, NORTH MELBOURNE VIC.
 (DIVISION OF CLIFF & BUNTING PTY. LTD...)

Spends more time mountaineering and "fishin'" than hamming but a regular in the 7045 Kc. Sunday p.p. Club. Always nice sign from Claude, 4DA suffering like Alexander the Great—got his DX C.C. and no more countries to conquer. Three contacts in three months, and this was one of our top line DX hounds! 4RF more inactive than 4DA. One QSO in three months, it must be something in the Dalby air. Fred can work 'em so it's hard to explain. 4XN, the other side of the Dalby triangle, spends all his Ham hours listening for that elusive opening on 50 Mc. and what's more finds it. Trying to break through to 4CG in Toowoomba but so far n.g. Has QSOed 4KK on 50 but can't seem to raise 4CU at about the same distance. Queer, but that's v.h.f.!

4TY not heard much of late, bobs up in the Sunday "atoush" every now and then. 4RW another granite belter, Del can lay on the DX. Am told he has quite some rig out there in Stanthorpe. 4CG probably most active Darling Downs DXer at present. Uses 100 watts p.p. 807s., 127 countries on paper. Gripping about power leak which it is nobody's job to fix. Only needs a mountain mist to kick it off. QTH otherwise envy of the less fortunate—2,000 ft. above sea level and right on the edge of the mesa (you been seem' too many pictures pardner).

Brisbane Zone (4WG).—4WJ doing a good job with a rotary 8JK. That vulture for culture, 4PR, recently suffered an attack of housemaid's knee in the right wrist. Fortunately Don Pedro is left handed and the countries worked continue to mount. A number of the local L.C. are wanting to gather at the 4RT office for lunch and ear bashing these week days. John sure brews a mighty billy of tea. 4KS is to be congratulated on joining DX C.C. ranks which proves that a vertical is not essential for this achievement. Rumour has it that 4TR is in the throes of transmitter construction and we believe the input to this new rig will be a modest 10 watts. Good luck to you Dick with your QRP.

4VJ, as keen as ever on fishing. The fish yarn is obviously genuine as Vince was reported fishing during the beer drought. Incidentally, Vince what three rascals instigated a fourway from Goskar Avenue and drew a grand total of nine plinys—Old Timers die hard. On a recent winter evening 4WG advised 4EL of a Vermont contact. Eric promptly left his warm bed and secured a QSO with that rare State. A very interesting station we should hear more of is 4GO, a mobile marine installation in M.V. "Diane," operating in South Queensland waters. The trim little vessel finds its anchorage at Sandgate. We have to congratulate Jack Keating on passing the A.O.C.P. examination. Welcome to the ranks OM.

Gympie Zone (4HZ).—During August the country representative, 4SN, paid a visit to Gympie and Bundaberg Zone. On the night of his arrival at Gympie a "get-together" was held at 4HZ's shack. All the local lads were present and many varied were the items discussed. The country representative expresses his thanks to the Gympie and Bundaberg gang for a very enjoyable time and special thanks go to 4HZ who organised arrangements in the Gympie Zone and likewise thanks to 4BJ for the Bundaberg stay. Doing a round of the shacks in Gympie we made the following observations. 4HZ three stage rig 6V6, 6L6, 807, driven by a ZC1 tuning unit. Phillips No. 4 Receiver. Transmit/Receive and push to talk switching. A very comfortable shack which Jim had the foresight to include in the plans of his modern home.

4RA has a Command Transmitter on 40 metre working plenty of DX on c.w. Has some very nice DX cards from all continents and most districts of Russia. Reg has mastered the Russian code system and thus has much better rag chews with them than the average VK. Noticed an excellent filing system and a novel method of mounting QSL cards. 4XR has a very neat and attractive shack. Here's another who has a fine method of keeping QSL cards. Eric keeps them in a large album. Has probably worked more South Americans than anyone else in VK4. Eric at the present time is erecting a two element rotary for 20 metres on a pole 40 feet high.

4LN, Barry, has one of the finest pieces of equipment we have seen in a Ham shack. A power supply which is practically fool proof with relays, cut outs, and a multitude of switches, which enables him to step up voltages in 100 or 20 volt stages with a maximum of 900 volts at about half an amp. Two DR106, one of which Barry is prepared to lend to any of the local lads who are prepared to assist in carrying out experiments on 50 Mc. A c.r.o. helps Barry to keep a check on his transmission.

During our short visit 4HZ, 4SN and 4LN carried out some very interesting experiments with three and four element beams. The night of visits finished with 4XR, 4HZ, 4SN piling into 4CR's place where Col's XYL turned on a fine spread. Col at present is building a new 60 watt rig and playing around with electric clocks (why 60 watt rig? Col? Has Eric got you ticked?). 4HD at last believes in ver beams and has opened up a new channel between Buderim and Gympie. Max and Barry have now 24 hour channel on 10 metres as well as on 0.

Maryborough Zone (4GH).—A newcomer to Maryborough is 4KG, who now works at the local C.B. station. As we write these notes Maryborough Club is exhibiting ham gear at an Arts and Crafts Exhibit in the Maryborough Town Hall.

Bundaberg Zone (4BJ).—4SN had the pleasure of meeting the Bundaberg gang at their club meeting in August, those present were 4PG, 4HE, 4UK, 4BJ, and Barry. A visit was paid earlier in the evening to 4CW's shack. Jack is burning the midnight oil working ZS, now has a nice v.f.o. built into a tuning unit. 4PG has a new coil for his relay and expects to be active soon. 4HE still looking for that 50 Mc. opening.

4BJ has a RC348 to which he has added a Q5er which Vic, reckons will split a hair. Uses a 3BZ on 40 and 80 and a rotary beam for 20 and 10. 4UK, Frank, showed us a new transmitter with a band switching final and if this rig works as well as it looks it will certainly go places. We are sorry to report that Frank is again in hospital.

Rockhampton Zone (4XJ).—4DO has two three element rotary beams, one for 10 and one for 20; 71 countries in his credit, daily skeds with ZS1BB. 4ZB has a new three element rotary for 28 Mc. with 70 watts to 813. 4DI, a new Ham, Len, using 3 watts c.w. on temporary rig. 4FD, Frank, on 14 Mc. occasionally; hopes to re-erect the beam damaged by the cyclone. 4TD and 4ZL changing QTHs. 4WA often heard testing a couple of mikes and working 4EW on 7 Mc. 4CL, Joe, running 100 watts to 813 and two half waves in phase. 4VD uses four element rotary on 14 Mc. to work Europeans. 4XJ uses 25 watts to an 807 working on 20 and 40.

Townsville Zone (4GD).—4RW worked six new countries last month and now has 52 countries with 33 verified. Runs three nights weekly sked with PK6CS. A new Ham is 4BX working on 144 Mc. and building a rig for the 14 Mc. band. One of the Students of the Townsville Club has passed the A.O.C.P. and is waiting for his call sign. 4JH has almost got his gear into a new shack. 4GD has a new 144 Mc. rig using an 8 Mc. crystal 6V6 tripling to 24, 6L6 doubler and an RK34 tripling to 144. A double Q beam helped to put a signal over Castle Hill to 4VH. Len also runs crystal control on 50,058 Kc. 4FC of Ingham looks like joining the v.h.f. gang. The Townsville Club has new rooms in the Railway Institute, but no meetings were held last month owing to power restrictions.

SOUTH AUSTRALIA

The monthly general meeting for August took the form of a picture evening and was fairly well attended. The original idea was to hold the evening at the Shell Theatre, but the power restrictions put a stop to that idea, so with the co-operation of Mr. Les Perry (who provided the portable power plant and projector) and 6GB (who acted as projectionist) the film evening went on according to schedule in the usual clubroom. Everybody thoroughly enjoyed themselves at the show, although I was a bit unlucky because I sat next to 5DW who persisted in creaking his penpals all night, and alternately cheering the hero and booing the villain in my right ear. Still, I expect one must be prepared for that sort of thing when one sits in the "spits." The meeting closed at a record early hour, mainly because it was felt that the portable plant should not run unnecessarily. The lights went out as I secured the visitors' book, so I could not say who were the visitors. Anyway we wish them welcome and hope they come again.

5TD presented to Council a polished wooden gavel to be used at all the meetings and his gesture was much appreciated. The President, Halbert Haustin (3AW) hit me on the head with the gavel at the last Council meeting and I can vouch as to it being a solid job. 5XY made a welcome re-appearance at the general meeting and is looking real fit and well. Glad to see you up and about again Neil.

A story is going the rounds concerning Brian Austin (5CA) and whilst I cannot vouch for it, being correct, it is too good to keep a secret. It appears that a motorist met with an accident which necessitated his nose being patched up with sticking plaster. The next day the said motorist went down to the Taxation Department to pay his income tax and finished up at the desk of Brian, who, wishing to be conversational, said, "had an accident with your nose sir?" "No," said the fed-up motorist, "I have been paying taxes through my nose so long that it has finally collapsed under the strain." Was Brian's face red.

A couple of months ago a paragraph mysteriously appeared in these notes concerning my alleged activities at a country race meeting. I thought by leaving "doggo" that I would find the author, however so far no good. It goes without saying that my dear respected Editor wrote it, but who blew the information down his shell-like ear? Time will tell. Could it have been you Eddie?

John Hampel (associated member) proposed the vote of thanks at the last general meeting and was himself congratulated upon his appointment to the

second best broadcast station in VK5. John is now well settled in at Berri, and incidentally I have been given to understand that at the time he passed his B.O.C.P. he was the youngest candidate to do so.

Several reports have reached me to the effect that most of the residents of the suburb of Malvern are buying dark glasses to protect themselves from the terrific glare emanating from the chromium fittings of a brand new motor car being driven by that playboy of the southern suburbs, Cecil Baseby (5BZ). Talk about opulence.

I expect to visit Melbourne early in October, but to save the Victorian Division the expense of hiring a brass band, red carpet, orchids, the Melbourne Town Hall, and without doubt, a sub-machine gun, I will arrive heavily disguised and leave in the same way. The fact is that I will be travelling overland in charge of a busload of young ladies (thirty of them in all) who will be competing at the physical culture contests held annually at South Street in Ballarat. I may be doing a couple of adagio dances and should the clamouring audience demand it, I may even do my internationally famous balloon dance, and believe me I use a very small balloon! (Warwick, old boy, you are slipping—my spies have already penetrated your disguise—yes I heard a change of trousers—my, won't you look beaut in frillies??—Ed.)

The Remembrance Day Contest was a huge success according to the many VK5 entrants. Everybody commented on the splendid operating procedure used, the fine signals on all bands, and last but not least, the good fellowship displayed by all States. One VK2 that I heard was behaving like a spoilt kid with a stick of lolly every time he was beaten for a contact, but he was definitely in the minority.

Several VK5 boys have expressed their disapproval of "The Old Man." Their many ways of expressing themselves seem to all boil down to the fact that they resent the fact that they do not know who he is. Personally I am neutral in the matter, but if he should write me up, I might be like the rest of human nature and have a rapid change of opinion.

I believe that every time that a certain VK5 Ham sees a canary he fairly shakes with suppressed rage. The reason for this is that he has been trying to work a certain EA station for some time, and BY golly, in fact 5BY golly, along comes an AC4 as well. What with trying to keep an ear on these two stations to secure a contact and listen for any other choice bits of DX, poor old Doug is having a very rough time. And the language. Phewl!

Boats coming up the St. Vincent's Gulf lately have been complaining about a couple of huge aerial masts which rear their proud heads into the sky in the Semaphore area. These two masts are causing the captains of the boats to mistake their bearings and causes them endless embarrassment. 5WM please note. There is always a chance of one of those boats finishing up in the sitting room, you know Wick.

I have missed the cheery face of 5GD from various Council, general, and other meetings lately, and from enquiries made, I have learned that he has been battling with winter colds and associated ills. To cap the lot, he is now paying marked attention to an outside in boils (the exact position on his anatomy is unknown) but at least he is not eating his meals off the mantelpiece. Hope that you are OK by now George.

5DA bobbed up at the meeting and is active on the air again, she said. No doubt about it, Ham Radio sure gets in the blood. News this month has been decidedly scarce, due principally to the power restrictions and the poor conditions existing on the air. It is a sure sign that I am getting old I will admit, but the old days were certainly better than they have been the last few years. Yes I know, before long I will be telling you that I can remember the time when the site of the Post Office was an open paddock and they used to drive the bullock waggon past it every Friday. OK I will shut up. 5JA is all smiles these days as the a.c. has been connected, and for several reasons, some obvious, and some not so obvious, John finds that the a.c. supply is a great deal better than the a.c. he used to get from his converter.

5MS has had some more fireworks, this time from the v.f.o. tranny. It's bad luck, but when you consider the number of contacts that Stewart has had lately, it probably will be all for the best as everything will have a long overdue rest. Even tubes, etc., get tired. 5FD has been trying a folded dipole on 20 metres with mixed success, and is of the opinion that with 5MS missing from twenty, there appears to be more room there, hi. I think you have got something there John. 5KU also receives 5MS very well and has been mainly on 40 metres. Erg is house-building at present, so is naturally quiet under the circumstances. 5CJ is at present recovering from his vacation, part of which was spent along the Murray, he even passed through "springcart gully." 5RM please note. Ah he caught was a cold. Wot, no hurricane lamps. Col? Congratulations go to 5RL who was recently appointed to the position of chief engineer to broadcast station 5KA (I have never heard the station myself, but I believe that several of 5DN's listeners

occasionally tune into it by mistake). Still it's nice to be able to say "I knew him when."

I have heard about "carrying coal to Newcastle," "knocking off work to carry bricks," and "taking a busman's holiday," but believe it or not, I saw Hal Austin (5AW) in a certain radio store in Rundle Street buying a power transformer. I admit he was doing it very stealthily, but doing it he certainly was.

Received a letter from a VK2 this month saying a few nice things about these notes. Many thanks OM, and thanks for the definition of Moya, you surprise me. Doc re-addressed your letter to me, and it was lost in the post. We both complained to the Post Office and an extensive search took place. I was under the impression that Doc's jealousy had got the better of him and that he had torn up the letter in a fit of rage. Anyway it turned up eventually in my wife's purse! and she was quite surprised when I did my block and told her several things that I had been holding back for the last twenty years. She told me one or two things about myself too, which cut me to the quick, however, having been a Council member for the past three years has toughened up my hide and I treated it with ignore. The black eye took longer to go than usual and I had my dark glasses on for a week.

WESTERN AUSTRALIA

A very interesting talk and a couple of instructive films were the highlights of a well attended August meeting. Our President, 6WH, got the evening's business through smartly to enable members to get the most benefit from the evening. 6FC advised of his relinquishing the position of Emergency Network Officer due to a shift of QTH in the future. After a little "encouragement" from members, this position was accepted by 6MB. 6RU gave some enlightening figures on the R.D. Contest, and, from his calculations, we hope to give the Eastern States a good run for their money in this Contest—here's hoping, Jim!

The first film of the evening preceded the meeting proper and was the main reason for the early arrival of a large number of the members. The subject covered was the cathode ray oscillograph—a useful subject for a Ham audience.

The long awaited talk by 6MK, Tom Mulder, on Signal's work in the Invasion and Occupation of Germany proved very interesting and was well received. The final film was a fairly long one dealing with the development and firing of the German rocket weapon V2. On the whole, a very interesting evening was had by all.

PERSONALITIES

Having just completed a week's holiday in Geraldton, it is only natural that these notes will be flavoured somewhat of that district. What about it you other country chaps? How about a line on your activities to GGA?

6KW back at work after a bout of sickness. Glad to see you on the job again Ron. 6RU to the front again in the R.D. Contest. Jim came up with a terrific score—VK6's highest and I'll bet it's about the highest in the whole test—good work Jim. 6DX also put in an excellent log, the highest of the country members and a very substantial contribution to the VK6 average. That should show the City high power merchants a thing or two Bill!

6HR finally had to put guys on his beam pole—the gales caused a little too much sway for safety. 6EL is one Geraldton Ham I didn't see at his home QTH because he decided to visit the metropolians. Ern voted the meeting a success and has been doing the rounds of the local shacks.

6GD has added another element to his beam and it seems to have done the trick. Have since heard him getting amongst the European DX on 10.

Had a closer view of 6WZ's "Baby Bunnerong" during my stay in Geraldton. Harry has an effective set-up on 7 Mc. and is always keen for a ragchew on that band. Also seen at Geraldton was 6CN. The gear that he has constructed and is operating is really an outstanding example of what can be done with Amateur gear if a little care is taken in its construction. Besides looking well it also works well, as many Hams know who have heard the signal from 6CN. Ham Radio is only one of Cyril's hobbies, another is a brand new lathe at present taking up half of his Ham shack. A shift to a new QTH is ahead and as there is no power of any kind for some time, 6CN may not be heard as often as previous—Well I warned you I'd have a lot to say about Geraldton!

6WS has been worked from his holiday QTH on Peleart Island in the Abrolhos group. Say is that a new country Skipper? 6YZ operating QRP trying to avoid b.c.l. Say Dick, who told you 40 watts was low power? Have a QSO with the d.c. boys and try and put that one over! 6AS is trying hard to decide which band to fight out the coming DX season on.

6CF heard consistently working the DX on ten metres with a nice signal. 6JS, I believe, is planning a beam to chase the DX also. 6FT active on 28 Mc. with occasional shifts to 40 to work the locals. 6FA back chasing the rare ones on 20. 6JP heard again on 7 Mc. with a fine signal for

28 watts. 6EL renewing old DX acquaintances on 6 Mc. 6ZZ seen investing in a crystal mike. Hope it charms the elusive DX Harry.

6CK, intent on studying during the coming months, has been rather drastic in his preparations. He has pulled both rig and receiver to pieces. Hope it does the trick Col! 6CM has his new receiver going well. In fact he expects to have it perform even better since he earthed the cathode resistor of the first r.f. stage.

Looking over the list of W.I.A. members I find there are quite a number who I have never heard on the air. This, of course, hampers my job of commenting on their activity. One thing I have noticed since Dave, 6WT, handed over the job is that he is finding his friends are starting to talk to him again.

TASMANIA

NORTHERN ZONE

Like 7EJ (our Sub-Editor), I'm having trouble finding news. Whether the gang are recuperating after the R.D. Contest or getting ready for the DX test, I don't know, which it is, if they are doing it half as well as they are in keeping out of my sight, then they are doing it pretty thoroughly.

Practically all our members operated in the R.D. Contest and although most scores were not high, it was gratifying to see the interest taken by our members in this Australian contest. Visitors to Launceston during the month included 7OM, our State Secretary; 3ACR, who was on his annual visit to his native land; and 5ARL, who was in Tasmania on business. 7BQ did more than his share in entertaining our guests. However, Len expects to catch up on his work in the immediate future.

7PF has been getting his first thrill working DX. Peter is using both n.f.m. and c.w. and also has a super working on 144 Mc. 7RK has been checking up on the morning DX and reports that European and African stations are pounding throughout 7 a.m. Although 7YE has not been heard on 14 Mc. lately, he is managing to keep skeds with 7BQ on 144 Mc. 7HY is at present in Melbourne and is expected to bring home a few "odds and ends." 7RB and 7MC have been heard rag chewing on 7 Mc.

The next meeting of this zone will be held on Friday, 14th October, at 8 p.m., all members are requested to keep this night free.

CORRESPONDENCE

CREDIT WHERE DUE

43 Yanko Av., Waverley, Sydney.

Editor "A.R." Sir,

The letters addressed to VK2JP in recent issues have naturally aroused some comment, and with the emphasis laid upon the reason for such correspondence, I have no argument. If the station concerned has been guilty of the modus operandi as stated, or if he has not, no doubt he is quite capable of handling his own affairs. Sufficient to say that none of us exhibits the qualities of a Gabriel, and that we all no doubt possess some trait of operation to which somebody may object, perhaps with justification, but in so many cases with no semblance of reason.

It is a fact that in these days of a preponderance of communication by the spoken word, microphone mannerisms have led to a complete condemnation of the utterer in the mind's eye; in other words a man can be disliked for some vague reason, despite the fact that the parties have not met in person. We have all been guilty of such illogical judgment, only to find that the fellow we were prepared not to like over much, turned out to be a likeable bloke after all. Such wrong thinking doesn't arise at all with telegraphic operation, for the only characteristic to judge by is the other man's "stat." Which brings me to the reason for this letter.

Roth, VK3BG, appears to hint that VK2JP "didn't bother us during the c.w. QSO," meaning perhaps, that VK2JP is not so proficient at keywork? If so, let me correct an injustice. Jack Pike is the oldest active VK alive today. He was the virtual Founder of the W.I.A. Long before World War I he was a brass-pounder at sea.

In 1939, when at Wyndham, North Westralia, I had occasion to need urgent traffic handling with Sydney in connection with an aircraft down in wild country, it was VK2JP who rose nobly to the occasion. With my station (VK6NE) Jack handled more than 25,000 words of traffic under trying conditions. Both of us hardly removed the headphones for days. He stayed at his station to the exclusion of his business until the end. You can take my word for it that the Old Timer, VK2JP, can give many a youngster a run for his money on the Morse key if he wishes. But if he wants to work phone after an absence on the air of about 12 years, it isn't fair to misjudge what is undoubtedly the re-emergence of all the old thrill of DX.

We can all be careless at times—and I like to think that under this post-war spirit of Intolerance, there lies the real good fellowship that should be the theme song of Amateur Radio.

—DON B. KNOCK (VK2NO).

APPRECIATION

45 Court St., Box Hill, Vict.

Editor, "A.R." Sir,

May I through your magazine offer congratulations on the very fine display put on at the "All Models" Exhibition, held recently in Melbourne and to the boys who took part in the effort.

But how much more interesting the display would have been, had we been able to take full advantage of the excellent opportunity for demonstrating the noise reducing properties of f.m. communication. By eliminating the man-made QRM there would not have been the necessity to explain and make excuses for the high noise level, as was necessary at the Exhibition.

I therefore suggest that next time we should consider arranging a number of v.h.f. f.m. links to the suburbs via which the received signals on the h.f. bands would be f.m. relayed to the display—where the operator will be able to work and the visitors able to follow the demonstration 100 per cent. *Wot sa fellas!*

—LEW HARDING (VK3LK).

FOR SALE, EXCHANGE, AND WANTED

9d. per line, minimum 2/-.

Copy must be received by 8th of the month, and remittance must accompany advertisement. Calculation of cost is based on an average of six words a line.

FOR SALE.—Bendix RA10FA Receiver; R.C.S. TB35 Driver Transformer; Steane's Dynaphon and Transformer; 35 m.m. Sound Films, variety of subjects; 45 v. 60 A. Transformer, 240 v. primary; two University 0-1 Amp. R.F. Meters. J. Palm, 22 McLean St., Morwell, Vict.

FOR SALE.—Eddystone "640" Communications Receiver with Eddystone Speaker to match, practically new; total cost £67, will sell £50. Keith Wardley, Flat 3, 11 Bessington St., St. Kilda, Vic.

FOR SALE.—FS6 Transceiver in excellent order, modified for 3.5 to 7.2 Mc. in 3 bands, £15. FS6 as above, but with S meter and modified modulation system, £20. RC16B (ATRA4) Transceiver, 3 to 7 Mc. W. Brownbill, 71 Gheringhap St., Geelong, Vic. Phone 5674.

FOR SALE.—Three Thordason trans. mic., driver, output, 15 watts, multiple line tap, also Rola G12, elec. mag., 7,000 ohms, £12 lot. Apply E. V. Read, 41 Charteris Drive, Ivanhoe East, Vict., Phone JX 3357.

FOR SALE.—Xtals 28.6 Mc., 29.5 Mc., 7,050 Kc., 100 Kc.—Offers? Moving Coil Mic., new, £5. Eddystone Dial, Cat. 637, S.M., 25/- Good used Valves 807, 45, 6SQ7GT, 6J7G, 19, B240, KF3G, Metal 6C5, 6SA7, 10/- each. 4 x 0.004 uF, 2,000 v.d.c.w., paper, 2/- each. Rola 6H, £1. Approx. 4 lbs. 42 B. & S. Enamel Wire, 15/- lb. Week-ends only, J. Griffiths, 56 Holmes Rd., Moonee Ponds, Vic.

WANTED.—ASV Chassis P38 or P104 Receiver. Book for P38. CV172, 829B, 826 Valves. A. H. Llewellyn, 425 Blaxland Rd., Ryde, N.S.W. Phone Ryde 1555.

RED  LINE

Professional Equipment for the Amateur

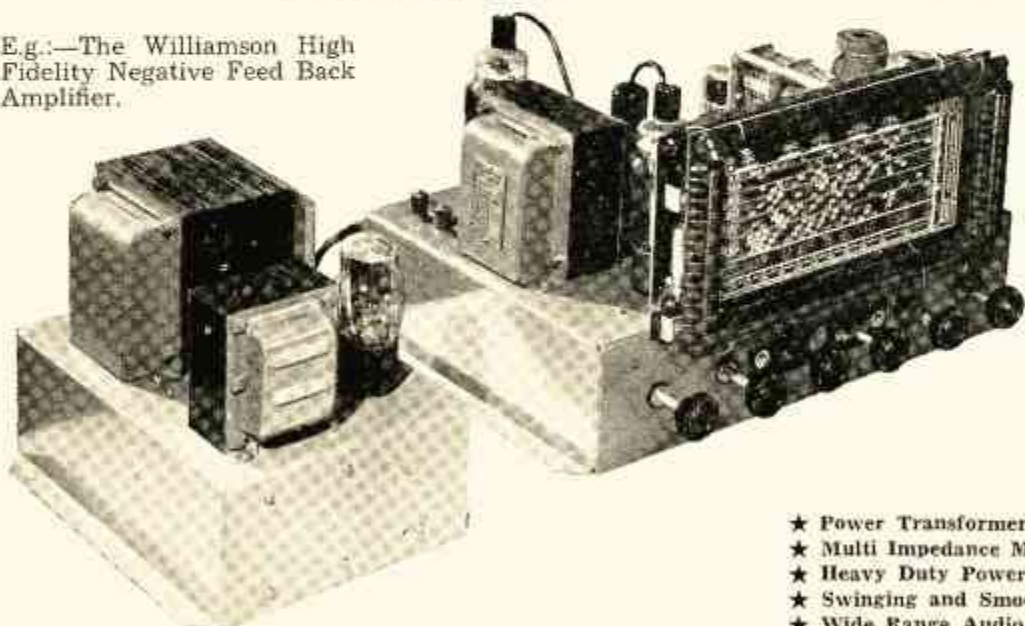
We are specialists in the design of transformers and chokes to individual requirements, and it is practically certain that you will not pose a problem of this nature that our very wide experience and manufacturing facilities cannot solve.

Unlike most manufacturers in this field, we operate our own tool room, press shop and laboratory and this close integration of our internal organisation has been of particular benefit to manufacturers using our products.

MATCHED KITS

of Transformers for all classes of
Electronic Equipment

E.g.—The Williamson High Fidelity Negative Feed Back Amplifier.



- ★ Class B Driver Transformers
- ★ High Tension Plate Transformers
- ★ Output Transformers
- ★ Low Tension Filament Supplies*

- ★ Power Transformers
- ★ Multi Impedance Modulation Transformers
- ★ Heavy Duty Power Supplies
- ★ Swinging and Smoothing Chokes
- ★ Wide Range Audio Equipment
- ★ Frequency Dividing Networks

*Insulated for High Voltage if required.

RED LINE EQUIPMENT PTY. LTD.

WORKSHOP: 2 Coates Lane, Melbourne (Central 4773).
CITY OFFICE: 157 Elizabeth St., Melbourne (MU 6895, 3 lines).

Vaill's Electrical & Radio
Pty. Ltd.
Arthur J. Vaill Pty. Ltd.

Homecrafts Pty. Ltd.
Radio Parts Pty. Ltd.

Howard Radio Ltd.
A. G. Healing Ltd.

Healings Pty. Ltd.
Motor Spares Ltd.

Warburton Franki Ltd.
Lawrence & Hanson Ltd.

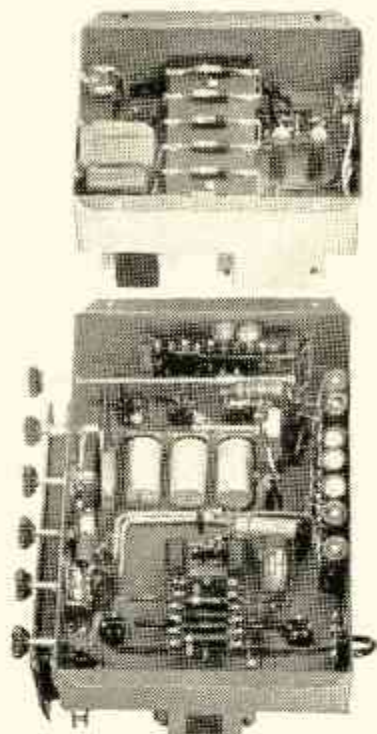
NEW SOUTH WALES:
U.R.D. Pty. Ltd.
Homecrafts Ltd.

QUEENSLAND:
B. Martin Pty. Ltd.
A. E. Harruld.

INTERSTATE DISTRIBUTORS:
Deoradio Industries
(Maryborough).
J. Michaelmore & Co.
(Mackay).

SOUTH AUST.:
Gerrard & Goodman Ltd.
Newton & McLaren Ltd.
Unbehau & Johnson Ltd.

Radio Wholesalers.
TASMANIA:
Lawrence & Hanson Ltd.
Noyes Bros. (Aust.) Ltd.



A GUARANTEE



OF

DEPENDABILITY

Looking for

SELECTIVITY?

Then try . . .

"AEGIS" HI-CORE I.F. TRANSFORMERS

Scientifically Designed
Expressly for the
Two-Stage I.F. Channel

INCORPORATING THESE OUTSTANDING FEATURES—

1. Maximum Stability.
2. Excellent Selectivity, particularly types J22/J23.
3. Effects of Tube Loading reduced to a minimum.
4. "Miller Effect" Detuning eliminated.

MEDIUM SELECTIVITY—

Type J20 Interstage, Price 13/6 ea.

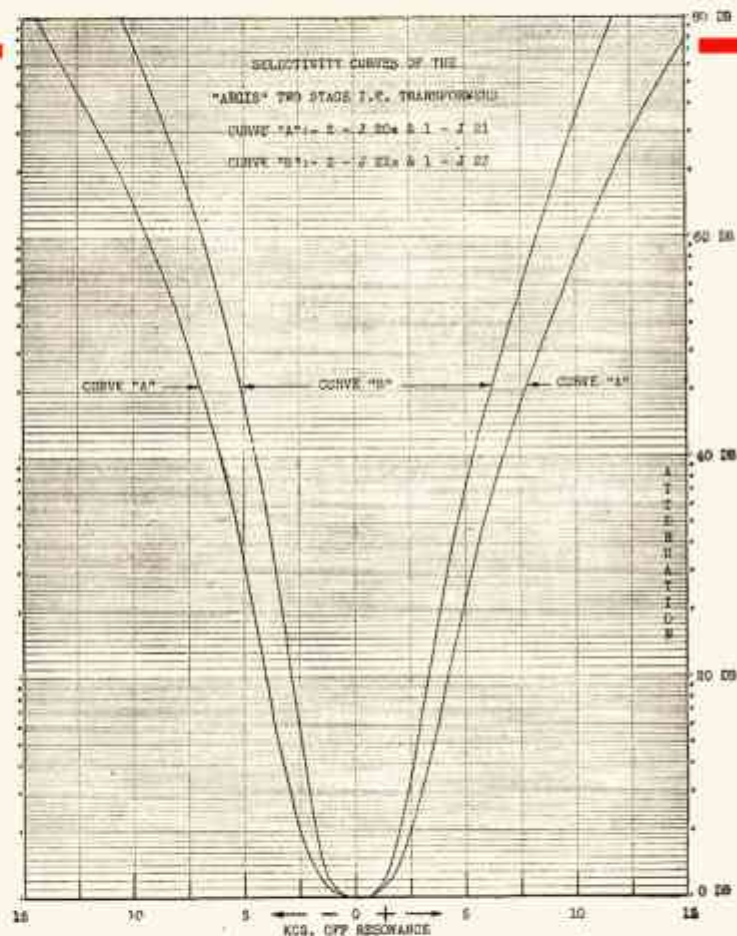
Type J21 Diode . . . Price 13/6 ea.

MAXIMUM SELECTIVITY—

Type J22 Interstage, Price 17/6 ea.

Type J23 Diode . . . Price 17/6 ea.

Special Discount to Amateurs!



Obtainable from:—

AEGIS MANUFACTURING CO.

208 LITTLE LONSDALE STREET, MELBOURNE

or Selected Wholesalers throughout Australia.

AMATEUR RADIO

NOVEMBER
1949

JOURNAL OF THE WIRELESS INSTITUTE OF AUSTRALIA

Just Arrived from Overseas!

A New QUICK HEATING Valve for Mobile Services

PHILIPS QQCO4/15



The new Philips Double Tetrode type QQCO4/15 combines compactness, stability, and maximum output at 186 Mc/s.

ECONOMY OF OPERATION makes this valve ideal for use in mobile equipment. The directly heated filament requires only 6.3 volts at 0.68 amperes.

An important departure from the conventional type of double tetrode is that the anodes are brought out at the base and not at the top of the bulb. This feature facilitates wiring and allows a better orientation of components.

TYPICAL RATINGS FOR CONTINUOUS SERVICE

Frequency	186 Mc/s.	Screen voltage	200 V.
Anode voltage	400 V.	Screen current	8 mA.
Anode current	2 x 30 mA.	Bias	-80 V.
Watts output 19.5 W. (Two systems in p.p.)			

PHILIPS ELECTRICAL INDUSTRIES OF AUSTRALIA PTY. LTD.

SYDNEY:
Philips House,
69-73 Clarence Street.

MELBOURNE:
590 Bourke Street.

BRISBANE:
Reid House,
148 Edward Street.

ADELAIDE:
Wyatt House,
119 Grenfell Street.

PERTH:
381-5 Murray Street.



FOR THE EXPERIMENTER & RADIO ENTHUSIAST

Registered at G.P.O., Melbourne, for transmission by post as a periodical.

9D.

"HAM" RADIO SUPPLIERS

5A Melville Street, Hawthorn, Victoria

PHONE: HAWTHORN 4465

PHONE: HAWTHORN 4465

BARGAINS — BARGAINS — BARGAINS

AMR300, S.T.C., band coverage 1.4 Mc. to 24 Mc., Crystal Filter, nine Valves, two R.F. stages, fly wheel tuning, Noise Limiter, etc., S Meter and Speaker £50.

Eddystone 640. Complete with S Meter, Instruction Book, few months old. £57/10/-.

BC348. Single Ended Valves. Complete with Power Supply, Crystal Filter, 200 Kc. to 18 Mc. Excellent condition £45.

AR8 RECEIVERS, A.W.A., 11 Valves, 150 Kc. to 25 Mc. less Power Supply. Tested and working 100% £20.

Army Amenities Australian Sound System Dual Wave Receiver. Complete with Vibrator Pack. Very clean condition. One only £17/10/-.

American A.M./F.M. Receiver, 27 Mc. to 39 Mc., 10 Valves, four-gang Condenser, and Speaker. Uses 6AC7s, 12SG7, 6SL7, 6H6, 6V6. One only, as traded £10.

Brand new dual Audio Units. Containing two 12A6s in grey crackle finished containers. These units offer many purposes. Pre-Amplifiers, Inter-Communication Units or for wrecking. Units are mounted on rubber stands. 35/-.

813 Valves £3 each.

6AK5 Valves 17/6 each.

English Transceivers, frequency unknown. Nine Valves including one EF50, one VT501, one EL32, two EF39, one EK32, one EBC33, two EF36. Chock full of useful parts, relays, genemotor, etc. £6 each.

American Transceivers. Hi-Frequency I.F.F. Tube line-up: three 7193s, seven 6SH7s, three 6H6s, four Relays, less Genemotor £3.

Complete with 18 Volt type Genemotor £4.

English I.F.F. Units. Tube line-up: two VR135 (high freq. triodes), two VR78 (diodes), four VR65A, Eddystone Butterfly Condenser, 1 uF. 1,000 v.w. Block Condenser, Genemotor 11-12 v. input at 3.8 Amp., output 480 v. 40 Ma. Good assorted quantity of Resistors and Condensers, ideal for wrecking, condition as new. £2/10/-.

High Frequency Receivers (unmodified), English Type R3084A, Slug Tuned R.F. and Mixer Stages. Two RL7s, one RL16, seven EF50 I.F. Stages. Aerial switching motor. Easily converted to 144 Mc. band. Few only £7/10/- ea.

High Frequency Receiver, Australian AR301, uses three 954s, one 995. Six 6AC7 I.F. Stages at 30 Mc. Easily converted to 144 Mc. £10 each.

Prop. Motors, suitable for beams, 28 volts input £5

VALVES, Tested, Out of Disposals Gear

10/- each—

7/6 each—

1625	6F6	2X2	12SK7
1626	6N7	879	12SJ7
1629	12A6	6G6	12SH7
6SL7	VR150	12SG7	6B4
6SN7	12SR7	12AH7	6K7
6SA7	RK34	12J5	2A3
6AC7			

"HAM" RADIO SUPPLIERS

(KEN MILLBOURN, PROP.)

5A Melville Street, Hawthorn, Victoria

(East Kew Tram Passes Corner, opposite Vogue Theatre)

(Phone: Hawthorn 4465)

AMATEUR RADIO

EDITOR:

T. D. HOGAN, VK3HX,
Telephone: UM 1732.

MANAGING EDITOR:

J. G. MARSLAND, VK3NY.

TECHNICAL EDITOR:

J. C. DUNCAN, VK3VZ.

ASSISTANT TECHNICAL EDITOR:

A. K. HEAD, VK3AKZ.

COMPILATION:

R. W. HIGGINBOTHAM, VK3RN.

LIAISON:

I. K. SEWELL, VK3IK.

CIRCULATION:

S. I. ZEUNERT, VK3SZ.

ADVERTISING REPRESENTATIVE:

W. J. LEWIS,
20 Queen St., Melbourne, C.1,
Telephone: MU 5154.

PRINTERS:

"RICHMOND CHRONICLE,"
Shakespeare St., Richmond, E.1.

MSS. and Magazine Correspondence should be forwarded to the Editor, "Amateur Radio," Law Court Chambers, 191 Queen St., Melbourne, C.1, on or before the 8th of each month.

Subscription rate in Australia is 9/- per annum, in advance (post paid) and A10/6 in all other countries.

Wireless Institute of Australia (Victorian Division) Rooms' Telephone is FJ 6997.

— IN THIS ISSUE —

Wide-Range Signal Generator, A	3
Crystal Controlled Converter for Six Metres	4
Circuit Diagrams of TA12B	5
V.F.O. Using Surplus CRV52233 Coil Unit	7
High Frequency R.F. Chokes	8
Sporadic E Observations	9
Sub-Antarctic Radio Station	9
Tasmania Wins 1949 Remembrance Day Contest	11
The Old Man	12
Questions and Answers	12
Ionospheric Predictions for the Amateur Bands	14
Trade Review	15
Fifty Megacycles and Above	17
Federal, QSL, and Divisional Notes	18
Correspondence	24

Published by the Wireless Institute of Australia,
Law Court Chambers, 191 Queen Street,
Melbourne, C.1

EDITORIAL



It cannot be denied that the possession of a completely Amateur Radio journal is of prime importance to the Australian Amateur, and in this regard the Wireless Institute of Australia has done well to maintain a magazine of its own, which has worthily served its members for many years.

Nevertheless, if the magazine is to be a financial success, it will be recognised that its production can only be maintained with the support of Advertisers.

That "Amateur Radio" has a real advertising value, has been proved beyond doubt by the loyal support received from Business Houses who have consistently advertised in it for many years.

It is also a fact, that we, as readers of the magazine, have a responsibility to our advertisers, inasmuch as we should

purchase their goods wherever possible, and give them reciprocal support in preference to other sources of supply.

Most advertisers find it extremely difficult to ascertain whether their advertisements are receiving adequate support, and here again we should remember that we can assist our magazine materially by mentioning its name when making purchases, thus proving its commercial value to our advertisers.

Your attention to the suggestions outlined above will greatly assist and encourage the Magazine Committee in the production of a really worthwhile magazine, to which they are already devoting tireless effort.

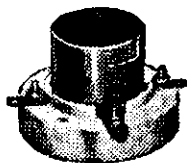
Do not forget—Buy from our Advertisers—Mention "Amateur Radio" when purchasing goods.

FEDERAL EXECUTIVE.

Homecrafts

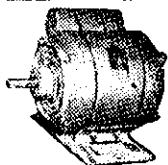
PTY. LTD.

LARGE STOCKS— GREATEST BARGAINS



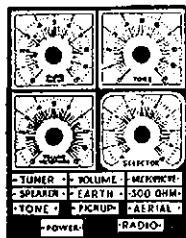
JUMBO TYPE VALVE SOCKETS

Suitable for 211E, etc. As illustrated, 20/- each.



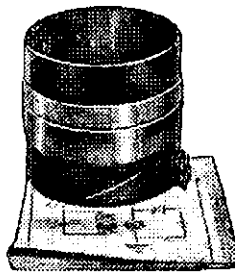
ELECTRIC MOTOR BARGAIN

Electric Motors brand new. English capacitor start 1/4 h.p. 1,400 r.p.m. Motors, £7/19/6.



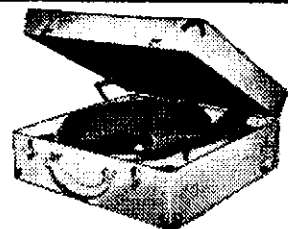
CAPITOL INDICATOR PLATES

Metal plates, large type, as illustrated, 1/6 each. Small types, as illustrated, 6d. each.



BURON CRYSTAL SET COILS

Complete with circuit diagram, 4/- each.



CAPITOL GRAMPHONE UNIT

Variable speed English Collaro Electric Motor and Pick-up in streamlined leatherette carrying case. As illustrated, 12 Gns. complete.



TEST PROBES

Available in pairs, red and black, insulated, with chromium brass probes, 2/9 per pair.



THE NEW CAPITOL EXTENSION SPEAKER

In steel crackle finish Cabinet with cord and switch. Colours, cream, grey or black. Price, complete as illustrated, 45/-.



I.F. TRANSFORMERS
Brand new genuine Kingsley 455 Kc. I.F. Transformers. Latest type, as illustrated. Reduced from 13/9 to 6/11.



BUILD YOUR OWN BATTERY CHARGER

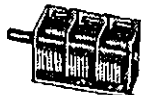
End flat Battery worries! Kit to build an efficient home battery charger. Simple to build, with blue print diagram. Kit complete, as illustrated.

6-v., 4 amps., £4/10/-
12-v., 2 amps., £4/15/-

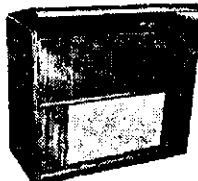


PICK-UP BARGAIN

English Cosmocrad brand new streamlined Crystal Pick-ups. As illustrated. Reduced from £37/9 to 32/11.



Bargain Midget Tuning Condensers. 2 gang with trimmers. Reduced from 19/- to 9/11. 3 gang with trimmers, reduced from 24/- to 12/11.



RADIO CABINETS

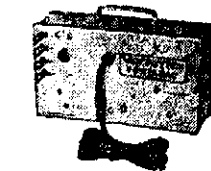
Beautiful walnut piano finish standard model, £13/19/6. Model with deep well for record changer, £14/7/-. Also available in blonde finish. Standard model, £16/9/6. Model with deep well for record changer, £16/17/-. Country and Interstate clients add 15/- packing charge.



CRYSTAL PICK-UP HEADS

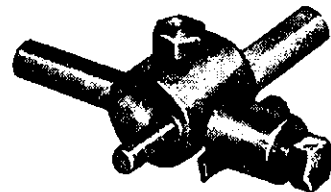
New B.A.L. High Fidelity Crystal Pick-up Heads. Suitable to replace all Collaro or Garrard Magnetic Pick-ups. When ordering, advise if required for Garrard or Collaro pick-ups. Price 45/-.

COUNTRY AND INTER-STATE CLIENTS PLEASE
ADD FREIGHT OR POSTAGE.



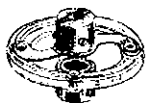
THE NEW PORTAPAC

Complete adjustable low and high tension supply to convert any portable battery radio to A.C. operation. As illustrated, £8/12/6.



CHASSIS HOLE CUTTERS

Adjustable chassis hole cutters. Cuts holes from 1-inch to 3 1/2-inch. Price 16/7.



E.M.A. Flexible Couplings. Polystyrene insulated. Sizes 1/2 x 1/2 or 1 x 3/4. Price, as illustrated, 4/6.



SUPER TRANSMITTING TUBE BARGAIN

Brand new American imported Eimac 100TH Tubes. As illustrated. Reduced from 8 Gns. to 49/6.



TYPE TC60 R.C.S. FILTER CHOKES

3 Henry, 100 Ma., as illustrated, 13/6.



DISPOSAL VALVE BARGAINS—Available for Immediate Delivery

Type EP50, high gain RF pentode, 6.3v. 9-pin lock-in socket 16/-
Type EA50 6.3v. CHP diode, suitable for Vacuum Tube Voltmeter Test Probes 16/-
Type 954 6.3v. det. amp. pentode, Acorn base, As illustrated 16/-
Type 955 6.3v. det. amp. osc. Acorn base, As illustrated 16/-
Type 7A6 twin diode 16/-
Type 807 beam power amplifier 16/6.

Type 42 SPT 4 volt Cosor screened pentode 14/-
Type 5BP1 6.3v. cathode ray, 5-m. screen, elect. deflection 37/6 plus S.T.
Type 7C7 triple grid 6.3v. 8-pin lock-in. Price 16/-
Type 2X2 high vacuum rectifier, 4-pin 16/6.
Type 834 7.5v. 4-pin power amplifier. Price 30/3.
Type 6BH7 sharp cut-off RF pentode. Price 16/-
Type 211 10v. jumbo 4-pin power triode 28/3.
Type 880B 10v. triode, 60 watt 25/-
All Prices include Excise.

290 LONSDALE STREET, MELBOURNE

Central 4311

A Wide-Range Signal Generator

BY A. K. HEAD,* VK3AKZ

This Signal Generator was built to provide a wide-range of radio and audio frequencies at the minimum of cost and labour. It is nothing wonderful from the point of view of accuracy of calibration, minimum leakage signal, or constancy of output, but is good enough for lining up receivers and general testing purposes.

AUDIO OSCILLATOR

The audio circuit is a straight copy of one described in "Wireless World." Its good points are: (i) No coils to be wound, the frequency being varied by a carbon potentiometer which covers a large range of frequencies (about 20 to 1).

(ii) Range switching is by simply switching three condensers. Two ranges were used, from 40 cycles to 800, and from 800 to 16,000 cycles.

(iii) Very constant output at all frequencies. The output was checked with an oscilloscope and was constant up to about 10,000 cycles, above which the amplifiers of oscilloscope were not flat.

(iv) Only one valve used. Admittedly it is a double triode, but since space was limited in the cabinet, this was a real point.

In the original circuit, a 6SN7 was used. A 6F8 (which is electrically identical with a 6SN7) was on hand here, so it was used. It has the small advantage of having one of the grids brought to a top cap. This was used as an input grid to minimise hum pick-up. If a 6SN7 is used, the grid which is furthest away from the heater pins should be used as the input grid.

The 2,500 ohm variable in the plate of the second triode controls the overall gain. For the best wave form, this should be adjusted to the smallest resistance which still gives oscillation over the whole frequency range. When this is done, the wave form appears a very good sine wave.

Due to the large time constants of the grid leak bias circuits, oscillations take about 16 seconds to build up when first switched on. A point to be noted is that the 0.5 uF. condenser earthing the grid of the second triode should have low leakage, otherwise the cathode resistor voltage drop will be applied to the grids as unwanted extra bias.

A good quality potentiometer should be used for the 1 megohm frequency control resistance. One with a logarithmic tap was used and a reasonable frequency scale is obtained if it is wired so that clockwise rotation increases the resistance in circuit (i.e. decreases the frequency).

The three position range change switch has the middle position blank for psychological reasons. It enables the two ranges to be swept in the same direction, the blank position enabling the frequency potentiometer to be re-

turned to the other end of the scale without audible sound. If this doesn't seem a useful point, then a two position switch would do the job.

The output is about half a volt, and is taken via the half megohm volume control used to grid modulate the r.f. oscillator.

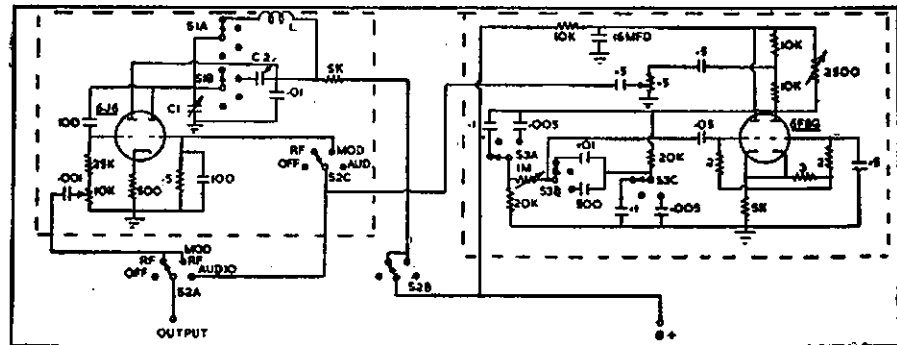
R.F. OSCILLATOR

Like the audio oscillator, this uses a twin triode as a cathode coupled oscillator. The tube used is a 6J6, but the circuit would be suitable for other twin triodes. The 6J6 was used with the idea of extending the ranges to as high a frequency as possible, and also because of its small size.

Points about the circuit are: (i) The tuned circuit consists of the inductance L, band spread condenser C2, and tuning condenser C1 (in series with the 0.01 uF. by-pass condenser). A nice point is that the coil L does not have a feed back winding or a tapping, and so for the low frequency ranges it is possible to use any inductance which may be

(iii) Modulation is applied to the grid of the second triode. The voltage output of the audio oscillator appears to be quite enough for decent modulation although the depth thereof has not been measured. The values of the components in this grid circuit are essentially a compromise, since the grid should be earthed for r.f. but not for the audio modulation.

(iv) The upper frequency limit of this circuit, although I have not actually measured it, is quite high as it will oscillate when L consists of the shortest piece of wire running to the band switch. A point to watch is the 500 ohm cathode resistor. It is the voltage across this which couples the two triodes together. It is by-passed by the stray capacities from cathode to earth (and since the filament is earthed, this capacity may be quite appreciable, say about 10 pF.). This by-passing becomes more serious the higher the frequency and may determine the limiting frequency at which it will oscillate. The limit can be push-



on hand, such as r.f. chokes or i.f. transformer windings. Since only one end of L is "hot," only one bank of the wave change switch S1 is needed for changing coils.

For the tuning condenser C1, a miniature broadcast condenser is used. This gives 3 to 1 frequency coverage. The second section of S1 can be used to switch in a parallel condenser C2, which reduces the frequency range. This is used in two cases. By switching a 500 pF. condenser across the coil which covers the broadcast band, another range is obtained from about 400 Kc. to 500 Kc. This makes nice bandspread for lining up i.f.'s and saves a coil. Again by switching in a small capacity, the coverage can be reduced to 2 to 1 which is used to cover from one Amateur Band to the next. No details need be given as to the actual coils and band-spread condensers used, since everyone has their own views as to what frequencies should be covered and how much bandspread is needed.

(ii) The output is taken from the 10,000 carbon potentiometer. The 25,000 ohm resistor in series with it cuts down the output, but it minimises variation of the oscillator frequency with movement of the potentiometer. The pot. is quite a good attenuator below 7 Mc., but performs rather indifferently above.

ed up by a small r.f. choke in series with the cathode resistor and which will resonate (broadly) with the cathode to earth capacity at this limiting frequency. A way to kill two birds with the one stone is to use a wire wound cathode resistor. When this was done the upper limit was due to the long leads and high minimum capacity of the plate circuit. The present frequency coverage is from 200 Kc. to 30 Mc. and it is intended to extend this both upwards and downwards.

If possible a band switch with shorting plates to short out unused coils should be used. Since this was not available a third bank on the band switch is used to short out any unused coil which happens to resonate with its stray capacities (usually at a frequency in the next highest band). Such resonances of unused coils become apparent on calibrating the oscillator, appearing as distortions of the regularity of calibrations.

POWER SUPPLY. A small conventional power supply is in the cabinet (but not shown on the circuit diagram). The four position three bank function switch gives audio, modulated r.f., unmodulated r.f., and off.

The audio oscillator is left running all the time, B+ being applied to the r.f. oscillator when necessary.

* Assistant Technical Editor, 12 Peverill Street, Balwyn, E.8, Victoria.

A Crystal Controlled Converter for Six Metres

BY DR. LEO H. McMAHON,* VK2AC

To most, six metres is a band of frequencies allotted right down there somewhere, populated by a few diehards who sit around most of the year waiting for conditions to break when they can work the thrilling DX of other Eastern States, the super DX of ZL and last year for the first time that out-of-this-world-DX, VK6. However, like old pipes, Harris tweed and spinach, six metres has an attraction all of its own. The other night a remark was heard on the band that over the week-end between Sydney, the Mountains and the no-coal fields area, there were 34 stations on. QRM was certainly getting bad. Thirty-four stations in four megacycles—117.6 Kc. and a bit each. However, I will admit that all of the 34 stations were in about the first megacycle and a half.

Six metres is funny in that respect. Of all the bands we have, it is peculiar in having but one end and no middle. Getting on six is not as hard as is thought. Transmitter construction is standard, beams are the order of the day and are easily constructed, and the receiver problem is easily beaten. Double conversion is a necessity for suf-

Readers will remember the first Article by Dr. Leo H. McMahon in the June, 1949, issue of "A.R."

Here are further details on this interesting method of reaching the high frequencies by a crystal controlled converter.

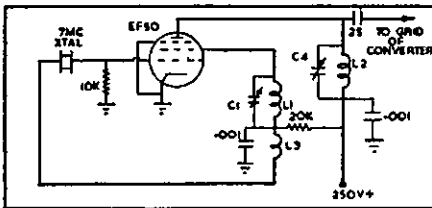
Selectivity necessitates the use of an i.f. about 455 Kc. or less. More than that is no go these days. Ease of use is an important factor. It is no use if you have to hold your breath while you tune somebody in and then are unable to change your position for fear of losing him.

Stability is a must. Have you tried to make a self excited oscillator above 40 Mc. that is stable and free from a.c. modulation? Have you tried to make one for the ten metre band? It can be done and has been done, but not by the average Amateur. The solution is in a crystal controlled high frequency oscillator, and the use of your ordinary station receiver as a tunable i.f. However getting crystal controlled output at 40 Mc. or above looks hard, but is not. Remember you are dealing with a receiver and need only enough voltage to get conversion—not power to drive a transmitter.

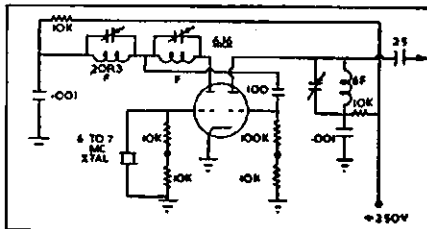
to tune. The choice of crystal frequency and so tuning i.f. range is left to your own taste.

The combination L1 C1 tunes to the third harmonic of the crystal, in my case about 21½ Mc. Believe me there is no attempt to be super accurate or theoretical and this converter was made to go in purely Amateur fashion.

The secret of this oscillator is in L3. This has to be just large enough to make the crystal oscillate at its third harmonic but not so large as to make the circuit take off as an ultra-audio.



- L1 C1—Tune to 21.3 Mc. Use a small compression type or a Philips 3-30 pF. trimmer.
- L2 C4—Tune to 43 Mc.
- L3—See text.



The grid resistors are broken to enable a meter to be clipped on easily for testing.

Two different types of oscillators have been used to get the high frequencies for conversion. In both, only one tube is used. The first uses the circuit described in "A.R." for June, in which a seven megacycle crystal oscillates at 21½ Mc. A pentode tube is used in which the screen grid is used as the plate of the oscillator and a tuned circuit at 43 Mc. takes out the conversion frequency which is fed to the grid of the converter.

A minimum of parts is used. The value of resistors and by-pass condensers used have no special virtues except that I put them in and they worked.

L2 C4 tunes the output frequency which, in my case, is 43 Mc. (approx.). The reason this frequency is used is because seven megacycle crystals are on hand and it gives an i.f. range of 7 to 11 Mc. which is quite a good range

Low Drift Crystals FOR AMATEUR BANDS

ACCURACY 0.02% OF STATED FREQUENCY

3.5 Mc. and 7 Mc.

Unmounted £2 0 0
Mounted £2 10 0

12.5 and 14 Mc. Fundamental Crystals, "Low Drift," Mounted only, £5.

Spot Frequency Crystals Prices on Application.

Regrinds £1 0 0

THESE PRICES DO NOT INCLUDE SALES TAX.

MAXWELL HOWDEN

15 CLAREMONT CRES.,
CANTERBURY, E.7,
VICTORIA

ficient selectivity plus some stability and sensitivity. Lots of "s's" aren't there? This being the case—the double conversion, not the "s's"—the solution lies in a converter ahead of the normal receiver.

The things to look for in a receiver are usable sensitivity, selectivity, ease of use and stability.

Sensitivity can be obtained in r.f., i.f., or audio stages. Usable sensitivity is a horse of a different colour. It really is the signal to noise ratio. This noise may be intrinsic or extraneous. The intrinsic noise sets the limit on the ratio in the laboratory and the extraneous noises set the limit in the shack.

Maybe you are one of the fortunate ones who live in a quite area, but most of us don't. It is found in practice that in the average location, outside noises put a limit to the sensitivity you can use. For this reason, the r.f. stages are quite standard r.f. stages and converters have been dealt with at length in all sorts of publications, so any discussion on them would only be a variation or a theme.

* 32 Harbourne Rd., Kingsford, Sydney.

It is correct when you get oscillation over only a small range of CI. A meter to read the grid current is very helpful. A receiver tuned to the frequency helps differentiate between the crystal oscillations and parasitics.

The tube used is a EF50 but there is no reason why other pentodes cannot be used. An 1852, a 954 or even a 6K7 should work.

Two difficulties were encountered. One crystal was sluggish, but a wash with soap and water cured that. If you wash your crystal, do so over a towel as crystals break when dropped on hard surfaces. The other difficulty was that with one crystal holder it was impossible to set L3 reliably enough. It could be done but was a bit ticklish, and that's one thing we won't stand for. This holder was a pre-war type and although it contained an average sized crystal, it had large plates. The capacity of these was too great—the substitution of a small crystal holder, the standard ones with the $\frac{1}{2}$ " spacing, got rid of this trouble.

Tuning up is done with a grid current meter, but can be done by listening to the noise or a signal. Both circuits are tuned for maximum noise and signal. Maximum grid current, in my case 150 micro-amps., occurs at this same point. You might say that if there was more injection voltage, there would have been greater sensitivity. The writer might too, but not usable sensitivity, because if the receiver is opened flat out the noise is more than you can stand.

With this oscillator it is possible to turn everything flat out. Previously this was impossible as before maximum was reached something would break into oscillation.

The r.f. and mixer stages are peaked with ordinary condensers. The output coil is loaded with a resistor to give reasonably flat output across the six metre band.

The second circuit, used by VK2ABB, uses a double triode and the best is the 6J6. One half of it is a standard crystal oscillator with the tank circuit tuned to the fundamental frequency of the crystal. In series with this is a circuit tuned to the second or third harmonic of the crystal. This frequency is fed to the second half of the 6J6 which is a tripler or a doubler. The plate circuit of the second half is tuned to six times the crystal frequency.

A BC348 is used as an i.f. and a crystal fundamental of 63 megs. His conversion frequency is 40 Mc. and his i.f. from 10 to 14 Mc. This allows him to use the calibrations on his receiver to have a calibrated dial for six metres.

The receiver in use here is what the Americans call a "clunk." The writer had no need to be so fussy. Both converters work equally well and there is nothing to be gained in the final results in using one circuit in preference to the other.

Two snags rear their head. One is stray pick-up of signals of intermediate frequency. Shielding will rid you of this but don't use 7-7.2 Mc. as a tuning

range. The second is spurious signals caused by harmonics of the low frequency oscillator. The frequency of the spurious signals is given by the formula:

$$YX - 43,000 \text{ Kc.} = X - 455 \text{ Kc.}$$

where Y is the number of the harmonic and is usually 5 or 6;

X is the frequency of the low frequency oscillator;

43,000 Kc. is conversion frequency;

455 Kc. is i.f. of receiver.

The writer strongly advises anybody starting to build a receiver for six to proceed along these lines. He will thus circumvent many troubles he would run into otherwise and will finish up with a very satisfactory converter. He has the receiver problem beaten and all that is needed then is to buy a nice house on top of a nice big hill, totally unscreened and devoid of all extraneous noises! With these few little things, and also 40 megacycle output with a 7 Mc. crystal and one tube, what more do you want?

CIRCUIT DIAGRAMS OF TA12B TRANSMITTERS

Circuit diagrams of the TA12B R.F. Units can now be obtained by applying to the Secretary, Victorian Division, 191 Queen Street, Melbourne.

These diagrams would also be suitable for TA12C and TA12D Units, which are identical except for the ranges covered. The costs to cover prints, duplicating parts lists, and mailing are:—

R.F. Unit circuit diagram, 30" x 11" and parts list, 5/-.

Modulator Unit diagram, 30" x 11" and parts list, 5/-.

Please specify whether diagrams are required for R.F. Unit only, Modulator Unit, or both. Forward money order, postal note, or cheque with application, country cheques to include exchange.

A few photostat circuit diagrams and parts lists of the 522 are still available at 7/6 each.

A.O.C.P. CLASS

The Victorian Division A.O.C.P. Class will commence on Thursday, 12th January, 1950. Lectures are held on Monday and Thursday evenings from 8 to 10 p.m. Persons desirous of being enrolled should communicate with Secretary W.I.A., Victorian Division, 191 Queen St., Melbourne (Phone FJ 6997 from 9 a.m. to 6 p.m.), or the Class Manager on either of the above evenings.

T.C.C. 1.5 uF. 4,000 v.w. Condensers, £2 each.

Chanex 2 uF. 3,000 volts d.c. working, £1/15/- each.

Ferranti 0-500 Microampere Meters, luminised dial, new, £2 each.

R.C.A. 834 Tubes, new, £1/8/- each.

VALVES—

Sylvania 6L6Gs, 15/- each.

R.C.A. 6U7Gs, new, sealed cartons, 9/- each.

6SH7s, S.H., 5/- each.

Wanted to Buy—

TYPE 3 MK. II TRANSCEIVERS in good order.



Crystals as illustrated, 40 or 80 mx., AT or BT cut. Accuracy 0.02% of your specified frequency, £2/12/6 each.

20 metre Zero Drift, £5 each.

Large, unmounted, 40 or 80 metre, £2 each.

Special and Commercial Crystals. Prices on application.

CRYSTALS RE-GROUND, £1 each.

BRIGHT STAR CRYSTALS may be obtained from the following Interstate firms: Messrs. A. E. Harrold, 123 Charlotte St., Brisbane; A. G. Healing Ltd., 151 Pirie St., Adelaide; Atkins (W.A.) Ltd., 894 Hay St., Perth; Lawrence & Hanson Electrical Pty. Ltd., 120 Collins St., Hobart; Collins Radio, 409 Lonsdale St., Melbourne; Princes Radio, 5-6 Angel Place, Sydney.

A.W.A. Split Stator Transmitting Condensers, high voltage, £2/15/- each.

Screw Type Neutralising Condensers (National type) to suit all triode tubes, Polystyrene insulation, 19/6 each.

Prompt delivery on all Country and Interstate orders.

Satisfaction Guaranteed.



BRIGHT STAR RADIO

K. G. ALLEN (late R.A.N.)

1839 LOWER MALVERN RD., GLEN IRIS, S.E.6, VICTORIA

Phone: UL 5510.

Pick-ups Sacrificed!

★ PIEZO ASTATIC PICK-UP

With permanent Sapphire Needle. Needle pressure only 1 oz. Frequency range 50-4500 c.p.s. Overall length 9 $\frac{3}{4}$ ". VEALLS SPECIAL BARGAIN PRICE, 85/- (Postage within Victoria, 9d.)

★ PIEZO ASTATIC PICK-UP

Without Needle. A replaceable needle pick-up for general use with low needle pressure of 1 $\frac{1}{4}$ ozs. Frequency range 50-4500 c.p.s. VEALLS SPECIAL BARGAIN PRICE, 67/6. (Postage within Victoria, 9d.)

★ TAYLOR T21 Tubes available, 22/6 each.

★ Ferrocart Sapphire Needles play back 2,000 recordings, 9/9 each. Discount to Hams.

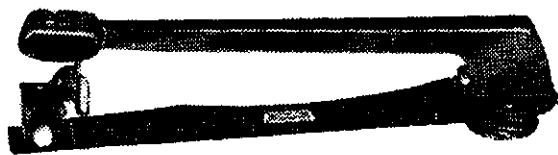
★ Aegis Insulators Full Range all types from 2/6 each. Discount to Hams.

★ Blank Discs available—10" 6/6 ea., 12" 8/6 ea.

★ Full range University Meters and Test Gear.

★ Full range Microphones, Amplifiers, Amplifier Cases and Speaker Boxes.

And remember Vealls' quick Chassis Cutting Service. Chassis for any circuits or special needs cut promptly and efficiently.



LEXINGTON MOVING COIL PICK-UP

This famous English Pick-up gives performance never before thought possible. Full reproduction of the total audio frequency range. Complete with transformer, screening box and sapphire needle. Price: 12 in. £7/19/6 net.

VEALLS

243 SWANSTON STREET, MELB. FJ 3145

299 CHAPEL ST., PRAHRAN. LA 1605

Mail Orders Box 2141T, G.P.O., Melbourne

Ass. with ARTHUR J. VEALL Pty. Ltd. Est. 1911.

ELECTRONIC A & R EQUIPMENT

ANNOUNCEMENT!

A & R MODULATION EQUIPMENT IS NOW AVAILABLE

MODULATOR Type M2-75 is a complete unit with Standard 10 $\frac{1}{2}$ " Panel and Chassis and including high impedance microphone pre-amplifier, driver stage, 807 triode Class B final stage, and a negative peak clipping circuit. It is capable of 75 watts output in the frequency range 200-7000 c.p.s. when used in conjunction with suitable power supplies.

The modulation transformer is carefully designed and is a semi-universal type providing adequate primary and secondary taps for many modulator and transmitter valve combinations. It is fitted with an adjustable protective spark gap, ceramic insulators, and the mounting is reversible.

MODULATOR Type M3-75 is similar but does not include the pre-amplifier section. The input impedance is 600 ohms, transformer coupled to the driver valve, requiring an input level of 0 d.b.m. (0.75 volt, 1 mW.) for full output.

Major components such as Transformers, Cabinets, Chassis and Panel, etc., may be purchased separately if so desired. A descriptive leaflet showing full details, illustrations, circuit, parts list and prices is available on request.

A & R ELECTRONIC EQUIPMENT CO. PTY. LTD.

1 LITTLE GREY STREET, ST. KILDA, MELBOURNE, VICTORIA.

PHONE: LA 3657

Available from:—

WM. WILLIS & CO., Bourke St., Melb. (MU 2426).

J. H. MAGRATH & CO., 308 Lt. Lonsdale St., Melb.

(Phone: Central 3688).

Wholesale Distributors:—

R. H. CUNNINGHAM & CO.,

62 Stanhope St., Malvern, S.E.5 (Phone: UY 6274).

A V.F.O. Using Surplus CRV52233 Coil Unit

BY STEVE GRIMSLEY,* VK3ASG

Units No. 1 and 2 (3 to 9.05 Mc.) are particularly useful as a v.f.o.-exciter, as by running the oscillator section on 3.5 Mc., the second stage can be used as a tuned doubler, thus affording sufficient drive for an 807 or similar type of tube, and at the same time providing some extra isolation for the oscillator.

Unit No. 3 (2.3 to 4.2 Mc.) may be used, but an untuned Class A Isolator is recommended unless a better screened tube than the 6V6 is used in the second stage. By running straight through on 3.5 Mc. and tuning the 6V6, the writer has found that the 6V6 is likely to wander off on its own and a most annoying and confusing assortment of signals appears from one end of the band to the other.

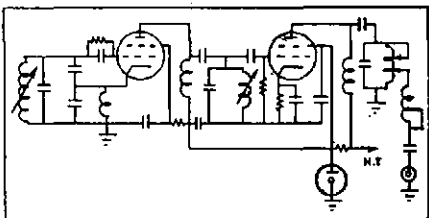


Fig. 1.—Basic Circuit arrangement of V.F.O.-Exciter from surplus CRV52233 Coil Unit.

However, the arrangement here described has proved most successful, has no bugs, and is reasonably stable; in fact, I haven't lost a QSO yet!

The basic circuit diagram of the complete v.f.o. is shown in Figure 1. It uses a 1625 (or 807) as an electron-coupled Colpitts oscillator. As you see, this oscillator is somewhat similar to the Gouriet oscillator, now familiar to most active Amateurs as the Clapp oscillator. The 1625 was used for several reasons. Firstly, the manufacturers designed the unit for use with this tube. Secondly, it was desirable to preserve the calibration charts as far as possible. Thirdly, by using such a large tube with only 150 volts on the plate, it virtually eliminates heating effects. Lastly, I had several 1625s in the shack doing nothing.

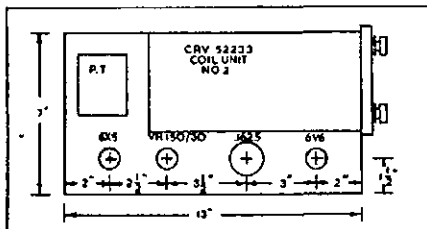


Fig. 2.—Layout of V.F.O.-Exciter, 3-9.05 Mc., from surplus CRV52233 Coil Unit.

* "Starlings," 46 Warrigal Road, Surrey Hills, E.10, Vic.

Many Amateurs have acquired surplus CRV52233 Transmitters and Coil Units. These Coil Units make quite a good v.f.o.-exciter which is not only simple to hook up, but is already calibrated for use.

I therefore suggest the use of this tube or, of course, an 807.

The layout is shown in Figure 2. A standard 13" x 7" chassis is used. This should be of the welded ends variety to obtain good mechanical stability. It is not suggested for a second that this layout is the best possible, but it was done this way in order to keep down the width, as space about the operating position is at a premium.

However, if you can spare 13" instead of 7", then by all means use your own layout. Remember, however, to so mount the coil unit that the side cover over the range slider contacts is readily removable.

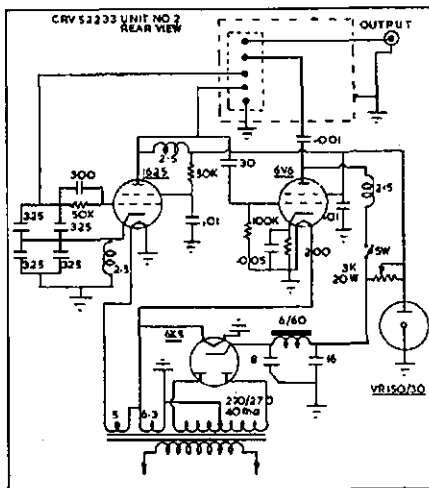


Fig. 3.—VK3ASG V.F.O.-Exciter, 3-9.05 Mc., from surplus CRV52233 Coil Unit.

The circuit of the finished product is shown in Figure 3. The oscillator constants are those of the original transmitter and recommended to me by Mr. C. A. Gunther, Asst. Chief Engineer of the Engineering Division of the American designers of the CRV52233. The 325 pF. condensers in the grid circuit are of the Ceramicon type and are in fairly good supply at trade houses. Most other components are common in the Amateur workshop.

Having decided on your layout, first remove the bottom cover from the coil unit, carefully putting aside the screws and washers removed in the process.

Then using the bottom cover as a template, mark the chassis with a scribe with the many holes in the cover. This cover can now be discarded, and the unit placed on the chassis and all screws replaced from underneath.

This most effectively fixes the coil unit to the chassis. The unit is mounted so that the lip on the front panel projects over the edge of the chassis.

The 1625 socket is mounted on pillars or spacers, far enough below chassis level to bring the top of the tube base to chassis level. This is the only shielding necessary for the 1625.

Having wired up the v.f.o., remove the side cover on the coil unit and fix both oscillator slide ranges on the appropriate range. On 1 and 2 units, this is Range 2. Tune oscillator on 3.5 Mc. and doubler control (upper right) on 7 Mc. Adjust the antenna coupling control for maximum output and use the antenna tuning control (upper left) for drive or output control. Open the switch across the 25 pF. condenser at upper right on rear of the unit.

Anyone requiring any information whatsoever about the CRV52233 transmitter or coil units can have it by sending a letter to the writer, who will be only too pleased to assist.

"WESTON" NEW A.C. CLAMP AMMETER AND VOLTMETER

A new a.c. clamp ammeter and voltmeter, with five current ranges up to 1,000 amperes, and three voltage ranges up to 700 volts, has been announced by the Weston Electrical Instrument Corporation, 617 Frelinghuysen Avenue, Newark 5, N.J., U.S.A.

Known as Model 633 Type VA-1, this instrument is designed to measure alternating currents and voltages without interrupting electrical service. Current measurements are made simply by placing the heavily insulated, trigger-operated clamping jaw around the conductor. Jaws will accommodate conductors, bare or insulated, up to two inches in diameter. Voltage measurements are made by connecting a set of clip-on voltage leads (six-foot leads are supplied) to the line, and to the screw-type terminals recessed in the side of the meter. Current and voltage measurements can be made almost simultaneously by rotating the thumb-selector switch to either the ampere or volt position. A pointer stop has been provided to show motor-starting currents.

To prevent shorts when measuring current on bare conductors, the jaws of the "Weston" clamp meter are insulated with tough rubber sleeves. Operation of the jaws is simplified by the single positive acting trigger, which can be operated by one hand when making current measurements.

The Model 633 Type VA-1 has a rated accuracy within three per cent of the full scale range (this applies to each of the eight ranges) when used on frequencies between 50 and 70 cycles.

High Frequency R.F. Chokes

On the higher frequency bands (10 metres and up) the Amateur is faced with a double problem. Should he use r.f. chokes in the grid or plate or filament circuit, and if so, what type of choke should be used. The question of "shall I use an r.f. choke here" is often answered by looking through circuit diagrams to see if others used a choke in that place in the circuit. On the other extreme, an Amateur may decide not to use any chokes because he has experienced trouble with r.f. chokes causing parasitics.

This indecision on the part of the average Amateur is partially caused because he does not understand how an r.f. choke works. Or, if he understands r.f. chokes, he may find that the proper choke is not available commercially. The purpose of this article is to explain briefly how r.f. chokes operate and to give details on how to build good high frequency chokes.

OPERATION OF R.F. CHOKES

A radio frequency choke is normally used to provide a d.c. path from a point of zero r.f. voltage to a point where r.f. voltage exists. In Fig. 1A, the r.f. choke is in series with the high voltage lead and serves to prevent an r.f. current from flowing through the power supply. Condenser C1 presents a low impedance path for the r.f. current so that the current can return to the cathode circuit of the tube. Fig. 1B shows an r.f. choke in a parallel feed circuit. In this case the r.f. choke must be designed so that practically no r.f. current passes through it, because the r.f. current must pass through C2 to the tank circuit.

What magic property is built into r.f. chokes which enables them to pass d.c. currents and yet act as effective barriers to radio frequency currents? Obviously an r.f. choke must have inductance, capacitance, resistance or some combination of these three. The answer is found in the word "impedance," which is another way of saying "resistance to radio frequency current." The inductance, capacitance and resistance which are present in a choke combine in a certain way at certain frequencies and it is this combination that is called impedance.

It is not necessary for an r.f. choke to act like a high inductance in order to work properly. Probably the most common r.f. choke is the 2.5 millihenry type with four pies. This type is normally used as a series choke on the lower frequency Ham bands.

This type of choke has a relatively high impedance which is due to capacitive reactance. Because this and other types of r.f. chokes which cover a large frequency range are subject to resonant points at certain frequencies it is wise to use them only in circuits where they have been tried and found adequate.

In high frequency circuits, r.f. chokes are relatively important. Unfortunately the standard 2.5 millihenry choke will not serve in most cases, so that special high frequency chokes are desirable. Because the frequency is high,

the chokes become simpler to construct. In fact, single-layer windings are desirable.

In addition to their simplicity single-layer r.f. chokes have an electrical property which is very desirable. If a choke is designed to be self-resonant at a frequency which is close to the frequency or frequencies of desired operation, the choke will be very nearly a perfect choke in that it will be effectively a pure resistance of a very high value. For example, if a choke is desired for six metre work, it might be designed to be self-resonant at 45 megacycles. This means that at 45 Mc. the choke will appear to have no inductance and no capacitance. The impedance at 45 Mc. will be quite high and will appear to consist only of pure resistance.

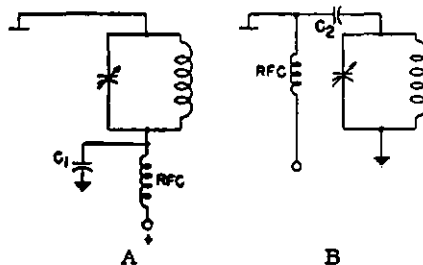


Fig. 1.—Illustrating Series and Shunt Feed R.F. Chokes.

At higher frequencies the choke will appear to have a very high resistance and some small amount of capacitance. This capacitance may be in the order of a micro-micro-farad. A small amount of capacitance in this order will not affect the operation of the choke.

A review of the above in capsule form shows us that—

1. Regular 2.5 mH. r.f. chokes, designed for operation over a wide frequency range, are generally not too efficient on the higher frequency bands (10 metres and up).

2. For optimum operation, r.f. chokes should be designed for one frequency, especially for the more critical service as parallel chokes, as shown in Fig. 1B.

3. Home-made chokes for low frequency work would be bulky and difficult to construct, but for high frequency work single-layer r.f. chokes are easy to construct and have the advantage of being almost perfect chokes electrically.

BUY YOUR DX FRIEND A
YEARLY SUBSCRIPTION

TO

"AMATEUR RADIO"

CONSTRUCTIONAL DETAILS

High frequency r.f. chokes may be wound on practically any insulating material, such as wood, bakelite or polystyrene. The exact nature of the insulating material will determine, to some extent, the quality of the completed choke. Generally it is not necessary to go to these materials, as very satisfactory chokes can be wound on ordinary resistors.

WINDING DATA

Here is the complete winding data for four high frequency chokes:—

10-11 Metre Choke.—No. 30 enamel wire close wound to cover $1\frac{1}{2}$ " on an old-style 2 watt resistor (5/16" diameter).

6 Metre Choke.—44 turns of No. 30 enamel wire wound on new-style 2 watt resistor (5/16" diameter).

2 Metre Choke.—17 turns of No. 22 enamel wire wound on new-style 2 watt resistor (5/16" diameter).

1.25 Metre Choke.—16 turns of No. 22 enamel wire wound on new-style 1 watt resistor (7/32" diameter).

Use only insulated composition type resistors (not wire wound). Use resistors of a high value—one megohm or higher. File a small notch on each end to catch the wire and hold it. The wire can be soldered first to one pigtail, the choke wound, then the wire twisted around the other pigtail, the insulation removed, and then finally soldered.

Do not attempt to make any changes in specifications. Use the proper resistors and the right size enamelled wire. A thin layer of coil cement may be placed on the completed chokes if desired.

The 144 and 220 Mc. r.f. chokes specified above use heavy enough wire so that they may be employed in filament circuits if the current does not exceed one ampere. The 28 and 50 Mc. chokes are to be used only in circuits where the current is in the order of 0.1 amperes, although they might possibly stand twice this current in Amateur service. All of the chokes are suitable for use as shunt-feed chokes.

—G. E. "Ham News," Jan.-Feb., 1949.

IMPORTANT

In order that the January issue may be printed before the Christmas holidays, Advertisers and Contributors are requested to forward their copy so that it reaches Melbourne not later than 1st December—THANK YOU.

CHANGE OF ADDRESS

Readers' attention is directed to the change of address of Trimax Transformers from North Melbourne to their new factory and offices at Charles St., North Coburg. All mail should now be addressed to Box 2, Coburg Post Office. The new telephone number is FL 1203.

SPORADIC E OBSERVATIONS

BY M. E. COLLETT,* VK2RU

Following on his article, "What, No Beacons," by VK2RU, it was thought that more precise data on Sporadic E observations would be of general interest to the v.h.f. boys.

Fig. 1 illustrates Sporadic E plotted against days of the years commencing 1st October, 1948, to 30th September, 1949. The shaded squares indicate days when it appeared that the ionisation was sufficiently intense to support 50 Mc. communication, and the black squares the days when contacts were actually made via Sporadic E.

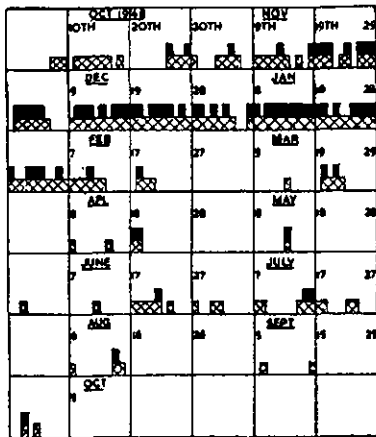


Fig. 1.

It will be seen that the general pattern observed in the southern hemisphere in regards intense summer activity, mid-winter peak and 27-day cycle, follow closely on similar observations in the northern hemisphere. The chart follows also very closely on similar ones which were made for previous two twelve month periods.

Some interesting points emerge from the observations. The optimum distance for single hop contacts appears to be in the vicinity of one thousand miles. Double hop contacts involve intense ionisation of widely separated portions of the upper atmosphere and are naturally less frequent. However, it seems that ionisation sufficiently intense to support 50 Mc. transmission is much more frequent than was previously supposed.

Fig. 2 illustrates the Sporadic E condition on a particular day and shows the m.u.f. for a distance of a 1,000 miles between two selected points as the "cloud" passes between them.

It will be noted from Fig. 2 that communication was possible on 50 Mc. for approximately one hour between the observing positions, but for only half an hour on 60 Mc.

The Sporadic E condition appears to completely mask reflections from the

higher regions of the ionosphere with resultant fade-outs on the lower frequencies.

Incidentally it has been found the optimum angle of radiation for this type of transmission is between 5 and 9 degrees.

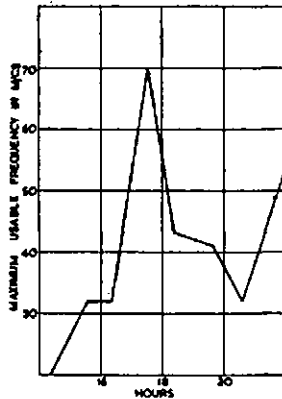


Fig. 2.

N.P.L. Eng., 14th July, 1947.

Naturally Fig. 1 provides only a very broad picture of the phenomenon, in as much as it does not show the area, the movement or to some extent the degree of the ionisation, but it does give a good idea of what may be expected in an average year in the way of 50 Mc. DX contacts.

SUB-ANTARCTIC RADIO STATION

The Australian National Antarctic Research Expedition has established radio stations on Heard and Macquarie Islands, in sub-Antarctica. These stations are part of "A Class" weather and scientific posts set up as items in a long-range plan to explore and study Australia's vast Antarctic Territory. The pioneer Heard Island party, under meteorologist Aubrey Gotley, of Bexley, N.S.W., was relieved in February after 14 months' service. The Macquarie Island party will be relieved at the end of March.

Senior radio operator at Heard Island was Mr. L. Macey, of Sydney, assisted by Mr. Alan Campbell-Drury, of Melbourne, and Mr. Arthur Scholes, of Sydney. These operators maintained daily contact with Sydney (four schedules each day) and with the South African weather station at Marion Island, 1,500 miles north-west of Heard Island.

Heard Island is 3,500 miles south-west of Melbourne and about 900 miles from the Antarctic Circle. The A.N.A.R.E. weather station there will be maintained for several years. Relief radiomen now on duty at the Island are Ronald George Ferguson Oatt, of Clifton Hill, Mel-

bourne; John Paddock of Colonel Light Gardens, Adelaide; and Hedley C. J. Burnett, of Ascot, Brisbane.

Mr. Oatt, who is senior radio officer, was a technician with Radio Australia, Melbourne (the short wave division of the Department of Information) when he joined the expedition. During the war he served as a wireless air-gunner with No. 466 Bomber Squadron in the United Kingdom. He is one of two licensed Ham radio operators with the expedition. His call sign is VK1VU. He is 24.

The other licensed Ham is Arthur R. Burton, a 50-year-old engineer from Brisbane, Queensland. His call sign is VK1FE, well-known to many Hams under the call sign of VK4FE. He intends to keep in touch with them from Heard Island. The only grandfather with the party, "Pop" Burton is a veteran of two world wars. In the 1939-45 war he served with the 6th Division, Australian Imperial Forces, in the Middle East and took part in evacuations from Greece and Crete. Before joining the Australian Antarctic Expedition he was a diesel radio technician with the Postmaster General's Department.

On his return to Australia, Mr. Macey, leader of the pioneer radio party, said it was harder to maintain radio contact with Australia than with South Africa because of ionospheric conditions.

Mr. Macey and Mr. Campbell-Drury erected four 70 ft. aerial masts, each with 10 guy wires. They found it impossible to blast holes in the volcanic rock so the guys were anchored to oil drums filled with heavy stones.

"During the year it was frequently necessary to climb to the top of the masts to replace halyards and unfoul aerials coated with clear ice," said Mr. Macey. "This was an unpleasant job in winter, with blizzards raging. The aerial wires would snap after being covered with an inch thick layer of ice. This problem has now been corrected by using heavier wires.

"We were unsuccessful in our efforts to hear Macquarie Island, although they could hear us. Heard Island is an excellent location for Ham radio transmissions and we received messages from all parts of the world, including the Arctic Circle. Radio transmission was not affected by the volcano Big Ben and the island's range of mountains. When atmospheric conditions were good, reception was particularly clear."

— . . . —

THIRD ALL-EUROPEAN DX COMPETITION

This year the Czechoslovak Amateur Radio Society—C.A.V. is sponsoring the third All-European DX Competition, which is being conducted over two week-ends, each 48 hours long; one for c.w. work and one for phone.

The c.w. section starts at 0001 G.M.T. Saturday, 26th November, 1949, and ends at 2400 G.M.T. Sunday, 27th November, 1949.

The phone section starts at 0001 G.M.T. Saturday, 3rd December, 1949, and ends at 2400 G.M.T. Sunday, 4th December, 1949.

* 85 Mann Street, Gosford, N.S.W.

A new name

WITH A PROUD HERITAGE

Our name is **UNITED CAPACITORS CO. PTY. LIMITED.** You will hear us described more often simply as "U.C.C."

We have been established to consolidate, develop and extend the range of electrical and radio capacitors formerly made and sold in Australia by Tecnico Limited. They have joined with British Insulated Callenders Cables Ltd. (B.I.C.C.) and Telegraph Condenser Co. Ltd. (T.C.C.), both of England, to form our Company. Both English Companies are in turn associated with United Insulator Co. Ltd., of England (U.I.C.).

What import for you has the name "U.C.C."?

It means that you will be served by a Company which will complement Tecnico's high standard of manufacturing and service with direct access, additionally, to the vast experience of its British parent organisations.

We will offer you, too, a multitudinous range of capacitors manufactured by the British Companies, although numerous types have been earmarked for eventual local production.

Highlights in the British range are: Industrial Power Factor Correction, Metalmite and Metalpack super tropical Capacitors; Miniature Metalmites; Hi-K Ceramics having a K value of 3,000—an outstanding development; Micadisc and Silver Mica types; and Transmitting Capacitors, including the T.C.C. "Hi-Load" Power Ceramics. A complete range of types for Television applications is available. Ultimately, all locally made Capacitors will be branded "U.C.C.," but for a time, the "Tecnico" brand will appear on some items; among other reasons is the fact that stock already manufactured by Tecnico Limited is being taken over.

To the existing clients of Tecnico Limited, as well as to all potential purchasers of our capacitors, we pledge ourselves to render the best possible service. We believe that, with our combination of local and imported types, we can extend unique assistance to all, and we shall be grateful for the opportunity of so doing.

Our engineering staff will be glad to co-operate to the utmost in solving individual problems.

UNITED CAPACITOR CO. PTY. LTD.
53 Carrington Rd., Marrickville, N.S.W.
Postal: Box 49, P.O. Mar'ville. Phone: LL3211



Tasmania Wins 1949 Remembrance Day Contest

It will be readily seen from the following results just how popular this Contest has become—and rightly so. The standard of operating was particularly high and signals were, with few exceptions, exceptionally good. The popularity and intensity of friendly Interstate rivalry may be gauged from the large number of logs received. Out of a total of some 450 participants, no less than 225 logs were received (and checked!)—surely a record percentage.

It is unfortunate that 50 of these logs were not eligible (for various reasons) for assisting their States' scores. The job of the Contest Committee was not made any easier by the untidiness of some entries, but generally speaking log entries were particularly clear and neat. Please remember those who have to check your logs when entering future Contests!

Some interesting statistics are being put aside for future reference. With due regard to the high percentage of log entries from the small States, the new multiplier would appear to make it impossible for the larger States to win the coveted trophy. An interesting point evolved from the figures showed that of the 12,471 QSOs, 6,600 took place on telephony and 5,871 on c.w.

And now down to the business of scores—our heartiest congratulations go to TASMANIA who clearly won from Western Australia. The table at the foot of the page sets out the facts.

INDIVIDUAL SCORES

Individual scores in each State are listed below. The figures represent in the following order: Call, Type of Emission (O—Phone and C.W., P—Phone only, and C—C.W. only), Bands Used, Contacts, and Points scored. Logs not eligible are listed at the end of each State list and show the claimed points of the station concerned.

NEW SOUTH WALES

VK2PA	O 4	197	472	VK2KN	C 2	41	88
VK2ZC	O 8	160	379	VK2JX	P 2	25	85
VK2SH	O 3	135	822	VK2AJT	O 2	39	81
VK2RA	C 4	123	311	VK2OF	O 1	44	79
VK2EO	O 4	125	310	VK2ANF	P 1	34	78
VK2DO	C 3	136	308	VK2IV	P 1	30	74
VK2GW	C 3	118	298	VK2AMP	P 1	19	63
VK2VA	O 2	123	294	VK2PV	C 1	22	59
VK2YL	O 4	104	287	VK2ZF	P 1	18	55
VK2AHA	O 4	121	274	VK2VH	P 1	16	48
VK2OE	O 4	111	255	VK2PT	P 1	14	38
VK2PC	O 2	109	247	VK2XO	P 2	16	38
VK2ZX	O 2	90	219	VK2AHI	O 1	15	35
VK2BO	P 2	83	194	VK2VN	C 3	11	38
VK2ANO	C 2	66	167	VK2RP	O 2	17	31
VK2PN	C 3	82	168	VK2HC	O 3	13	28
VK2TB	P 2	89	162	VK2AC	C 1	9	28
VK2AMM	O 2	51	117	VK2RF	P 1	13	27
VK2OW	P 1	44	108	VK2GC	O 1	9	20
VK2OA	C 1	40	100	VK2CU	P 2	9	20
VK2ASW	C 1	36	98	VK2BR	C 1	7	14
VK2ASM	P 1	35	91	VK2AHM	C 1	7	11

VK2NY	O 2	125	304†	VK2ADV	O 1	27	66†
VK2DI	C 2	94	250*	VK2ADA	P 1	17	52*
VK2YC	C 3	76	209†	VK2TA	P 1	6	27*
VK2XP	P 2	53	160*	VK2BM	P 1	8	24†
VK2ANA	P 2	52	126†	VK2ADQ	C 1	7	19*
VK2MT	O 2	46	114*	VK2AL	C 1	5	14†
VK2DQ	O 2	36	100†	VK2ZS	C 1	6	13*
VK2WD	P 1	26	75†				

VICTORIA

VK4AAW	O 2	170	379	VK3AWN	P 2	45	119
VK3YS	O 5	118	348	VK3DG	C 3	46	99
VK3XK	O 4	146	323	VK3ADF	P 2	34	95
VK3AWW	P 2	119	322	VK3TB	C 2	42	93
VK3UM	C 3	103	245	VK3UJ	P 4	28	73
VK3ZC	C 3	103	229	VK3ARL	P 1	76	71
VK3HT	O 3	75	217	VK3II	P 3	34	70
VK3BD	O 3	94	211	VK3HK	P 1	5	63
VK3XB	O 4	84	202	VK3PR	C 2	29	60
VK3FF	O 3	107	193	VK3ASB	C 2	38	55
VK3PG	O 3	81	181	VK3JI	O 1	16	37
VK3VQ	P 3	60	172	VK3GZ	C 2	80	35
VK3DS	P 2	51	156	VK3RJ	C 1	11	27
VK3AEP	P 2	44	141	VK3TJ	C 1	6	11
VK3ANL	P 2	91	126	VK3AGD	P 1	6	6
VK3ADG	O 8	57	119				

INELIGIBLE LOGS

VK3AMP	P 2	111	298†	VK3YP	C 2	45	101†
VK3HW	O 4	109	260†	VK3NK	C 2	32	68†
VK3JE	O 2	69	221†	VK3TY	C 2	21	49†
VK3RH	O 3	85	196†	VK3KB	C 1	8	9†
VK3TM	P 1	78	188†	VK3ACH	P 1	2	8†
VK3ZA	O 2	57	131*				

QUEENSLAND

VK4FN	P 4	135	328	VK4XJ	O 3	106	194
VK4CO	O 2	127	302	VK4FH	P 1	76	185
VK4WO	O 2	181	299	VK4GH	O 3	76	152
VK4ZB	O 8	126	256	VK4KW	P 1	58	151
VK4ER	O 2	105	219	VK4SN	O 2	69	132
VK4RT	P 3	80	209	VK4BG	P 2	50	107

VK4BD	P 4	37	87	VK4FB	P 1	13	47
VK4AF	O 3	25	59	VK4FF	C 2	22	89
VK4HZ	P 2	30	57	VK4MA	P 1	6	7

VK4BQ	P 2	48	182*	VK4HR	P 1	14	66*
VK4DO	O 1	56	188*	VK4CU	P 8	17	43*
VK4FC	C 1	48	88†				

SOUTH AUSTRALIA

VK5OU	C 3	147	363	VK5AX	P 2	60	146
VK5FX	O 3	142	362	VK5MY	C 2	56	136
VK5RO	O 2	140	312	VK5RY	O 1	50	109
VK5CT	O 2	134	297	VK5UX	O 1	42	93
VK5VM	O 2	104	258	VK5RR	O 2	40	85
VK5FM	C 3	117	249	VK5BY	C 1	24	66
VK5RE	O 2	103	241	VK5ZL	P 3	45	55
VK5RN	O 2	91	222	VK5AV	P 3	20	44
VK5MD	O 3	98	201	VK5GJ	C 2	21	43
VK5FH	O 3	73	184	VK5LE	P 1	18	29
VK5XU	P 2	61	164	VK5LL	O 2	13	22
VK5LD	O 2	66	159	VK5WO	O 1	16	21
				VK5HR	C 2	8	18

INELIGIBLE LOGS

VK5CD	O 2	48	126†	VK5LV	P 2	8	19†
VK5JT	C 2	89	94†	VK5RT	C 1	7	12*
VK5JW	C 1	29	90*				

WESTERN AUSTRALIA

VK6RU	O 3	195	420	VK6FW	P 2	89	210
VK6GA	O 3	138	800	VK6ZZ	P 2	64	140
VK6MB	O 2	124	255	VK6RF	O 2	57	127
VK6DX	C 2	138	262	VK6DV	P 3	59	122
VK6EU	O 3	108	286	VK6WM	C 1	37	75
				VK6HM	P 2	20	48
				VK6RL	O 3	25	40
				VK6LL	P 1	18	38
				VK6WH	O 1	12	34
				VK6AH	P 1	14	32
				VK6HR	P 1	12	31
				VK6PJ	P 1	15	25
				VK6AP	P 1	7	24
				VK6KW	P 1	8	22
				VK6MO	P 1	6	21
				VK6JS	P 1	7	20
				VK6WT	O 1	6	20
				VK6JK	O 1	10	17
				VK6SA	C 1	9	17
				VK6WZ	O 1	9	16
				VK6HL	P 1	6	16
				VK6MK	P 1	5	15
				VK6JE	C 1	8	15
				VK6LM	P 3	73	14
				VK6CN	P 1	6	10
				VK6FR	P 1	9	8

INELIGIBLE LOGS

VK6FL	O 2	94	228†
VK6DJ	C 2	88	206†
VK6CP	P 2	59	154†
VK6AR	P 1	31	82†
VK6AS	P 1	19	42†
VK6AL	P 1	18	38†
VK6DD	P 1	8	22†
VK6MG	P 2	6	18†

TASMANIA

VK7KB	O 4	193	436
VK7LZ	O 8	176	398
VK7RK	O 4	121	319
VK7RL	P 2	109	246
VK7AL	O 2	95	233
VK7AJ	P 2	112	231
VK7PF	O 2	110	231
VK7OM	O 8	118	225
VK7BQ	P 2	79	173
VK7DS	C 2	68	140
VK7CK	P 3	39	117
VK7MY	P 2	36	96
VK7OF	P 3	44	73
VK7BJ	C 8	81	68
VK7FN	P 1	28	84
VK7GR	P 1	15	28
VK7LJ	C 2	10	25
VK7RB	P 1	17	21
VK7TE	P 1	12	20
VK7RY	C 2	10	14
VK7FJ	P 1	12	12
VK7IL	O 2	57	8
VK7HY	P 1	21	5

VK7JB	O 3	79	204†	VK7YL	C 1	7	17†
VK7NJ	P 2	68	152†	VK7DB	P 1	14	16†
VK7RM	O 1	13	42*	VK7CA	P 1	6	6†

NEW GUINEA, Etc.

VK9NR	C 1	13	475	VK9GW	C 2	12	25†
-------	-----	----	-----	-------	-----	----	-----

LISTENER'S LOG

BERS-195 E. Trebilcock	O 3	104	244
------------------------	-----	-----	-----

* No signed statement. † Insufficient contacts.
 ‡ Incorrect set-out of Log. § Late entry.
 † Wrong numbering system.

Total Participants	VK2	VK3	VK4	VK5	VK6	VK7	VK9	Total
Logs received	144	116	51	48	44	32	3	438
Logs not eligible	59	42	23	31	39	29	2	225
Eligible Logs	15	11	5	5	8	6	2	52
Licensed Amateurs	44	31	18	26	31	23	—	173
Multiplier	954	868	296	298	179	96	30	2721
Average of first six Logs	0.046	0.036	0.061	0.087	0.174	0.24	—	—
Final State Score	350.3	307.7	268.0	306.8	285.7	311.3	—	—
Place	16.16	10.98	16.3	26.77	49.47	74.59	—	—
	5	6	4	3	2	1	—	—

THE OLD MAN

Para. 33 of The Handbook for Operators of Amateur Wireless Stations states: "The use of Amateur Stations for the transmission or receipt of messages for third parties is expressly forbidden." If the publicity given over the air and in the press of a certain Amateur who used this grand hobby of ours to obtain some serum from U.S.A. has not brought him into a please explain from the Department, I will be very surprised.

Admitting that the object may have been a worthy one, and there is the possibility that permission was obtained from the Department, it still can be a trap for the younger man. Do not risk the possible cancellation of your licence by having anything to do with message handling of any kind and if you do, then for the love of mike don't brag about it over the air for the whole of Australia to know your misdeeds. If an emergency arises, get in touch with your local Radio Inspector. The Department treat each particular case on its merits and are always willing to give permission when such emergencies arise.

VK4AZ was heard on with some type of modulation, it could have been f.m., but it did have the most dreadful distortion and hum content I have heard

for some time, and how VK2ALL told you it was quite OK is beyond me. This was the most classic example of a dishonest report I have heard. VK3FN was heard with a beautiful parasitic 50 Kc. away from his true signal and that parasitic old man had one big click every time you pressed your key.

I am supposed to hand out bouquets and occasionally there pops up the ideal signal with perfect modulation, beautiful quality and pleasing speech. To you, VK7JB, goes the "Oscar" for the best telephony heard this month.

I have mentioned before of wide open mikes and some of the things heard. This month's best effort goes to the Ham with a small child who wanted Daddy to whistle Baa Baa Black Sheep. Daddy obliged with the mike open for all and sundry to listen to.

VK2HH was heard discussing his drinking exploits over the air. It may sound big to enlighten the public as to how much you got through and that you passed out in the last hour and half of the party, but I hardly think this type of chatter gives a very good impression. At least there are some of us who can hold our liquor.

I was very surprised to hear one of the old-timers with a great amount of

hum on his carrier. You were going to do something about this a long time ago VK3OZ.

Outstanding amongst the splatters this month was VK3KP. Your bandwidth was around the 20 Kc. mark and that's a lot of band for one phone station to take up. Next in line were VK3WU, VK2OQ and VK3SD, the latter with a small child butting in every now and then with "What are you coming in here for Daddy?"

One interesting contact heard was between VK5PS and VK7RM. Intelligent, interesting conversation that made good listening and was in marked contrast to some of the drivel put over these days.

If you must talk drivel then get down to the bands where the general public haven't got receivers to listen to you, and spare some of us being branded as similar types. Of course you can always use c.w., or can you?

It is noticeable that the majority of c.w. signals are in a class very much above the average phone. Is it because good phone is harder to get going or is it because the c.w. boys take a pride in their signals? Cheers until next month.

QUESTIONS AND ANSWERS

MORE ON RADIO RANGE FILTERS

The following is to hand from Frank Hanham, VK3BJ. He forwarded these notes because there has been conflicting reports of the input and output impedances of the Radio Filter Type FL5. VK4AG asked in August issue of "A.R." for information thereon and a subsequent reply by W0SGK was published in October.

VK3BJ differs from W0SGK as to the impedances for the following reasons:—

(a) According to American Signal Corps data, the set-up with regard to these filters was: Two were used in each Fortress in conjunction with the BC348 receiver, one for the pilot and one for the co-pilot; each had a switch-box (BC345) so that either officer could select Range, Voice or both at will. The output of the BC348 at 4,000 ohms impedance was jacked into the two switch-boxes in parallel and either high or low (low with high-to-low impedance adaptor) impedance phones were plugged into the other jacks on the switch-boxes. To match the phones, the output impedance of the Filter would be approx. 8,000 ohms and the input likewise, to match the BC348 output, when the two Filters or a Filter and a pair of Phones are in parallel.

(b) Tests by the P.M.G. indicate it is a high impedance filter.

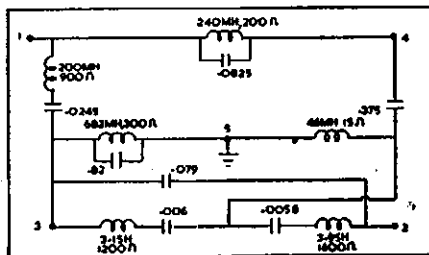
(c) Tests on several of these filters were made by myself and others with a Boonton b.f.o. and a GR multi-impedance output meter. On range position, the insertion loss at the resonant frequency of 1,020 cycles was 12 db with an output impedance of 8,000 ohms.

When the impedance was 600 ohms, the insertion loss increased to 37 db.

Keeping a constant input voltage to the filter, the following figures at an impedance of 8,000 ohms were obtained:

Bandwidth at—	
—2 db	80 cycles 990-1070.
—3 db	140 cycles 970-1110.
—17 db	325 cycles 900-1225.

Beyond this we could not go, but the P.M.G. found that at —40 db the bandwidth was 400 cycles.



- 1 and 5—Voice input.
- 3 and 5—Range input.
- 4 and 5—Voice output.
- 2 and 5—Range output.

This filter is sharper than the FL8, which has an insertion loss of 13 db. I have been using an FL5C for some time now and find it very effective in separating c.w. stations and reducing background noise, etc.

On phone the filter is helpful in cutting out some heterodynes and splatter

whilst not materially affecting the intelligibility of speech.

Some figures on the voice position may prove interesting. Insertion loss 8,000 ohms impedance is 0.5 db.

300 c.p.s.	0 db	1190 c.p.s.	—5 db
740 "	—2 db	1225 "	—2 db
770 "	—5 db	1260 "	0 db
810 "	—11 db	2500 "	0 db
850 "	—17 db	10000 "	—0.5 db
1000 "	—36 db*	15000 "	—2 db
1110 "	—17 db	20000 "	—4.5 db
1140 "	—11 db	25000 "	—10 db

* P.M.G. figure.

We are indebted to the P.M.G. for the circuit.

Broadcasting Technician

REQUIRED FOR
Station 5AU Port Augusta

Broadcast or Commercial
Operator's Certificate
essential.

Single Man preferred.

Apply in writing to—

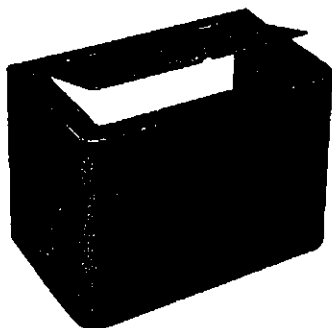
Chief Engineer,
5KA Broadcasting Co. Ltd.,
Box 562E, G.P.O., Adelaide.

WHERE **STABILITY** IS NEEDED . . .

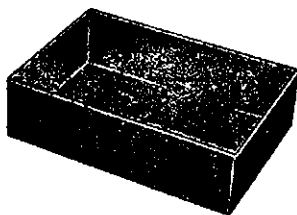
EDDYSTONE METALWARE IS NEEDED

Ensures Rigidity — Gives Best Performance plus Pleasing Appearance

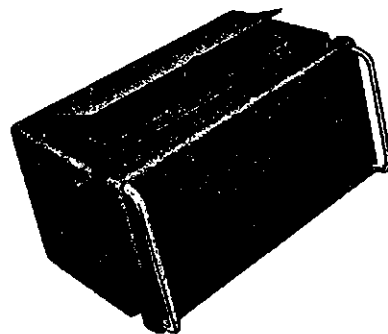
Famous for reliable Condensers, Chokes, Insulators, etc. Eddystone provide a Cabinet or Chassis for use where stability is essential, such as in VFOs, Frequency Meters and Receivers. Some of the lines are:—



Cat. No. 644



Cat. Nos. 643, 627

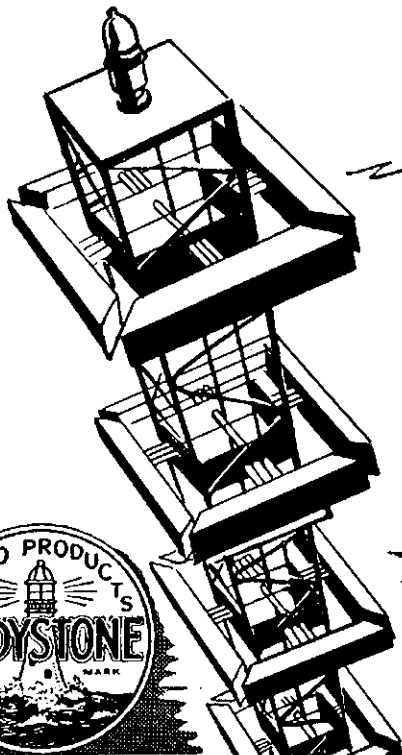


Cat. No. 609

For full details contact your distributor:—

DIRECTORY OF DISTRIBUTORS

- VICTORIA: J. H. MAGRATH & CO., 208 Little Lonsdale St., Melbourne.
- VICTORIA: WILLIAM WILLIS & CO., 428 Bourke St., Melb'ne.
- N.S.W.: JOHN MARTIN PTY. LTD., 116-118 Clarence Street, Sydney.
- QUEENSLAND: CHANDLERS PTY. LTD., Cnr. Albert and Charlotte Streets, Brisbane.
- WEST AUST.: CARLYLE & CO. LTD., Hay St., Perth, and 397 Hannan St., Kalgoorlie.
- WEST AUST.: ATKINS (WA.) LTD., 894 Hay Street, Perth.
- SOUTH AUST.: GERARD & GOODMAN LTD., 192-196 Rundle Street, Adelaide.
- TASMANIA: W. & G. GENDERS PTY. LTD., 53 Cameron St., Launceston, and Liverpool St., Hobart.



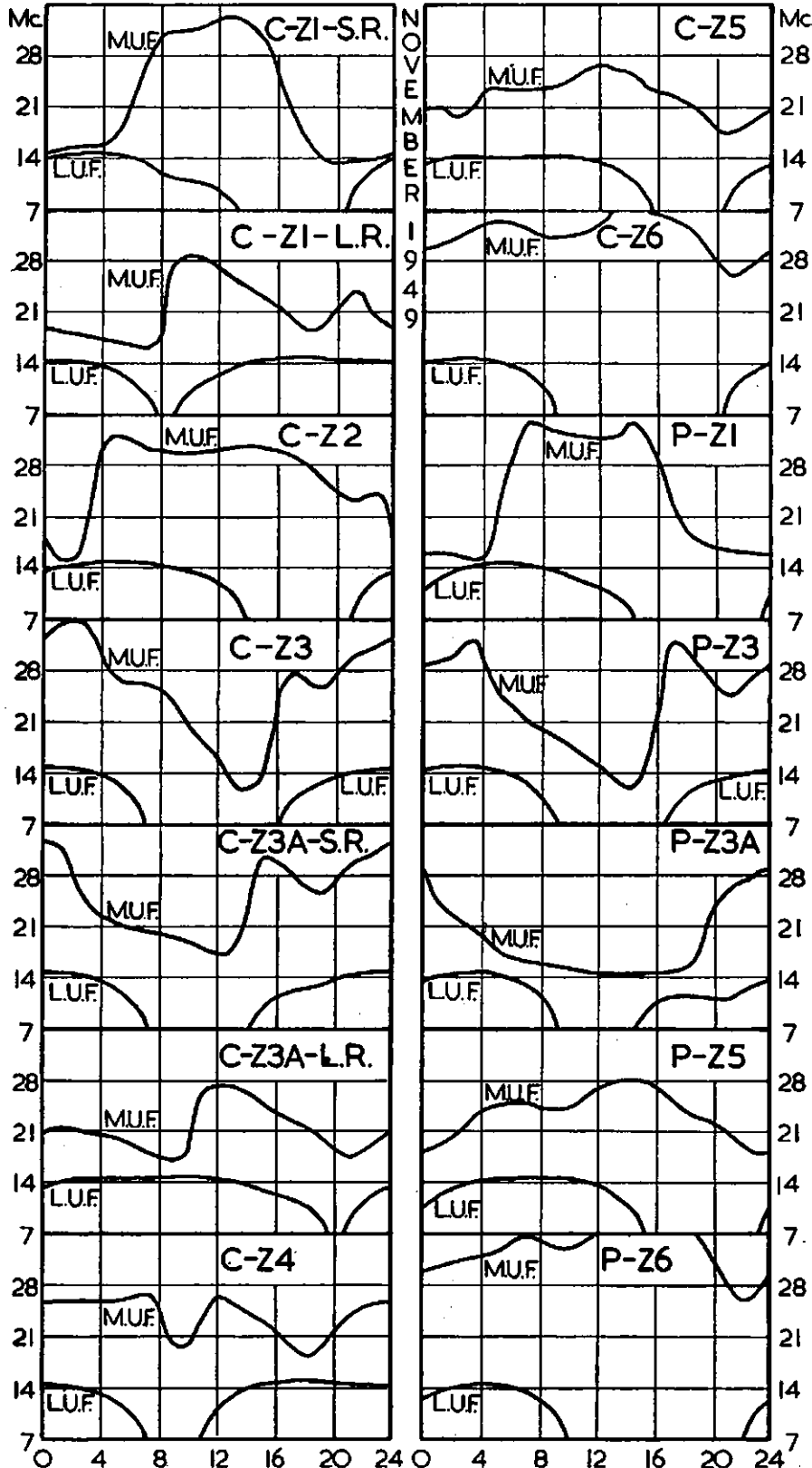
EDDYSTONE OFFERS YOU
THE LATEST, MOST DEPENDABLE
COMPONENTS for FM., AM., & PULSE

Australian Factory Representatives:—

R. H. CUNNINGHAM & CO., 62 Stanhope Street, Malvern, Victoria. Phone: UY 6274.

IONOSPHERIC PREDICTIONS FOR THE AMATEUR BANDS

0 4 8 12 16 20 24 0 4 8 12 16 20 GMT.



IONOSPHERIC PREDICTIONS FOR THE AMATEUR BANDS

NOVEMBER, 1949

The accompanying charts have been prepared by the Ionospheric Prediction Service of the Commonwealth Observatory. The first set of the series was published in the November, 1948, issue of this magazine, together with an article explaining the nature of the forecasts and how to use them. Nine of the charts, prefixed by the letter "C" for Canberra, refer to forecasts for the South-Eastern Australian States. The remainder, prefixed by the letter "P" for Perth, are for Western Australia.

The Canberra charts refer to the following world zones:—

Zone	Region	Terminal
1	Western Europe	London
2	Mediterranean	Cairo
3	N.-West America	San Francisco
3a	N.-East America	New York
4	Central America	Barbados
5	South Africa	Johannesburg
6	Far East	Manila

The forecasts have actually been prepared for point-to-point circuits between Canberra and the overseas terminals mentioned in the above table. It is, however, to be expected that the charts will provide an approximate indication of ionospheric conditions for all Amateur contacts from South Eastern Australia to the various world zones.

The Perth charts are similar to those based on Canberra. No forecasts are given from Perth to Zones Z2 and Z4 for the current month, as chart P-Z2 would be essentially similar to chart P-Z1, while chart P-Z4 might be unreliable due to auroral activity in high northern latitudes.

USE OF CHARTS

All that is necessary in using the charts is to select a time (G.M.T.) during which a specified Amateur band frequency is below the maximum usable frequency (m.u.f.) of the F region of the ionosphere but above the lowest useful frequency (l.u.f.) for the desired contact. In two cases, Zones 1 and 3a it is necessary to consult both the short-route (S.R.) chart and the following long-route (L.R.) chart.

QUIZ

The Prediction Service welcomes comments on the accuracy of its predictions. In particular, answers to the following questions on the Canberra-Far East (Manila) circuit would be useful:—

1. Did the 7 Mc. band regularly become workable at about 0900 hours G.M.T. and unworkable at about 2000 hours G.M.T.?
2. Was the 14 Mc. band workable except for a few hours after Greenwich midnight?
3. Was the 28 Mc. band workable except for a few hours before Greenwich midnight?

Answers to the Quiz should be sent to the W.I.A. and should, if possible, refer to consistent results obtained on the majority of days in the month.

Six-Second Low Voltage Soldering Iron

The Scope Soldering Iron embodies completely new and revolutionary features as the result of many years of laboratory experiments and experience under actual working conditions. It eliminates the handicaps which have slowed down or made difficult soldering by conventional methods. Having tried the Scope Soldering Iron you will be convinced of its enormous advantages.

It is always ready for instantaneous use; no frequent cleaning and tinning of the bit is necessary; it transmits the heat faster to the work than any other soldering iron of twice its size.

It consumes no current when not in actual use; it can perform the work of a number of ordinary soldering irons ranging from 25 to 150 watts, for battery as well as mains voltages.

The iron can be worked in a maze of delicate wiring to reach otherwise inaccessible spots without radiating heat in all directions and applies the heat only where and when required. The high rate at which heat is transferred to the work makes the production of dry joints almost impossible; the intense local heat developed prevents damage to adjacent parts which must not get hot; and is considerably lighter than most ordinary soldering irons as well as switching itself off automatically as soon as put down.

The length is 10", weight 3½ oz., bit ¼" screwed into ⅜" shank, heating up time is 6 seconds (on 4v.).

Any supply between 2.5 and 6v. a.c. or d.c. can be used. With the 4v. transformer, optionally supplied, the heating up time is 6 seconds and the current drain approximately 20 amp. In view of the short time necessary to bring the Scope Soldering Iron to the required temperature, the watt hour consumption is negligible. If the voltage exceeds 4v. on load, an extension cable at the ratio of 2 yards for each volt above 4 is recommended. Connected to a car battery, the red lead should be taken to the ungrounded battery terminal or intermediate tapping to avoid the danger of a short circuit between the copper bit and car chassis.

Manufacturers are Scope Laboratories, Melbourne. Price is 43/6 each, plus transformer if required. Australian Representatives are R. H. Cunningham & Co.

IMPORTANT

Would all Magazine Contributors please note that all contributions must be addressed to "Law Court Chambers," 191 Queen St., Melbourne, and NOT to the old box number.

Contributions, particularly notes, if addressed to the box number may not be received in sufficient time to be included in Magazine for the month for which they are intended.



COMMUNICATIONS

THAT ENSURE SAFE AIRWAYS

COMMUNICATIONS OFFICERS (Radio Operators) are required by the Department of Civil Aviation. If you can send and receive Morse signals at 20 words per minute, and have a knowledge of radio equivalent to the 2nd Class P.M.G.'s Certificate Standard, there are excellent opportunities for you.

- ★ Positions are available in all States.
- ★ Commencing adult salary £432 per annum, rising to £570 per annum.
- ★ Extra pay for shift work and work performed on Saturdays, Sundays and Public Holidays.
- ★ 3 weeks' annual recreation leave on full pay.
- ★ Liberal cumulative sick leave.
- ★ Opportunities for permanent appointment in the Commonwealth Public Service.

Apply to — Communications Supervisor, Dept. of Civil Aviation, 522 Little Collins Street, MELBOURNE, or the local representative of the Department.

Be a COMMUNICATIONS OFFICER

With the

DEPARTMENT OF CIVIL AVIATION



QSL CARDS

The DEE WHY PRINTING WORKS is making available to the Amateur Experimenter a Special QSL Card Printing Service. Knowing the requirements of Hams, we are confident the service offered will be unsurpassed in Australia.

Cards can be printed to your own specifications, and if illustrations or blocks are necessary, our Art Department can produce these for you.

- ★ The Ham specially catered for.
- ★ Quality Cards at economical prices.
- ★ Prompt Service.
- ★ One, two or three colours if required.
- ★ Interstate orders handled.

Dee Why Printing Works

67 HOWARD AVENUE, DEE WHY, SYDNEY.

Telephone: XW 8367.

Proprietor: GEOFFREY BOWER



McGILL'S (Est. 1860)

OVERSEAS AND LOCAL POPULAR MAGAZINES
OBTAINABLE ON SUBSCRIPTION

AMERICAN . . .

Audio Engineering, £1/16/-; CQ, £1/17/6; Communications, £1/13/-; Electronics, £10/5/-; Popular Science, £1/16/-; Popular Mechanics, £2/0/9; QST, £2/9/6; Radio News, £2/4/-; Radio Electronics, £2/2/3; Science Digest, £1/13/-; Science and Mechanics, £1/7/6; U.S. Camera, £1/14/3.

ENGLISH and AUSTRALIAN . . .

Australian Radio World, 16/-; Amateur Radio, 9/-; Electronic Engineering, £1/12/6; Radio and Hobbies, 12/-; Radio and Science, 12/-; Shortwave Magazine, £1/7/6; Wireless World, £1/12/6; Wireless Engineer, £2.

(Add exchange to Country and Interstate Cheques.)

Large Range of Technical Books, Stationery and Novels on Display.

Mail Orders by Return Post.

McGill's Authorised Newsagency

183-185 ELIZABETH STREET, MELBOURNE, C.1, VICTORIA.

(The G.P.O. is opposite)

M 1475-76-77

FIFTY MEGACYCLES AND ABOVE

Compiled by J. K. RIDGWAY, VK3CR.

FLASH! SYDNEY SIX METRE STATIONS HEARD IN JAPAN.

On Sunday, 9th October, 1949, at 1151 hours E.A.S.T., VK2AH heard JA2AZ call "CQ Six Metres" using 28500 Kc. JA2AZ was transmitting on 6 and 10 metres. At 1153 hours, VK2AH called him on 22.5 Mc. and asked for his 6 metre frequency and beam direction, as a carrier which could have been his was heard on 50 Mc. He answered, "60.4, beam S.E. from Tokyo and calling you."

At 1154 hours VK2AH heard JA2AZ calling him and signing for about 30 seconds. At 1158, JA2AZ definitely identified VK2AH's carrier by hearing the carrier switched off. He could not read VK2AH's modulation.

At 1205 (approx.) JA2AZ heard VK2ARG for a few seconds. VK2ARG heard him calling VK2AH and he was also heard by VK2RU (on 6).

Predictions indicate that real QSOs with the islands and Hawaii may be possible this summer.

From the V.H.F. Editor of the N.Z.A.R.T. comes the news that KH6PP was transmitting towards VK and ZL during the months of September and October. His times of operation were every Thursday from 1500 hours to 1730 hours E.A.S.T. and every Sunday from 1030 to 1500 hours E.A.S.T. It was KH6PP (Gona) and Clarrice Castle VK5EL who made the record breaking contact between Darwin and Honolulu back on 25th August, 1947.

ONE HUNDRED CONTACTS ON 50 Mc.

This is a description of the 50 Mc. transmitter used at the W.I.A. stand at the All Models Exhibition. After due consideration and investigation, it was decided to build some 50 Mc. gear for portable work to be used under the call of VK3AN.

Transmitter is a three stage crystal controlled (crystal frequency 8.342 Kc.) rig consisting of EF50 tri-tet. osc. tripler (25.026 Mc.) which is capacity coupled and drives another EF50 doubling to 50.052. This doubler stage is link coupled with a short piece of 76 ohm co-axial cable and drives a 832 running straight on 50.042 Mc. The grid drive from the EF60 doubler is between 2-2.3 mills. with a h.t. voltage of 290-300 volts.

The osc. tripler and doubler stages draw the large (?) amount of 18 mills total plate and screen current. The input to the 832 is between 10-12 watts according to how the final tank is loaded. All the component parts used in this rig are from disposal gear. The modulator is a three stage affair 6J7, 6SJ7, driving a 6V6. The voltage gain is approx. 9,000. Cathode modulation is used (20 w. 5000-6000 ohm line transformer) and reports from the 50 Mc. boys are more than pleasing.

The receiver unfortunately was only partly finished, but will consist of 6AR5 first r.f., 6AR5 second r.f., 6C4 h.f. osc. The oscillator is fed via a short piece of co-ax to a 6AG5 first i.f., capacity coupled to a 9002 superregen detector. The audio stages consist of 6J5 transformer coupled to a 6V6, so as to completely eliminate the quench voltage from the audio. The 6AG5 and the 9002 superregen stage is slug tuned and controlled by gain controls. The front end has one tuning control, the two r.f. and h.f. osc. stage tuning condensers are ganged.

The receiver that was used during the Exhibition was a 16 tube communications home-brew designed and built by Keith Heitsch, VK3HK. This receiver will be described by VK3HK in a later issue of the magazine.

The 60 Mc. antenna used was built and installed by Ken McTaggart, VK3NW, and did a very good job. Antenna was a two element beam favoring the south east and fed by about 400 feet of 73 ohm ribbon. The length of the feed line will surprise some of the boys, but it didn't stop VK3WI putting a consistent E5 S9 to 9 plus signal out, which was heard 45 miles away. Receiving conditions at times were very bad and can be described as an endurance test, rather than a QSO.

The honor goes to VK3EC for the hundredth QSO which was carried on through very trying conditions due to the t.v. r.f. power supplies and the motorised models causing bad QRM.

NEWS OF THE VK3 V.H.F. GROUP

The group were sorry to have to accept the resignation, due to pressure of business, of Keith King, VK3AKI, from the position of chairman. Keith has done a fine job during his term of office, his organising ability being well shown in the fine exhibit put on by the Group in the recent Exhibition. The new chairman is Quentin Porter, VK3JM.

We would remind all v.h.f. workers, and those who are contemplating such work, that the Group meets at the Institute rooms, 191 Queen Street, on the second Wednesday of the month. All are welcome, and we would especially like to see some of the enthusiastic s.w.'s, who listen on the v.h.f. bands along at these meetings.

50 Mc. DOINGS OF THE MONTH NEW SOUTH WALES

The only 6 metre highlight was the VK5 breakthrough on the 28th September for a very short period. There has been evidence of several openings with no stations to take advantage of them. VK5QR and 6RT being contacted by VKs.

Official placings for the 6 Metre Contest held during August were: VK2AH, 2ADT, 2WJ, 2VW. The scores will be available during the month. Considerable interest is being taken in 6 metres by stations: KH6PP, ZK1BA, VR2BC and JA5AZ and others. Ten metres being used for arrangements. Also, CE1AH frequently transmits on six at 1000 hours E.S.T.

A lecture on f.m. was delivered by 2QW, Mr. Alan Bird, at the September meeting. This lecture was particularly well received, being practical with recommended circuits. Mr. Bird will, we hope, favour us with a further lecture. The attendance was 26 with several visitors.

VK2WI at 8 p.m. on 6 metres (50 Mc.) is broadcast by 2ARG. The cover extends over the whole Sydney, Mountain, and Newcastle areas. Two beams, separately fed and orientated for best cover are coupled by two links to the p.a. Two metres is used also from Palm Beach and directed towards Sydney central. 2DF relays 6 metres vertically polarised. Thus the v.h.f. gang are able to receive the news from this very fine set-up.

News is sometimes lacking, so you are all invited to contact 2ARG and pass anything which is of general interest. 2AH and 2VW each have skeds at 7.30 p.m. with 2ARG to pass the latest. If, for any reason, 2ARG is unable to do the broadcast, then 2VW or 2AH will cover the news briefly.

VICTORIA

September was a rather quiet month on 50 Mc. in VKs, with the only sign of DX being on the 12th when 3BQ and 3QO heard some weak signals, believed to be ZLs. The number of stations using the band has increased somewhat, with a number of calls that have not been heard for some months being in evidence much more often. No actual new stations have appeared however.

3BD is well established in his new location at Gardenvale. Eric now has a 3 element wide spaced beam up 25 feet; he spent quite a time on the tuning of the beam and found the best gain to be obtained with spacings of 0.15 wavelength for the reflector and 0.25 for the director. The elements are tuned by stubs at the centre, and the gain appears to be between 9 and 10 db. 3RR now has a beam working at his McCrae location, it is a 4 element wide, spaced and is giving good results.

By the time these notes appear the DX season should be just about starting and all on the band are looking forward to bigger and better openings this year. While on this subject we would make a special plea to Interstate stations, especially VK2s, who appeared to be rather lax in this matter last year, to tune above 51 Mc. when looking for contacts. To drive the point home, here is a list of stations in VK3 currently on the band above 51 Mc. 3DA 51.15, 3AB 51.196, 8DI 51.2, 3ACL 51.25, 3RI 51.3, 3RH 51.4, 3TM 51.53, 3CR 51.9, 8AUX 51.92, 3GG 51.96, and 3YJ 52.0 Mc.

The writer apologises in advance for any errors or omissions in the above list. It was drawn up in a hurry and it is quite possible that some stations may have been missed or have had their frequencies slightly misquoted.

WESTERN AUSTRALIA

During the past few months activity on this band in W.A. has just about been zero. However, with the passing of the winter season, the boys are beginning to get going again. Heard 6FW the other night testing out, but having some trouble with his converter alignment. 6BO, a new licensee, located at Bassendean, Perth, who, last year, was an enthusiastic listener, is now on the air on 60 Mc. with quite a nice signal. He is using an 815 in the final as a "straight" amplifier, with an input of upwards of 30 watts from portable vibrator power supply. Aerial, a 3 element wide spaced rotary beam. No news to hand, so far, from 6DW of Bruce Rock, but we believe he will be active again this coming summer. Likewise 6WG of Albany. No news whatever of 6HM of Kalgoorlie. He is away in the Eastern States at the moment.

6FO of Cottesloe (Perth) will be on the air (50.1 Mc.) with an m.c.w. note of about 1,000 cycles, using a long wire antenna for general coverage. His rotary beam, at present, has a 2 metre array on it, to which the 6 metre array gave way at the end of last season. 6LW was heard the other night. He still puts out a solid signal and no doubt will be active again this year. 6GB has not been heard lately, but we believe he, also, will be showing up this coming season. Likewise 6GS of Harvey: 60 from now on the VK3 50 Mc. boys are on the watch.

TASMANIA

Big query floating around VK7 at this time of the year is "when will six break?" For the benefit of six metre chaps in other States, those patiently waiting include VK7s BQ, LZ, AJ, CW, NC, DH. Understand 7BQ has heard several signals on 50 Mc. but has not identified them. 7BQ has re-built his converter.

ZL4AF heard what he believes was a VK7 signal on 8th August at 2000 hours. It stayed S7 for an hour. Not from the southern end of the Isle, who was it?

144 Mc. ACTIVITY NEW SOUTH WALES

Many new stations have appeared on this band and f.b. signals can be heard every night. Among the new stations and others operating upon this band are: 2AAJ, 2ABC, 2ADV, 2ABE, 2AEM, 2EW, 2AQQ, 2XK, and others. Stations also active are: 2HO, 2ARG, 2WJ, 2BZ. Cross band is used quite a lot on this and 6 metres.

The weather excelled itself for the Gladesville Radio Club's "D/F Field Day." Fifteen mobile 2 metre stations entered the field. QRM was fairly solid which made things interesting to say the least. The placing are: 1st, VK2ADY (3) Kingsford Club, score 100+; 2nd, VK2ADY (11) Gladesville Club, 78; 3rd, VK2ADY (16) 2AZD's station, 58. The Committee are busy hatching up new field days, lectures, and picnics. Attendances and membership are increasing, new and larger club rooms recently became available to this progressive Radio Club.

VICTORIA

Just to prove the writer was wrong when he stated last month that the band is entirely crystal controlled in VK3, a number of stations have come on using the simpler type of gear and they are putting out very good signals copable on all but the most selective receivers. The first is 3OU of Ivanhoe who has a transceiver using a 7193, with about 2 watts input on transmit, and a dipole antenna. Harry has worked quite a number of stations and seems to be getting out very well. 3BH, located near Dandenong, is also using a single 7193, and by modulating with a pair of 2A3s, puts out a signal with excellent quality. 3JO, although by no means a newcomer to the band, has been very much more active lately and is putting out a stronger signal from his 955 since putting up a series phased beam.

Several stations have been experimenting with the series phased beam. 3FO being the first one to get the tests going. The beam is arranged with a folded dipole in place of the more usual 300 ohm terminating resistance, and gives considerably more gain than a element parasitic beam. Others to use this type of beam are 3KE and 3BH, while 3EM is also considering putting one up in place of his present 16 element which is rather bulky.

3UO, of Sale, approx. 110 miles east of Melbourne, has been on the band nightly looking for Melbourne contacts. So far there has been no break through although a signal from the Melbourne direction has been heard but not identified. Such persistence certainly deserves results and we hope 3UO is successful in making contacts with the city before long.

TASMANIA

VE7PF, interested in six metre openings for other reasons, intends watching 2 metres this year in the hope of working into VK3. To this end he has arranged skeds with VK3AKE. VE7PF's frequency is 145.92 Mc.

7BM has crystal rig working OK. 815 final with about 20 watts input. New receiver is acorn converter working into Eddystone 640. Understand Bill using some form of super modulation, yes! On two metres.

576 Mc. JOTTINGS

New South Wales.—Three stations getting out on this band are: 2ALU, 2PB and 2AWZ. A receiver located at 2AWZ received S9 plus signals from 2ALU and 2PB. The former uses p.p. RL18 as a t.p.t. cathode oscillator. No difficulty was experienced in getting output. A corner reflector giving 12 db gain was used. 2PB has a 6J6 going on 576 Mc. and a four element beam. The receiver used was a super-regen.—955 and 955 audio.

Victoria.—After several quiet months, business has got under way again on this band and once more the familiar nightly cross-band tests can be heard being carried out between 50 and 576 Mc. On the evening of the 28th September, 3ANW operated portable from Mt. Dandenong and worked 3QO 8XA and 8ABA, two way on 576 Mc. with good signals in all cases. 3RR and 3JM were also heard, but not contacted two way, and 3DA heard

(Continued on Page 24)



Federal President: W. R. Gronow, VK3WG; Federal Secretary: W. T. S. Mitchell, VK3UM, Box 2611W, G.P.O., Melbourne.

NEW SOUTH WALES

Secretary.—Dick Dove (VK2RP), Box 1784, G.P.O., Sydney.
Meeting Night.—Fourth Friday of each month at Science House, Corner Gloucester and Essex Sts., Sydney.
Divisional Sub-Editor.—L. D. Cuffe, VK2AM, 14b Watson Street, Neutral Bay, N.S.W.
Zone Correspondents.—North Coast and Tablelands: P. A. H. Alexander, VK2PA, Hill St., Port Macquarie; Newcastle: H. Whyte, VK2AHA, Vale St., Birmingham Gard., Newcastle; Coalfields and Lakes: H. Hawkins, VK2YL, 27 Comfort Ave., Cessnock; Western: G. J. Russell, VK2QA, 116 Bogan St., Nyngan; South Coast and Southern: R. H. Rayner, VK2DO, 42 Pettit St., Yass; Western Suburbs: A. C. Pearce, VK2AHB, 48 Harrabrook Ave., Five Dock; Eastern Suburbs: H. Kerr, VK2AX, No. 4 Flat, 144 Hewlett St., Bronte; North Sydney: L. D. Cuffe, VK2AM, 779 Military Rd., Mosman; St. George: J. A. Ackerman, VK2ALG, 52 Park Rd., Carlton; South Sydney: V. H. Wilson, VK2VW, Cr. Wilson St. and Marine Pde., Maroubra.

VICTORIA

Secretary.—C. G. Quin, VK8WQ.
Administrative Secretary.—Mrs. O. Cross, Law Court Chambers, 191 Queen St., Melbourne, C.I.
Meeting Night.—First Wednesday of each month at the Radio School, Melbourne Technical College.
Zone Correspondents.—North Western: R. E. Trebilcock, VE3TL, 122 Victoria St., Kerang; Western: C. C. Waring, VK3YW, 12 Skene St., Stawell; South Western: W. H. Ross, VK8UT, Ballantrah, via Warrambool; North Eastern: J. A. Miller, VK3ADG, "Erinvale," Avenel; Far North-Western Zone: Harry Dobbey, VK3MF, 48 Walnut Ave., Mildura; Eastern Zone: Mrs. P. M. Churchward, VK8US, "Shirley," Red Hill.

WI BROADCASTS

All Amateurs are urged to keep these frequencies clear during, and for a period of 15 minutes after, the official Broadcasts.

VK2WI.—Sundays, 1100 hours EST, 7196 Kc. and 2000 hours EST, 50.4 Mc. No frequency checks available from VK2WI. Intra-State working frequency, 7175 Kc.

VK3WI.—Sundays, 1130 hours EST, simultaneously on 3580 and 7196 Kc. and re-broadcast on 50 and 144 Mc. bands. Intra-State working frequency 7185 Kc. Individual frequency checks of Amateur Stations given when VK3WI is on the air.

VK4WI.—Sundays, 0900 hours E.S.T. simultaneously on 3750 Kc., 7196 Kc., 14342 Kc., 52.4 Mc. and 144.138 Mc. Frequency checks are given two nights weekly, and the times are announced during Sunday broadcasts. 7065 Kc. channel is used from 1900 to 1930 hours each Sunday as VK4 query service to VK4WL.

VK5WI.—Sundays, 1000 hours SAST, on 7196 Kc. Frequency checks are given by VK5DW on Friday evenings on the 7 and 14 Mc. bands.

VK6WI.—Saturdays 1400 hours, Sundays 0980 hours WAST, on 7196 Kc. No frequency checks available.

VK7WI.—Second and Fourth Sundays at 1000 hours E.S.T. on 7196 Kc. No frequency checks are available.

QUEENSLAND

Secretary.—W. L. Stevens, VK4TB, Box 688J, G.P.O., Brisbane.
Meeting Night.—Last Friday in each month at the Y.M.C.A. Rooms, Edward Street, Brisbane.
Divisional Sub-Editor.—F. H. Shannon, VK4SN, Minden, via Rosewood.

SOUTH AUSTRALIA

Secretary.—E. A. Barbier, VK5MD, Box 1234K, G.P.O., Adelaide.
Meeting Night.—Second Tuesday of each month at 17 Waymouth St., Adelaide.
Divisional Sub-Editor.—W. W. Parsons, VK5PS, 483 Esplanade, Henley Beach.

WESTERN AUSTRALIA

Secretary.—W. E. Coxon, VK6AG, 7 Howard St., Perth.
Meeting Place.—Padbury House, Cnr. St. George's Ter. and King St., Perth.
Meeting Night.—Watch the Monthly Bulletin.
Divisional Sub-Editor.—George W. Ashley, VK6GA, 33 Mars Street, Carlisle, Western Australia.

TASMANIA

Secretary.—R. D. O'May, VK7OM, Box 371B, G.P.O., Hobart.
Meeting Night.—First Wednesday of each month at the Photographic Society's Rooms, 163 Liverpool St., Hobart.
Divisional Sub-Editor.—Capt. E. J. Cruise, VK7EJ, Anglesea Barracks, Hobart.
Northern Correspondent: O. P. Wright, VK7LZ, 3 Knight St., Launceston.

FEDERAL

DX C.C. LISTING

Many applications have been received recently, both new applicants and endorsements for new additions to existing listings, that have not enclosed a list of the claimed stations or postage for return of cards to the sender. Please ensure that when next sending a batch of cards, you comply with the above.

PHONE

VK3JD (1)	36	130
VK6KW (4)	36	124
VK6RU (2)	37	121
VK8BZ (3)	37	119
VK6DD (6)		105
VK8JE (7)		100
VK8RG (6)		100

C.W.

VK8BZ (6)	40	151	
VK3ON (1)	40	148	
VK3VW (4)	39	134	
VK4EL (9)	39	184	
VK2QI (5)	40	182	
VK3EK (3)	39	121	
VK3KB (10)		120	
VK4HR (8)	40	119	
VK4RF (11)		118	
VK2EO (2)	40	115	
VK4DA (7)		112	
VK3UM (12)		37	108

New C.W. Members

VK8FH (15)	37	108
VK2GW (16)	38	107

OPEN

VK3BZ (4)	40	175
VK2DI (2)	40	159
VK6RU (8)	37	153
VK3JE (12)	39	153
VK3HG (8)	40	146
VK4HR (7)	40	146
VK6KW (13)	39	144
VK3MC (5)	39	138
VK8EX (1)		135
VK4EL (10)	39	134
VK3OP (19)		128
VK2AHA (9)	40	123

New Open Member

VK2ADE (28)		130
-------------	--	-----

Another application has been received from VK4JP for the Phone Award and still awaits checking.

W.A.C. AND W.B.E. APPLICATIONS

All applications for W.A.C. and W.B.E. Certificates should be forwarded through your Divisional Council for membership checking and onforwarding to the Federal QSL Manager. In the case of the W.B.E. Certificate, unless the applicant is a member of the R.S.G.B., a postal note or money order to cover the cost of 2/6 sterling for the Certificate should be included with the application. Applications for other than the above overseas Certificates should be forwarded direct to the Society concerned.

W.I.A. ACTIVITIES CALENDAR

- Nov. 5-7: "CQ" DX Contest (c.w.)
- Nov. 26-27: Third European Contest (c.w.).
- Dec. 3-4: Third European Contest (phone).
- Dec. 10-11: A.R.C.I. International DX Cont.
- Dec. 17-18: A.R.C.I. International DX Cont.
- Dec. 19: Motions for 20th Federal Convention due.
- Jan. 28-29: Australian National Field Day Contest.
- Jan. 31: Membership Roll of each Division due.

FREQUENCY ALLOCATIONS

The following is a list of the bands available for use by the Amateur Service in Australia, followed by the types of emission allowed on those bands.

3.5 to 7.0	3.8 Mc.—A1, 3, 2a, 6F3.
7.0 to 14.0	7.2 Mc.—A1, 3, 2a, 6F3.
14.0 to 26.96	14.4 Mc.—A1, 3, 2a, 6F3.
26.96 to 28.0	27.23 Mc.—A1, 3, FM.
28.0 to 50.0	30.0 Mc.—A1, 3, 2a, 6F3.
50.0 to 144	64.0 Mc.—A1, 2, 3, FM.
144 to 298	148 Mc.—A0, 1, 2, 3, FM, Pulse.
298 to 576	296 Mc.—A0, 1, 2, 3, FM, Pulse.
576 to 1216	585 Mc.—A0, 1, 2, 3, FM, Pulse.
1216 to 2300	1300 Mc.—A0, 1, 2, 3, FM, Pulse.
2300 to 5650	2450 Mc.—A0, 1, 2, 3, FM, Pulse.
5650 to 10000	5850 Mc.—A0, 1, 2, 3, FM, Pulse.
10000 to 21000	10500 Mc.—A0, 1, 2, 3, FM, Pulse.
21000 to 30000	22000 Mc.—A0, 1, 2, 3, FM, Pulse.
30000 Mc. and higher	—A0, 1, 2, 3, FM, Pulse.

Note.—6F3 emission represents a maximum deviation from the quiescent frequency of plus or minus 3 Kc.

FEDERAL CONVENTION

Federal Executive, on behalf of the Federal Council of the Wireless Institute of Australia, and having taken action in accordance with Part X of the Federal Constitution of the Wireless Institute of Australia (as amended) 1947, hereby gives notice that Part III, Section 9 of the said Constitution has been duly altered as follows:—

"Each representative of a Division on the Federal Council shall be elected annually during the period of sixty days immediately prior to the commencement of the Annual Federal Convention by the voting members of the respective Division."

Such amendment became effective on the 1st October, 1949.

F.I.A.T.S. CHARTS

Your Divisional Council and Federal Executive would be interested to know what value you, as a transmitting Amateur, obtain from these Prediction Charts that have been appearing regularly for the last 12 months or so in "A.R." We believe they can serve a very useful function—do you? If so, please let your Divisional Council have your comments.

20th FEDERAL CONVENTION

Once again, the time comes around for those motions you want included on the Agenda for discussion by Federal Council. The activities Calendar published on this page shows the date by which all motions should be in the hands of your Council. It was agreed by all at the last Convention that there were far too many items for General Business. This can be obviated by your early notification of your particular item—this will save a lot of time at the Convention in discussion on items which have not been considered by each Divisional Council. Send that item in without delay.

AMATEUR RADIO CLUB OF INDIA

The above Club, which represents the Amateur fraternity of India, has applied for I.A.R.U. membership, and in doing so solicited the assistance of the W.I.A. in seconding their nomination. They have asked the R.S.G.B. to sponsor their application. The Federal Executive, after due consideration of their proposal, had much pleasure in supporting their proposition for membership.

PRIZES FOR 1949 VK-ZL DX CONTEST

The following are the prizes for the 1949 DX Contest—Open CW: Pair 854s, donated by Philips Electrical Industries; Open Phone: Order to value of £5 for transformers, etc., donated by Red Line Equipment Pty. Ltd.; 28 Mc. C.W.: Order to value of £3 for Cylcon Transmitting Condensers, donated

by United Radio Distributors Pty. Ltd.; 28 Mc. Phone: 12-O Speaker, donated by Rola Co.; 14 Mc. C.W.: Pair Cylidon 200 pf. Transmitting Condensers, donated by Price's Radio Pty.; 14 Mc. Phone: Step type Volume Control (high potentiometer or low imp. ladder type), donated by Trimax Transformers; 7 Mc.: 50 watt Modulation Transformer, donated by Ferguson's Radio Pty. Ltd.; Receiving: One 954 Acorn Pentode, One 955 Acorn Triode. In addition to the above, a pair of 7193, one 954, one 955, one Thermal delay switch valve DLS10, one Voltage Stabiliser STV980/80 are to hand, and will be held and allocated where necessary.

FEDERAL QSL BUREAU

RAY JONES, VK3RJ, MANAGER

PK3MR advises that he is the QSL Manager for all PK districts with QTH: Box 222, Sourabaya, N.E.I.

It is with deep regret that we chronicle the passing of Victor Dugand, HK1FQ, during September. Victor was one of the veterans of the 14 Mc. phone band and the number of stations who he made W.A.C. runs into many hundreds. His cheerful voice and interesting personality will be sadly missed by his legion of friends the world over. The sad news of his decease comes from his son, Gato Dugand, HK1DZ, who would like it made known that his father had an extra soft spot for his Australian friends and took great pride in his display of VK cards and photos which occupied the premier place in his shack. Gato hopes to continue the good work carried on by his father and keep in touch with his many VK friends.

The QTH of the QSL Bureau for the Belgian Congo is Box 271, Leopoldville, Belgian Congo, with A. Lippens, OQ5LL as Manager.

West Street, VE1EK, Armidale P.O., Halifax, Canada, writes "From the enclosed 27 'chasers,' you must agree that the VKs are very lax to keep their promises of sure QSL. It would be an idea to advise your members via your notes the feelings of one member in a sister country. We consider VKs good DX here. Average returns from VK are considerably lower than other countries according to my records which show at the present writing an even 50 per cent. Hoping these 'fate chits' will effect a change in the above average, but also admitting it should not be necessary to send them for a promised QSL, yours hopefully, etc." What have the guilty 27 to say to this?

Louis White, W6WLY, well known to VK stations on 28 Mc., is now at sea again working mobile from the U.S. naval tanker "Cohocton." Louis has been contacting VKs on 28 Mc. phone while the ship was near the Moluccas en route to Japan. On return to his stateside QTH at Long Beach, Louis hopes to renew contact with his many VK friends on 28002 Kc. c.w. and in the phone band. Louis was a member of the 2nd A.I.F. during 1944, securing his discharge from that service to return to sea in the U.S. services. After a period at home, Louis hopes to get a ship on the VK run when he will personally contact many of his friends.

Attention is directed to the altered format of the foreign section of the Radio Amateur Call Book Magazine. Foreign countries are now listed alphabetically by prefix in lieu of alphabetic listing by the name of the country. This splendid feature, which has appeared in the past three issues, together with many other interesting and useful tables and diagrams makes the book a sound investment for all Amateurs. Stinson will list the Christian name of all Amateurs on request.

An unusual situation has developed. VK6AS QSOed ZS6HV on 28 Mc. c.w. and sent his card to the S.A.R.R.L. for onwarding. It was returned stating he was unknown. In the meantime a card from ZS6HV was received by VK6AS and it stated he (ZS6HV) was a member of the S.A.R.R.L. VK6AS sends another card again via the S.A.R.R.L. who has again returned it stating under date 28th June, 1949, "ZS6HV has never been issued so far and we cannot see how you could have received a card from him. No other cards for him have ever been received by the S.A.R.R.L." Looks to me as if pirates still exist and have cards to keep up the deception.

NEW SOUTH WALES

On 28rd September the N.S.W. Division, in Science House, Gloucester St., Sydney, held three meetings in all. First the Extraordinary General Meeting at which a special resolution, bringing the Articles of Association into line with the 1936 Companies Act, was passed. Second, the Confirmatory Meeting, and finally, the September General Meeting.

A lecture on Condenser Manufacturing Practices was given by Mr. Roberts, a member of the staff of Ducon Condenser Ltd. Mr. Roberts had gone to a lot of trouble to prepare this very comprehensive lecture and it was a pity that the bad weather had reduced the attendance so much.

2AQQ (who is a blind Amateur) took part in a debate upon Crystal v. V.F.O. at the Gladsville

Radio Club. His address, using Braille notes, was particularly fine and awung the debate in favour of crystal. Congrats Bill. Incidentally 2ZB, who is an experienced adjudicator, congratulated the parties for their standard considering that debating was new to them. Station inspections have been taking place, quite a number already have been conducted.

A new Call Sign List, with amendments, is available from the Wireless Branch P.M.G., price 2/6.

W.I.A. BRANCH OPENS

The inaugural meeting of the Hunter Branch of the N.S.W. Division of the W.I.A. was held in Newcastle (which will be the headquarters of the Branch) during September. The Branch will cover Amateur activity in the Newcastle, Maitland and the Coalfield areas, and meetings will be held each month.

The meeting made W.I.A. history, as it is the first occasion on which a permanent W.I.A. organization has been set up outside a capital city.

The meeting opened under the chairmanship of Lionel Swain, VK2CS, with 40 in attendance. The chairman explained the meeting was really of the Newcastle Amateur Radio Club and he traced the history of the Club since its inception—it is well remembered for its pre-war Hamfests. He then handed over to the State President, Fred Treharne, VK2BM, who, with a few well chosen words, declared the Hunter Valley Branch open. Wishing it every success on behalf of the Council and himself.

Federal Councillor, John Moyle, VK2JU, extended good wishes on behalf of the Federal Council and stressed on the members of the Branch that theirs was the first formed in Australia and it was hoped the fore-runner of many more. He asked them also to think Federally on all matters of policy.

Bob Wilson, VK2AFS, responded on behalf of the Hunter Valley Branch expressing appreciation at the number of visitors from Sydney being present and assured all present that the Branch would uphold the W.I.A. tradition.

N.S.W. Division officials present from Sydney included President Fred Treharne, VK2BM; Vice-Presidents Clive Hutchison, VK2YP, and Bill Hicke, VK2ANH; Vic. Cole, VK2VL; Councillor; John Moyle, VK2JU, Federal Councillor; Jim Corbin, VK2YC, QSL Officer; Wal Nye, VK2XU, Disposals Committee; and Dick Dowe, VK2RP, Librarian.

The guest lecturer for the evening was Joe Reed, VK2JR, a native of Newcastle, who in his opening remarks said that back in 1910 a radio club was formed by himself and two others in the city. Joe covered "DX and the ionosphere" as his subject, plus the usual "plums" at the end.

The meeting saw a new sphere of Amateur and W.I.A. activity and it seems possible that the idea could be extended to cover a number of towns and cities throughout the Commonwealth.

DX NOTES

Readers have perhaps wondered at the sudden disappearance of the DX Notes from the Magazine. This has been due to the fact that the writer, F. T. Hine, VK2QL, is at present doing a R.A.A.F. School at Ballarat. We hope it will not be too long before he is back on the job again.

NORTH SHORE ZONE

Any more rain around here and even the steel masts will take to sprouting leaves. Two consecutive days of sunshine seem to be a thing of the past! The DX Contest seems to have got away to a flying start, most of the stalwarts among the brass-pounders showing up during the first week-end. Heard going at full bat were 2ADV, 2AEB, 2RA and of course that contest racehorse, 2EO. 2PV was flat out on the Sunday, and 2AND, at last on the air, also engaging in the numbers racket. 2XM, who is a ship's operator, was heard from Auckland, but of course being m./m., as it were, couldn't join in the fun. However, he hopes to be back in Sydney for the second c.w. week-end. 2VQ was doing well for the Manly side, but I didn't hear 2DA or 2BA from over that way.

2NI has his new beam almost ready, a 10 over 20 three-element array, which looks very f.b. 2TL has been re-building his final, his previous 812 lay-out not perking as it should. 2SV heard delivering some very nice phone. 2ZH now in his new QTH, but it will be some time before Mac will have a signal on the air. 2GC has re-hung his 40 metre dipole, and is now working DX madly in all directions with his QRP rig. Threatens to go QRO soon and shove a full 20 watts on the air. Don't you, George, there's enough QRM as it is, without another North Shore kilowatt adding to the din!

Heard the beginning of the first phone week-end in the Contest, but it was marred by extremely bad QRN, which was unusual in view of the fine weather prevailing. Was rather surprised by the seeming lack of interest among the phone boys, far too many of them engaging in local rag chews on 20 during the height of the Contest.

WESTERN SUBURBS ZONE

2MA is eagerly waiting on cement to fix his 26 ft. timber tower in that there hole in the ground. It will groan under the weight of a three element beam. 2OX, recently out from a spell in hospital, runs a few watts into an 832 on 144 Mc. He uses f.m. at present, but no doubt has plans for a.m. to take care of the old codgers on the band. 2IC has just completed his new rig and worked a VE1 first pop! Has been sold on low level speech clipping, especially after young daughter exclaimed: "Daddy got rid of the splinters from his voice," while tests were being conducted.

2AIA has super modulation they tell me! 2VC is tossing out modulation transformers, etc., and is putting in "super-modulation" Well! 2IV, the three element beam works like a charm. 2ALO, who goes up doesn't always come down. Problem is how to get up this 33 ft. hardwood tower. She measures 5 ft. across the bottom and was built on the ground. 2VY has a 60 ft. telegraph pole. Is not on much; probably figuring out ways and means. 2MJ is not very active. 2BM still shooting some phone to the Co. 2GS is taking his annual leave.

Experimental Radio Society of N.S.W. will hold a field day on the first Sunday in November. It's a semi-social affair and mainly for the day out. All the families are going along and 144 Mc. will be the main band used. The puzzle is to find the hidden transmitter.

An interesting lecture on "Solar Noise" was given recently by a member of the C.S.I.R.

Activities are living up and the club's rig is active on 7 Mc., alternate Thursday nights. Meetings are conducted on the other Thursdays of the month, and new and old members will soon be enjoying a series of technical films, due to arrive soon. Some diverting lectures are also planned for the immediate future. Go along, everybody is welcome!

NORTH COAST ZONE

Very fine work was performed by the North Coast gang during the recent Kempsey floods, full details appeared in last month's "A.R." 2ASF is getting ready for the next one using a modified Command Tx and motor generator supply. The formation of the North Coast Emergency Net is under way, those interested please communicate with VK2XO or VK2PA. 2WC now on 10, 2PA and 2WC have a 24 hour channel on this band. 2XO and 2ARY have obtained No. 11s for portable/emergency work, putting out nice signals with vertical antenna. Griff is having Rx re-hashed. Some new members now in the district but full details not available as yet. 2AJB now in full swing at Coff's Harbour with a better signal than ever. 2SH amongst the 20 metre DX with GBPO beam, having trouble working Gs on phone, although plenty of 59 reports from other directions. 80 metres still proving popular with many of the gang every evening.

NEWCASTLE ZONE

The inaugural meeting of the Hunter Valley Branch of the W.I.A. was a huge success, over 40 being present. Much good work was done by 2OV, 2UY, 2NX and Associate Member Gordon Sutherland. 2CW still very QRL, but the boys are wondering how the rig is? 2UY (treasurer of Branch) working on new Rx, hope all the bugs are gone. 2NX has taken some advice, the flat having shown some improvement since shaking the hand of 2XQ (brass-pounder Trull). How were the fish at the Entrance, would like to hear you on Harold 2LV.

Welcome to new Hams and Members Merv Hardy 2AAM, Ron Murray 2AAI, the signal from Belmont I presume was 2AAM. Since the Hunter Branch formed, seven members and seven associates have been gained in the area. Would like to get that application from 2WU, he had the 20 metre beam down for a while but up again now. At long last a signal comes from 2CS and on a dummy antenna too, it was loud so perhaps the beam connected? 2ANL playing with rotary in his spare time. 2VJ also joined up but not heard lately—2ARK also silent. Rumour has it that 2ANG losing interest, hope not Phil. 2OS, from Thornton, heard well on 6 metres, 2BZ active on the v.h.f. and scored well in 50 Mc. V.H.F. Contest. How about some notes from Maitland! 2AKP very busy, but 20 metre DX heard calling him.

2DG piling up points in VE-2L tests. 2TY only heard on 10 metres since the floods. 2ZC knocked up a big score in the VK-2L test, despite having to work during some of the best periods. 2XQ still keen on 80, heard giving 2NX some practice. Ten metre stickers 2FP and 2AFS still working DX, Ern on with the Europeans and Bob with new modulator, f.b., too! No news from Stockton. 2AMM missed from meetings. 2XT likely to go soon, whippers of new Rx. 2AGD's XYL has been ill, sorry to hear it George. Two excellent phone signals from 2ANA and 2CI. 2SO brass pounding on 40, and 2TE on phone DX. 2PQ worrying about selectivity of his Rx, but gets by just the same. 2AHA QRL with the move and shifted beam in one piece without any serious mishaps. 2JQ visited Newcastle and did the rounds. 2XY heard with his usual fine flat, for a c.w. rag chew call 2XY. Please forward notes to 2AHA or phone Waratah 51.

COALFIELDS AND LAKES

Only news from Lakes this month comes from Gosford, where 2RU is checking his gear in readiness for this summer and working cross-band 144 to Sydney and Newcastle. 2AEZ going on 50 and is now putting up a beam. 2AMU also active on 50 and has managed to add ZD4AN and FQSSN to his 2S Mc. list. At Toronto Jack Early is a reliable 50 contact. 2VU too is going on 50 with fine signal and new beam, also works 7 Mc. 2JZ not heard much, mainly on 28. 2TY on 28 and 144. 2ALR is a new Ham in Cessnock, is not really set up yet, but made a few contacts on 28. 2PZ still not heard and 2MK seems to have given game away for the moment anyway. 2YO seems to be making hay on 28 Mc. and getting ideas for a new rotary.

2KZ active again consistently on 50, 28 and 144. 2KF also on same bands using a transceiver on 144, a new 3 over 3 beam going up on the band. 2ADT relaxing after the 50 Mc. contest, had a few days in bed with the flu, Rx working all bands and reports conditions improving; heard VK5s on 50. 2YL going quietly on all bands and working a little DX on 14 Mc. and using a new two section 8JK on 14 Mc. with good results.

SOUTH COAST AND SOUTHERN

This month sees the combining of the South Coast and Tablelands and Southern Zones. Some months ago Noel Arnold, VK2OJ, relinquished the position of Z.O. Southern, due to pressure of business. As there was a lack of activity in the zone, it was decided to combine the two zones and they will now be known as per the heading. Zone Officer for the new zone is Roy Reyner, VK2DO, of Yass, of the old South Coast and Tablelands Zone.

2AJP been talking about frequency meters and YLs. Jack runs 100 watts to 815 and has a new mike. 2OY QRL in garden, little time available is spent on 10. 2AIZ fantastically seeking a house and will make up for inactivity when the problem is solved. 2JQ on c.w. with hefty signal, heard working ZL on 40 phone. 2ALS has small sports car and is talking portable transmitters, has BC459A; fishing season coming up we should here him from some remote spot. 2PI and 2GU Canberra heard briefly. 2PI has small rig in kitchen, a handicap after meals? 2AFF reports 2AMW is set up in his new location. 2ANW is in N.Z. and now has a ZL call. 2WV has gone to VHS and has taken call out there.

2VH and 2AOX QRL re-building. 2AOX working a little DX between jobs. 2MT, 2ON, 2LA active on c.w. and phone. 2WP doing fine job on 40 c.w.

and phone, a new tube coming up in final. 2AFF active on 20 with p.p. 807s. Kevin is a new Ham only been on 6 weeks. Congrats to 2PN on addition to the family—nice work. 2TC, 2TA, 2AKE no news, what about some OTs? 2BT, 2AMV, 2FN, 2YG, and 2DO were entertained by 2WH during holiday week-end. 2YC reckoned QSL business slow, so reeled off few new ones for Hugh. 2JV was at 2AMV's shack when 2DO called. 2BT has his gear set up in good style, plenty for all occasions. Six metres biting the Forbes gang. In Albury, 2ANQ should be active soon and 2QD has lot of gear about but not working it. 2EU QRL home building, also building gear. Nil heard from 2AIB.

2OJ putting up 32 ft. mast for 10, uses 50 ft. aside antenna on 80 and 40. 2ANQ has built a new shack in back yard and should be on soon. Is busy servicing b.c.l. Rx while his AR7 falls to pieces; has trouble mastering the Baltic tongues of his new Australian customers. 2AJ, 2QE still own rigs, but nothing else. 2BW very active on 6 metres, works consistently with 2PN in Tumut. 2ANT has not been on for a long time. Quarters cramped (try a garage a la 2EU, with sink), 2TH left Wagga for Hurstville. 2GE left for Moree but latest he is back in VK4. 2YW not heard post-war. 2AID heard well on forty day and night, now building a 6 metre converter. Many thanks to 2AVP, 2AFF, 2EU and 2AID for sending notes along.

VICTORIA

TECHNICAL EQUIPMENT COMPETITION

Alf Harris, VK3CH of Birchip, one of the real old-timers, has donated a prize for the best piece of Technical Equipment submitted at the next Victorian State Convention.

A judging committee has been formed, and the rules will be published next month, so now is the time to start on that pet piece of equipment you have had in mind for so long.

CASTLEMAINE CONVENTION

On Sunday, 10th September, Castlemaine became the mecca of a large proportion of Victoria's Hams, yeah not only VKs, but they came from far off Cathay, G land and VK9, to attend the Annual Convention of the Central Western Zone.

Proceedings commenced at 1200 hours when a vigorous labelling campaign was carried out by the President and Secretary in the entrance of the Castlemaine Town Hall. Seventy-eight Hams and so forth signed the visitors' book, were duly tagged,

and passed on to the Mayoral Chambers where the boys were given a happy and informal welcome by Gordon and Mrs. Weynton in their dual capacity of Mayor and Mayoress and VK3XU, 3QQ, at this stage, read out the weekly W.I.A. broadcast in a brighter and breezier style than usual; next stop was lunch, preceded by a lively rag chew in the foyer, when the boys really got together and consumed gigantic quantities of something or other. Lunch was a problem solved, I think, to everybody's satisfaction. Sixty-four sat down in a room normally seating 48. 3WQ distinguished himself as a waiter par ex. Strange to say, the soup Charlie handed round all reached its QTH in good order.

During lunch, the prize for the lucky-door ticket was drawn, and resulted in the 813 going to Charlie Johnson. After a little magic in the shape of the 813 changing to pepper and salt, and back again it was duly handed over (who was Mandrake?).

Next item was the v.h.f. demonstration by Ken McTaggart 3NW ably assisted by 3EM, 3DC and company who provided the outside contacts. Ken had an imposing array of 50, 144 and 576 Mc. gear and went to no end of trouble to explain and demonstrate the salient points of each piece of gear. For simplicity, the 576 Mc. transmitter, as per January "A.R.", was outstanding. On the actual transmitting side perhaps the most striking feature was the sharp directive feature displayed by the simple dipole on 144 Mc. Ken's able demonstration was greatly appreciated by all those present, and should do much to stir interest in the v.h.f. bands in this part of the State.

Next item was the eagerly awaited judging for the best piece of home-built equipment. The boys were each given a ticket and after filing past the exhibits voted Ted Manifold VK3EM the winner for his complete v.h.f. transmitter-receiver cum power supply, and Ray Fitzsimmonds VK3FI into second place with an i.b. phone monitor, etc., covering from b.c. band through to 28 Mc. Both these chaps certainly earned their blankets and let's hope they are now snugly tucked in round their cots. Time was marching on with flying feet, so the Annual Meeting was the next item, minutes were read and accounts passed for payment.

Officers elected for the coming year were: President, 3GN; Vice-President, 3XU; Secretary and Treasurer, 3YW; Committee; 3XC, 3IQ and 3AKW.

During the Annual Meeting our good friend Byron 3TA made another of his practical gestures to help in improving technical and operating ability in the zone by donating three prizes for the ensuing twelve months for:—

Distributors for Eddystone Short Wave Components and A & R Electronic Equipment Transformers . . .

WILLIAM WILLIS & CO. PTY. LTD.

Available for Immediate Delivery. Freight extra. We have what you require.

● EDDYSTONE COMPONENTS

Microdensers, Transmitting Condensers, Formers, V.H.F. Silver Plated Ceramic Based Coils, I.F. Transformers, Slow Motion Dials, Insulated Knobs, Valve Cap Insulators, Cabinet and Chassis, and dozens of other high quality components for the Ham who really wants to dress his rig. Write for details.

● A & R ELECTRONIC EQUIPMENT

Modulation Transformers (75 watt), Class B Driver Transformers (zero bias 807s), Interstage Audio Transformers of all types, Output Transformers to suit every purpose, Line Transformers, Power Transformers to 300 Ma., Power Chokes to 300 Ma., Astatically Wound Power Transformers and Chokes. Write for details.

Write enclosing 1½d. Stamp for Eddystone No. 6 Short Wave Manual and A. & R. Electronic Equipment Transformer Catalogue. FREE!

PANEL MARKING TRANSFERS. Over 70 useful names for the Ham Shack, Communication Receivers, Transmitters, Control Panels, etc. Finished in ¼" Silver Modern Capitals. Simple to attach. 2/11 a sheet, postage extra.

428 BOURKE STREET, MELBOURNE, C.I

Phone: MU 2426

(a) Best improved signal on the 40 and 80 metre bands plus zone hook-up attendance (1st and 2nd prizes).

(b) Most outstanding result on v.h.f. bands. The offer was accepted on the motion of SVP and SXO and after further discussion it was decided that 3TA would make the awards assisted by a committee of his own choosing.

Time again marched on and believe it or not it was time for cats again, once more the pre-sets convivial-gathering took place; and finally the boys were all comfortably seated at their tables (Hams have big appetites as it cost about £86 to feed them). Fifty-four sat down and as it turned out, tea was the last combined function. Movies were our final item but transport arrangements and blown condensers conspired against us, and we finally said 73 to the Melbourne gang as they left by bus after they had had a perfectly "ripping" day (they said that themselves, Mr. Rd.). For the local gang it was the end of a "perfect, but trying day." We rounded it off by visiting 3XU's shack and admiring the neat beam on 20 at 3AWN.

Without the ready help and excellent arrangements made locally by 3XU, we could not have carried on, and everybody who attended and undoubtedly enjoyed themselves at Castlemaine should spare a minute's thought for thanks to Gordon for his efficient arrangements. We must also thank him for his generosity in donating the three prizes which were greatly admired.

That chap's a brief outline of what undoubtedly was the zone's most bang-up show, of the missing transport back to Ararat, Stawell and beyond, and of the search round Maryborough for juice at 1 a.m. we will not mention, but we will say this: "We would not have missed the 'do' for quids."

EASTERN ZONE

Once again we have changed the date of the Convention, this time to A.N.A. Week-end which falls on 28th to 29th January. The place of honour is Morwell district, and there is talk of some staying over the Sunday night, as the Monday is a holiday. Details will be given over the 3WI news.

The zone has decided to hold tests each Sunday morning, before the news, on 80 metres, to gain information in case emergency work has to be done on that band.

3QZ had the misfortune to burn out his power supply for the modulation and is operating with a temporary tranny. Graham and 8SS are planning to visit Bill at Omeo. Keith is back on his old rig, which has been returned from the Hobbies Exhibition with the modulation tranny still talking back. 3AHK had advice to offer Keith, also some remarks very much to the point, though he couldn't read his notes! 3PR is trying to get his v.f.o. going, but can't get enough drive to the next stage. 3OU recently went to Foster North to try to work 300 on 2 metres. Mt. Fatigue was in the road, unfortunately. 3TH visited Yallourn on 2nd October, to find both 3ALS and 3TO working. Leo is not active at the moment.

3TH is maintaining skeds with 3RH and 3BB after the 8WI news. Bert has built himself a 5-in. c.r.o. 3DI has a new addition to his shack—a Q5er for 50 Mc., which is working out very well. Jim is hearing sigs on 50 Mc. that he has never heard before, and is working through to 3NW with very good sigs, both ways. 3VL recently worked 3NW cross-band, Ken on 144 Mc., Rex on 50 Mc. With a superregen. and 50 Mc. beam, Rex received Ken's sigs at 86. 3ACL is evidently attending to his apple tree, as he isn't very active.

NORTH EAST ZONE

Ten were on the last hook-up, so we have some dope this time. 3AT, in the "CQ" Contest, worked several new countries, but phone quality still only fair. 3KR with a two element beam on 20 works DX on phone. 3YV bought an AR88 receiver. 8JK not so pleased with the trout getting off the line. 3WZ noticed walking around suburbs, well after midnight, looking for bricks for his new villa and shack. 3UI and 3APF have circuit on 144 Mc. going well. 8TS was too shy and modest to tell us of his dolings, but we know he enjoyed things at Castlemaine. 3PF newcomer to Benslia. Put heavy antenna coils in your receiver Jack, those 21ls at 3KR and 813s in Wangaratta are not ornaments. The threatened inspection of stations has caused a panic in this zone. No one seems to know what a wavemeter is and those with 2,000 volts on 813s have lowered the taps on the tranny.

At your scribe's shack all will be OK provided the R.I. does not find the secret button, which brings the big power supply on. Not sure how to explain the 10,000 volt working condensers or the 600 mill. final plate meter though. 3ACW, 3ABG and 3TS visited the Central Western Zone Convention at Castlemaine. They have the same President after three years! In this zone, 3YV's health broke down after 12 months, 3DW left the zone for good after three months, 3UI was kicked out after 6 months, and 3AT has lasted three months so far.

Heard that 3FD was making sarcastic remarks about these notes and the author, at a Bill in Nagambie recently. Information from a YL friend of yours Andy. 3FD is now operating on 40. 3ABG

has just built a new super special extra hot de luxe mobile for new car, with bandswitching all wave Rx, noise limiter, magic eye, illuminated meter and bezels, eight inch speaker, crystal mike, three stage mod., xtal or Clapp osc., 807 p.a., blower cooling and voice controlled changerover. Can readers suggest how to (i) get in the car with the rig in? (ii) stop the Tx coming on when the horn is used? (iii) Stop people saying near the mike things like "how do you switch this — thing off?"

SOUTH WESTERN ZONE

This month's highlight is the coming Convention which is to be held on the 26th and 27th at Lake Burrumbeet. It is hoped that those who have camping equipment can spend the week-end at the lake, while those who cannot camp, will have hotel accommodation and transport arranged.

On the Saturday in the afternoon will be held a tour of various shacks about town and in the evening will be held a social gathering. On the Sunday a picnic will be held at the lake. Prizes will be given for stations working portable on h.f. and v.h.f. and for best piece of home-built gear. Following will be novelty events and lectures on interesting topics.

Those who can come, please notify Jack Stevens 220 Doveton Street North, Ballarat, or contact 3BI, 8GR, 3VA on 40 metre phone. The following information is required: (1) When coming (Saturday or Sunday)? (2) Duration of visit. (3) If hotel accommodation is required. (4) What meals needed, if no accommodation is required. (5) If transport is needed to picnic grounds.

Directions may be obtained at the Ballarat City Hall between 1000 and 1200 hours. The last transport leaves the Hall at 1100 hours. In case of bad weather, Saturday arrangements as given, while on Sunday, location of an emergency meeting place will be given on arrival at the City Hall.

Those coming are asked to give notification before Saturday, 19th November.

Geelong Amateur Radio Club.—An interesting lecture was given by club member, Mr. Peter Cartwright, his subject was on "Radar." Members have decided to enter an exhibit in the forthcoming Hospital Gala in the form of a mobile unit. At the next meeting, members first met at the club rooms for a discussion, then visited the shack of 3APG where Phil demonstrated his rig to the boys. An interesting feature was the GBPO ribbon beam for 20 metres.

QUEENSLAND

The general meeting for September, held on the last Friday of the month in the Y.M.C.A. Buildings, was poorly attended, there being only 21 city and two country members present. In the absence of the President, 4KB occupied the chair. The meeting opened with the chairman extending a welcome to 4ZB of Rockhampton. The librarian advised that many members have failed to return books, and as a result, deposits will be on a yearly basis in future.

A lengthy discussion took place on the student classes and it was decided that 4IF would continue to conduct the theory class whilst the c.w. classes would be conducted by various members.

The Technical Committee requested that a sum of money be granted to them for the purpose of establishing a Technical Library. After much discussion the meeting gave its approval and the sum of £10 was granted to the Technical Committee. For a start the Committee proposes to build a grid dip metre.

The organiser of the Emergency Network reported that zone captains had been appointed and membership of the net at present totalled 45.

It is with regret that we heard that two of our members are at present in hospital, and we extend to 4KH and 4UK our sincere wishes for their speedy recovery from their illness.

Lectures arranged for future general meetings are as follows: November—Practical Demonstration of S.S.S.C. December—Conditions in G Land and Practical Aspects of Television and T.V.I. by VK4BB.

Congratulations go to 4JP and 4KS, both of whom have qualified for DX C.C. phone section.

ZONE NEWS

Downs Zone (4CG).—Not much activity in this zone this month. Conditions generally have been poor, especially at night. Good sigs from W during afternoon, but gone by nightfall. Europeans are fair to good from midnight, but you can't trust them—there one night and gone the next. Good sigs from Africa from midnight on and also in late afternoons on 10. Best DX heard was EA8, Sta. Cruz Is. on 14 Mc. Ten also produced some good DX from U.S. Central and South America during afternoon. Have been told that Europeans came through also but not in Toowoomba.

Heard 4DA working 4X4CR a few nights ago. Just an isolated burst from Max; it seems as he comes on only when there is something new in the way of DX about. 4XN still most active VK4 50 Mc., but reports conditions very quiet, hoping it's just a lull before the storm. Takes a lot of enthusiasm to stay on 8 when it's like that. Heard 4TY doing a bit on 7 Mc. a few nights ago

with nice sig. 4RJ must be on occasionally as we hear DX throwing back at him. 4OU, a real old-timer of 1921-22 vintage, is the VK4 portable king with rigs operating on 80 down to 6 metres, and is this zone's most active station.

Some new Hams are expected in this zone as the examination room has been most popular of late. Latest recruit is Arthur Wrembeck, of Glencoe, who passed last effort, likewise Bill Yates, of Toowoomba. A pleasant surprise for 4CG the other day, Cliff received a certificate from "CQ" Magazine for winning VK4 zone entry in last year's W.A.Z. Contest. Likewise got his DX C.C. from A.R.R.L. Latest effort at 4CG is W.A.W.C.A. in six hours and W.A.C. in 68 minutes. In case you've never heard of it, W.A.W.C.A. is "worked all W call areas."

Gympie Zone (4HZ).—Only news from this zone this month is a report that one of the locals is in training for next year's circus. 4LN was seen doing the Biondin' Act balancing a 4 element 10 metre beam as he crawled over the roof to the chimney top. Believe Barry now has two element on 7 Mc., two element on 14 Mc., four element on 28 Mc., and four element on 50 Mc. Believe 4HZ has a new modulator and a new motor bike.

Townsville Zone (4GD).—Only news of the month is that 4GD and 4VH have been working on 144 Mc. Club meetings are now held on the last Thursday of each month in the Railway Institute.

Maokay Zone (4KW).—Club is now operating under the call sign of 4BO. A Field Day, which was to have taken place in October, has been postponed to November.

Maryborough Zone (4GH).—On Sept. 1-3, the Maryborough Club held an exhibit at the local Arts and Crafts Exhibition. Club operated under the call sign of 4GH. The following equipment was on display: 14 Mc.—80 watt pair 807s, v.f.o./xtal with pair 807s class AB1 mod. 7 Mc.—30 watts to 807 with pair 807s class AB1 mod. Receivers 10 and 20 metre bands by 4BG, and all band plug-in receiver built by S. K. Carter, a student, also a BOB48 by 4AL 4GH supplied antenna couplers and high voltage tranny. Another student, G. Neilson, displayed a vacuum tube volt meter. The antenna used was 130 feet long in a semi-vertical position running up to 115 ft. high. It was strung from the top of the Town Hall tower.

During the display 40 contacts were made, mainly on 14 Mc., all VK and ZL. Operators were 4BY, 4AI, 4BG, 4AG, and 4GH. A display of QSL cards attracted great interest. On the first night of operation, contact was made with 3WI at the All Models Exhibition in Melbourne. As a result of the display the Maryborough Club have benefitted to the extent of five new members. Local gossip is that 4BG and 4AI are building gear for the 50 Mc. band, whilst 4GH is busy converting a class C wave meter to v.f.o. Old-timer Bob Heatson is warming up and looks like becoming active again. Bob was pre-war 4BB.

Brisbane Zone (4WG).—What happened Wally? Did the pen run dry after last month's effort?

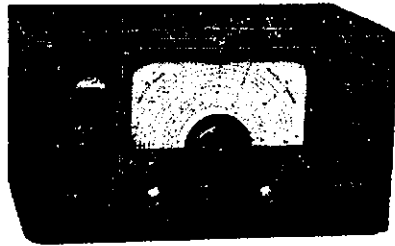
Bundaberg Zone (4BJ).—On October 3 the Bundaberg Club gave a farewell party to 4PG, who is leaving VK4 for VK2. Jack 4CW gave the farewell speech and on behalf of the Club presented Arthur with a wallet of notes. As these notes are written we hear that 4UK has come through his operation successfully and hopes to be in circulation again in the near future.

SOUTH AUSTRALIA

The Council meeting for October was held at the QTH of 5LW and the thanks and appreciation of all the Council members are due to Mrs. Kelly for the splendid manner in which she allowed such a gang of undesirable to ride roughshod over her charming domicile (how am I doing?). Anyway enough of that, suffice to say that on the night in question, 5MD, Joe McAllister, and yours truly set out in Doc's jalopy for the QTH of 5LW which is way up in the clouds and believe me that is no kidding. We were cruising along for what seemed like hours and climbing steadily all the while when Doc leant out and said to the driver of another vehicle which had drawn alongside us, "See you man, do you happen to know anybody around here named Ross Kelly?" "No," said the stranger. "I am new to these parts, I am flying on the Melbourne to Adelaide beam." Well, was Doc's face red. We eventually sighted the well-known 5LW beam and driving over the moat and drawbridge we alighted and were immediately surrounded by what appeared to be a hostile tribe of blacks. Running true to form, Doc and Joe very shrewdly pushed me forward, and there was I facing one of the most war-like savages that one could hope to meet in a nightmare. Was I worried, you said it, I certainly was, but it was then that my experiences on ten metres came to my aid. Facing the apparent chief of the blacks, and drawing myself up to the full five feet three inches of my height, I said in a voice trembling with emotion or something, "Moya Moya, Hunna, Hunna." The effect was startling to say the least, the chief turned white and said to his tribe, "Him big fella, him blong Thomas, him blong KH6 tribe."

ANNOUNCING—The “Commander” Double Superhet.

Look at These
Outstanding
FEATURES



No Other Communica-
tion Receiver with this
PERFORMANCE

- ★ Complete coverage 1.7 to 31 Megacycles.
- ★ Separate Electrical Bandsread on the 3.5, 7, 14, 21 and 28 Mc. bands.
- ★ Real “Q Fiver” Selectivity.
- ★ Full Vision Illuminated Direct-Reading Dial, calibrated in Frequency.
- ★ Precision Muirhead 50/1 Ratio Slow Motion Drive.
- ★ Series Noise Limiter with adjustable clipping level.
- ★ Provision on Bandsread for calibration against external frequency standard.
- ★ Adjustable Aerial Trimmer.

- **SELECTIVITY—**

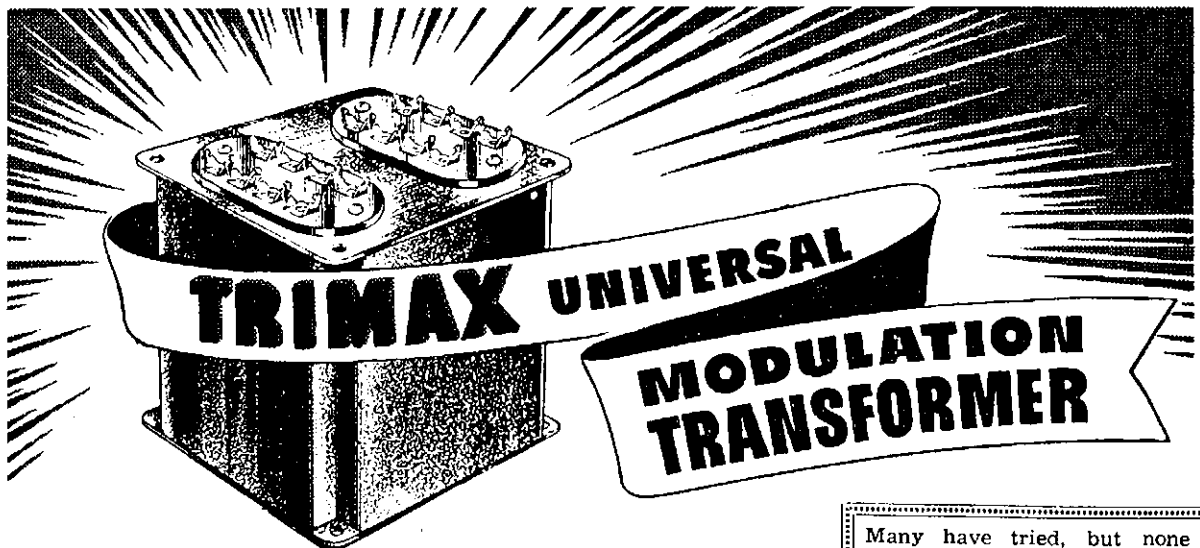
Broad:	10	times down at 4 Kc. off resonance.
Medium:	10	” ” ” 2½ Kc. ” ”
Sharp:	2	” ” ” 1 Kc. ” ”
	10	” ” ” 1½ Kc. ” ”
	100	” ” ” 2.7 Kc. ” ”
	1000	” ” ” 5 Kc. ” ”
- **SENSITIVITY—**
Between 1 and 2 microvolts input for 50 milli-watts output.
- **SIGNAL/NOISE RATIO—**
10 microvolts input gives better than 20 db signal/Noise Ratio.
- **IMAGE REJECTION—**
Better than 30 db at 30 Mc., increasing to over 70 db at 2 Mc.

Designed and manufactured entirely in England by Radiovision (Leicester) Ltd.

AUSTRALIAN AND NEW ZEALAND
FACTORY REPRESENTATIVE . . .

BRIGHT STAR RADIO

1839 LOWER MALVERN ROAD,
GLEN IRIS, VIC. Phone: UL 5510.



TRIMAX TRANSFORMERS

(Cliff & Bunting Pty. Ltd.) CHARLES ST., NTH. COBURG. FL 1203.

Many have tried, but none have achieved the standard set by Trimax Transformers. Originally introduced by Trimax in 1938, the Trimax Universal Modulation Transformer still holds pride of place in the best rigs.

Interstate
Representatives:

BRISBANE
Chandlers Pty. Ltd.,
Cr. Albert & Charlotte
Streets.

ADELAIDE
C. N. Miller,
Worando Buildings,
Grenfell Street.

PERTH
R. D. Benjamin,
197 Murray Street.

TASMANIA
W. & G. Genders
Pty. Ltd., 53 Cameron
Street, Launceston.

The tribe at once broke into one of their aboriginal chorus numbers, and to the words of "Oomph Oomph" above it oop your loomph." We were escorted to the back door where Ross met us and ushered us inside. Doc and Joe had met Mrs. Kelly before, and that left only me to be introduced. Putting on my most charming smile, I bowed low from the waist, but was somewhat intrigued by the look of horror on her very youthful looking face (how am I doing?). It was then that I realised that in the excitement in the driveway with the natives, my teeth had chattered a little with the cold or something, and I had removed them so as we could hear ourselves speak. Hastily replacing the teeth, I bowed and smiled again, and was relieved to see her sweet childish smile (how am I doing?) appear in a normal manner.

The rest of the Council arrived in various states of mental unrest, and I did admire Jim Paris doing a 100 yard dash in even time down the driveway. His explanation that he had felt a little chilly and broke into a trot, trot mind you, to warm up, did not fit in with his action of removing a spear from the seat of his pants, and 5GD also found it hard to explain just where he had obtained the Nulla Nulla that was in his hand. We finally settled down to a normal meeting, although Ross was forced to go outside and quieten the blacks down by sternly saying, "You blong bush, you go bush or me kickem deafandumb."

The meeting concluded by everybody eating the Kellys out of house and home, in fact we had some difficulty in persuading 5DW that in the best circles one did not eat the floral decorations. No time was lost in jumping into the cars and driving back over the moat, although there was no need to hurry, because I somewhat nonchalantly tossed a few Moya Moyas and a couple of Hunna Hunnas, much to the apparent discomfiture of the natives hidden in the bushes. My only regret is that I forgot to throw a couple of By Gollies at them. However, all is well that ends well, but I cannot but feel the highest admiration for that charming, sweet and kindly woman (how am I doing?) living such a courageous life among those wild natives.

The monthly general meeting for September was held to a very representative gathering of members when Mr. Jack Ferry gave a very interesting and instructive lecture on "Sound Reproduction," and in doing so covered quite a wide field in an endeavour to drive home his points. Mr. Ferry impressed his audience with his sound knowledge (no pun intended) of the art of sound reproduction, and answered quite a number of questions on a variety of subjects to the satisfaction of the entire gathering. He used several records to illustrate his remarks and I was sorry that 5BZ was not present as one or two of the discs would have delighted the ear of any bobby-soxer. 5MF, in a few well chosen words, proposed the vote of thanks to the guest speaker, which was acknowledged in the usual manner.

Among the visitors present were Messrs. A. Hunter, C. Olsen, W. Applebee, R. Chapman, W9BUL, VK2AGN-VK2ARH (maritime mobile), and G8CGX-VK3AAB (maritime mobile). The meeting closed very quietly, although several people looked expectantly at 5JD and myself, but they were disappointed if they expected any verbal fireworks because apparently I am at the moment coming up to Jack's expectations. However, I am not being lulled into a false sense of security because he is likely to have a shot at me at any moment.

The VK5 Council has received an invitation from the Australian-American Association to join with them in an endeavour to overcome the effect of the distance between the two countries. It is considered that a great many of the activities of the Australian-American Association tend to become impersonal owing to the time factor involved, but this aspect does not occur with Amateur Radio as many Amateurs speak to friends in the U.S.A. several times a week. It is not apparent at the moment in what manner each may help the other, but it is quite clear that ways and means would soon become apparent if both organisations were to work together for a short time. This matter has also been referred to Federal Executive for an expression of opinion. Just in passing, the Australian-American Association numbers among its membership some of the biggest names in social and business circles in Australia, and it also has the blessing of the Federal Government. The VK5 Secretary, Mr. E. Barbier (5MD), has been asked to address a meeting of the A.A.A. to explain Amateur activities and at the same time possibly suggest ways of co-operating.

The following candidates were successful in the recent A.O.C.P. examination: Messrs. A. R. McRitchie (Whyalla), R. T. Mardon (Leopold), W. A. Menlove (Darwin), W. L. Russell (Hackney), and A. R. Tuck (Woodville). I always like to include the QTH of these new-comers, because I believe that it is only fair to give warning of an outbreak of QRM to some of us.

All Hams, if asked, could give details of some particular "thrill" that they have had from Amateur Radio at some time or other. Their first DX contact, their first South American, or even their first b.c.l. complaint. Anyway, this is only a build-up to telling that I had my first "thrill" of contacting an old friend of whom I had not seen

or heard for fifteen years or so. To wit, VK7RM, ex-VK5RM ("Roop" to you), Rupert Barker (and don't let the Rupert fool you) used to be a Western Electric Engineer in VK5, when I was a sound projectionist at one of the city theatres. The contact was something of a nostalgic one because we brought back to each other memories (mostly of a humorous nature) of the early days of talkies, when as it happens none of us felt very humorous and in fact at times felt more like cutting our throats. We both got a great kick out of the QSO, and two highlights of the contact were firstly, the story of the non-technical house manager who on a wet and stormy night when told that the circuit breakers on the motor generator were "blowing out" quite often, calmly instructed us to shut the circle windows as that was where the wind was coming from! Secondly, the same chappy when asked by the young lady who handled the records as to why the effects records all had the same item on both sides, very learnedly said, "If you crack one side of the record you can always turn it over and play the other side!" Ho hum, those were the days.

Dame rumour has it that there will be no combined W.I.A. and I.R.E. Xmas social this year. Several explanations are being given, but they all tiddly wink, and in my humble opinion the main reason is that the W.I.A. steals the thunder at these meetings, and the upper-crusters of the I.R.E. deplore this departure from the normal. Anyway, as one prominent member of both organisations said, "they won't be missed and perhaps the Xmas social will be more like a social and less like a convention of undertakers' mates." Whilst I do not entirely agree with such a harsh statement, I do feel that the mantle of self importance does tend to dampen the natural exuberance of the wearer.

News from the City this month is, as usual, conspicuous by its absence, and I often wonder what the average reader of these notes imagines I do to fill up the empty spaces. Yes, you're right, I tell lies, and when I bring my imagination to work I usually dig up some carefully preserved secret, or unearth a grisly skeleton from some cupboard. Don't let this happen to you, give out with some information, or else.

By the way, apropos of my remark to the effect that I might do a balloon dance at Ballarat, Ross Kelly suggested that I do a fan dance instead, only he said to use an electric fan. 5CH is still building up new gear, but I gather that Claude has been rather quiet this month. 5MS has installed a high level clipper which he claims is the "goods." He is also building a new aerial (a new one each week is Stewart's motto, Jim Sullivan please note). 5FD is having a touch of b.c.l. trouble, you have my sympathy John, I have had my share.

5KU is still building, and has been fairly inactive on the air. You have not missed much Erg. 5JA is another one who has been fairly quiet this month. He had a visit from 5RR the other night and it was hard to tell who talked the most, Reg or John. 5TW has been on his annual holidays and so has nothing to report except that he called in on 5MD, unofficially of course! 5CJ has not been on the air for the month and my other spy who spies on my spy, tells me that Col has had too much housework. After all my advice, too. Oh well, another good Ham bites the dust.

There is no doubt about it, some people can be unlucky. 5SL, who used to spend his spare time with me juggling carbon filament lamps in the control room of the best broadcast station in VK5, has had his name spelt wrong in every edition of the P.M.O.'s book of call signs. Never mind Laurie, what's in a name, they even call me "Tubby" at times, and Heaven knows that is a gross exaggeration, I am just well built.

WESTERN AUSTRALIA

The September meeting was not as well attended as usual. Can't you DX hounds leave the game for one evening? With 6KW in the chair, the business was concluded smoothly. Main items were the election of two new members in 6RW, Bob Muir, an old timer welcomed back to the fold; and 6VM, Eric Machin. Long sought after W.A.C. Certificates were presented to 6GM and 6GA. The meeting was advised of the arrival of W.A.C. Certificates for 6JS and 6ZO.

Discussion took place on the recent announcement of the opening of certain Amateur Bands to the radio control of models. A suggestion was made to the meeting that the Institute be asked to consider the production of a uniform type of logsheet which could be used for Contests as well as for the ordinary station log.

Dr. Thompson (6GL) gave the meeting a personal viewpoint on a suggestion for the fostering of the art of Amateur Radio among members of Repatriation Hospitals to provide interested inmates with a new form of occupational therapy.

Advice was received from 6WG, Wally Green of Albany, of the donation of a trophy for country members to contest.

The V.H.F. Officer gave details of an attempt to raise the 144 Mc. distance record in VK6 by bridging the Geraldton-Perth route on that frequency. 6RU, holidaying in the Northern port with a mobile

522 endeavoured to contact the metropolitan area where 6GB, 6AG, 6FO and 6KW were straining their ears and receivers to hear from him. 7 Mc. contact from Geraldton to Perth was provided by 6EL and, although no actual contact was made on 144 Mc., 6RU advises hearing two carriers with faint modulation at a time when two Perth stations were in QSO on 144 Mc.

An item appreciated by members was the balloting for two American type call books which were duly presented to the lucky winners with the best wishes of the donor, 6DX, of Kalgoorlie. That's the real Ham spirit, Bill.

At the conclusion of the meeting, 6GM gave an interesting lecture on the Type 3 Mark II, with his own set as a model. Following this, 6WS and 6GL gave details of the transceiver in operation from Pelsart Island.

PERSONALITIES

Congratulations this month to 6MB on the arrival of a junior op. Following exams, 6RF intends to revamp his receiver and return to the DX bands. Some threat of impending activity also from 6XL. 6CM dashing around at his place of employment, came into violent contact with part of the fittings. Which was the hardest Bill? 6MK has a growing country tally, 69 was the last figure heard with an AC4 on 20 metre phone as the latest. 6EL heard on 7 Mc. with his version of "super" modulation. 6YZ has migrated to 14 Mc. to try his hand at a little DX. Ten metre beams are popular again. 6LL has a brand new 3 element; 6WT's 3 element is now 35 feet up and should go places. 6KU is said to be talking beam stuff. Heard 6KB on 20 metre c.w. a few nights back, also saw Val at the meeting. 6LM believes in QSOs in comfort, Lionel has a complete set-up, transmitter receiver etc., for both 10 and 40 metres.

6NL is heard consistently on ten these days. 6TP came to light with a ten metre signal after a long silence. 6RW has obtained a new receiver, "the better to hear them with." One subject which appears in these notes with monotonous regularity is that the metropolitan VK6s are back on their "hour of power" racket. Cheer up fellers, there's a good time coming—50 cycles and all that! 6GS and 6RK heard Sunday mornings battling with 1.m. on 7 Mc. 6DD as active as ever on the DX bands. John may be a VK2 before long. Also said to be moving VK2-ward is 6HM of Kalgoorlie. Hope you work back to VK6 on 50 Mc. o.m. Not much heard from 6JN, must be re-building. 6FL another inhabitant of ten metres who couldn't wait to get his beam into the air before trying it out.

Before closing a word of thanks to the Circulation Department for the prompt delivery of "A.R." The last few copies have been in VK6 within a few days of the first of the month.

TASMANIA

NORTHERN ZONE

For the September meeting of this zone, our members paid a visit to the Control Centre of Western Junction Aerodrome. An extremely interesting night was had by all making the trip. The October meeting should also be very interesting as 7BQ has arranged for the zone to visit the frequency modulated transmitting station which controls Launceston's radio controlled taxis.

7BQ has just completed a new six metre transmitter with an 832 in the final. Len's interest in this band was renewed when he heard weak signals a couple of weeks ago. Len, together with 7TE and 7FP, is also active on 144 Mc.

7RK broke a long run of "outs" when he worked three new countries in one evening recently, together with a two hour W.A.C. 7LZ has now received his W.A.P. Certificate from the N.Z.A.R.T. Also managed to work six new countries in September.

For the first time since, at least, 1936 no member of this zone was active in the DX Contest. General opinion being that with QRM as it is today it just isn't worth the battle. 7RK and myself spent several hours listening during the first weekend period and we both considered that conditions here were well below normal for this time of the year. We also noticed that there were far more rough and chippy signals on the air than has been in the past contests. The only way a few could be identified from QRN was because they were readable—with difficulty. Most reports for these signals were 7T.

Best DX heard on 14 Mc. in September was CX3CQ, FN8AD, UMBKAA, CTSAV, MD7DC, UN1AH, YS1MS, HZ1KE, HZ1PC, KB6AJ, FA9UO, CNSAJ, MP4BAD, PK2ZZ, ZK2AA, WP8AK, also several TIs, EAs, and 4Xs. This was all evening DX as our members just won't get up early these days, even for the rarest of DX.

I would also like to place on record one more very important event. 7BQ is spring cleaning. Amateurs have been seen leaving his residence with trailers, suitcases and apple cases. Anything may be obtained from a spark coil or coherer to the pieces of an SCR522.

The next meeting of this zone will be held on Friday, 11th November, at 8 p.m.

CORRESPONDENCE

The opinions expressed in these letters are the individual opinions of the writer, and do not necessarily coincide with those of the publishers.

FOR AND AGAINST

3 Pasadena St., Kogarah, N.S.W.

Editor "A.R." Sir,

On the subject of open letters, also the "Old Man's" contributions, I wonder if my reactions will strike a sympathetic chord in the hearts of other members of the Amateur fraternity and readers of "Amateur Radio."

To me, the tone of our journal suffers badly by the infusion of the sentiments of one of two and of the type addressed to VK2JP and the victims of the "Old Man's" critical pen.

It should be remembered by these writers that there are two sides to a story, always. For example, in the case of VK2JP and his DX activity, quite a few of the boys have worked a "new one" through his good offices especially as some of 2JPs' DX friends often appear and remain on the band for a session as a result of his schedules. In regard to the YJ1AA incident, as described by VK3BG (no remarks about third party traffic), this could happen to anyone. The fact that 3BG evidently heard 2JP does not mean that the reverse was also the case. I doubt whether 2JP or any other station would have called if the affix "calling on sked" or something equivalent had been used, even assuming 3BG was heard by 2JP.

It is agreed that a lot of the practices denounced by the "Old Man" may not be desirable. However, some bring their own rewards. Long CQs for example, with no call sign, may tax the patience of a DX station and will be passed over. In another case mentioned by the "Old Man," that of VK2AGW "breaking in" on 20Q's QSOs, lots of us take liberties with friends. In the "Q band hock-up" in the Sydney area, this practice is not frowned upon because of the keen desire for comparative reports and the limited time for which the band is open. The wise words which tell of the good in the worst of us and conclude with the moral that it ill behoves any to find fault with the rest, might well be borne in mind. In the extreme case I suggest "closed letters" if one feels that badly,

CLASSIFIED ADS.

Advertisements will be accepted under this heading from the trade, and/or others who are actively engaged in trading as a livelihood. Rate: 15/- per inch.

Department of External Affairs Antarctic Division SUPERVISING TECHNICIAN (RADIO-RADAR) GRADE L

Wanted, Supervising Technician (Radio-Radar) for each of the Scientific Stations at Heard and Macquarie Island. Salary range £582-636 plus special hardship allowance. Period of stay approximately twelve months. Applicants must be young, healthy and interested in outdoor activities such as walking, skiing, mountaineering, etc. Applicants should possess an appropriate University degree or technical diploma, and should have a thorough knowledge of practical electronics. They will be required to service and maintain radio and radar equipment and radiophone transmitters and receivers, and will also be required to act as senior wireless telegraphists. The appointee to Macquarie Island will be required to operate ionospheric equipment and take an interest in this branch of research.

Full details on application to the Secretary, Antarctic Division, Department of External Affairs, Albert Park Barracks, Albert Park, Victoria.

FOR SALE.—Commercially built voltage regulated power supplies for Bendix Frequency Meters or V.F.O. supply. 150 volts at 30 mills. Constant output with up to 20 volt changes in primary volts. Complete with tubes and power cord. £7/15/6 nett. Postage 2/-. R. H. Cunningham & Co., 62 Stanhope St., Malvern, Vic. UY 6274.

the QTH may always be found in the call book. "Open letters," to my mind, are nearly as obnoxious as the "anonymous" variety.

—W. ROBERTSON, VE2US.

"THE OLD MAN"

21 Sutherland St., Lane Cove, N.S.W.

Editor "A.R." Sir,

This block who calls himself the "Old Man" ought to be more careful about reading the regulations before he goes making statements about them. Said statements, when incorrect, mislead many and in any case should not be published in "A.R." which, after all, is OUR magazine not just the OM's.

Thus, for the information of all and sundry, including said OM, I quote here certain portions of the P.M.G. Handbook on regs. I trust you may find space to publish this in order that certain impressions may be corrected.

The OM, who apparently dislikes most phone men and those who operate in networks in particular, makes the statement that, "The regulations state very definitely that the call sign of the station transmitting and the call sign of the station being worked must be announced on each over."

The regulations state nothing of the sort. What they do state, and I quote here from page 16 of the P.M.G. Handbook, is as follows:

"134. The operator of an Amateur Station shall transmit the call sign of the station being worked and the call sign allotted to the station that he is operating at the beginning and end of each session, and at least once in every five minutes during the session."

The word "session" is defined on page 2 paragraph 2:

"In this Handbook, unless the contrary intention appears, 'session' means the complete period of operation between two or more Amateur stations, from the time of establishing communication to the time of signing off."

Thus, you can work by "flipping your carrier on and off without any mention of call sign," work push to talk to your heart's content, so long as you remember to announce your call signs at least once every five minutes.

Further, regarding this business of phonetics. The Department suggests that the standard phonetics be used for the sake of uniformity, but point out that their use is not compulsory so long as the phonetics used are not indecent or profane as set out in paragraph 138 of the Handbook. It helps a lot to give the call in two sets of phonetics when conditions are bad.

Finally, might I suggest to the OM that if his column is to be of value (and it could be) he should refrain from allowing his own particular hates to creep, nay, leap into prominence! Some of the things we have been reading in his column are just childish. Take that "We" business or "Incidentally," "Natter" which the OM thinks is "Matter"! These things have no place in the columns of "A.R."

The two standards by which we must judge operating, or what is said over the air and in what manner, are: (1) P.M.G. Regulations, and (2) General Practice. The personal preferences of the OM don't enter into it. If the OM goes chasing bad signals and really poor operating and the like, we will join in the chase with him, but if he is to waste valuable space by writing about the things that he doesn't like, and castigating folk because they don't happen to operate in the way he likes, then we'll turn round and chase him!

—JOHN MILLER, VK2ANF.

P.S.—If anybody finds a stray sense of humour kicking about, send it to the OM c/o "A.R." If it isn't his, he could still make good use of one.

[The interpretation of the regulations by VK2ANF are quite correct in the case which he has quoted. However, in due fairness to the OM I believe his references throughout refer to the person who butts into a QSO to let those already in QSO know he is there and does not announce his call sign. In this case the OM's interpretation is correct—I have heard this done many times myself.—Editor.]

P.O. Box 127, Geraldton, W.A.

Editor "A.R." Sir,

Congratulations to "The Old Man" for his comments on home-made phonetic alphabets. It's time this rubbish was stamped out. The chaps who make up their own phonetics are only confusing the issue especially since the majority of the "rare ones" are in countries where English is not the national language. A good deal of time and thought went into the preparation of the American system which was eventually adopted by the Allied Services and which, as "The Old Man" points out, now appears in the P.M.G. Handbook.

If these "specialists" in phonetics as applied to communication work think they know better than the research workers who developed the "Able, Baker, Charlie" set-up, their error is only matched by their colossal ego.

R. H. ATEINSON, VE6WZ.

FIFTY Mc. AND ABOVE

(Continued from Page 17)

3ANW but due to the antenna not loading the transmitter properly was unable to make a contact.

Tests which have been carried out during the month have shown it necessary to have a high gain beam for work on this band if anything other than short haul line of sight contacts are contemplated. The only new suburban path to be opened up was the one between 3QO in Ivanhoe and 3DA in Caulfield, a distance of about 64 miles over high intervening hills. So far only cross band QSO has been made, with 3QO on 576 and 3DA replying on 50 Mc. The path between 3NW and 3XA is another that should be broken down before this appears as the distance is only about 4 miles and practically line of sight. Tests between 3NW, 3XA and 3DA have so far failed to bring about any results.

Acknowledgement to VKs 2AH, 3IM, 6FC and 7DH for the above material.

HAMADS

9d. per line, minimum 2/-.

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 by 8th of the month, and remittance must accompany advertisement. Calculation of cost is based on an average of six words a line.

FOR SALE.—Alger "H.R.O." type Dial and Gear Box, £4; "A.B.A.C." 25 watt (Audio) Modulation Trans., £1/10/-; Class "C" Wavemeter, no cabinet, £2; Heavy Duty right angle worm drive, reduction 28-1, new, with spare gear, suitable for Beam Rotator, £3; 4 uF. 2,500 v. w. Condenser, £1/10/-; 4 uF. 4,000 v. w. Condenser, oil filled, £2; Heavy Duty Power Transformer, with two 600 v. full wave windings, about 250 Ma., £3; "A.R.R.L." Handbooks for 1943, 1945, 1948, and "Radio" Handbook for 1943, price 5/- each. D. C. McDonald, 16, Railway Ave., Malvern, Vic.

FOR SALE.—Bug, Simplex Auto, in good order. Phone WX 3288 (Vic.).

FOR SALE.—Communications Receiver K/CR/11 (AR7). Complete in rack with all coils from 140 Kc. to 25 Mc. Perfect order, as good as new. Price £60. B. E. Hardinge, Horsham, Vic.

FOR SALE.—Nine Tube Com. Receiver S.M., 10-80, a.c. All chrome chs. and panel, £28. A. O. Brand, The Entrance, N.S.W. Phone 53.

FOR SALE.—10 metre 3 element Rotary Beam, on 25 ft. Oregon tower, 1" Dural elements; two "S" meters; one 0-1 Ma. Pullin with multimeter scale; 0-30 Ma. meter; "Audio Scribe" pick-up. What offers for quick sale? A. K. Philpott, 24 Tennyson St., Kew, E.4, Vic. WA 9414.

WANTED TO SELL.—No. 22 Transceiver, nearly new, absolutely complete; No. 109, as above, cheap; No. 11 Transceiver, nearly new, complete, for sale cheap; VCR139A Cathode Ray Tubes and Sockets, only few left; MCR1 Set with power pack, a.c. and d.c., all coils, phones and miniature speaker in cabinet, 100% order; No. 108 Transceiver, less valves, brand new; Sperry Antenna System, new. G. E. Laver, Fish Creek, Victoria.

RED  LINE

Professional Equipment for the Amateur

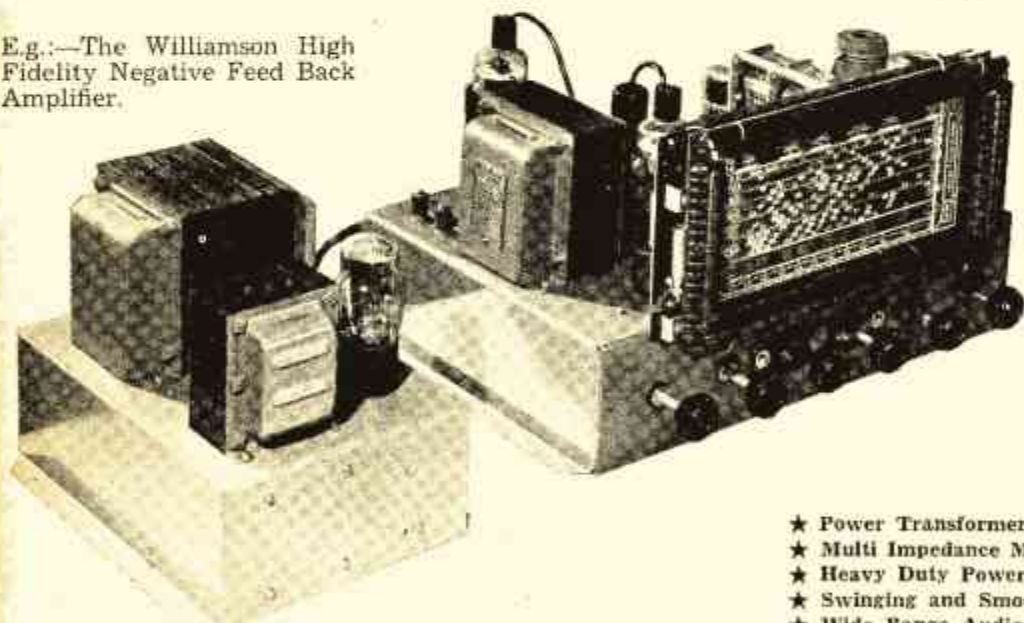
We are specialists in the design of transformers and chokes to individual requirements, and it is practically certain that you will not pose a problem of this nature that our very wide experience and manufacturing facilities cannot solve.

Unlike most manufacturers in this field, we operate our own tool room, press shop and laboratory and this close integration of our internal organisation has been of particular benefit to manufacturers using our products.

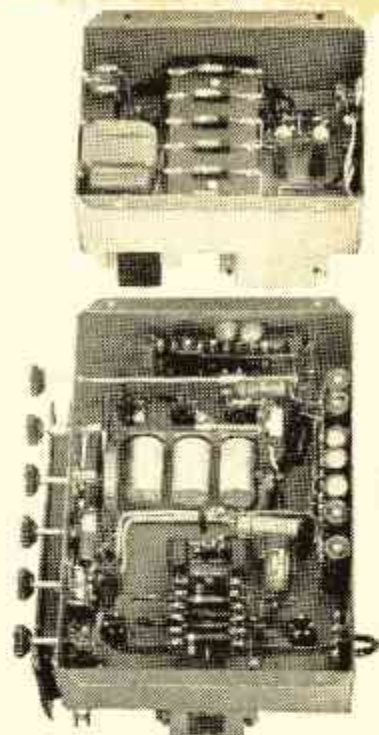
MATCHED TRANSFORMER KITS

for all classes of Electronic Equipment

E.g.:—The Williamson High Fidelity Negative Feed Back Amplifier.



- ★ Class B Driver Transformers
- ★ Output Transformers
- ★ High Tension Plate Transformers
- ★ Low Tension Filament Supplies*



A GUARANTEE



OF
DEPENDABILITY

- ★ Power Transformers
 - ★ Multi Impedance Modulation Transformers
 - ★ Heavy Duty Power Supplies
 - ★ Swinging and Smoothing Chokes
 - ★ Wide Range Audio Equipment
 - ★ Frequency Dividing Networks
- *Insulated for High Voltage if required.

RED LINE EQUIPMENT PTY. LTD.

WORKSHOP: 2 Coates Lane, Melbourne (Central 4773).
CITY OFFICE: 157 Elizabeth St., Melbourne (MU 6895, 3 lines).

Veall's Electrical & Radio
Pty. Ltd.
Arthur J. Veall Pty. Ltd.

Homecrafts Pty. Ltd.
Radio Parts Pty. Ltd.

Howard Radio Ltd.
A. G. Healing Ltd.

Healings Pty. Ltd.
Motor Spares Ltd.

Warburton Franki Ltd.
Lawrence & Hanson Ltd.

INTERSTATE DISTRIBUTORS:

Denradio Industries
(Maryborough).
J. Michaelmore & Co.
(Mackay).

SOUTH AUST.:
Gerzard & Goodman Ltd.
Newton & McLaren Ltd.
Unbehauen & Johnson Ltd.

Radio Wholesalers.
TASMANIA:
Lawrence & Hanson Ltd.
Noyes Bros. (Aust.) Ltd.

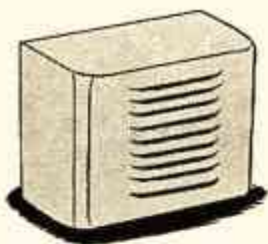
NEW SOUTH WALES:
U.R.D. Pty. Ltd.
Homecrafts Ltd.

QUEENSLAND:
B. Martin Pty. Ltd.
A. E. Harrold.

J. H. MAGRATH & CO.

Presents

A
COMPLETE RANGE
of
METAL CHASSIS
and
INSTRUMENT CASES



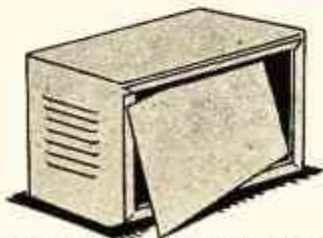
SPEAKER CABINETS, Steel Black or Grey wrinkle finish. Takes 6 inch Speaker. **11/6** Each



METAL SPEAKER CABINETS, Black or Grey wrinkle finish. Takes up to 8" Speaker. As illustrated above. **15/6**



Admirable for the "Little General" circuit. Black wrinkle finish. Size 10" x 5" **5/6** Each



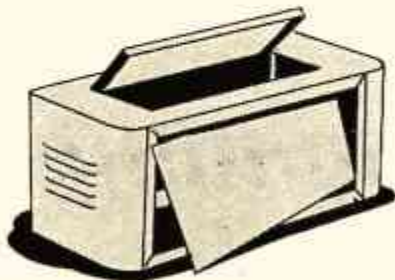
Communication type Steel Case. Black or Grey wrinkle finish. Detachable front panel. Size: 11" x 5 1/2" x 7" **25/-**

The first of a series of Chassis and Metal Instrument Cases and Boxes. It is our desire to present a complete range of Foundation Equipment. Write to us for particulars of any other type not listed here.

ALUMINIUM CHASSIS

Aluminium undrilled Chassis with welded ends. As illustrated at right. Size 6" x 4". **2/9** Each

Other sizes (not illustrated): 8" x 5", 4/11 each; 10" x 6", 5/11 each; 13" x 7", 7/- each; 13" x 10", 8/- each; 17" x 10", 12/- each.



Size: 15" x 7" x 8", as illustrated above with hinged lid **37/6**

Other size (not illustrated) measuring 19" x 13" x 9". **55/-**

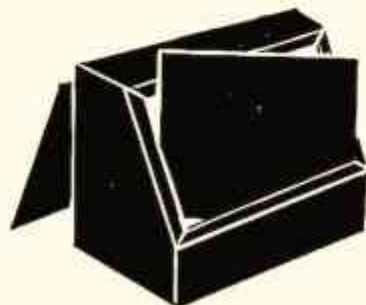
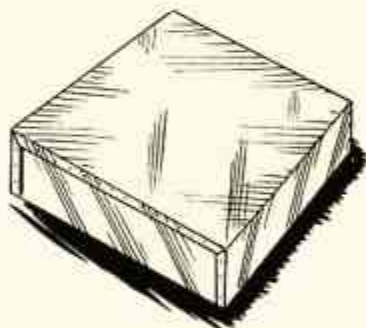


STEEL BOXES
With detachable front panel. Black wrinkle finish. Size 9 1/2" x 7" x 5"

11/-

7 1/2" x 6" x 4 1/2"

10/-



INSTRUMENT CASE

Very handy instrument type case. Steel, Black or Grey wrinkle finish, with detachable sloping front panel. Size 9 1/2" x 6 1/2" x 8". **16/6** Each

ALL PRICES PLUS 10% SALES TAX

J. H. MAGRATH & CO.

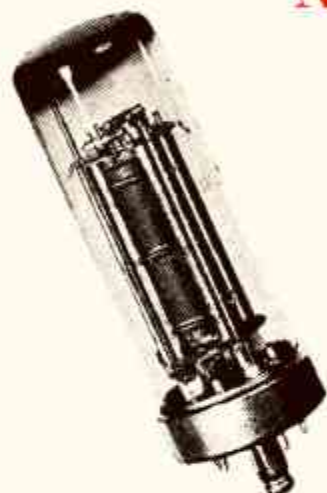
208 Lt. Lonsdale St., Melbourne, C. I

Phones: Central 3688, 4414

Now Arrived . . .

A New Quick Heating Valve for Mobile Services

PHILIPS QQCO4/15



The new Philips Double Tetrode type QQCO4/15 combines compactness, stability, and maximum output at 186 Mc/s.

ECONOMY OF OPERATION makes this valve ideal for use in mobile equipment. The directly heated filament requires only 6.3 volts at 0.68 amperes.

An important departure from the conventional type of double tetrode is that the anodes are brought out at the base and not at the top of the bulb. This feature facilitates wiring and allows a better orientation of components.

TYPICAL RATINGS FOR CONTINUOUS SERVICE

Frequency	186 Mc/s.	Screen voltage	200 V.
Anode voltage	400 V.	Screen current	8 mA.
Anode current	2 x 30 mA.	Bias	-80 V.
Watts output — 19.5 W. (Two systems in p.p.)			

Arriving Shortly—the QQEO6/40

Philips also has pleasure in announcing the development of a new double tetrode of advanced scientific construction. The QQEO6/40 has an output of 80 watts (approx.) at 300 Mc/s. This valve can also be operated with an output of 30 watts (approx.) up to 375 Mc/s.

PHILIPS ELECTRICAL INDUSTRIES OF AUSTRALIA PTY. LTD.

SYDNEY • MELBOURNE • BRISBANE • ADELAIDE • PERTH



FOR THE EXPERIMENTER & RADIO ENTHUSIAST

Registered at G.P.O. Melbourne, for transmission by post as a periodical

9^{D.}

"HAM" RADIO SUPPLIERS

5A Melville Street, Hawthorn, Victoria

PHONE: HAWTHORN 4465

PHONE: HAWTHORN 4465

BARGAINS - BARGAINS - BARGAINS

BC348, Single Ended Valves. Complete with Power Supply, Crystal Filter, 200 Kc. to 18 Mc. Excellent condition £35.

Army Amenities Australian Sound System Dual Wave Receiver. Complete with Vibrator Pack. Very clean condition. One only £17/10/-.

Brand new dual Audio Units. Containing two 12A6s in grey crackle finished containers. These units offer many purposes. Pre-Amplifiers, Inter-Communication Units or for wrecking. Units are mounted on rubber stands. 35/-.

English Transceivers, frequency unknown, Nine Valves including one EF50, one VT501, one EL32, two EF39, one EK32, one EBC33, two EF36. Check full of useful parts, relays, genemotor, etc. £6 each.

American Transceivers, Hi-Frequency I.F.F. Tube line-up: three 7193s, seven 6SH7s, three 6H6s, four Relays, less Genemotor £3.

Complete with 18 Volt type Genemotor £4.

SPECIAL

English I.F.F. Units. Tube line-up: two VR135 (high freq. triodes), two VR78 (diodes), four VR65A, Eddystone Butterfly Condenser, 1 uF, 1,000 v.w. Block Condenser, Genemotor 11-12 v. input at 3.8 Amp., output 480 v. 40 Ma. Good assorted quantity of Resistors and Condensers, ideal for wrecking, condition as new £2 each.

High Frequency Receiver, Australian AR301, uses three 954s, one 995. Six 6AC7 I.F. Stages at 30 Mc. Easily converted to 144 Mc. £10 each.

Prop. Motors, suitable for beams, 28 volts input ... £5

American type SCR52233, band coverage 2 to 9 Mc., plug-in coils, Modulator incorporated. Two 6N7, one VR150, one 1625, two 815s. Easily modified for other bands. Price £12/10/-.

American TA12D four-bands; 12SK7 v.f.o. each band, 807 doubler, two 807s in final, less Modulator. £17/10/-.

American type BC375E Transmitter, phone and c.w. Four 211s, one VT25A, including three meters, Modulator chock full of useful parts. Less coil boxes £9/10/-.

AT5 Transmitters, no valves or meter, slightly damaged and suitable for wrecking, plenty of useful parts £3.

Cathode Ray Indicators, American type CPR55ABB. Valve line up: one 5BP1, four 6AC7s, three 6H6s; in metal case, easily converted to C.R.O. Price £8/10/-.

American RI/ARR1, band coverage 234-258 Mc. Contains three 954 valves, resistors, etc. Slug tuned. In black crackle case. Price £3/10/-.

American RT/1APN2 Radar Receivers, two R.F. and Mixer stage using 956 Acorn valves, one 955 osc., two 6SL7, seven 6AC7, one 6H6, one 6V6, one 5U4, one 6SN7, one 2X2, one 2C26, two 4 uF, 600 v.w. condensers. Slug tuned, blower motor (28 volt, series wound). Price £9.

American Radio Beacon Receivers, contains one 12C8, one 12SQ7, low current milliamp. relay. In small metal case. Price £2.

Filter Units FL5C (used) 7/6 each.

Interphone Amplifiers, contains 6F8 valve, two transformers, resistors, condensers, etc. £1/10/-.

American Simpson 2 inch 0-150 Ma. Meters, new, £1/2/6.

Weston twin scale, 0-40, 0-120 Ma., 3 terminals, £1/2/6.

English Crystal Diodes 10/6 each.

American Radar Receiver 400 Mc. Tube line-up: two 955s, six 6AC7s, one 6H6, one 6J5. Slug tuned i.f. channel. Contained in black crackle cabinet. Price £7.

Plug-in Coil Units for American BCO30 Transmitter, containing two Ceramic 12" Coil Formers with sliding wheel tapping. Price 7/6.

VALVES, Tested, Out of Disposals Gear

10/- each—		7/6 each—	
2C26	954	2X2	12SK7
6A6	955	879	12SJ7
6AC7	956	6G6	12SH7
6H6	12A6	12SG7	6B4
6N7	12SR7	12AH7	6K7
6SL7	1626	12J5	2A3
6SN7	1629	12C8	AV11
6X5	HY615		
9003	RK34	6AK5	17/6 each.

WANTED TO BUY—TYPE 3 MK. II. AND TYPE A MK. III. TRANSCEIVERS

"HAM" RADIO SUPPLIERS

(KEN MILLBOURN, PROP.)

5A Melville Street, Hawthorn, Victoria

(East Kew Tram Passes Corner, opposite Vogue Theatre)

(Phone: Hawthorn 4465)

Please make Money Orders and Postal Notes payable at North Hawthorn Post Office.

DECEMBER . . . 1949

Vol. 17. No. 12

AMATEUR RADIO

Published by the Wireless Institute of Australia,
Law Court Chambers, 191 Queen Street,
Melbourne, C.1

EDITOR:

T. D. HOGAN, VK3HX,
Telephone: UM 1732.

MANAGING EDITOR:

J. G. MARS LAND, VK3NY.

TECHNICAL EDITOR:

J. C. DUNCAN, VK3VZ.

ASSISTANT TECHNICAL EDITOR:

A. K. HEAD, VK3AKZ.

COMPILATION:

R. W. HIGGINBOTHAM, VK3RN.

LIAISON:

I. K. SEWELL, VK3IK.

CIRCULATION:

S. I. ZEUNERT, VK3SZ.

ADVERTISING REPRESENTATIVE FOR VICTORIA:

W. J. LEWIS,
20 Queen St., Melbourne, C.1.
Telephone: MU 5154.

ADVERTISING REPRESENTATIVE FOR N.S.W. AND QUEENSLAND:

L. W. CRANCH,
Room 302, 17 Bond St., Sydney.
Telephone: BU 3879.

PRINTERS:

"RICHMOND CHRONICLE,"
Shakespeare St., Richmond, E.1.
Telephone: JB 2419.

MSS. and Magazine Correspondence should be forwarded to the Editor, "Amateur Radio," Law Court Chambers, 191 Queen St., Melbourne, C.1, on or before the 8th of each month.

Subscription rate in Australia is 9/- per annum, in advance (post paid) and A10/6 in all other countries.

Wireless Institute of Australia (Victorian Division) Rooms' Telephone is FJ 6997.

EDITORIAL



The spirit of goodwill always associated with Christmas apparently has already reached the shores of Western Australia. Federal Executive appreciates the sentiments expressed in a letter received from the Federal Councillor for VK6 so much, that it feels constrained to throw aside all modesty and publish herein the contents thereof.

"I don't doubt that Federal Executive will agree that its efforts and work generally receive more kicks than compliments, and it is therefore with considerable pleasure that I carry out the instructions of this Division in conveying to your Executive collectively and individually our thanks and commendation for your work in the interests of Amateur Radio.

"It is realised, also, that much of the work is on behalf of remote Divisions and concerning matters which can have little direct interest to you but to which, nevertheless, your Executive devotes considerable energy and time, the latter item being a charge on that elusive and scarce commodity known as spare time, to say nothing of the time which it must be necessary on occasions to extract during business hours.

"We also feel that to your Executive and its predecessors should go the credit for the transition, particu-

larly in the post-war period, of Divisional outlook from a purely State to a wider Commonwealth plane. In this lies much of the strength of our organisation, and we wish you continued success."

Federal Executive extends its heartfelt thanks to VK6 Division for its complimentary and gratifying gesture; but feels that in reality it is the wholehearted support accorded by the Divisions in general, and remote Divisions in particular, that has made it so easy and pleasurable to carry out the wishes of Federal Council.

As the activity of the Divisional Council is the barometer to the interest being taken by the individual members in the activities of the Division, Federal Executive is able to gauge the degree of interest in each Division, and quite naturally reacts favourably to the stimuli. From now until Easter, Federal Executive will be busy collecting, from the Divisions, material for inclusion in the Agenda for the Twentieth Annual Convention. If each and every member includes amongst the list of New Year Resolutions a pledge to put forward at least one constructive suggestion, then we will all have a **Happy Christmas, a Bright and Prosperous New Year, and a large Easter Egg.**

FEDERAL EXECUTIVE WISHES YOU ALL THE COMPLIMENTS OF THE SEASON.

The Contents . . .

Triple Conversion Receiver, A . . .	3	Ionospheric Predictions for the Amateur Bands	12
Simple A.M.C. Circuit That Really Works	5	B.E.R.U. Contests, 1950	14
Disposals Genemotors as A.C. Motors	7	Results of 1949 B.E.R.U. Contest	14
Restricting Speech Range in Speech Amplifiers	8	A.R.C.I. DX (International) Contest	14
Checking Crystal Frequency with the Type 3 Mark II.	10	Fifty Megacycles and Above	15
Cheap Rectifiers for Relay Operating Voltages	10	Federal, QSL and Divisional Notes	16
The Old Man	11	Abstracts from Overseas Magazines	23
		Correspondence	23
		Index to Volume 17—1949	24

Homecrafts

PTY. LTD.

XMAS GIFTS FOR THE RADIO ENTHUSIASTS



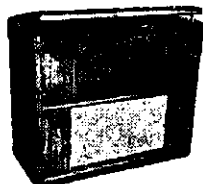
HIGH GRADE SPINTITES

Available in three sizes, 1/8, 5/32, and 3/16 inch. All priced at 6/- each.



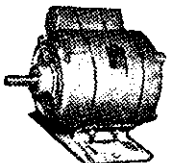
CAR RADIO SUPPRESSORS

Bakelite moulded and spring loaded Simplex push on top of Spark Plug. Eliminates all noise. Price, as illustrated, 2/3 each.



BARGAIN IN RADIOGRAM CABINETS

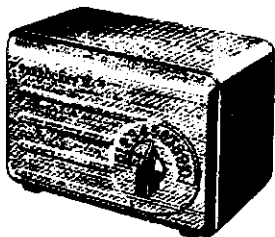
Beautiful Walnut Piano-finish Radiogram Cabinet, as illustrated. Standard model, £13/19/6. Model with deep well for a record changer, £14/7/-. Also available in the latest blonde finish, this model for a standard motor, £16/9/6. Model with deep well for record changer, £16/17/-. Country and Interstate clients add 13/- packing charge.



ELECTRIC MOTOR

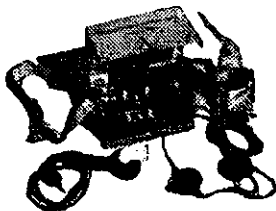
Brand new English Capacitor Start, 1/4 h.p., 1,400 r.p.m., 230 v. Motors. Complete, as illustrated. Only £8/19/6.

COUNTRY AND INTER-STATE CLIENTS PLEASE ADD FREIGHT OR POSTAGE.



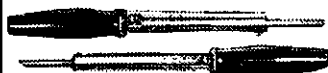
THE IDEAL GIFT FOR YOUR CHILD

Entertaining and educational. The Ferrocant Crystal Set. In attractive streamlined plastic cabinet. As illustrated. Available in four colors. Complete with Brown's English Head-phones. Complete, £3/19/6.



DISPOSAL BARGAIN TELEPHONES

Army Disposals type with up to ten miles range. Ideal for inter-communication or extension without rental. As illustrated, only 39/11. Plus batteries, 5/- extra.



SOLDERING IRON BARGAIN

100 Watt Electric Soldering Irons. Complete, as illustrated. Reduced from 30/- to 17/11.



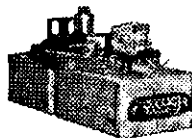
IMPROVE YOUR PHONO. RADIO

With the best and lowest priced sapphire needle on the market. The new British B.A.1 Sapphire Needle with over 2,000 playings guaranteed. Price only 9/9 each.



CELL TESTER

Davon Set High Discharge Cell Tester. Tests voltage of each Accumulator Cell under load. As illustrated, price £3/19/6.



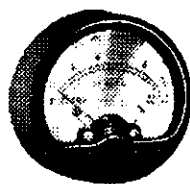
HOMECRAFTS' CAR RADIO KIT

Homecrafts' special concession offer of this Kit complete to the last nut and bolt, only 18 Gns., as illustrated.



ELECTRIC GRAMO. MOTOR

The new Collaro RT49 Rim Drive Electric Gramo. Motors with magnetic pick-up. £5/19/6.



WHILE THEY LAST!

English Meters, made by Metropolitan Vickers. 0.1 millamps. Moving Coil Meters. 2-inch scale. Brand new, in original carton, only 29/6.



RECORDING ENTHUSIASTS

Now available again, mechanoid cutting heads. A low priced cutting head (500 ohms impedance) with outstanding performance. As illustrated, price only £5.



MORSE KEY BARGAINS

Brand new Army type Morse Keys. Small type, as illustrated, only 1/11. Large type, as illustrated, only 2/11.



EXTENSION SPEAKER

The new Capitol Extension Speaker in steel crackle finish cabinet, cord and switch. Colors are cream, grey or black. Price, complete as illustrated, only 45/-.



MIDGET TUNING CONDENSERS

Two-gang with trimmers. Reduced from 19/- to 9/11. Three-gang with trimmers, reduced from 24/- to 12/11.



HOME BROADCASTING MICROPHONES

Home Broadcaster Microphones will work with any ordinary radio. Adds fun to a party. Cut to only 7/11. Plus battery, 2/5. Connecting wire, 3d. per yard.



VAN RUYTON VIBRATOR UNITS

With filtered direct current output. Models available are:-

VP690	6 v., 90 v., 15 Ma.	£6 8 6
VP6150	6 v., 150 v., 15 Ma.	£6 8 6
VP6250	6 v., 250 v., 45 Ma.	£6 10 0
VP12250	12 v., 250 v., 45 Ma.	£6 10 0
VP22250	32 v., 250 v., 45 Ma.	£6 13 6



SUPER PICK-UP BARGAIN

The famous Tru-Trak Magnetic Pick-up with curved counter balanced tone arm and off-set head. As illustrated, reduced from 70/- to 17/11.

290 LONSDALE STREET, MELBOURNE

Central 4311

A Triple Conversion Receiver

BY M. DU FEU,* VK6DF

The receiver described in this article was commenced about two years ago, and at that time it was intended to include in it every worthwhile feature from an Amateur's view point. Just what can be classified as a "worthwhile feature" undoubtedly varies from Amateur to Amateur, and in fact the Writer's opinion on this point has changed more than once since commencing the construction of the set. Also in s.s.s.c. transmission and reception, we have an Amateur technique that was not in use two years ago. Nevertheless, there are certain fundamental requirements for an Amateur receiver that are not debatable. Notable among these are stability and selectivity.

Sensitivity (signal-to-noise ratio) is important also, of course. But it is only of special importance from a design point of view from about 28 Mc. upwards, as at lower frequencies no special requirements are necessary to obtain satisfactory results. In these points this receiver is outstanding, and it also possesses another very desirable feature, accuracy (and ease) of calibration. On all bands covered (7, 14, 21, 27 and 28 Mc.) the frequency may be read directly from the dial with an error of not more than 3 Kc., and usually with much less error. With regard to ease of calibration, it is only necessary to calibrate the receiver for the 7 Mc. band. The calibration for the other bands is then obtained by adding a constant for each band to the 7 Mc. calibration.

The bands mentioned above were the only ones it was desired to cover with this receiver, although, for the sake of completeness, some thought was given to including the 3.5 Mc. band. However, as only five position band change switches were available, and as not much interest was felt in this band anyway, the idea was dropped.

A principle to which the writer felt much attracted was that used in the Collins 75A receiver, of having the first local oscillator crystal controlled, and tuning by varying the second oscillator frequency. In fact, this method has outstanding advantages from the point of stability, and ease of calibration, and increasing use is being made of it, as witness recent articles in "QST" and "A.R."

About the time it was decided to adopt this principle, the Command type transmitters became available and it was obvious that one of these would be ideal for the receiver's second local oscillator and tuning control system. Mechanically they far surpass anything available to the average Amateur for this purpose, and the stability of the oscillator leaves nothing to be desired.

One of the units covering the range 5.3 to 7 Mc. was obtained, and by removing plates from the oscillator tuning condenser, and altering the band setting condenser, it was made to tune from

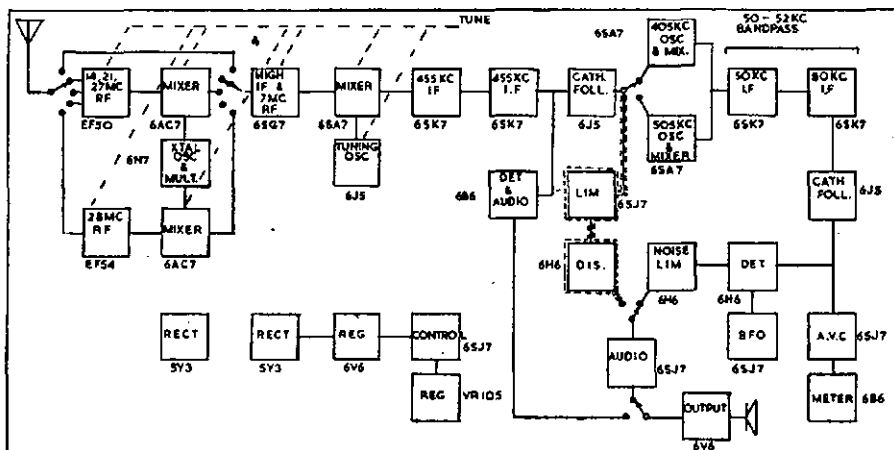
6.536 to 8.655 Mc. over 47 revolutions of the tuning knob, and without too much trouble it was possible to make it fairly linear, that is its average of 45 Kc. per revolution is very nearly the actual figure for each revolution.

The 1625s and their tank coil and padder condenser and the antenna loading coil and antenna relay were removed and a 6SA7 mixer and two stages of 455 Kc. i.f. amplification using 6SK7s were mounted on a small sub-chassis which was installed between the 1625 sockets and the front of the unit (where the tank coil and antenna loading coil had been). The grid coil for the mixer was mounted underneath the unit, and was tuned by the condenser previously used to tune the 1625s tank coil, the

these carry aluminium plates on which are mounted some of the other components. The outside edges of these plates are attached to similar rods on the sides of the receiver cabinet.

The frequency coverage is, of course fixed at 2.119 Mc. on each band, and the tuning rate is therefore the same on each band, averaging, as previously mentioned, 45 Kc. for each revolution of the tuning knob. The knob carries a plate $4\frac{1}{2}$ " in diameter, the outside edge of which is divided into 50 parts, each division representing 1 Kc. (nearly).

A drum is mounted in place of the dial on the Command unit, which is directly behind the front panel. This drum is used to drive a cord carrying a cursor, and the cursor moves forward



The block diagram (Fig. 1) tells most of the story. The receiver is built up as seven separate sub-assemblies, and is contained complete (except for loud-speaker) in a cabinet measuring 20" long x 12" high x 13" deep. Two other 28 Mc. front ends were tried, using (a)

a 6J6, and (b) a 6AK5 in the r.f. stage. There was no noticeable difference in results however. A wiser choice than the EF50 would probably have been a 6SK7, or perhaps 6SG7, as the greater freedom from cross modulation effects would be of more value than the higher gain of the EF50.

tuning range being 6.991 to 9.110 Mc., that is 455 Kc. higher than the osc. frequency.

Circular holes about $1\frac{1}{4}$ " diameter were cut in the right hand side (looking from the front) of the unit directly in line with the centres of the tuning condensers, and specially turned brass couplings were attached to the two tuning condensers so that a $\frac{1}{4}$ " shaft projected through each of the two holes. Flexible couplings were used to connect these couplings to two sets of ganged condensers; one set tuning the 28 Mc. r.f. and mixer stages, and the other tuning the 14, 21 and 27 Mc. r.f. and mixer stages, and the 7 Mc. r.f. and mixer stages. A considerable time was spent to get acceptable tracking.

Brass rods $\frac{1}{4}$ " square are attached to the sides of the Command unit and

1 division ($\frac{1}{50}$ ") for each revolution of the tuning knob and dial. Cardboard scales $\frac{5}{8}$ " wide were made for each band, and fastened to the faces of a hexagon brass rod (bored-out to reduce the weight) which is arranged to revolve so as to bring the correct scale for the band in use behind the cursor.

The different bands are covered as follows:—

7 Mc.—The signal is fed from the antenna to the 7 Mc. i.f. stage, and the band covered is from 6.991 to 9.110 Mc.

14 Mc.—The signal passes through one stage of r.f. amplification, and is mixed with a signal of 6.2 Mc. from the local crystal oscillator. (The 6.2 Mc. crystal was obtained from the Command Unit.) The coverage is from 13.191 to 15.310

*c/o. G.P.O. Box G500, Perth, W.A.

Mc. (8.991 + 6.200 to 9.110 + 6.200).

21 Mc.—The second harmonic of the crystal frequency is used, i.e. 12.400 Mc., which gives a tuning range of 19.391 to 21.510 Mc.

27 Mc.—The third harmonic is used, i.e. 18.600 Mc., which gives a tuning range of 25.591 to 27.710 Mc.

28 Mc.—A crystal frequency of 5.212 Mc. is multiplied four times to give a frequency of 20.848 which provides a tuning range of 27.839 to 29.958 Mc.

On the 14, 21 and 27 Mc. ranges, there is second channel interference from the 6.2 Mc. crystal, which appears at 13.310, 19.510, and 25.710 Mc. All of these frequencies are far removed from Amateur Bands, and are therefore of no consequence. On the 28 Mc. range the fourth harmonic of the v.f.o. appears at about 28.4 Mc., and this frequency is inside the band and is a nuisance. However extensive by-passing and shielding reduce its intensity to a fairly

low value, and as it is the fourth harmonic of the v.f.o., it tunes four times as fast as does any external signal being received. There are no other spurious responses.

Before deciding on the 455 Kc. i.f. finally adopted, 1600 and 2000 Kc. were tried, as also was having the oscillator frequency 455 Kc. higher than the signal frequency. However, in each of these cases there was much trouble from spurious signals. Considerable trouble was experienced also on the 28 Mc. range with unwanted signals beating with what turned out to be the 5th, 6th, and 7th harmonics of the 5.212 Mc. crystal. This was overcome by making use of two loosely coupled circuits tuned to the 4th harmonic in the harmonic amplifier, as shown in the diagram.

The wavetrap shown is essential only on the 14 Mc. range, and it is completely effective.

The single-sideband section of the receiver is adapted from the unit described by J. L. A. McLaughlin in "QST" of October, 1947, the special inductances required being made by Kingsley Radio. This portion of the receiver has been somewhat disappointing, however, the reason most likely being that the 50 Kc. band-pass amplifier is not correctly aligned. For all that the 50 Kc. i.f. channel would be worth

while even without the selectable sideband feature, as the increase in selectivity it gives is very considerable.

In fact the selectivity is such that some phone signals are almost unintelligible unless a means is provided to attenuate the lower audio frequencies, and thus provide a better balanced audio signal. At a later date it is hoped to replace this part of the receiver by the single-sideband unit described in "Ham News" of Nov.-Dec., 1948, and this is one reason for the inclusion of the regulated power supply.

The portion of the receiver indicated by dotted lines has yet to be added. Otherwise the receiver is complete, and has been working for several months with very good results.

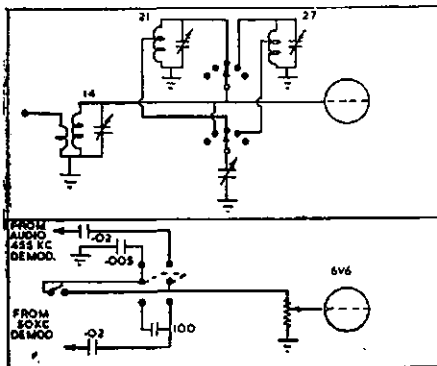


Fig. 2a (above) and 2b (below)

The arrangement of the switched coils (Fig. 2a) for the 14, 21 and 27 Mc. bands is unconventional. The antenna is coupled in only through the 14 Mc. coil, which remains in circuit all the time. Other coils are switched across it as shown, to reduce the inductance.

When the 455 Kc. demodulator is connected to the output stage, the single throw toggle switch (Fig. 2b) is used to connect a condenser from grid of the 6V6 to ground, thus removing some of the highs. When the 50 Kc. demodulator is connected to the output stage, the same switch is used to place a 0.0001 uF. condenser in series with the 0.02 uF. coupling condenser, thus greatly attenuating the low frequency response.

This is a definite advantage for c.w. and for copying those phones in which there is no appreciable low frequency attenuation at the transmitter. The high frequencies are cut so much in passing through the 50 Kc. i.f. stages, that many signals are almost unintelligible unless this condenser is used. On the other hand, if the lows are sufficiently attenuated at the transmitter, results are better without this condenser in circuit.

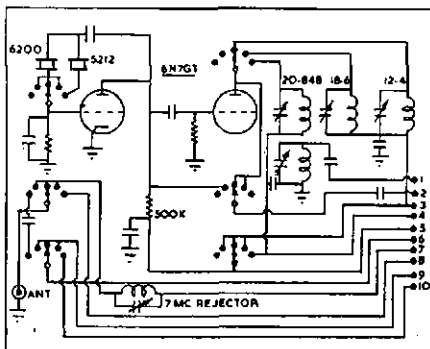


Fig. 3.—Crystal Oscillator Stage.

Designations:—

- 1—To 28 Mc. mixer grid.
- 2—To 14, 21, and 27 Mc. mixer grid.
- 3—B+ to 14, 21, and 27 Mc. r.f. and mixer.
- 4—B+ to 28 Mc. r.f. and mixer.
- 5—B+ from supply.
- 6—To input of 7 Mc. stage.
- 7—To input of 14, 21, and 27 Mc. stages.
- 8—To input of 28 Mc. stage.
- 9—To 14, 21, and 27 Mc. mixer plate.
- 10—To 28 Mc. mixer plate.

The crystal oscillator uses one section of a 6N7GT in a Pierce circuit (Fig. 3). The other section is used as a multiplier. The oscillator operates with very low plate voltage. The switches shown above are ganged with the coil switches in the r.f. and mixer stages for the 14, 21 and 27 Mc. bands.

Low Drift Crystals

FOR
AMATEUR BANDS

ACCURACY 0.02% OF
STATED FREQUENCY

3.5 Mc. and 7 Mc.

Unmounted £2 0 0
Mounted £2 10 0

12.5 and 14 Mc. Fundamental
Crystals, "Low Drift,"
Mounted only, £5.

Spot Frequency Crystals
Prices on Application.

Regrinds £1 0 0

THESE PRICES DO NOT
INCLUDE SALES TAX.

MAXWELL HOWDEN

15 CLAREMONT CRES.,
CANTERBURY, E.7,
VICTORIA

A Simple A.M.C. Circuit That Really Works

BY B. E. CABENA,* VK3KF

This system has been in use at the writer's QTH for the last twelve months and during this time a number of requests have been received for circuit data. It was therefore thought desirable to send in an article to this magazine for publication.

For the benefit of readers who may not be very conversant with automatic modulation control, a short explanation of its principles will not be out of place. It is analogous with the a.v.c. system used in receivers in that some of the incoming signal is rectified, filtered and the resultant d.c. applied to the grids of the tubes in the stages whose gain is to be controlled.

The method of achieving this however, is somewhat different in that with audio amplifiers, in order to obtain effective control, it is necessary to tap off portion of the audio signal from the plate of the stage preceeding the one to be controlled and feed it to a separate amplifier stage, or stages, the output being rectified and then passed through a filter to eliminate the audio component. The resultant voltage is thus pure d.c. and it is equal in value to the average value of the audio signal.

This voltage, when applied to the grids of the tubes to be controlled increases or decreases the bias in proportion to the average variations of the input signal to the amplifier. This means that the output of the amplifier remains substantially constant with relatively large variations in input signal. It will also be found that signals above a certain amplitude (depending on the amount of control used) will not be amplified. This naturally applies only to the controlled stages. This gives the effect of clipping, but without noticeable distortion.

From the above it will be seen that a.m.c. enables the modulator gain control to be set at a much higher level than would be the case if a.m.c. were not used. This of course means that the carrier can be more deeply modulated, the limiting action of a.m.c. preventing side-band splatter. Experiments with the circuit shown indicate that the system responds to audio peaks of quite short duration.

The first attempts at a.m.c. utilised a 6U7G as controlled tube with control voltage applied to both the signal and suppressor grids, but results were very unsatisfactory. After consulting the A.R.R.L. Handbook it was decided to build up the circuit shown using the 6L7 tube in the controlled stage.

Results were much better, in that the a.m.c. was more effective, but not yet

good enough and also the stage gain was so low that the modulator, using 807s in AB₂, had not enough output to show any signs of modulation on a 38 watt carrier when listening on the monitor. Some modifications were therefore made and the circuit shown finally arrived at.

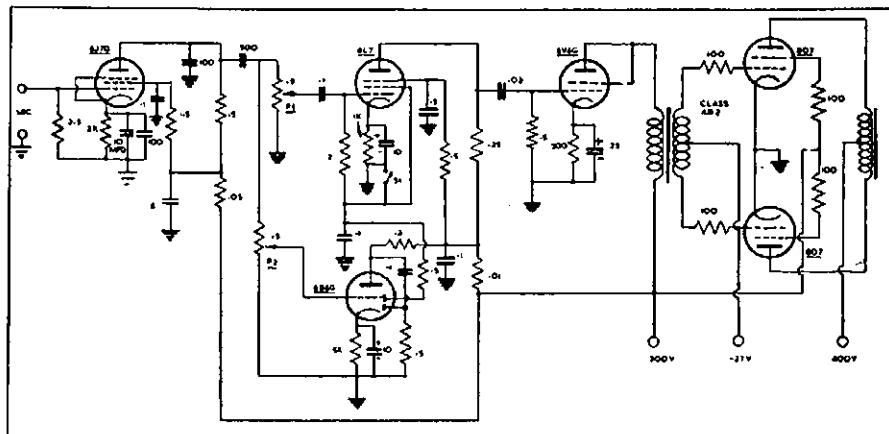
The modulator now has enough output to fully modulate a transmitter of 76 watts input, the gain control being at maximum and the a.m.c. control about 15° from zero. When the a.m.c. is then switched out, the carrier is over-modulated.

It might here be mentioned that there seems to be no reason why the pentagrid or heptode converter tube should not be used instead of the 6L7, in fact, tests made by the writer on the control effects of grids number one and four on type 6A8 tube seem to support this view. The oscillator plate would, of course, be earthed.

be used, if at all, but it is a good idea to be able to switch out the a.m.c. if only for comparative tests.

First set P2 to zero, then adjust P1 for 100% modulation and advance P2 until speech clipping is audible. It will then be necessary to back off the latter control to the point where clipping just commences, i.e. just noticeable on peaks. Now you will have to increase the gain a bit to get back to 100% modulation; once again back off P2 slightly to avoid severe clipping. The above adjustments were carried out without the aid of a c.r.o., a check being obtained from a local Ham.

During the time that the writer has had this system in use, not one report of distortion has been received, but when asked for a report on quality, the answer has always been "very nice quality indeed OM." There is no reason why you should not have the same success.



The main point as regards the construction of the unit is to make the layout such that the leads around the a.m.c. circuit are kept as short as possible, otherwise instability may occur. The only lead that was found to be rather critical was from the plate of the first stage, but no trouble will be experienced if the coupling condenser C is connected straight to the plate pin on the socket. The value of C was selected to give the best results when using crystal mikes, type JT30; but with dynamic and carbon mikes it may be desirable to increase the capacity to about 0.02 μ F.

Adjustments of the a.m.c. P2 is quite simple. It should be mounted on the panel with the gain control P1, so that it is easily accessible. This also applies to the a.m.c. on/off switch. S1. It will be found that the latter will very seldom

A.O.C.P. CLASS

The Victorian Division A.O.C.P. Class will commence on Thursday, 12th January, 1950. Lectures are held on Monday and Thursday evenings from 8 to 10 p.m. Persons desirous of being enrolled should communicate with Secretary W.I.A., Victorian Division, 191 Queen St., Melbourne (Phone FJ 6997 from 9 a.m. to 6 p.m.), or the Class Manager on either of the above evenings.

* Uvadale Grove, Kew, Victoria.

VEALLS

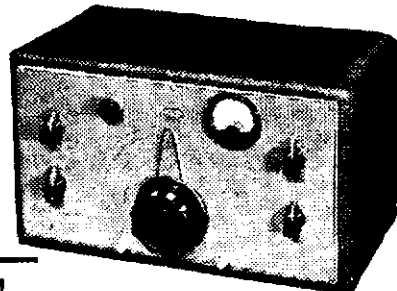
for all RADIO
REQUIREMENTS

"UNIVERSITY"

S.G.A.

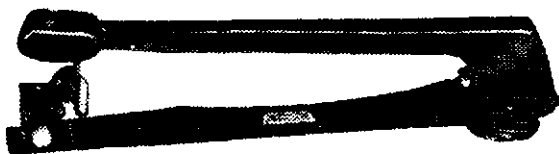
Signal Generator

Frequency 155 Kc. to 110
Mc. Seven bands. £47
(plus 8½% Sales Tax).



DON'T MISS THESE DECEMBER BARGAINS!

- ★ TRANPRO Valve and Circuit Tester for 6 volt and A.C. operation. Slightly shop soiled, £27/10/- net.
- ★ MAGNAVOX 10" P/M 380M, 38/6 net; 10" P/M 380L 49/6 net; 12" P/M 382L 81/7 (discount to Hams).
- ★ Speaker MONO FLARES for outside P.A. work, 10", 47/6 net.
- ★ SQUARE FLARES for 8" Speakers, 40/- net.
- ★ TUBULAR CONDENSERS, 4 uF. x 600 volt, 1/3 net.
- ★ AMPLIFIER CASES 52/6 each (Discount to Hams).
- ★ POWER TRANSFORMERS, 350 mil., 385/385, 75/- (Discount to Hams).



LEXINGTON MOVING COIL PICK-UP

Sensational Bargain Price! This famous English Pick-up gives full reproduction of the total audio frequency range. Complete with transformer, screening box and sapphire needle. 12", £7/19/6 net.

VEALLS

243 SWANSTON STREET, MELB. FJ 3145
299 CHAPEL ST., PRAHRAN. LA 1605
Mail Orders Box 2141T, G.P.O., Melbourne
Ass. with ARTHUR J. VEALL Pty. Ltd. Est. 1911.

A. & R. ELECTRONIC EQUIPMENT CO. PTY. LTD.

Amateurs will find the following selected items of particular interest. They are available from stock at Trade Prices.

MAINS VOLTAGE ADJUSTING TRANSFORMERS. tapped in 10 volt steps, from 180 to 250 volts, auto wound, with terminals.

Type AT1200-21	Rating 100 Watt.
Type AT1201-22	Rating 250 Watt.
Type AT1202-22	Rating 500 Watt.
Type AT1203-8	Rating 1000 Watt.

MODULATION TRANSFORMER, TYPE MT15-75: Rating, 75 watts output, 200/7000 c.p.s. Primary Impedances: 4000, 5000, 6000, 8000, 10000 ohms 150 Ma. d.c. Has reversible case, fully impregnated windings and core, ceramic insulators, adjustable spark gap, and is quiet in operation.

CHASSIS, PANELS AND HANDLES: Standard 19" x 10½" Panels, Chassis, Brackets and Chrome-plated Handles, ready for assembly in kit form. Also available, fully punched and drilled Chassis for A. & R. 75 watt Modulators. Illustrated catalogue available upon request.

A & R ELECTRONIC EQUIPMENT CO. PTY. LTD.

1 LITTLE GREY STREET, ST. KILDA, MELBOURNE, VICTORIA.

PHONE: LA 3657

Trade Sales:—

WM. WILLIS & CO., 428 Bourke St., Melbourne (MU 2426).
J. H. MAGRATH & CO., 208 Lt. Lonsdale St., Melb. (Cen. 3688).

Wholesale Distributors:—

R. H. CUNNINGHAM & CO.,
62 Stanhope St., Malvern, S.E.5 (UY 6274).

Disposals Genemotors as A.C. Motors

BY L. W. WALLBRIDGE,* VK5UX

Some Hams who have purchased disposals equipment containing genemotors may not have considered the possibility of using these as a.c. motors.

The genemotors suitable for this conversion have both field and armature of laminated construction and they have

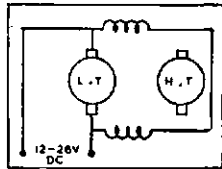


Fig. 1.

one set of field coils (consisting of a few turns of heavy wire) which are common to all windings.

Figure 1 shows how the genemotors are probably wired when purchased.

Figure 2 shows the alteration necessary to obtain a series a.c. motor by placing the field in series with the h.t. winding. (Use the lowest of the h.t. windings if the genemotor has two h.t. outputs.)

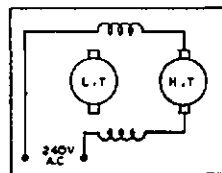


Fig. 2.

The trouble with the series motor as shown, is that it attains dangerously high speeds on no load because the

field strength is weak and, for the same reason, the torque of the motor is low. Because of this latter characteristic, the machine quickly slows down and stops on any but the lightest loads.

If we increase the current flowing in the fields, the speed of the machine drops slightly, but the torque is increased. A cheap and effective method of doing this is to place a lamp across the motor as shown in Figure 3.

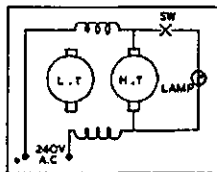


Fig. 3.

A switch will give a choice of two speeds. This idea can be carried further by using a bank of lamps, each with its own switch, to give a wide variation in speed (and torque). If a heavy-duty variable resistor is used in place of the lamps to vary the speed, precaution must be taken to prevent a short-circuit occurring across the machine.

AN IDEA

Ever short of a couple of points on a terminal strip?

A couple of brass paper fasteners in suitable holes solders easily and can be bent to suit the needs of the user.

TRADE REVIEW

Messrs. R. H. Cunningham & Co., Australian Factory Representatives for Stratton & Co. Ltd., manufacturers of "Eddystone" components and equipment, advise that a vibrator unit is now available for the 640 Communications receiver.

The unit has been designed to permit operation of the "640" Receiver from a 6 volt accumulator, although it may be used with any receiver or other equipment, the h.t. consumption of which is not more than 65 Ma.

The unit comprises a transformer, fuse, non-synchronous vibrator, rectifier (6X5G), on/off switch, pilot light and the necessary filters to prevent r.f. interference. Smoothing is not included since the choke and condensers fitted in the receiver perform this function. A heavy cable is provided for connection to the battery, and a lead terminating in an octal plug, for fitting direct to the socket provided on the "640" Receiver. The unit is totally enclosed in a small metal cabinet, finished a smooth ripple black. The consumption from a 6 volt battery is between 5 and 6 amperes, dependent on load. Catalogue number is 687 and the price is £15/19/5 plus tax.

Stocks of the 669 "S" meter have now arrived, priced at £7/5/- plus tax. Both of these units are available from all "Eddystone" distributors.

BUY YOUR DX FRIEND A
YEARLY SUBSCRIPTION
TO

"AMATEUR RADIO"

VICTORIAN DIVISION, W.I.A.

THEORY INSTRUCTOR
FOR A.O.C.P. CLASS

Applications for Theory Instructor for the A.O.C.P. Class commencing on 16th January, 1950, are invited from persons competent to teach the elementary principles of electricity and magnetism, radio and audio frequency transmission and reception on Monday evenings from 8 to 10 p.m.

Successful applicants will be suitably remunerated. Applications should be forwarded on or before 9th January, 1950, to the Secretary, W.I.A., 191 Queen St., Melbourne, endorsed "Application for Class Instructor."

DURALUMIN TUBING FOR WIRELESS AERIALS

Stocks Now Available for Immediate Delivery

ALL DIAMETERS $\frac{1}{4}$ " TO $1\frac{3}{4}$ " IN WALL GAUGES 16-18-20

Price List on request.

GUNNERSSEN ALLEN METALS PTY. LTD.

67 YARRA BANK ROAD, SOUTH MELBOURNE

Phone MX 4621 (5 lines).

Telegrams: "Metals," Melbourne.

Restricting Speech Range in Speech Amplifiers

This is a case of where you can get something for nothing, or at least, close to nothing. Before giving the punch line, though, let's examine the situation from the beginning.

Phone stations on the Ham Bands seem to fall into three categories regarding their speech quality. The first are the stations that will have no audio equipment in the shack unless it is capable of a flat response from 20 cycles to 15,000 cycles. Their quality is superb, and your ears would tell you so if it were possible to have a receiver and a reproducing system capable of handling this audio range at a time when propagation conditions allowed undistorted reception. These Amateurs are taking up needless space in the limited Ham spectrum by their activities, but as long as their carrier is inside the band edge by twenty to twenty-five kilocycles (in order to keep those wide sidebands inside the band) then, the P.M.G. will not bother them, at least not yet.

On the other extreme is the second group, small though it be. These Amateurs wish to have a transmitter that is as effective, communication-wise, as possible. Those who are on a.m. phone tailor their speech amplifier equipment until it transmits the narrowest possible audio range, leaving only enough audio range for complete understandability. A more rabid group goes even further, by partially eliminating the carrier and then transmitting only one side band. These Amateurs deserve a lot of applause, but we need not bother to applaud them, because they did this not for applause, but because they want their money's worth out of their equipment.

Which brings us to the third group, which must certainly include the majority of the world's phone men. This group is made up almost entirely of Mr. Average Phone Man and others of his ilk. Mr. Average Phone Man has a speech amplifier and a modulator which he copied faithfully from some handbook or some radio magazine. When he finished the audio end, he connected it to his c.w. rig, got on the air, and asked the first Ham he contacted the age-old question, "How's my modulation?" Aside from the fact that Mr. Average Phone Man should have checked his modulation with a scope, while transmitting into a dummy load, instead of depending on the advice of another Mr. A. P. M., this situation is quite normal and is to be expected.

WHY WASTE POWER

All right, you say, this is old stuff, so where's the pitch? Here it is. Why continue to waste power by transmitting certain audio frequencies if these audio frequencies are unable to help the other fellow hear you, especially when you can almost get rid of these unwanted

high and low frequencies at practically no cost? To be specific about cost, the change can be made by the use of four 600 volt paper or mica condensers.

Before explaining how and where to put which condensers, let's make certain that another point is clear. This article has nothing to do with speech compressors, speech clippers, or sharp cut-off low-pass filters. The latter will do an excellent job of tailoring the speech range, but these filters may be rather elaborate. Speech compressors and speech clippers, on the other hand, do not affect in any way the band-pass characteristics of an amplifier unit. They may, however, affect the fidelity from a distortion stand-point. This is especially true of speech clippers.

One other point might also be explained here. The changes to be described are suitable for practically any type of speech amplifier. However, a restricted band-width is not assured if these changes are made in an amplifier which is used for n.b.f.m. If the swing is not carefully adjusted, the band-width may still be excessive. In other words, it is worthwhile to make these changes in an n.b.f.m. speech amplifier, but the effect will be nullified if the signal is permitted to swing too far frequency-wise, due to improper adjustment.

AN ECONOMICAL METHOD

Here, then, is what you may do to restrict the audio range of your speech amplifier in an economical way. First, attenuate the low audio frequencies by changing the value of two of the inter-stage coupling condensers and second, attenuate the high audio frequencies by adding a condenser from plate to ground on two of the audio stages.

The calculations to determine the proper size of condenser for each point are not difficult. It is first necessary to decide on the audio range you wish to cover. Let us assume that you want an audio characteristic which is down somewhat at 300 cycles on the low end and 3,500 cycles on the high end. To be more exact, this is one which will be down 6 db at 300 and 3,500 cycles, when changes are made to two of the stages. These two frequencies—300 and 3,500 cycles—will be used in the calculations.

The next step is to examine the circuit diagram of your speech amplifier. Most amplifiers consist of a pentode pre-amplifier, driving a triode or pentode amplifier, driving a phase inverter or transformer coupled amplifier which in turn drives the output stage. We are interested only in the first two tubes. We want to put a condenser from the plate of the first tube to ground, and one from the plate of the second tube to ground. Also, we wish to change the values of the condensers which are

between the plate of the first tube and the grid of the second tube, and between the plate of the second tube and the grid of the third tube.

If the third tube is a phase inverter, it is best not to attempt to change the coupling condenser between the second and third tubes. The reason is beyond the scope of this article but it might be necessary to change the grid circuit of the phase inverter in order to get the proper effect from the changed coupling condenser. In this case, the coupling condenser can be changed between the microphone and the input tube. This is completely satisfactory if a dynamic microphone is used. If a crystal microphone is used, a different approach is necessary. Again this is not within the scope of this article, so that you will have to be satisfied with changes on only one tube instead of two.

The final step before starting the calculations is to check the value of the grid resistor to which the new coupling condenser will connect. This will be the grid resistor for the second and third tubes unless, as stated above, it is necessary to put one coupling condenser between microphone and grid, in which case examine the grid resistors for the first and second tubes. These resistors should be no greater than 250,000 ohms. If they are of a greater value, decrease them so they are 250,000 ohms or less. Incidentally, the grid resistor for the second tube is usually the gain control.

CALCULATION OF COUPLING CONDENSERS

The proper value of coupling condenser will now be one whose capacitive reactance, at 300 cycles, is equal to the grid resistance in the grid circuit of the stage to which it connects. These words mean, simply, that the condenser value in micro-farads is equal to—

$$\frac{1,000,000}{(1884) (R_g)}$$

where R_g is the value of the grid resistor in ohms. This assumes that the low frequency point selected was 300 cycles. The figure of 1884 is 300 times 2 times pi. As an example, if the grid resistor is 250,000 ohms, the condenser should be 0.0021, so use a 0.002 uF. condenser. Make this calculation for both stages, and replace your present coupling condenser with the calculated value of condenser if it is not already that value. The low frequency audio tones are now taken care of.

CALCULATION OF PLATE BY-PASS CONDENSERS

Before starting the calculation of the plate to ground condensers, find out the plate resistance (R_p) of the two tubes involved. Most handbooks have this

figure. Next, check the circuit diagram and get the value of the plate load resistor which you are using. This is the resistor which connects directly to the plate at one end and is by-passed to ground (and connects to B+) at the other end. Next, get the value of grid resistor on the tube which follows the tube whose value of R_p you just looked up. Now, calculate the effective parallel resistance of these three factors, that is, of R_p , the plate resistance; of R_i , the plate load resistance; and R_g , the grid resistance, by the formula:—

$$\frac{1}{R_t} = \frac{1}{R_p} + \frac{1}{R_i} + \frac{1}{R_g}$$

For example, assume that a 6J5 tube uses a plate load resistor of 50,000 ohms. The plate resistance of a 6J5 is approximately 7,000 ohms. Assume also that the grid resistance of the next stage is 250,000 ohms. The effective resistance of these three in parallel is 5,990 ohms. Call this R_t for the 6J5 stage. Incidentally, the R_t for triodes is low, as shown above. For pentodes, R_t will be very high.

The proper value of shunt condenser to connect from plate to ground is one whose capacitive reactance, at 3,500 cycles, is equal to R_t . Stated again, simply, the value in micro-farads is:—

$$1,000,000$$

$$(22,000) (R_t)$$

This assumes that the high frequency point selected was 3,500 cycles. The figure of 22,000 is 3,500 times 2 times

pie. As an example, if R_t is 5,990 ohms, then the plate to ground condenser calculates out to be 0.0076 uF., so use a 0.0075 uF. condenser. Connect it to the plate of the tube and to a convenient ground point. Make this calculation for both stages. This takes care of the higher frequency audio tones.

Let us now examine the change we have brought about in the speech amplifier and also examine what we have gained from this change. To do this, we shall have to assume that the response of the speech amplifier, before the change, was fairly uniform from 150 to 6,000 cycles. This is the sort of response which might be expected in a speech amplifier following general circuit practice. In addition, the response was probably only five or six db down at 100 and 10,000 cycles.

When you used your speech amplifier, before the change, you were modulating your carrier with all the complex audio tones that existed in the microphone output, over the 100 to 10,000 cycle range. Your sideband power, which is all that the other Ham is using to hear your signal, was therefore spread over a wide frequency range. It so happens that it takes a fair amount of modulator power to transmit the lower and higher frequency audio components which are not necessary for intelligibility.

By making the change in your speech amplifier, you now still have the same power in your side-bands, assuming that the percentage of modulation is the same, but you now have a great

deal more power available to transmit the range of frequencies that really count, those between 300 and 3,500 cycles. Effectively, therefore, you have a "louder" signal, because you have increased power at the audio frequencies to which the other Ham listens. In round numbers, the increase in signal strength is about 6 db, which is the same as a four to one increase in carrier power, or the same as putting up an antenna with a 6 db gain over the one you were using.

To get an idea of the response curve which is obtainable, let us look at a speech amplifier which uses, for example, a 6SL7 dual triode for the first two stages, driving a third stage which has a 250,000 ohm grid leak. Assume that the aforementioned changes have been made. Now let us apply a pure tone at 1,000 cycles, the mid-band frequency, and measure the output of the speech amplifier. Next, apply a pure tone of 300 cycles. The output will be down 6 db, or four to one in power. The same thing is true for a 3,500 cycle tone. A pure tone at 150 cycles (and at 7,000 cycles) will be down 14 db, or twenty-five to one in power.

Thus, while the curve obtained is not of the sharp cut-off variety, it will give essentially the same results, and will certainly sound the same to the ear. Further, it was obtained at practically no cost.

The foregoing article was extracted from G.E.'s. "Ham News," July-August, 1949.

GENUINE RADIO CLEARANCE

TRANSMITTERS, RECEIVERS—

Type 1196, 3-9 Megacycles, crystal controlled, four frequency selector, 9 valves: 1-EF50, 1-VT52, 2-VT501, 2-VR56, 2-VR53, 1-VR57, 1-VR55. Brand new, complete with motor generator and valves; 12 volt, £7/7/-; 24 volt, £6/6/-.

Type 1366, 17-20 Megacycles, 6 valves: 3-EF50, 1-6K8C, 1-CV51, 1-EA50; one 2 gang and one 3 gang condenser. Complete with valves, less power supply, excellent condition, £5.

Type 101, 4.2-6.6 Megacycles, 8 valves: 2-1C7, 2-1K7, 4-1K5. Complete with valves, power pack, cables, headphones, and microphone. Excellent condition, £10/10/-.

Type A.P.N.2, U.H.F., 18 Valves: 7-6AC7, 1-6V6, 1-954, 1-5U4, 2-6SL7, 1-6SN7, 3-956, 1-2C26. 24 volt blower motor, coils, I.F.T.'s., complete with valves, brand new, £10/10/-.

Type No. 11, 4.2-7.5 Megacycles, 9 Valves: 1-807, 2-1M5, 2-1C7, 4-1K7. Complete with power pack, leads, and microphone. Excellent condition, £12/10/-.

Type 1133, 100-124 Megacycles, English equivalent to the SCR522. 16 Valves: 1-VT61, 2-VT60, 2-VR53, 1-VR54, 2-VR57, 3-VT52, 2-VR55, 2-VR56, 1-VS110. Excellent condition, £8/10/-.

C.R. Indicators, type A.S.E. 5" C.R. Tube type 5BP1, 4-6AC7s, 3-6H6 Valves. Complete in metal case, £10.

CV225 Air Cooled Triode Transmitting Tube. 10.5 volt, 24 amp. Filament, max. D.C. 3,500 volts, 600 watt, 15/-.

CV316 Rectifier. High vac. half wave, 4 volt 1½ amp. Filament. Max. peak 12,000 volts, 200 Ma., 25/-.

RECEIVERS—

Type C.D.E. Glide Path Receiver I.I.F. Approx. 30 Megacycles. 3-6C6 Valves. Condition brand new, £3/10/-.

Weston Electric V.H.F. 4 Valve Midget, 234-258 Megacycles. Valves: 3-954, 1-955. Super regenerative Receiver. Brand new, £5.

Type 1082, equivalent of AR14. Complete with valves, 2 gang condenser, vernier dials, transformers, resistors, 2 coils, etc., £3/15/-.

Type 3109 H.F., 8 Valves: 2-EA50, 2-VR65A, 2-VR135. 24 volt input, 480 volts 40 Ma. output. Motor generator, good condition, £3/15/-.

Type R (Emergency Receiver 500 Kc.) Complete with valves and headphones in watertight carrying case. Operates from 2 volt accumulator, 45 volts B battery. Valves: 3-VP23 (R.F. pentodes), £2/10/-.

Bendix Type MN26-6 Radio Compass Receiver, 12 Valves, 150-1500 Kc. Will make an ideal receiver for Boat, Car or Home. £12/10/-.

VALVES—

1K7G	8/6
1M5G	10/6
1K5G	10/6
6K7	9/6
RK73	10/-
1A5	9/6
6V6GT	12/6
807	12/6
6SH7	9/6
5U4	12/6
AR21	9/6
RKR73	10/-
VU72	7/6
6H6GT	9/6

Add 1/- for Postage and Packing.

WALTHAM TRADING COMPANY

393 FLINDERS STREET, MELBOURNE

Phone: MB 2701. Open every Saturday morning, 9-12. Mail Orders carefully despatched.

Checking Crystal Frequency with the Type 3 Mark II.

Regulation 136 states that the Amateur should listen on his own frequency to ensure that the channel is clear before calling.

This is particularly difficult to observe in portable work with the Type 3, and sometimes inconvenient, even at home. Here is a simple dodge which provides a neat solution for Type 3 users.

The idea is to switch on the crystal oscillator while in the "receive" position, and tune in the oscillator signal with the b.f.o. switched on. This is done in the following way:—

Immediately behind the 6L6 valve is an r.f. choke (L9) and a 0.002 uF. condenser (C11C), to the junction of which two leads are connected. One goes to the T-S-R switch and the other to the two screens via their appropriate resistors. Separate the 6L6 lead from the EL33 screen lead, and connect it to the T-S-R switch lead, leaving the EL33 plate and screen leads isolated.

Attach a resistor (about 50,000 ohms) to the 250 volt line, and connect a two-way switch so that one side goes to this resistor, one side to the original T-S-R switch lead and the centre to the EL33 lead. You will now find that this two-way switch will cut the crystal oscillator in or out when in the "receive" position without affecting normal operation when in the "off" position.

Crystal activity can be checked (switch position 3) and frequency determined without placing the transmitter on the air.

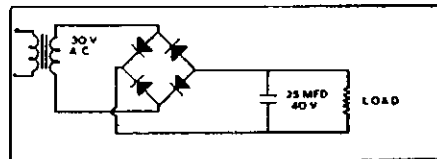
—H. REID, VK3RH

Cheap Rectifiers for Relay Operating Voltages

A recent advertisement indicated that a well known firm had for sale "MU4 Metal Rectifiers, 12 volt, 50 Ma.," at a price of one shilling each.

No information was available locally on the type, so I asked for, and was supplied, with six.

One of the six was marked "BE2-1-1/5 MU4" and some inquiry elicited the information that "BE2-1-1/5" was used in an Army type 122 receiver as a "crash limiter."



On breaking open the tropic proofing, it was found that two lugs were soldered together and, as a result, d.c. would flow in either direction through the unit.

Detaching the wire from the centre tap and wiring four units in a bridge supplied with 30 volts a.c., provided a d.c. supply of 28 volts which has been tested to load at 80 Ma. for over an hour without any trace of warming up.

I have put mine into use at a load of about 50 Ma. for three relays, and it is giving satisfactory operation.

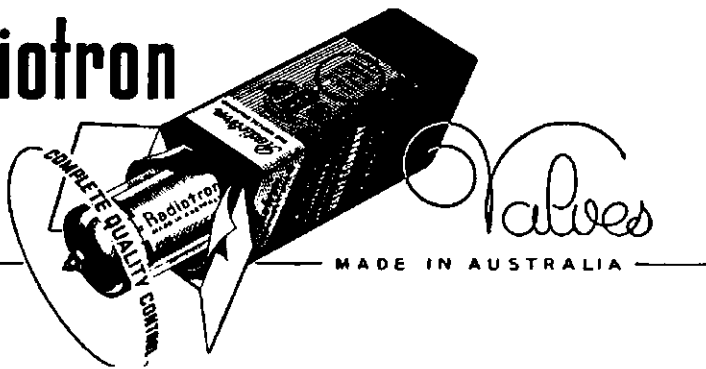
—S. LAIDLER, VK5TL.



a **BIG** advance in design

- Radiotron's latest valve release
A.C. miniatures for 6.3 volt supply.
- Top performers on broadcasting.
 - Outstanding on short waves.

Radiotron



Amalgamated Wireless Valve Co. Pty. Ltd.

47 YORK STREET — SYDNEY, N.S.W.

THE OLD MAN

The other day I heard a prominent Amateur putting on a turn over the air because he had received a Pro Forma from his local Radio Inspector. What he said about the fellows who are on the Amateur Advisory Committee made interesting listening. This chap felt quite sure that somebody had a grudge against him and a personal one at that. He just could not have been guilty of spluttering, etc., etc. I was very amused to hear the station he was working tell him that he WAS spluttering at that moment.

Why is it that you fellows take umbrage when that Pro Forma arrives? Is it because your dignity is hurt, or is it because you just can't take it? Surely it's better to receive a note from the Advisory Committee than to receive one from the Department. It is only one of your fellow Hams trying to do his bit to improve the bands and you can't deny they certainly can do with some improvement.

Let us take heed with what is happening in the States at the present moment and if we can continue to discipline our own bands it is far better than the Department doing it, THEY might suggest that you cease operation for a period. The Experimental Advisory Committee only ask you what steps you have taken to overcome the difficulty.

Talking of splutterers, they are still with us. VK2OQ, VK6DD, VK2ABA,

VK5YQ and VK2AED were all taking their share of the band with a couple of others thrown in. If you fellows could see the band width you were occupying, I feel sure that your conscience would prick you very deeply.

VK2AED, it was a pity to list you because your phone was outstanding with perfect quality, spoilt only by the whiskers emanating from your sidebands.

There are still the few who want to be different in designating their call letters, and I heard VK4 Kilowatt Sugar, VK6 Nothing Doing, and a fellow who designated HIS call letters as I'm a Queen, with a great giggle after each announcement. I have purposely omitted his State prefix, after all if you wish to advertise the fact to the general public, I see no reason for giving you publicity for that statement.

It is nice to see that some fellows can admit they were wrong, and I congratulate you, VK6 Mike King.

VK2DG was heard with key clicks extending over a goodly portion of the band. It might pay to investigate this OM. It could have been a parasitic, I couldn't make up my mind on this.

The worst phone of the month was VK6HW with bad quality and a horrible ripple. Why can't you chaps, when told your phone is bad, immediately switch off and do some testing with a dummy aerial and a phone monitor? A phone

monitor will tell you that your quality is good or bad.

The long CQ merchants on c.w. are still about and VK3CG and VK4PO were heard sending endless CQs with an occasional call sign thrown in for luck. Listen to the fellows who really work DX and you won't find them cluttering up the air with useless CQs. They invariably CQ twice or three times and then send their call, which after all is what the DX station is trying to get.

"The P.M.G.'s. Handbook for the Guidance of . . ." lays down very definitely that you must sign on and off when your carrier is put on the air. Yet how often do we hear a carrier come on and a voice say "You there Bill?" On comes another carrier with "Yes, Harry, let's look for Jim," and so on ad infinitum. Take heed fellows, the Department view this practice very seriously and you may be heard by somebody who is not on the Advisory Committee, but is being paid to do his spot of listening. Cheers until next month.

QUESTIONS AND ANSWERS

VK3RH would like to know: What is the correct (practical) manner of joining lines of different impedance, e.g., 70 ohm co-ax to 300 ohm line? Practical details please.

A MERRY CHRISTMAS AND A HAPPY NEW YEAR TO HAMS

Distributors for Eddystone Short Wave Components
and A & R Electronic Equipment Transformers . . .

WILLIAM WILLIS & CO. PTY. LTD.

★ **144 MEGACYCLE FOUR ELEMENT BEAM AERIAL.** A compact and efficient Beam Aerial of all brass construction. Centre element is a folded dipole fitted with a special insulator assembly to take 72 ohm co-axial feeder. The element lengths are adjustable. Available in dismantled form with full instructions for assembly. Price £13/7/9 (tax inc.)

★ **144 Mc. TUNING ASSEMBLY.** Main inductance loop of one eighth inch copper clamped to the stators of Eddystone Cat. No. 739 Butterfly Condenser. Length in circuit is adjustable and tapping clip is provided. Above main loop is fitted a hairpin coupling loop supported on ceramic strip. Whole is silver plated, lacquered and fitted to mounting bracket. Alternative mountings are possible. Can be used in receivers, transmitters, wavemeters, oscillators, etc. Price £1/17/9 (tax inc.).
Full range of Eddystone components available shortly. Plan your new constructional programme with Eddystone Quality Products. . . . it pays!

★ **A. & R. MODULATION TRANSFORMER.** MT15 Semi-Universal Modulation Transformer suitable for Class AB1, AB2 or B service using 807s, 830Bs, 809s, etc. Maximum signal modulator valve plate current 150 Ma. per side of centre tap; maximum d.c. current in secondary, 150 Ma.; working voltage insulation, 1,000 volts d.c. primary and secondary windings. This transformer is fitted with silver plated spark gap which provides against the development of excessive peak voltages in the event of the removal of the secondary load during transmitter adjustments, etc.. Available impedances 3,800 ohms to 10,000 ohms primary and secondary. Price to Amateurs £7/19/3 (tax inc.).

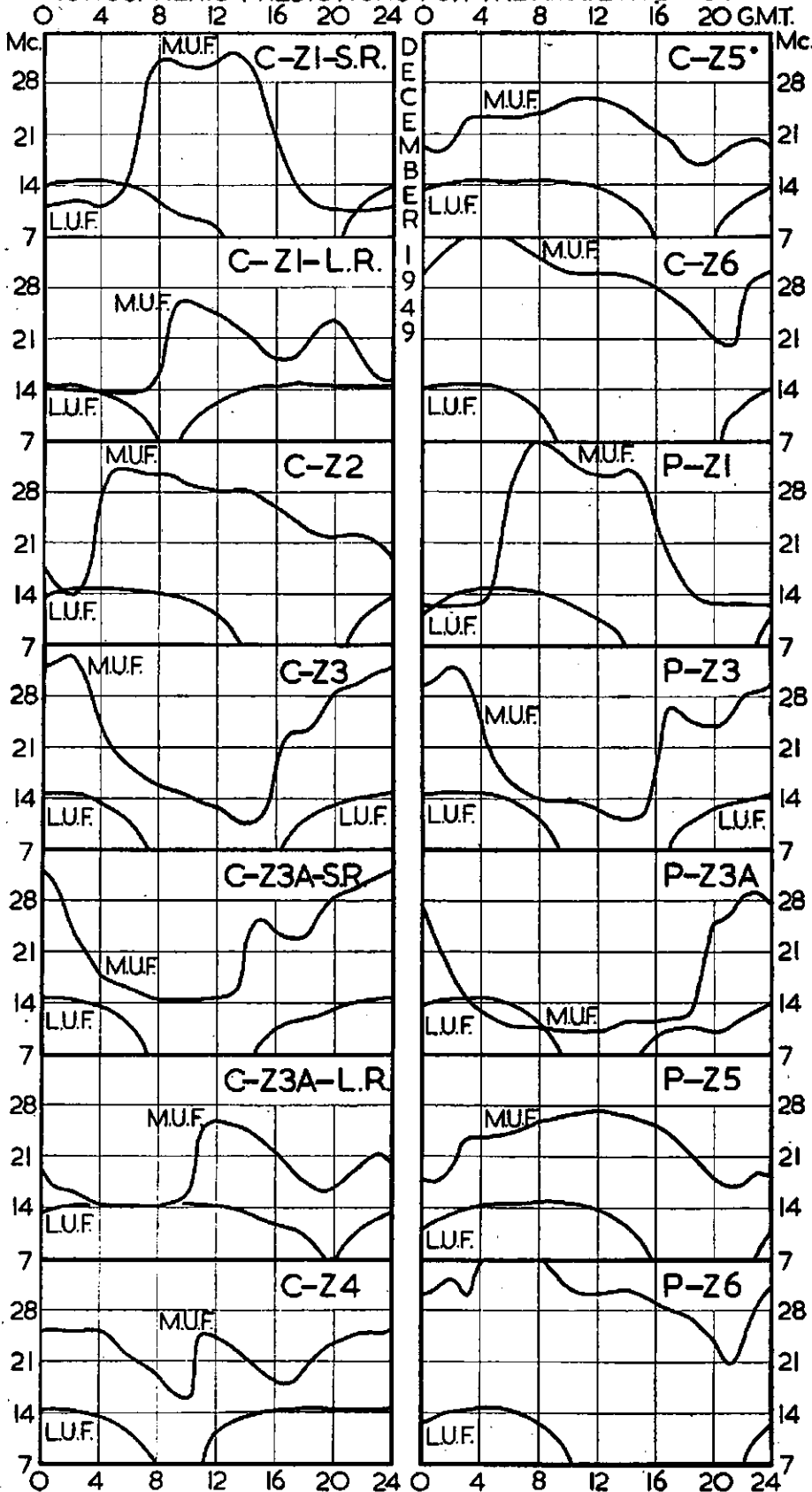
★ **HAVE YOU TRIED CLASS B 807s, TRIODE CONNECTED,** for economical modulation? Write for the A. & R. Circuit of a 75 watt modulator using optional negative peak clipping; FREE. Please enclose 11d. stamp to cover postage. Available also free of charge is the A. & R. Transformer Catalogue. Full range of Transformers available to suit every need.

PANEL MARKING TRANSFERS. Over 70 useful names for the Ham Shack, Communication Receivers, Transmitters, Control Panels, etc. Finished in 1/8" Silver Modern Capitals. Simple to attach. 2/11 a sheet, postage extra.

428 BOURKE STREET, MELBOURNE, C.1

Phone: MU 2426

IONOSPHERIC PREDICTIONS FOR THE AMATEUR BANDS



IONOSPHERIC PREDICTIONS FOR THE AMATEUR BANDS

DECEMBER, 1949

The accompanying charts have been prepared by the Ionospheric Prediction Service of the Commonwealth Observatory. The first set of the series was published in the November, 1948, issue of this magazine, together with an article explaining the nature of the forecasts and how to use them. Nine of the charts, prefixed by the letter "C" for Canberra, refer to forecasts for the South-Eastern Australian States. The remainder, prefixed by the letter "P" for Perth, are for Western Australia.

The Canberra charts refer to the following world zones:—

Zone	Region	Terminal
1	Western Europe	London
2	Mediterranean	Cairo
3	N.-West America	San Francisco
3a	N.-East America	New York
4	Central America	Barbados
5	South Africa	Johannesburg
6	Far East	Manila

The forecasts have actually been prepared for point-to-point circuits between Canberra and the overseas terminals mentioned in the above table. It is, however, to be expected that the charts will provide an approximate indication of ionospheric conditions for all Amateur contacts from South Eastern Australia to the various world zones.

The Perth charts are similar to those based on Canberra. No forecasts are given from Perth to Zones Z2 and Z4 for the current month, as chart P-Z2 would be essentially similar to chart P-Z1, while chart P-Z4 might be unreliable due to auroral activity in high northern latitudes.

USE OF CHARTS

All that is necessary in using the charts is to select a time (G.M.T.) during which a specified Amateur band frequency is below the maximum usable frequency (m.u.f.) of the F region of the ionosphere but above the lowest useful frequency (l.u.f.) for the desired contact. In two cases, Zones 1 and 3a it is necessary to consult both the short-route (S.R.) chart and the following long-route (L.R.) chart.

QUIZ

The Prediction Service welcomes comments on the accuracy of its predictions. In particular, answers to the following questions on the Canberra-Mediterranean circuit would be useful:

1. Were conditions good on 7 Mc. from 1400 to 2100 hours G.M.T.?
2. Was the 14 Mc. band workable from noon to midnight G.M.T.?
3. Was the 28 Mc. band workable for several hours before Greenwich noon?

Answers to the Quiz should be sent to the W.L.A. and should, if possible, refer to consistent results obtained on the majority of days in the month.

Heralding

THE GREATEST AMATEUR
COMMUNICATIONS RECEIVER
OF ALL TIME . . . the

EDDYSTONE "750"

The "750" is a magnificent model—an entirely new, ultra-modern Amateur Bands Receiver with a host of outstanding features. It is the successor to the famous "640"—thousands of which are in use the world over, including the U.S.A.

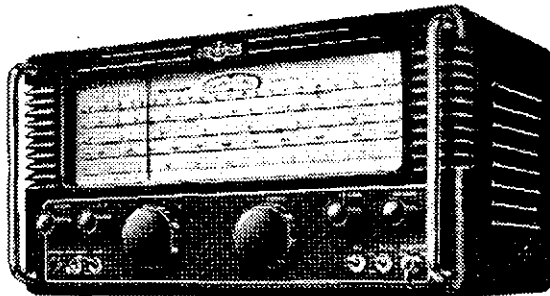
Featuring:—

- Coverage 480 Kc/s. to 30.5 Mc/s.
- 200:1 ratio dial reduction.
- Modern miniature valves.
- Three watts of audio.
- Double detection super-heterodyne (1,600 and 85 Kc/s.).
- Stabilised H.T. supply.
- Provision for external S meter.
- Variable selectivity I.F.'s.
- New and improved dial provides ample band spread on Amateur Frequencies.

AVAILABLE EARLY 1950

Place your order NOW with your Distributor

Australian Factory Representatives: R. H. Cunningham & Co., 62 Stanhope St., Malvern, Vic. (UY 6274)



Further details from:

- VICTORIA: J. H. MAGRATH & CO., 208 Little Lonsdale Street, Melbourne.
- WILLIAM WILLIS & CO., 428 Bourke Street, Melbourne.
- N.S.W.: JOHN MARTIN PTY. LTD., 116-118 Clarence Street, Sydney.
- QUEENSLAND: CHANDLERS PTY. LTD., Corner Albert and Charlotte Streets, Brisbane.
- WESTERN AUSTRALIA: CARLYLE & CO. LTD., Hay Street, Perth, and 397 Hannan Street, Kalgoorlie.
- ATKINS (W.A.) LTD., 894 Hay Street, Perth.
- SOUTH AUST.: GERARD & GOODMAN LTD., 192-196 Rundle Street, Adelaide.
- TASMANIA: W. & G. GENDERS PTY. LTD., 53 Cameron Street, Launceston, and Liverpool Street, Hobart.
- LAWRENCE & HANSON (ELECTRICAL) PTY. LTD., 120 Collins Street, Hobart.
- NOYES BROS. LTD., 36 Argyle Street, Hobart.

ANNOUNCEMENT

R. H. CUNNINGHAM AND COMPANY IS RESPONSIBLE FOR THE MARKETING IN AUSTRALIA OF MANY FAMOUS ENGLISH COMPONENTS AS WELL AS SEVERAL REPUTABLE AUSTRALIAN PRODUCTIONS. THESE INCLUDE:—

- BELLING LEE Makers of the world's best terminals, fuses, aerials, etc.
- LABGEAR Famous range of turret tuners and transmitting inductances, wavemeters, wide-band couplers and scientific instruments.
- L.E.M. Silvered Mica Condensers. Known only too well to ex-Service Hams for their vast use in British radio and radar equipment. This is England's biggest S.M. condenser manufacturer.
- ETA TOOL CO. Makers of precision built coil winding machines. (Used by Australian Government Departments.)
- ACRU TOOL CO. Producers of neon globes and holders for instrument or switchboard use. Working voltages from 110 to 400.
- OXLEY DEVELOPMENTS LTD. are the manufacturers of the miniature trimmer and ceramic condensers used in many famous receivers such as Eddystone and S.T.C. These are acceptable to Air Ministry standards.
- ZEPHYR Velocity Microphones. Australian made and generally superior to overseas competitors. Now used by many B/C stations, recording studios and P.A. companies.
- A. & R. TRANSFORMERS These need very little introduction to VKs. This line is the tops in quality and performance.
- SCOPE SOLDERING IRON Recently marketed throughout Australia. An iron with no wire elements that takes less than six seconds to reach solder melting temperature, yet only weighs about 4 ozs. A real MUST for radio men, professional or amateur.

Further details of any of the above products may be obtained from our distributors or by writing direct.

B.E.R.U. Contests, 1950

The dates of the B.E.R.U. Contests for 1950 have been advanced for the first time, to the latter half of January. This has been done partly in order to avoid clashing with other International Contests and partly to permit the effective use of those bands which, later in the year, might be of little value for world-wide communication.

RULES FOR TRANSMITTING CONTESTS

- The event will be divided into four sections, namely:—
 - Senior telegraphy (150 watts maximum input).
 - Junior telegraphy (25 watts maximum input).
 - Senior telephony (150 watts maximum input).
 - Junior telephony (25 watts maximum input).

2. The contest periods will be as follows:—

Sections (a) and (b) from 1700 G.M.T. January 14, 1950, to 1700 G.M.T. January 15, 1950, and from 1700 G.M.T. January 23, 1950, to 1700 G.M.T. January 24, 1950.

Sections (c) and (d) from 1700 G.M.T. January 21, 1950, to 1700 G.M.T. January 22, 1950.

3. The contests are open to all British subjects living within the British Empire and British Mandated Territories and to British Occupational Forces operating properly authorised stations, who are fully paid-up members of either the R.S.G.B. or one of the British Empire Societies. All entrants agree to be bound by the Rules of the Contests.

4. Entrants who are not members of the R.S.G.B. must certify in the declaration that they were fully paid-up members of their local society at the time of the Contest.

5. An entrant not located in one of the prescribed Prefix Zones shall be considered as being in the Prefix Zone nearest to his station.

6. Contacts with ships or unlicensed stations located in countries where licences are obtainable will not be permitted to count for points. The decision as to whether a station is to be classed as unlicensed will rest with the R.S.G.B. Contests Committee.

7. Only the entrant will be permitted to operate his apparatus for the duration of the Contest.

8. Entrants must provide their own log sheets which, together with the analysis sheet and declaration, must be legibly written or typed as set out in the sample appended.

9. All entries must be posted within eight days of the close of the contest and bear postmarks dated not later than January 30, 1950, in the case of Telegraphy and Receiving Contests, and February 6, 1950, in the case of the Telegraphy Contest. No entries will be accepted by the R.S.G.B. Contests Committee, New Ruskin House, Little Russell St., London, W.C.1, later than May 6, 1950.

10. The judging of entries will be carried out by the R.S.G.B. Contests Committee. The Council's decision will be final in all cases of dispute. No correspondence can be entered into regarding any decision made by the Council or Contests Committee.

11. Operation is restricted to the following bands: 3.5, 7, 14 and 28 Mc. (This rule excludes the use of the 1.8, 21 and 27 Mc. bands and frequencies above 30 Mc.) The Telegraphy Contest is open for type A1 (C.W.) transmission only and entrants receiving consistent tone reports of less than T8 will be disqualified. The Telegraphy Contest is open for type A3 (amplitude modulated telephony) transmissions only.

12. The conditions laid down in the entrant's licence must be observed. The input to the valve or valves delivering power to the aerial must not exceed 150 watts in the Senior Sections, or 25 watts in the Junior Sections.

13. Only one contact with a specific station may be made on each band during the contest.

14. Fifteen points will be scored for the first contact on a specific band with a British Empire station located in any Prefix Zone outside the competitor's own zone. Fourteen points will be scored for the second contact on the same band with the same zone, thirteen points for the third contact and so on, to the fifteenth contact, which contact will score one point. All contacts with that particular zone on that band thereafter will count one point each. This scoring procedure will be repeated on each band to encourage multi-band operation.

15. Serial numbers must be exchanged and acknowledged before points may be claimed for a contact. The serial number of 5 or 6 figures will be made up of the RS (telephony) or RST (telegraphy) reports plus three figures which may begin with any number between 000 and 400 for the first contact and which will increase in value by one with each successive contact; e.g. 287 for the first contact, 288 for the second contact, etc.

RULES FOR RECEIVING SECTION

1. The Receiving Section will be concerned with telephony only and will run concurrently with the Telegraphy contest as given above.

2. The scoring system will be the same as for the transmitting sections, viz.: fifteen points will be scored for the first station heard on a specific band within any Prefix Zone outside the competitor's own zone. Fourteen points will be scored for the second station heard on the same band in the same zone, and so on. This scoring procedure will be repeated on each band to encourage multi-band operation.

3. Before points can be claimed, the following information must be logged: (a) Call of station heard; (b) Call of station being worked; (c) Entrant's report on the signals of the station heard (RS); (d) The Serial Number given by the station heard to the station being worked.

4. CQ and Test calls will not count for points.

5. The same station may only be logged once on each band during the contest.

BRITISH EMPIRE SOCIETIES

- Amateur Radio Club of India.
- Canadian Amateur Radio Operators' Association.
- Canadian Section A.R.R.L.
- Hong Kong Amateur Radio Transmitters' Society.
- Jamaica Amateur Radio Club.
- Malta Amateur Radio Society.
- Montreal Amateur Radio Club.
- Newfoundland Amateur Radio Association.
- New Zealand Association of Radio Transmitters.
- Northern Rhodesia Amateur Radio Society.
- Radio Society of East Africa.
- South African Radio League.
- Wireless Institute of Australia.

FORMAT OF THE B.E.R.U. ENTRY FORM

B.E.R.U. Contest, 1950..... Section
 Name (block letters)..... Call sign.....
 Address.....
 Transmitter.....
 Input power to last valve.....
 Receiver.....
 Aerial Systems used.....

Date	G.M.T. Contact Established	Band Used Mc.	Callsign of Station Worked	Serial Numbers		Points Claimed
				Sent	Received	
(1)	(2)	(3)	(4)	(5)	(6)	(7)
TOTAL						

Results of 1949 B.E.R.U. Contest

SENIOR SECTION PLACINGS—

1—VK2DI*	2365	Points
11—VK2EO*	1801	"
12—VK6RU*	1802	"
14—VK3XK*	1736	"
19—VK2RA	1509	"
20—VK5FH	1504	"
24—VK4RO	1340	"
32—VK2GW	1231	"
39—VK4XU	1080	"
44—VK3CN	955	"
45—VK5OU	945	"
51—VK4RF	823	"
53—VK3YD	749	"
61—VK2YQ	609	"
68—VK2HZ	608	"
74—VK3PL	437	"
75—VK5MY	430	"
76—VK3ACS	415	"
77—VK6LD	394	"
80—VK5DQ	318	"
86—VK2OW	100	"
87—VK3QJ	42	"

JUNIOR SECTION PLACINGS—

2—VK2QL*	1156	Points
5—VK4TY	1066	"
9—VK3UM	868	"
10—VK5RX	849	"
12—VK2ZC	624	"
14—VK3TX	501	"
18—VK3XB	128	"

RECEIVING SECTION PLACING—

4—BE.R.S.—195 1525 Points

Check Logs were received from VKs 2DG, 2RX, 3CX, 3R1, 5KO, and 5MO.

* Prefix Zone Certificate.

DECLARATION:—

I hereby certify that my station was operated strictly in accordance with the rules and spirit of this Contest, and I agree that the decision of the Council of the R.S.G.B., shall be final in all cases of dispute.

Date..... Signed.....

If an entrant is a non-member of the R.S.G.B., he must sign the following additional Declaration: I hereby certify that at the time of the Contest I was a fully paid-up member of.....

Date..... Signed.....

Receiving Contest

The entry form for this contest should be prepared on the lines set out above with the following amendments:—

- Column 2: G.M.T. station heard.
- Column 4: Station heard.
- Column 5: Entrant's report on station heard.
- Insert new column: Station being worked.
- Column 6: Serial number given by station heard to station being worked.

PREFIX ZONE CHART AND SPECIMEN SCORE ANALYSIS SHEET

Prefix Zone	... Mc.		... Mc.		... Mc.	
	Contacts	Points	Contacts	Points	Contacts	Points
AP, YC3, 4, 5, Y9T						
DL2, G, GC, GD, GI						
GM, GW						
MB9, MM1, 2, 7 (ZC4)						
MF2, ZB1, 2						
MD4 (VQ0), M13, ST						
YE1, 2						
YE3, 4						
YE5, 6						
YE7, 8						
VK2, 3, 7						
VK4						
VK5, 6						
VK9, VR4						
VO						
YPI, 5, 7, 9						
VP2, 3, 4, 6						
YP8, VK1						
YQ1, 3, 4, 5, ZD6						
YQ2, ZE						
YQ8, 9, ZC2						
YR1, 2, 3, 5, 6, ZK, ZM						
YS1, 2, 4, 5						
YS6						
YS9, YU7, MP4						
ZD1, 2, 3, 4, 7, 8, 9						
ZL1, 2, 3, 4						
ZS1, 2, 3						
ZS4, 5, 6, 7, 8, 9						
Totals						

NOTE.—Some of the above prefixes may be out of date at the time of the Contest.

Make sure you have read the Rules carefully and do not forget to sign the declaration at the foot of the form.

Suggestions for future contests are invited.

Amateur Radio Club of India DX (International) Contest, Dec., 1949

The A.R.C.I. takes great pleasure in announcing the rules and details of the first International DX Contest which is open to all amateurs in the world.

RULES

1. The contest is open to licensed amateurs throughout the world. Certificates of merit will be awarded to the first three leading stations and also to the leading stations of each prefix zone provided at least three entries have been received from the zone in question.

2. Entries must be posted within seven days of the close of the contest and must reach the QSL Bureau, A.R.C.I., P.O. Box 6066, Bombay 20, not later than 20th March, 1950, marked "A.R.C.I. DX Contest No. 2."

3. The decision of the A.R.C.I. Contest Committee will be final in all cases of dispute.

4. Only the entrant is allowed to operate a specific station during the contest.

5. The contest will be open for phone and c.w. contacts; 20 per cent bonus will be awarded for each two way c.w. contact.

(Continued on Page 24)

FIFTY MEGACYCLES AND ABOVE

Compiled by J. K. RIDGWAY, VK3CR.

REAL DX

October was certainly a most interesting month for 50 Mc. enthusiasts, particularly in N.S.W. and Queensland. As reported in these columns last month, on 9th October JAZAZ heard and was heard by VKs 2AH and 2ARG. THEN AT 2030 HOURS E.A.S.T. ON 20th OCTOBER, VK2ARG WORKED KH6PP, who was RS 57-9 and Bob (2ARG) RS 56-7. This contact was the result of patience and continuous effort. The band conditions at the time were negative, i.e. no beacons, etc., were heard.

JAZAZ was also hard on 9th October by VK4CU between 2055 hours and 2130 hours, but signals were very weak. JAZAZ was also heard on 23rd October at 1845 hours by VK4FN whilst on the same date VK4ZU and VK4RY heard KH6PP. KH6PP and KH6NS had been heard earlier at 58 between 1315 and 1500 hours by VK4HD.

ZL 2AA was heard by VK2VW at 1115 hours on the 28th October. W9ZHA and W9ZHL were heard at 1900-1920 hours on the 28th October by VK2ARG.

2GU heard a W on the 29/10/49. ZL1HP and ZL1DE were heard at 0830 hours on 30th October by VK2AI, but on the 2nd November, KH6PP and KH6NS were worked for an hour by VK2ARG, followed by VK2XX, and KH6PP by VK2WJ and VK2AH. They were audible from 0905 hours to 1049 hours. KH6NS was having difficulty to hear the VKs and was worked by VK2ARG and VK2XX and it's thought KH6NS worked VK2WJ. QSB was bad and long fades were taking place towards the end. During this break through, an unidentified W station was heard by VK2ARG. Phone, m.c.w., and c.w. were used.

0AA4E was heard by VK4HR and a carrier the same day by VK2VW—0600 hours 14/10/49.

The band opened to Newcastle area for VK5 at 0920 to 1020 hours on the 4th November. VK2RU had an excellent QSO with VK6RT, but Sydney contacts were patchy and few.

Lightning can do strange things. At Palm Beach on the 3rd November the lightning struck VK2ARG's ten metre beam which is the lower of three beams of all metal construction except for wooden element centre pieces. The wood charred and the reflector spun around to vertical!! Fortunately all antennae were grounded so no gear was damaged. This being part of a freak storm which struck Sydney, first with a dust storm, and then heavy rain and electrical discharges.

It has been noted that freak weather occurs after severe magnetic disturbances and there was a "black out" in communication systems for several hours about the time KH6 was in. The ten metre band was dead during the break through and as Major 2RU says in November "A.R.", "Sporadic E" prevents the return to earth of reflected F2 stuff, so reducing the m.u.f. Ten metres started to liven up about 11 a.m.

The value of c.w. is apparent, providing your receiver oscillator is stable (p.d.c. note). Keyed carriers with a.m. tone and i.m. tone modulated sound f.b.

Incidentally, v.h.f. news is broadcast on 50 Mc., not 50.4. The VK3 v.h.f. gang have set a fine example by clearing the low frequency congestion on the 50 Mc. band and don't forget to tune above 51 megacycles. Please note that the recent break throughs are stations using THE LOW END, so help yourself and everybody by keeping the low end as clear as possible. Perhaps local contacts could be made on higher frequencies! In any case far too much power is being used for 5 and 10 mile contacts. Some justification can be said for it as break throughs are always on the cards.

VICTORIA

50 Mc.—At the time of writing the 50 Mc. band has just started to open for Interstate work. On the 5th of November 4ED, 4XN, 4RT, 4RY, 4CU, 4BT and 2ADP appeared on the band between 1746 and 2030 hours and worked a large number of VK3 stations. Signals were very good with peaks well over 59 and those VKs who made contact will have added substantially to their marathon scores.

During October the band was rather quiet, although it was well watched after hearing of the exploits of VKs and VKs with KH6s and JAZs. However none of this DX has been heard in VK3.

The warmer weather has been attracting stations out portable again and we hope this form of work will continue through the summer. On the field day on the 9th November, 3CI and 3DI were portable at Mt. Fatigue, near Poster, and 3ANW was at Mt. Dandenong; all stations had quite a number of contacts.

During the month 5GF paid a visit to Melbourne and worked quite a number of stations using his mobile rig. 3AKE, of Geelong, has converted a 522 for 50 Mc. and should be on for two way work before this appears. 3VF, of Drysdale, is also interested in 50 Mc. and these chaps can be assured of a warm welcome on the band.

On the 30th of October, 3UI and 3CI went portable to Mt. Major, near Dookie. 3UI worked a number of Melbourne stations and heard 2PN of Tumut, over a distance of 160 miles. Conditions did not appear to be as good as on previous occasions, possibly due to the windy weather, and Alan hopes to be more successful with the VK2s next time he goes out. The next field day will be on Sunday the 11th of December. There is no restriction on bands used and it is hoped that all those with 50, 144 and/or 576 Mc. portable gear will be able to go out.

144 Mc.—The population of this band continues to grow with new stations 3DY, 3RY, 3TG, 3VM, and 3RK appearing. Due to lack of time, the writer has not been on this band as much as he would have liked and details of the gear in use at the first three stations has not been obtained yet. However 3VM is using a transmitter consisting of 6J6 oscillator-treiber, 6AQ5 doubler, 6J6 trebler, and 832 final, modulated by a single 6AQ5. This rig has been designed for portable work and puts out a good signal. 3RK uses a 522 transmitter and a 522 receiver modified to use 6AK5s in the front end. Aerial is a dipole and Ben has already been able to work 3VF and 3AKE.

3AKE and 3VF are still very active and the number of Melbourne stations who can work them is steadily increasing. Signals have been varying somewhat, being best after a warm day and worst during wet weather.

On the field day on 9th October, stations out were 3CI, Mt. Fatigue; 3ANW, Mt. Dandenong; 3AKE and 3VF, on high ground near Geelong; and 3VL at Red Hill was on over the week-end using 3VM's gear. Many contacts were had by all those on the band and in most cases signals were very good. 3CI worked 3ANW, 3VL and 3AKE (both at home and portable), but was unable to get through to Melbourne although he was heard by 3ED. 3AKE and 3VF worked 3CI and a large number of Melbourne stations as did 3ANW and 3VL. Altogether a good day was had, although the poor weather prevented some of the other stations with portable gear from getting out.

3ED, of North Essendon, has put up a 4 over 4 beam and is getting very much better results than previously, and several other stations have this type of beam under construction.

3KX, of Colac, is on using a 3 over 3 beam and a 522; he has contacted 3AKE and worked 3ZL crossband with 3ZL on 144 and 3KX on 50 Mc. Ron hopes to work into Melbourne before long.

On the 30th of October, 3CI operated portable from Mt. Major, near Dookie, and worked 3APP in Shepparton and 3YV in Wangaratta. He was heard in Melbourne by 3M, but no QSO took place.

576 Mc.—At last quite a number of inter-suburban paths have been broken down and good cross town QSOs up to 10 miles have been had on this band. 3DA, of Caulfield, has worked 3XA at Mitcham, approx. 10 miles, and this stands as the home to home DX record at the time of writing. 3DA has also worked 3NW in Box Hill, at 7 miles, and 3NW has worked 3QO in Ivanhoe at 5 miles. In all cases signals have been between S5 and S7. These paths are not line of sight and those who have made the contacts must be congratulated on the efforts they have put into getting gear going well enough to make these QSOs possible.

3XA has received S9 signals from 3RR at MacCrae over a distance of about 42 miles, and this also is a very good effort. On the 9th of October, 3ANW, portable at Mt. Dandenong, in teeming rain worked 3XA, 3QO, and 3ABA.

T.C.C. 15 uF. 4,000 v.v. Condensers, £2 each.

Chanex 2 uF. 3,000 volts d.c. working, £1/15/- each.

Ferranti 0-500 Microampere Meters, lumnised dial, new, £2 each.

R.C.A. 834 Tubes, new, £1/8/- each.

VALVES—

Sylvania 807s, 15/- each.

R.C.A. 6U7Gs, new, sealed cartons, 9/- each.

Sylvania 6X5GTs, new, sealed cartons, 10/- each.

Wanted to Buy—

TYPE 3 MK. II TRANSCEIVERS in good order.



Crystals as illustrated, 40 or 80 mc., AT or BT cut. Accuracy 0.02% of your specified frequency, £2/12/6 each.

20 metre Zero Drift, £5 each.

Large, unmounted, 40 or 80 metre, £2 each.

Special and Commercial Crystals. Prices on application.

CRYSTALS RE-GROUND, £1 each.

BRIGHT STAR CRYSTALS

may be obtained from the following Interstate firms; Messrs. A. E. Harrold, 123 Charlotte St., Brisbane; A. G. Healing Ltd., 151 Pirie St., Adelaide; Atkins (W.A.) Ltd., 894 Hay St., Perth; Lawrence & Hanson Electrical Pty. Ltd., 120 Collins St., Hobart; Collins Radio, 409 Lonsdale St., Melbourne; Prices Radio, 5-6 Angel Place, Sydney.

A.W.A. Split Stator Transmitting Condensers, high voltage, £2/15/- each.

Screw Type Neutralising Condensers (National type) to suit all triode tubes, Polystyrene insulation, 19/6 each.

Prompt delivery on all Country and Interstate orders.

Satisfaction Guaranteed.



BRIGHT STAR RADIO

K. G. ALLEN (late R.A.N.)

1839 LOWER MALVERN RD.,

GLEN IRIS, S.E.6, VICTORIA

Phone: UL 5510.

Broadcasting Technician

required for

3CV (Central Victoria)

Single Man Essential.

Apply in writing to:—

CHIEF ENGINEER,

3CV CARISBROOK, VICT.



Federal President: W. R. Gronow VK3WG; Federal Secretary: W. T. S. Mitchell, VK3UM, Box 2611W, G.P.O., Melbourne.

NEW SOUTH WALES

Secretary.—Dick Douth (VK2RP), Box 1734, G.P.O., Sydney.

Meeting Night.—Fourth Friday of each month at Science House, Corner Gloucester and Essex Sts., Sydney.

Divisional Sub-Editor.—L. D. Cuffe, VK2AM, 14b Watson Street, Neutral Bay, N.S.W.

Zone Correspondents.—North Coast and Tablelands: P. A. H. Alexander, VK3PA, Hill St., Port Macquarie; Newcastle: H. Whyte, VK2AHA, Vale St., Birmingham Gard., Newcastle; Coalfields and Lakes: H. Hawkins, VK2YL, 27 Comfort Ave., Cessnock; Western: G. J. Russell, VK2QA, 116 Bogan St., Nyngan; South Coast and Southern: R. H. Rayner, VK2DO, 43 Pettit St., Yass; Western Suburbs: A. C. Pearce, VK2AHB, 48 Harrabrook Ave., Five Docks; Eastern Suburbs: H. Kerr, VK2AX, No. 4 Flat, 144 Hewlett St., Bronte; North Sydney: L. D. Cuffe, VK2AM, 779 Military Rd., Mosman; St. George: J. A. Ackerman, VK2ALG, 32 Park Rd., Carlton; South Sydney: V. H. Wilson, VK2YV, Cr. Wilson St. and Marine Pde., Maroubia.

VICTORIA

Secretary.—C. C. Quin, VK2WQ.

Administrative Secretary.—Mrs. O. Cross, Law Court Chambers, 191 Queen St., Melbourne, C.I.

Meeting Night.—First Wednesday of each month at the Radio School, Melbourne Technical College.

Zone Correspondents.—North Western: R. E. Trebilcock, VK3TL, 122 Victoria St., Kerang; West-coast: C. C. Waring, VK3YW, 12 Skene St., Stawell; South Western: W. H. Ross, VK3UT, Ballantrich, via Warnambool; North Eastern: J. A. Miller, VK3ADG, "Erinvale," Avevel; Far North-Western Zone: Harry Dobby, VK3MF, 42 Walnut Ave., Mildura; Eastern Zone: Mrs. P. M. Churchward, VK3US, "Shirley," Red Hill.

WI BROADCASTS

All Amateurs are urged to keep these frequencies clear during, and for a period of 15 minutes after, the official Broadcasts.

VK2WI.—Sundays, 1100 hours EST, 7196 Kc. and 2000 hours EST, 50.4 Mc. No frequency checks available from VK2WI. Intra-State working frequency, 7175 Kc.

VK3WI.—Sundays, 1130 hours EST, simultaneously on 3580 and 7196 Kc. and re-broadcast on 50 and 144 Mc. bands. Intra-State working frequency 7185 Kc. Individual frequency checks of Amateur Stations given when VK3WI is on the air.

VK4WI.—Sundays, 0900 hours E.S.T. simultaneously on 3750 Kc., 7196 Kc., 14342 Kc., 52.4 Mc. and 144.138 Mc. Frequency checks are given two nights weekly, and the times are announced during Sunday broadcasts. 7065 Kc. channel is used from 1000 to 1030 hours each Sunday as VK4 query service to VK4WI.

VK5WI.—Sundays, 1000 hours SAST, on 7196 Kc. Frequency checks are given by VK5DW on Friday evenings on the 7 and 14 Mc. bands.

VK6WI.—Saturdays 1400 hours, Sundays 0930 hours WAST, on 7196 Kc. No frequency checks available.

VK7WI.—Second and Fourth Sundays at 1000 hours E.S.T. on 7196 Kc. No frequency checks are available.

QUEENSLAND

Secretary.—W. L. Stevens, VK4TB, Box 688J, G.P.O., Brisbane.

Meeting Night.—Last Friday in each month at the Y.M.C.A. Rooms, Edward Street, Brisbane.

Divisional Sub-Editor.—F. H. Shannon, VK4SN, Minden, via Rosewood.

SOUTH AUSTRALIA

Secretary.—E. A. Barbier, VK5MD, Box 1234K, G.P.O., Adelaide.

Meeting Night.—Second Tuesday of each month at 17 Waymouth St., Adelaide.

Divisional Sub-Editor.—W. W. Parsons, VK5PS, 483 Esplanade, Henley Beach.

WESTERN AUSTRALIA

Secretary.—W. E. Coxon, VK6AG, 7 Howard St., Perth.

Meeting Place.—Padbury House, Cnr. St. George's Ter. and King St., Perth.

Meeting Night.—Watch the Monthly Bulletin.

Divisional Sub-Editor.—George W. Ashley, VK6GA, 33 Mars Street, Carlisle, Western Australia.

TASMANIA

Secretary.—R. D. O'May, VK7OM, Box 571B, G.P.O., Hobart.

Meeting Night.—First Wednesday of each month at the Photographic Society's Rooms, 163 Liverpool St., Hobart.

Divisional Sub-Editor.—Capt. E. J. Cruise, VK7EJ, Anglesea Barracks, Hobart.

Northern Correspondent: C. P. Wright, VK7LZ, 3 Knight St., Launceston.

FEDERAL

DX C.C. LISTING

This month we list the complete members of the DX C.C. as follows:—

PHONE

VK3JD (1)	36	180
VK6KW (4)	36	124
VK6RU (2)	37	123
VK3BZ (8)	37	120
VK6DD (6)	112	
VK3EE (10)	108	
VK4JP (8)	102	
VK3LN (11)	102	
VK3IG (5)	100	
VK3JE (7)	100	
VK4KS (9)	100	

New Members

VK4JP (8)	102
VK4KS (9)	100
VK3EE (10)	108
VK3LN (11)	102

G.W.

VK3BZ (6)	40	157
VK3CN (1)	40	143
VK3VW (4)	39	134
VK4EL (9)	39	134
VK2QL (5)	40	132
VK3KB (10)	39	128
VK3EK (8)	39	121
VK4HR (8)	40	119
VK4RF (11)	35	118
VK2EO (2)	40	115
VK4DA (7)	38	112
VK7LZ (17)	111	
VK3FH (15)	37	109
VK3UM (12)	36	108
VK2GW (16)	38	107
VK4RC (18)	106	
VK6RU (18)	104	
VK3APA (14)	101	

New Members

VK7LZ (17)	111
VK6RU (18)	104

OPEN

VK3BZ (4)	40	178
VK2DI (2)	40	159
VK6RU (8)	37	158
VK3JE (12)	39	153
VK3HG (3)	40	146
VK4HR (7)	40	146
VK6KW (13)	39	144
VK3MC (5)	39	138

VK3KX (1)	185	
VK4EL (10)	39	134
VK2AE (28)	133	
VK3OP (19)	128	
VK2AHA (9)	40	123
VK2NS (16)	59	122
VK4KS (24)	36	121
VK6DD (22)	119	
VK4DO (15)	38	118
VK5FL (26)	36	116
VK7LZ (23)	115	
VK4RC (21)	38	109
VK27C (25)	38	108
VK3LN (29)	107	
VK3YL (11)	105	
VK2AHM (20)	105	
VK4UL (27)	33	104
VK2VN (18)	39	103
VK2HZ (17)	39	102
VK2ACX (6)	40	100
VK2ADT (14)	100	

New Member

VK3LN (20)	107
------------	-----

At the time of going to print, VK2DI is Certificate Holder No. 27 of the Empire DX C.C. and the only Australian to receive this honor. From the Rules it is the most difficult of all DX achievements—heartiest congratulations, Gordon.

COUNTRIES LIST

Several reports are to hand that Tunisia's Amateur prefix has changed from FT4 to 3VS, although this is not an official notification of such change. The January issue of "A.R." will contain, as promised, the up-to-date Official Countries List as used by the A.R.R.L. and the W.I.A. for DX C.C. Awards.

W.I.A. ACTIVITIES CALENDAR

- Dec. 3-4: Third European DX Cont. (phone).
- Dec. 10-11: A.R.C.I. DX Contest.
- Dec. 17-18: A.R.C.I. DX Contest.
- Dec. 19: Motions for 20th Convention due with Divisional Councils.
- Jan. 14-15: B.E.R.U. Contest (C.W. Section).
- Jan. 21-22: B.E.R.U. Contest (Experimental Phone Section).
- Jan. 28-29: W.I.A. National Field Day Contest; B.E.R.U. Contest (C.W. Sect.).
- Jan. 31: Membership Roll of each Division due with F.E.
- Feb. 19: Convention Motions due in to F.E.
- Feb. 28: Convention Per-Capita due with F.E.; End of Fiscal Year of Divisions.

WIRELESS DISTRESS CALL METHODS

It is desirable that all Amateurs in Australia should be "Au Fait" with Distress Call Methods used by other services so that in times of emergency, the Amateur may further prove his usefulness to the community. A recent R.A.A.F. Bulletin describes the methods to be used for R.A.A.F. and civil aircraft in distress. Briefly they are as follows:—

500 Kc.—This is the main International distress frequency and calls would be made particularly between silence periods of 15 to 18 minutes and 45 to 48 minutes past each hour. These periods are observed by all ships and other stations with careful listening for distress calls. Most aircraft carry the Gibson Girl transmitter which operates on 500 Kc. In addition, twelve 4-second dashes at one-second intervals which operate the alarm system of ships and coast stations, can be transmitted. Later models of the Gibson Girl operate alternately on 500 and 8280 Kc.

3805 Kc.—This frequency may be used at night in some parts.

6500 Kc.—This frequency may be used by day in some parts.

6540 Kc.—This is a generally recognised h.f. International channel for distress calls. This channel will be most used if an aircraft makes a forced landing on land, and signals will go out at regular intervals until rescue is effected.

Various—The usual aircraft frequencies may be used if it is possible in the time available to send out distress calls on the working frequency prefixing with the appropriate SOS, Mayday, XXX or PAN.

Procedure—If an aircraft is believed to be down on the sea, listen on 500 Kc. and 8280 Kc. These signals will be weak and may best be heard during the silence periods. If the aircraft is believed down on land, listen on 6540 Kc.

Action—Any Amateur hearing signals on any of the above frequencies, should follow the procedure outlined in the P.M.G. Handbook for Operators of Wireless Stations, or get in touch with the nearest R.A.A.F. or Aeradio Station without delay.

AMATEUR CALL SIGN CHANGES

Efforts are being made to again present this feature, so that our new call books will not become

redundant in a short time. Staff shortages have caused the present delay, but it is hoped that we will soon be able to print monthly lists as of yore.

PHONE-C.W. ALLOCATIONS OF N.Z.A.R.T.

Following communications between the W.I.A. and the N.Z.A.R.T. the N.Z.A.R.T. have advised as follows:—

3500-3550 Kc.—Application to their P. & T. Dept. for the exclusive use of c.w.

7000-7030 Kc.—Already whole band entirely c.w., and no phone allowed. As VK phones interfere considerably they would appreciate our phones abiding at least by our "gentleman's agreement."

14000-14100 Kc.—Their present c.w. allocation is 14-14.2 Mc. and we have been asked to consider extending our c.w. portion to 14150 Kc. in line with the Canadians.

21000-21100 Kc.—No comments on our proposal at this juncture.

28000-28100 Kc.—Ballot has shown the majority in favor, but has not yet been taken up with their Dept.

In view of the above, we urge all VK Amateurs to follow the voluntary agreement agreed to by the Divisions and as laid down in a recent Editorial, so that we may work in harmony with our ZL neighbors.

FEDERAL QSL BUREAU

RAY JONES, VK3RJ, MANAGER

Interesting cards sighted during October are those of AC3NC (Sikkim), N. Chakravarti P.O., Gangtok, Sikkim State, via Siliguri, India; F.8AD (French India), D. S. Seal, Hatkhola, Chandernagore, with QSL address as Box 6660, Bombay 20; and VU2YL Asha, complete with the owner's photograph on the obverse.

Attention is directed to the unique conditions attaching to the first International DX Contest organized by the Amateur Radio Club India. The rules for the contest which is for 14 and 28 Mc. only and which covers the week-ends Dec. 10-11 and Dec. 17-18, appear elsewhere in this issue. This contest should be extremely interesting.

Ray Cracknell, ZEZJY, QSL Manager for the Radio Society Southern Rhodesia, gives the address of their QSL Bureau as Plumtree, Southern Rhodesia. John, of VQ4CJG, states he has now completed his terrific task of sending out 100 per cent. QSLs. Any station who has not yet received a card for contact with his station should write to him.

OSUB writes ex Vancouver, 22/10/49 (heading his letter "A dry Saturday afternoon," in contrast to our "moist" wx), sends 73 to all his VK-ZL friends and Xmas Cheer. Jim hasn't been on the air much except on 3.5 Mc. as he is pro-tem specialist electrician at a hydro station where the third 62,000 h.p. unit is being installed and has been perched thousands of feet up on a mountain side back in the bush from Vancouver where a river is taken through a mountain by a tunnel. QRM from 23,000 volt lines is mostly R max. so DX is impossible. Is trying to get on 20 and 10, so you may hear him on a VE call.

NEW SOUTH WALES

The October meeting of the N.S.W. Division was held at Science House, Sydney, on Friday, 28th October, at 7.30 p.m. Attendance was rather meagre, which was unfortunate for those who did not attend, since they missed something really good in the lecture. This was delivered by Mr. Angus Robertson, of D.C.A., his subject being "Antennae and Feed Systems." Certain fallacies and long-cherished theories in the sky-wire business were exploded in no uncertain manner. It is hoped that an article by Mr. Robertson, dealing with this matter, will be published in "A.R." shortly. The meeting concluded at 10.45 p.m.

EASTERN SUBURBS ZONE

It is with regret that I have to acknowledge the presence in the Eastern Zone of several blights, the most prevalent being that of "rotary fever"—beam type, which seems to be keeping quite a few of the boys off the air. Talk of a phantom beam is becoming boring, would the phantom please do up a few notes for the zone instead of adopting these mystic tactics? Due to the fact that some of us have to work for a living and don't get around too much, we are unable to give the chaps in the Rose Bay, Vaucluse and Watson's Bay areas as much attention as they deserve—will somebody in those areas please contact 2AX, via FW 7053 and pass along the dope?

2KH heard at odd times on phone with good quality. 2TN on vacation in VK3 and doing his best to bust through with some c.w. 2QG suffered a shock when a W told him that he was 10 db over S9 and still doesn't believe it. Just shows, Ray, that you never know what you can do until you are pushed into it. 2YF suspected of connection with the "phantom beam" and threatens to make all other beams obsolete and useless when he hits the air. 2FJ making progress with the tower, at last sight was up about twenty five feet and fast

becoming a Bronte landmark. Jack not heard too much of late except to moan about the cruel way the weather is preventing work on the tower.

2AZH whispered that somebody saw a long 5 x 5 pole moving in your direction, Bruce, what? 2AFZ thoroughly occupied testing 807s in p.p. (good luck, Eric. 2AX still in the throes of re-building. Heard his XYL plaintively appealing to 2ML and 2AIG to persuade Andy to get his rig finished so she can find room for her new fridge and do a spot of cleaning. 2AIG busy building p.a. for 20. Keen DX hound on that band. 2CE wants some of the locals to hit 50 Mc.—what about it, chaps? It is the brightest idea that has hit the air in our zone for some considerable time. It only wants somebody to start up to make it the popular band for local rag-chews. How about it, YOI!

NORTH SHORE ZONE

Delete all reference in last month's notes on 2NI's 10 over 20 beam. The "10 over" isn't there, but the rest is, and functioning very well. 2TL is still plugging away at the final—this re-building certainly takes more time than estimated. 2AND about to burst forth into the ether at last. He's moving things indoors, so will probably run his QSOs for a while by keying the xmitter in the shack and then racing down to the house to turn on the receiver! 2XM has been chasing a slice of DX at his terra firma QTH in between voyages.

2PV has snagged his hundredth country at last but doesn't know yet if it's genuine or not—he worked 3V8AG, who assured him that 3V8 is the new prefix for FT4. Pete's keeping those fingers crossed until the card arrives, anyway! Nice work by 2AH and 2ARG in reaching JA on six—how about a key in that rig, Alan? 2AMB climbing steadily toward that hundredth country. It won't be long now. 2ZH has severed connections with his old stand in the city—Sydney won't seem the same now! 2FN finding very little time for hamming now, his new family and building problems keeping him busy. Will hear him in a new QTH in under twelve months, if all goes well. 2AM has discovered that zero bias tubes aren't, even if R.C.A. says they are!

WESTERN ZONE

The western gang have apparently been bitten by the v.h.f. bug. 2WH has 50 Mc. gear going also new rotary on 10. 2BT has also finally made 10 with 3 element rotary. 2AMV has phone going well on 20 and 40, has 40 odd countries up, not bad for a new Ham! 2AAF putting out good signal on 40 and is building 144 Mc. gear. 2AMR has re-built all his transmitters, works all bands 3.5 to 50 Mc. 2JW and 2ALX work each other across Orange on 144 Mc. 2XE has built a new Rx, also removed the bug from his 40 metre gear. 2XP has phone on 40 and raised the 10 m beam up to 30 feet. 2JC still mostly on 80, but heard occasionally on 40. 2NS picks up a new country on 20 now and again, building a rotary quad to replace the 3 elements on 10. 2ACU heard using a No. 11. 2EI with battery power gets out well on 40. V.H.F. man 2LY, just packed all his gear away before the KHs came through, better unpack it Stan. 2LZ heard on 40, has a new home site selected, better QTH too. 2EX from Newnes Junction has arrived at Springwood to worry 2HZ, but won't be on for a while. 2HZ very pleased with a new 8JE. 2EF seldom operates these days.

HUNTER BRANCH

A very successful meeting of the Hunter Branch was held at the Technical College, Tighes Hill. New members were welcomed and presented with their membership certificates. It's good to see all the new boys joining immediately now we have a Northern Branch. Almost 100 per cent. W.I.A. in the North now. An interesting discussion took place on the last A.O.C.P. examination paper. I wonder if all the old gang would pass the present day paper!

Our President, 2OS, has been resting after working all that nice 10 m European DX—guess the shock was too great after so many years. Bill 2CW very QRL with new job, have heard he may be giving up the Secretary's job due to shift work, certainly hope not, as Bill has put a lot of valuable work into the running of the Branch. 2NX has nice new frequency meter; not heard much, think the flying getting preference over Ham Radio.

A SPLENDID OPPORTUNITY . . .

For a Young Man. A. G. Healing Ltd. have a vacancy in their Radio and Electrical Department for a Junior Clerk. Here is an interesting, secure position that features a five-day week in congenial surroundings.

Apply for an interview to Mr. C. Robertson, F0281.

A. G. HEALING LTD., 167 Franklin Street, Melbourne, C.I

2UY not heard for the month, giving the game a spell or getting too much at work? 2AGY pops nice signals on 20 and 10, very unhappy about noisy Cook's Hill, manages the DX though.

Another Police radio man, 2NL, been silent for months, hope recent illness has disappeared. 2OS been keeping Thornton on the map using 50 Mc. Worked the Mountains, 50 watts to an 807 on that band.

While on the v.h.f.s. Dave 2BZ has a nice rig on 20, 80 watts to an 829, makes lots of Sydney contacts. 2ADS been on 2 working locals, but no luck to 2ADT in Cessnock as yet. 2UF works Sydney on 2 and gets S9 reports. 2FP has 116 countries up on 10 phone post-war, only wants 10 cards for DX. C.C. 2AFS has terrific signal on 10 using 95 watts he tells me, his compressor works well too. 2PT getting some new countries on 20 phone he wound up a nice big transformer so will be QRO soon. 2AMM only heard on occasions on 20 and 40. Two new Hams 2AAI and 2AAN still pounding brass and doing well too. The backyard of one of these boys adjoins 2ZC's, perhaps they hear one another?

Associate Bert Watts passed the last examination, so there will be more QRM around Birmingham Gardens. Believe Vally Fitton also successful, nice work. Can 2XY rag-chew on c.w., at tea time was heard QSO a VK3, was still going at 11 p.m. Can hear you solidly on 10. Tom 2ZC trying 10 phone after good effort in contest, looks as if we have a 10 convert in Jim? 2LV back on 40 hope to hear more of you. Associate Gordon Sutherland still having Rx trouble. 2CI making a noise on 40, worked a few stations in the c.w. section of the contest. Most important news from Maitland is that 2XQ will be running the Hunter Valley emergency net—just the man for the job, having had lots of operating and administrative experience. 2DG finished the contest with a great score, something like 74 countries on 20 alone—conditions not being the best either; very solid on 10 in Newcastle.

2JZ still finds time to work 10 phone and puts a nice signal into Europe too. 2TY on 10 sometimes puts a signal into and works Newcastle on 2. 2ADX has plenty of punch on 6, was heard talking about his mobile rig for the car, what about some dope Jack. 2AKP must be "snowed" in with work these hot days, like to see you across the street Vic. Associate Charlie Hunt will have his ticket soon so we will hear another Ham from Maitland. Things quiet around Birmingham G. George 2AGD put up good score on 10 phone section of the contest, believe a VK5 in Darwin, who experienced better conditions, may pip George for 1st place. 2AHA has settled into new QTH, no beams up as yet, but an old zepp has managed W.A.C. on 10 m. The Africans are S9 on the zepp, so the QTH looks OK. What about some news from the silent blokes, write or ring 2AHA.

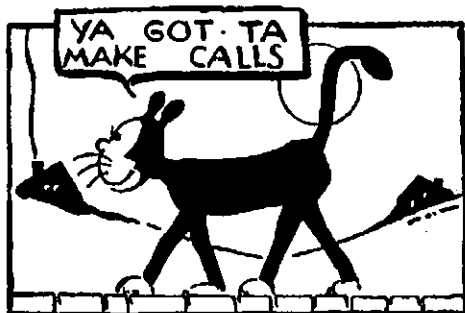
COALFIELDS AND LAKES

At the time of writing, news from the Lakes has not arrived, so notes from that area will be brief. Major 2RU is hearing some DX on 50 Mc. and is also prominent on 144 Mc. Jack 2ADT is keeping an ear for 50 Mc. DX, but so far nil heard, has 144 Mc. rig completed and working 2X in Sutherland. Seems as the v.h.f.s. will be Jack's hunting ground for the summer. Geoff 2VU working 40 and 6, has nice mast and rotary on the latter band, also has the habit of hearing the rare things. Nothing heard of 2JZ. Bob 2TL is now a regular 6 m man with 10 and 40 m for an occasional DX flutter, has a signal on 144 Mc. too.

2PKF always seems to be building something and is putting out nice phone too. Max 2KZ's phone is also very good since the re-building, works 6 m and can be heard chasing W. on 10. 2YO going well on 10, should have a beam up soon. 2ALR, a new Ham to Cessnock, is getting his gear together and has already worked some of the 10 mx gang. No activity from 2PZ or 2MK and 2YL fairly QRL, but should be breaking out on the DX soon.

SOUTH COAST AND SOUTHERN

3XD and 300 called in on the way to the big smoke. These two gents were very impressed with the set-up at 20J at Albury. 300's car was equipped with a Type A Mark III, series cathode modulated, plus single wire matched impedance antenna. 2AID and 2BW heard with very good sig-



QSL CARDS

The DEE WHY PRINTING WORKS is making available to the Amateur Experimenter a Special QSL Card Printing Service. Knowing the requirements of Hams, we are confident the service offered will be unsurpassed in Australia.

Cards can be printed to your own specifications, and if illustrations or blocks are necessary, our Art Department can produce these for you.

- ★ The Ham specially catered for.
- ★ Quality Cards at economical prices.
- ★ Prompt Service.
- ★ One, two or three colours if required.
- ★ Interstate orders handled.

Dee Why Printing Works

67 HOWARD AVENUE, DEE WHY, SYDNEY.

Telephone: XW 8367.

Proprietor: GEOFFREY BOWER



McGILL'S (Est. 1860)

OVERSEAS AND LOCAL POPULAR MAGAZINES
OBTAINABLE ON SUBSCRIPTION

AMERICAN . . .

Audio Engineering, £1/16/-; CQ, £1/17/6; Communications, £1/13/-; Electronics, £10/5/-; Popular Science, £1/16/-; Popular Mechanics, £2/0/9; QST, £2/9/6; Radio News, £2/4/-; Radio Electronics, £2/2/3; Science Digest, £1/13/-; Science and Mechanics, £1/7/6; U.S. Camera, £1/14/3.

ENGLISH and AUSTRALIAN . . .

Australian Radio World, 16/-; Amateur Radio, 9/-; Electronic Engineering, £1/12/6; Radio and Hobbies, 12/-; Radio and Science, 12/-; Shortwave Magazine, £1/7/6; Wireless World, £1/12/6; Wireless Engineer, £2.

(Add exchange to Country and Interstate Cheques.)

Large Range of Technical Books, Stationery and Novels on Display.

Mail Orders by Return Post.

McGill's Authorised Newsagency

183-185 ELIZABETH STREET, MELBOURNE, C.1, VICTORIA.

(The G.P.O. is opposite)

M 1475-76-77

NORTH WESTERN ZONE'S CONVENTION

This zone held their Convention at Birchip on 8th October, 1949. Present were: 3TL (President), 30A (Secretary), 3BM, 3OE, 3HR, 3LU, 3ACE, 3GV, 3MF, 3CH, 3GZ, and Associates J. P. Troy, A. E. Page, J. Ryan, and R. V. Trebilcock.

The gang arrived at Birchip at 12 p.m., waist coats loosened, and made for the cafe for lunch. After lunch, 3TL and 30A branded each member so as to keep them in check. They then proceeded to the local power station, of which 3CH is managing director and engineer, for inspection. Alf then explained the doings about d.c. After many questions were answered, they proceeded to the main water supply pumping station under the control of 3CH. Here again more explanations and ear bashing.

Next came the inspection of Birchip shacks of 3OH and 3ACE. When inspecting 3CH's shack, Alf really got going and demonstrated magic with slight of hand and then finally presented his second operator, the vent. doll, "Ginger." The gang was highly amused, it really got 30A in. The boys then got interested in many of 3CH's old cards of early years. As, OA, and VKs, etc., of 1924-25 vintage. 3CH played with sparks in 1909-13 and crystal sets. Alf then showed the gang an imported receiver he brought out in 1944, of French manufacture, still new, and also a B.B.C. job which the gang were keenly interested in, being the first receivers in Birchip before broadcasting was introduced. Thus completed 3CH's shack.

The gang then went up to wreck 3ACE's shack. After inspection of an array of cards from various countries, and a good deal of ear bashing on various subjects, aerials and 3ACE's rig, they adjourned inside to the sitting room where the President 3TL introduced 3BM who gave a very fine and interesting lecture on amplification, etc., which was highly appreciated by the Hams present. Time was then getting on and the gang adjourned to the Commercial Hotel for their Annual Dinner, which was served in the best manner and attacked by the gang in great style. By this time, everyone was full and belts began to tighten.

Then followed the Annual Meeting, and after dealing with the minutes, financial statements, and correspondence, etc., the President adjourned the meeting for a while to have our quiz competition, the prize being a Rola Speaker (per. mag.) kindly donated by 30A. The winner was 3BM after a big battle, and kindly donated it back again to be Dutch auctioned. Some very spirited bidding resulted in Gordon 3GV taking home the prize. This very good effort raised £6/6/- for the Food for Britain Appeal. The President then resumed the meeting, commencing with general business and called for election of office-bearers for the ensuing year.

Those elected were 3BM, President; 30A, Secretary and Treasurer; 3ACE, Zone Correspondent and Disposal Officer. Before closing the meeting, 3BM spoke about the very able manner and ability of the Past President 3TL and Secretary 30A in carrying out the last year's operations of the zone and thanked them. After a short discussion, it was agreed to hold the next Convention at Sea Lake if possible, or otherwise Swan Hill. The meeting closed and the gang adjourned to 3CH's premises where Mrs. Alf Harris and Mrs. Clyde Case prepared a very enjoyable supper. While the supper was being prepared, 3BM screened in the sitting room some very interesting technicolor 16 mm. pictures of Holland. The poppies of Flanders and War Graves of our dear Australian comrades of World War I, taken by Bruce's father and mother while on holidays in Germany and the Continent.

3BM on behalf of the gang thanked Mrs. Harris and Mrs. Case for the enjoyable supper. One o'clock was reached and the gang dispersed to their respective homes. 3CH waited to see 3GZ and 3MF on the 8 a.m. Mildura express. Thus was a very happy end to the Convention.

NORTH EAST ZONE

On Sunday, 30th October, 3UI and 3CI left early for Mt. Major, and were on six and two metres by 10 a.m. Your hard-working correspondent heard rumours of the activity, so went along specially to report the doings, arriving about midday. 3UI was using a new set-up on 50 Mc. consisting of 6AG7 osc. tripler, 6AG7 dblr., 832 p.a.; 6SH7 pre-amp., 6SL7 phase changer, p.p. 6F6s mod.; 6K5-6J6 converter into Command rx., and all powered from 12 volt generators. A two element "T" match plumber's delight beam and a very flash chrome-plated crystal mike were used. Alan worked 3BQ, 3IM, 3RR, 3YS, 3ABA, 3APF and heard 2PN of Tumut, N.S.W.

3OI was using his usual hot-up 522 on 144 Mc. feeding a cubical quad about 15 ft. above the peak of the Mount. Syd worked 3APF, 3YV and 3ABG, and was heard by 3IM. 3ABG also used a hot-up 522, taking 26 amps. from the 12 volt car battery. Antenna was a haywire cubical quad, fed by line of wrong impedance and mounted on a

twisted stick about 6 ft. high. This "carpenter's nightmare" worked extremely well, only troubles were it kept falling down, would not point anywhere but at the sky, and all signal reports were bad. However we did work 3CI (ten yards away), 3YV and 3APP on 144 Mc. We learnt a few new words via 144 Mc. when Syd sat down on a Scotch-thistle. 3UI was equally expressive about some hornets chasing him.

3AOW is teaching a YL to operate his rig; Joyce's voice has improved results on 7 Mc. 3ABO is back at Mangalore and has a new car. 3FD on 7 Mc. c.w. but battery charging limiting operation. 3YV spending spare time running in new car. 3KR changing antennae again. 3TS going to get back on six. 3AT, our President, certainly gets a good hook-up attendance. 3JK is in Sydney. 3WZ playing with motor cycles instead of kilocycles. 3APP and 3UI in the DX on six. Associate Ken Sloper has shown little interest lately; reason still Joan Cain of Locksley. Bert Brown still listening on 7 Mc., but after keeping a YF and five juniors, not much cash in left for radio parts.

SOUTH WESTERN ZONE

Latest news of the month is that 3ABK has a carrier on his motor bike to carry the portable on, and I hear that 3AKE comes on 40 at times. 3IC has got a bit of DX in the way of a 2S and one in Tahiti, good work Bob for 40 metres. 3ALG has new modulator going well now. Geelong has another new Ham with the call of 3AJT and John has a nice rig going. The two Bills (3BU and 3WT) have been on 40 quite a lot with good signals, seeing that conditions are not the best.

3YE has struck oil by his signal these days and now runs about 58-9 and 3AGV still gets his share of DX on 20 metres. 3AKR able to work on 40 with his long wire, but wait chaps, for when Kevin gets his super-vee beam up a half mile on each leg, we just won't work any more DX.

Had a good yarn to the old timer from Ballarat, 3MH. Mart has his antenna in his room, and puts in a fine signal down this way; one thing Mart, you won't have to re-tune when it rains in Ballarat. Heard 3EQ on the other day with a fair signal and clean phone. Also heard a voice that I knew on the high end of 20 and who should it be but 3IIP, pulling the spider webs out of the rig.

The only news to hand from 3JA is that he is on 10 working the DX on phone; from what I have been told, Jack has tossed the key away. It seems as though the Ballarat boys are silent these days as I have not heard any for quite a long time, the only ones being 3BI and 3MH. One could hear 3BE, 3VA and 3GR on 40 quite a lot, so it seems as though the good old 20 metre band has a few more calls added.

Well chaps this is all for this year, so your scribe wishes all members of the zone the best for Xmas and the New Year and lots of DX, and must thank 3ALG for the notes from the Geelong gang. I must say cheerio, and next year your new scribe will take over and the best to him.

Geelong Amateur Radio Club

In spite of the adverse weather conditions on the first meeting of the month, there was a fair attendance of members when club member Peter Perkins gave an illustrated lecture on "Super Modulation." The next meeting took the form of a field night when an enjoyable and exciting night was spent by the boys. A transmitter operating under the club's call 3ATL was hidden approximately two miles from the G.P.O. and operated by 3WT and 3SY. Members set off and with the aid of "loops" and portable receivers to find it. First to locate it was 3AKE and 3ALG who took 33 minutes, and next was 3ABK who took 1 hour 15 minutes. Other members were very close, but could not find the exact spot. Members went back to the club rooms to discuss bearings they had taken.

FAR NORTH WESTERN ZONE

Activity among members in our corner of the State seems to have decreased with the passing of winter. However several of the boys remain on the air and the Sunday morning hook-up continues.

3FO and 3AFC of Ouyen have been holidaying in Melbourne and Sydney respectively and are back at the toll once more. 3AUG (pre-war 3UG) has been heard on 10 metres and his first post-war contact was a ZL, nice going. Noel; now get some more coils wound OM and let us hear that 1b. phone on the local bands. 3GZ and 3MF journeyed to Birchip to attend the North Western Zone's Third Annual Post-War Convention on October 8. They felt quite honoured in being the only visitors from outside the N.W. Zone. The zones not able to send representatives were certainly the losers as the boys were really done proud; the whole day and night full of interest and enjoyment, even if F.N.W. Zone couldn't pull off the technical quiz conducted by co-quizzers 3TL and 30A. Finale of the Convention was the adjournment to Alf's 3CH home where, after an all too short session of 3BM's movies, supper par excellence (I believe it was more like a feast) was served by Mrs. Harris and daughters.

VICTORIA

STATE CONVENTION

The State Convention of the Victorian Division will be held on Saturday, 21st January, 1950. The date has had to be put forward owing to Federal Executive requiring items for the Federal Convention earlier than previously. Hence Agenda items for the State Convention will have to be in the Council's hands by 20th December, 1949.

GADSDEN AND KINNEAR TROPHIES

Entries from all zones for the Gadsden and Kinneary Trophies should be forwarded to the Administrative Secretary, 191 Queen Street, Melbourne, C.I., before 20th December, 1949.

As yet no entries have been received, although monthly reports should have been forwarded by zone secretaries. Time is running short, so gather up all the activities of your zone and send this information in without delay.

RULES FOR W.I.A. (VIC. DIV.) HOME-BUILT TEST EQUIPMENT COMPETITION

The Committee has decided that the competition will be limited to "Home-Built Test Equipment" with definite application in the Ham shack. It is hoped by this means that interest will be aroused in a much neglected field. The competition is limited to members of the Victorian Division. Likely starters are requested to advise the Secretary of T.A.C. so that space requirements for the storage and exhibition of equipment may be gauged.

The equipment submitted will be adjudged on the following basis:—

- (1) Ratio of commercial to home-built components employed.
- (2) Conciseness of written description accompanying unit. Description should cover constructional details, uses, general specification of ability, and operating instructions.
- (3) Relationship between physical layout and electric requirements—or vice versa.
- (4) Neatness of wiring and quality of soldering.
- (5) Stability, general performance and calibration accuracy.
- (6) Utility of equipment for Amateur purposes.

The decision of the judges shall be final. Judging will take place at the State Convention, where all entries will be displayed.

Further details will be published in next issue of "A.R."

MOORABBIN AND DISTRICT RADIO CLUB

The first meeting of this Club was held at the Moorabbin Town Hall on Tuesday, 25th October. There was a particularly good roll up.

The club was duly constituted, and it was decided to affiliate with the Institute. Jim Keene, VK2KE, was elected President; Ted Scott, Secretary, and Ed Manifold, VK3EM, Treasurer.

Future meetings will be held at the Moorabbin Town Hall on the third Friday each month. Meetings will include lectures, morse code classes, social nights and demonstrations on v.h.f. equipment.

Anyone interested in joining the Club should go along on the third Friday, or they can ring the President, Jim Keene, at XU 2235.

3MF, who has been off the air for about three months, seems to have been impressed with the whole show to the extent that at the moment he is walking around muttering "volts, watts and percentages," so a modulator must be going through the brain child stages and as a CRT is expected by him any day, switches look like being thrown soon.

Associate Jim Power has had a lot of trouble with the b.t.o. on his big double conversion receiver; hope you track down the fault soon OM. Jim sits for his ticket in January. 8GZ will soon have his BC453 hooked to his receiver, just waiting on a couple of 12 volt tubes. Anyone wanting a good key should get in touch with SFC before Frank tosses his out. Rumor has it that a minor operation carried out on him recently was to remove the mike from his hand so he could go holidaying with the family. Ex-3AGF, now in Darwin with P.M.G., has not been heard yet, but understand he has a 622 receiver and pile of other gear. 3TI has a v.f.o. ready for calibration. 3GZ is very busy these evenings carrying out modifications to a TA12C recently acquired.

EASTERN ZONE

It is with sincere regret that the zone farewells 3OF, Syd Bryant, one of the keenest and most active Hams. His work on 6 and 2 metres is an example to all. We wish him health and prosperity in his new sphere. 3YL and 3US, Rex and Gwen Churchward, have all our good wishes in their new venture, which, fortunately for us, keeps them still within the Eastern Zone.

3SS and 3QZ paid their promised visit to 3WE, "The Old Man of the Mountains." Bill has just bought a bank, and by the time this goes to press, will have moved his home and printing business thereto. Good luck Bill—one way of helping out with the labour shortage.

The really big news of the month is the new junior op. to our President, 3PR, Ron Jardine. Congratulations to Ron and the XYL. And here is some news for the old timers. During the week we visited 3MR, Snow Campbell, on his farm at Clyde. Snow is not active at present as he is too busy. However, Ham Radio is not entirely forgotten—there is the makings of a very comfortable shack with quite a lot of gear just waiting for the "master hand."

3DI, Jim Chilvers, is fast becoming our leading Ham. He is now building a new frequency meter to add to his already f.b. shack. Six and two metres hold no secrets for Jim. Congratulations to the junior op. of 3SS. David is now a student member of the W.I.A. and we have yet to meet a keenest lad. 3TH and 3BB, Gordon and Bert, are putting in some good ground work for our forthcoming Convention. Don't forget the date! A.N.A. week-end, 28th of January, 1950.

CENTRAL WESTERN ZONE

First of all chaps let me remind you of prizes to be won by zone members during the coming twelve months:—

(a) Best improved signal on the 40 and 80 metre bands, plus zone hook-up attendance (1st and 2nd prizes).

(b) Most outstanding result on v.h.f. bands. These will be worth winning chaps, so hop into it and to help the Committee in a difficult task, keep your Secretary posted with your doings to give them a lead.

Stawell is sprouting a new scenic spot in the shape of 3AKP's three element 20 metre beam. Keith is getting along fine with the construction, and should soon have it ready for testing. 3AKW is now finishing off the conversion of his RA10FA receiver to a double i.f. using 110 Kc. i.f.s. and it should be very f.b. when completed. 3AGB popped up on our last hook-up, and made quite a surprise addition. Pete was having some hum trouble, but soon cleaned that up. Another surprise was a personal contact with 3ATR, who walked into the shop one evening. Treb has a nice set-up on the farm. Spends most of his time on 28 Mc., and mending the vee beams after the birds break them down.

Our worthy George of 3CN fame has invested in a commercial modulator to the great improvement of his phone. George's shack is quite a pleasure to enter these days, posh looking gear all over the place. 3IQ is leaving the quiet of Carisbrook and departing to Melbourne to collect yet another commercial ticket. Kevin must be trying to beat the gun before they make 'em harder hi!

3XC is still very busy playing round with a commercial v.h.f. outfit, and seems to be having the time of his wicked life, still can't make out why he was so sedate at Castlemaine. 3XU is busy shifting into a new address, no doubt Gordon was blown out of the old QTH by 3AWN's beam; it's a bad show to have a Ham just over the road.

3TA they tell me is running up a c.r.o. and is well on the way to having it finished. 3FI is another of the look and see gang so the boys will not be able to say too much to either of them about their phone. Incidentally, 3ET's RYL now thinks Ham Radio is the goods, after Ray brought home the blankets.

For about the last four months 3YW has been working on n.b.i.m., mainly on 2.5 Mc., and after passing through various one and two tube reactance modulator units has settled down to push-pull audio and balanced modulators as per "Hund's Frequency Modulation." It seems to work out very f.b., and is one way of demonstrating to the boys whether their a.m. receivers are selective or not; by the way, is there such a person as a Ham cum discriminator? They seem to be as scarce as hen's teeth.

QUEENSLAND

The general meeting for October was poorly attended, there being only fourteen present. The stormy weather that night no doubt made many members stay in the shack. The Secretary reported that at the end of October there were 53 City and 60 Country financial members, and all told a total of 113 financial. Remember chaps—one month behind with your fees and no more "A.R." Two months behind and down comes the chopper—no more members!

3MH suggested that when the lecturer fails to appear on appointed night, that a general discussion on technical points take place—question/answer session. Much better to have such a session than the fault-finding session that punctuates nearly every general meeting.

It was gratifying to learn that during October eleven more country Hams became members and that the Secretary has another fifteen applications from the country awaiting acceptance.

A perusal of the R.D. Contest score board reveals that six out of nine zone managers took part, whilst only two out of eleven members of the VK4 Council sent in logs. Rather a poor example for Councilors to set its fellow W.I.A. members. What about it fellow-Councilors? Let's make the 1950 R.D. Contest a "must."

ZONE NEWS

Brisbane.—Only news of this zone for this month is what the Sub-Editor has gleaned from "reading your mail." Congratulations to 4AW, Arthur has now another in the family. 4ZU—we believe Howard is running 100 watts to p.w. 834 on 50 Mc. and apparently to very good purpose. Howard's signal was heard in KH6 but unfortunately did not hear the KH6 calling him. 4RC and 4KS piled up huge scores in the October Contest, believe Keith has a very high multiplier.

Inewich (45N).—Heard George of 4GG talking of a "Swan Song" visit to all the O.T. he knows—why "Swan Song" George? 4WL, late of this zone but now on Manus Island, had a very nice portable rig going. Val used a 9008 driving a 6K6 at 6 watts, modulation was Heising with a 6K6 driven by 8877. The receiver was a three tube regen. 9003, 6C6, 6K6. The antenna was a Gibson Girl Kite. On the same day, 9th October, 4CH took a No. 11 into the country, but found conditions very poor.

Welcome back to the 7 Mc. band to 4LT. Albert is a real country-ite now—time fully occupied managing general store, raising chickens, feeding poddies, and in his spare time "hamming" and singing the praises of Coominya.

Gympie (4HZ).—Jim is taking things easy these days, given up linesman's job, no more trapeze acts for Jim. On the 9th October, 4HZ took an F5G into the country, tested with various antennae and found the Windom best. Major changes have been made to the home rig too, and excellent quality phone is heard from there now. Congrats to Eric of 4XR and the new harmonic. A newcomer to the zone is "farmer Bob," 4RN out Woodford way.

4CR is fed up with the QRN and Col looks like going on 14 Mc. 4HD has a new portable using EF50 crystal oscillator, 1625 modulated by pair EF36s, driven by EF34. Believe Max also has a new 6 metre rig. Heard old-timer Alf Bauer talking over 4FS' make the other night, it sounds as though Alf is contemplating a comeback. 4LN going quite gay. Barry is juggling the paint pot now—painting his "beams."

Bundaberg (4BJ).—Congrats to 4HE who has succeeded 4PG as chief of the local b.c. station. 4XJ is leaving Rockhampton to return to his home town where he will go into partnership with 4HE. 4BJ was out on the field day with a portable 3BZ with 12 volt generator for the transmitter, B batteries for the receiver, and antenna used was a single wire matched impedance.

Townsville (4GD).—New Hams in the zone who are also new members of the W.I.A. are 4WD, 4DH, 4FA, and 4RU. During the month 4RW worked new countries in OP5, CO2, VP9, PK4 VQ1 and was unlucky to miss OX3 because another VK4 thought he owned the OX3.

Downs (4CG).—Conditions have been very patchy on all bands. 14 Mc. has given up the ghost in the afternoons now and W signals seem to be gone for a couple of months. 28 Mc. turns on the works every now and then. 28 Mc. has been giving a lot of the boys their first South American QSO on that band. Quite a lot of c.w. on the band too. Europeans come through regularly after 10 p.m.

Been hearing ground waves from 4BT and 4AP and 4HR. No news of 4RF but rumour has it that Fred will make a comeback shortly. 4XN has had 28 Mc. the same applies to 4CU. 4DA has gone 28 Mc. minded, quad beam and all nickel plated fittings to match. Max also interested in mobile work. 4KK cutting saplings to raise 6 metre beam a bit higher so as to reach through to Dalby. By the time these notes reach print, 4UJ of Stanthorpe, will be a Brisbane. 4ST has already settled down in the Brisbane Zone. Our sincere sympathy to 4RJ at the recent loss of his wife. 4TY often heard on 40 (believe a certain official recently remarked that Norm's rig would put a lot of commercials to shame—Sub-Ed.). Welcome to Bill Yates 4WY, a new Toowoomba Ham running 25 watts on the 7 Mc. band.

Students' Notes (J. P. Baker).—My first duty is to reprimand all Student Members who have not been attending the lectures every Thursday night at 6 p.m. in the Y.M.C.A. Rooms. On an average only four members have attended the classes regularly this year. Lecturers now have gear available to demonstrate their points. The standard of the lectures and demonstrations would be greatly improved if the W.I.A. were sure of a greater attendance. So what about it fellows?

On behalf of the students and W.I.A. members generally, we express deep sorrow at the passing of a student member Arthur Addis, who died during the last week of October.

By the time you read these notes, Christmas will be close at hand and the Sub-Editor extends Xmas and New Year Greetings to all members of the Wireless Institute of Australia.

SOUTH AUSTRALIA

The monthly general meeting for October took the form of a visit to the Osborne "A" and "B" power houses, and the general reaction was that there should be more of this type of thing. A party of approximately 50 or 60 members departed from the clubrooms in a luxurious bus escorted by motor bikes, fruiterers' vans, and sundry other types of vehicles. The pilot, navigator, and head cook and bottle washer was Ross Kelly (5LW), and it was expected that a record breaking trip would be made. To say that our hopes were rudely dashed to the ground would be to put it mildly, and as the lights of the Osborne power house slowly receded from the back window of the bus, even the most optimistic of the members realised that Ross had erred in his calculations, and if we kept going we would be taking a dive off the Outer Harbour wharf. A near riot now broke out, and with Ross yelling out that the fare had gone up fourpence, and all the passengers yelling unprintable remarks at Ross, a very enjoyable five minutes was had by all.

Eventually, after one or two false starts, the right road was found, and with Ross still demanding an extra fourpence per passenger, we arrived at the power house. We then split up into small parties, and with each party accompanied by a very co-operative and helpful guide, an extended tour of the power house was made lasting about two and a half hours. It was pure coincidence that most of the turbines, meters, and associated apparatus was branded Parsons, but nobody allowed this fact to pass them by, much to my embarrassment. The tour of inspection concluded with the usual vote of thanks which was enthusiastically acknowledged by all present.

J. W. Bulling (6KX) who is a big butter and egg man at Osborne, and had acted as one of the guides, offered me a ride home in his car and therefore I did not return by bus, but my spies tell me that the journey home was uneventful except that the bus developed a lock of petrol and arrived back in the city just in time for the members to scamper like a lot of rabbits across King William Street after their last trauma. Anyway, a marvellous time was had by all and the programme organiser, Ross Kelly, is to be congratulated, even if he did not get the extra fourpence.

5FD has a couple of Selsyns to go with his prop. motor and we may expect to see the "Plumbers' Delight" spinning madly in the blue sky at Mount Gambier ere long. John has had a spot of transformer trouble and now knows that the last few laminations can cause a lock of a lot of trouble after being forced into place. Rumour has it that he is talking of house building, so perhaps radio will take a back seat for a while.

5KU has finished the new transmitter and according to reports it really looks the goods. However, Erg is having a little teething trouble with it because it works better without the oscillator. 5JA is usually the first with the latest down at the "Mount" and once again he has stolen the limelight with his s.e.s.c. transmitter. John is using the filter system similar to 7LE and is on 40 metres. He is highly pleased with the reports to date. 5MB is anxiously awaiting the arrival of his new Eddystone receiver. How do you do it Stewart? 5CH has been very busy getting the bushfire fighting equipment ready for the coming summer months. Claude is also interested in 2 metres and

is building a transmitter and receiver for that band. 5TW has had a few contacts on 20 metres but the poet says "in spring a young man's fancy turns to etc." but Tom says "a married man turns to vegetables and the garden," hence the few contacts. 5CJ has nothing startling to report but hopes to have his v.h.f. gear ready for the summer months. Anyway Col, you are a lifesaver to me with the notes, and your good work is much appreciated by the Council and myself.

By the way, it is a long time since I had any dope from the Northern Net, and I don't seem to have much luck with "Splatter" for my source of news. I was wondering if some enthusiastic Northern Ham, such as 5XL, would be kind enough to forward me some dope on the first of the month like Col Ferguson does, and believe me I will be only too pleased to write it up. After all, it would make it very easy for me, I wouldn't have to tell lies and use my imagination like I do to fill in. Always remember that I have no crystal ball to gaze into and get news of the Northern Net.

I believe that Rex Minchin (5XX) is shortly moving to VK2, in fact he may be there by now. Best of luck Rex, see you on the air from VK2 one day. My spies tell me that Al Smyth (5MF) is seriously considering disposing of his beam at a very reasonable price, due to a projected shift in QTH. Is that right Al? You are not thinking of moving toward Hentley Beach, are you?

Lance Worrall (5WF), who has the distinction of being my brother-in-law, went twenty metre W.A.C. during his first three weeks on c.w., and of course is looking sideways at me because it took me almost a year to perform the same feat. My in-laws are fast losing faith in me and it would not at all surprise me if they did not send me their broken down radios to repair. How cruel is fate. Had the distinction of meeting the Federal President (Bill Gronow, 3WG) at Doc's QTH the other night. Bill seemed a good sort to me, and with Federal Secretaries writing me letters on brown paper, and Federal Presidents shaking me by the hand, to say nothing of magazine Editors favouring me with little condolences (now don't deny it Tom) I feel that at last I am arriving (where—Ed.).

The boys at the best broadcast station in VK6 also had the pleasure of meeting George Hayman (6GH) who was passing through after a holiday in VK3. George seemed a typical Ham, and we all hope to hear you on the air soon OM.

I always seem to be moaning in these notes about lack of city news, but I have a good excuse this month because of my visit to Melbourne and Ballarat, and consequent absence from the receiver, also lack of contact with my spies. Whilst in Melbourne I did not meet any VK6 boys except the Editor (Tom Hogan 3HX) and then only long enough to hand to him the eggs, cigarettes, petrol, flowers, butter, and sundry articles I had brought him from Adelaide (Oh yeah—Ed.). He impressed me as a regular bloke, although I was not very happy at the sneer that came over his face when I asked him for more space. I could have been mistaken however, it might have been indignation. One or two impressions of my trip I will pass on for what they are worth. The first being that broadcasting station 5GL was the only station on the whole trip to give us music suitable to the busload of beautiful young ladies, and believe me we listened to a large number of stations. The rest of the stations seemed to be a little on the too classical side.

Major stop signs and red and green traffic lights were just a joke, if the bus dared to stop in obedience to them, the abuse hurled at us from the rear had to be heard to be believed. I also discovered that one did not politely stand aside for a member of the opposite sex to enter a lift or a tram, as more often, as not she would knock one down in her anxiety not to lose any time. Twenty four hours in the great city and I was going through crowds like a full-back.

Also discovered that if there are any radio bargains available they are well hidden, although if one wants to buy any certain article particularly, there is a good variety to choose from at a reasonable price. A very plausible young man offered to do me a favour by selling me one or the other of the railway stations as a going concern. I asked for time to consider the offer, but he lost interest in the sale at this point. They seemed to be fairly busy too, and I wonder whether I was too slow or not.

Regarding Ballarat, I will always have a soft spot for that place, as my daughter won that coveted section "Graceful Physical Culture Girl" which incidentally was the first time in the history of South Street competitions that a South Australian had done so (don't you dare cut that out Tom). (I won't, not after seeing the picture in one of Melbourne's papers—Congrats. Audrey—Ed.) It goes without saying that she gets it all from her father! However it was a good trip and whilst I regret not having met a few of the VK6 boys, I expect them to stagger along under their loss.

General satisfaction is being expressed in VK6 with the early arrival of the magazine these days, in fact it is quite a long time since I have heard any "wings" concerning the "mag" at all. Probably the calm before the storm.

One of the surprising features of Ham Radio in VK6 these days is the number of applications for membership which continue to come in. One time we used to chase the new Ham to join up, but now they chase us, and everybody is beginning to realise that the Ham organised is a strong unit, but unorganised he is like a voice crying in the wilderness. The practice in VK6 of permitting the youngsters to join the W.I.A. as associate members sure pays dividends, as it is from these youngsters that the future Ham will come, and if they join up early then they stay, instead of drifting away to other clubs.

By the time you have read these notes the festive season will be almost upon us, and once again it is my pleasure on behalf of Council to wish all and sundry the compliments of the season, and all best wishes for the coming new year. New resolutions will, of course, be made and broken, and if I can be pardoned for suggesting a new resolution for us all to try and not break, might I suggest that in the new year we all endeavour to put more into Amateur Radio than we take out.

WESTERN AUSTRALIA

The screening of films again improved the attendance at the October meeting and a fairly good roll-up was seen. A familiar face to some of the older members was that of 6JR. Gus Clutch, an old-timer who hopes to find more time for Ham Radio in the future. Another visitor was a newcomer to the ranks, 6GU, John Harlock, who was seen later in the evening chasing a membership application.

Our President (6WH), having returned from his visit to the wise men of the East, gave the meeting a short summary of his activities at a Divisional meeting over to other side where he availed himself of the opportunity to enlighten members as to the attitude of this Division towards Radio Clubs generally, and the Clubs in VK6 in particular. In fact, as 6WH pointed out, the largest club in this State is actually a member of this Division and has in its ranks many W.I.A. members.

The members of this Division desire to convey to VK2 members in the flood areas congratulations on a fine job well done in the recent emergency. Their action is probably the finest type of publicity our hobby can receive.

A letter from the Geraldton and Districts Radio Club was read to the meeting. This gave news of the winding up of that body and enclosed a donation towards the Divisional Building Fund. The President advised that an annual allotment would be made to this fund by the Division in future.

Members were advised of the preparation of pennants to be held by the trophy winners in Divisional Contests in future. A Committee was appointed to handle arrangements for the Annual Dinner to be held on 25th November. Included were 6WS, 6QM, 6IG, 6KW, 6RO, 6WT, and 6NL.

The business of the evening concluded with the presentation of DX C.C. Certificates to 6KW, 6DD, and 6BU. Further films and the usual ragchew brought the meeting to a close.

PERSONALITIES

Top of the list this month are two proud Poppas; 6FW and 6AS. Both still frequent 28 Mc. on occasions. Alec is doubly pleased as his rig has reached the full 100 watts at last. 6WZ forced to spend a week or two on his back in the local hospital and to add to the torment took his Ham receiver with him. Before going, however, Harry put in some good work with his new two element to dig out a rare one, OR10AA.

Also heard 6RL at Northam cliking with what the operator claims is the first official station on Portuguese Timor. Heard 6EL has some a.c. at last—he's making his own with a vibrator set-up—it lights the filaments, which is a big item on d.c. mains. 6RU is hoping to occupy his new QTH very soon with a new 40 ft. tower for his beam. The quietest member of the Carlisle gang these days is 6RS. Ron has a lot of gear on hand, in fact I think there is so much he can't make up his mind which to use first!

Recently returned from Geraldton holidays, 6DJ has found his interest revived by the efforts those low-power boys put out on low power. Bill threatens to join the gang on 10 any day! 6TX explained his absence from the bands as due to a shift of QTH and a certain amount of re-building involved. Attention 6JS! I am told you have a new secret type of antenna, an inverted bath-tub; that would be in the same class as 6FW's modulated bedstead, wouldn't it?

Passing 6SA's residence (shining with new paint after Jim's holidays) and among the many antennae beheld a bright new vertical 10 metre beam. However Jim says it works just as well without the parasitic elements, so he rolled them up. Saves turning it too. 6CF still chasing the ultimate in beams, has now a four element job chasing the rare ones on ten. 6KW also alert for any new

ones sneaking through. Ron put in some solid work on the OQ Phone week-end. Another DX'er, 6DD, was pleased to make his Bolivian contact on ten the other day. That only leaves the Guianas now, so go to it John.

6CK, the feller who pulled his gear down to study, has now completed his exam, and is said to have a Command type transmitter under modification. A much envied VK6 this month is Tom Mulder, 6MK. The reason, one only Collins 75A receiver. Nice work, Tom, and I hope it really works as well as they tell us it does. Another chap to realise that "if you can't hear 'em, you can't work 'em" is 6JK who has a new receiver on the bench. 6OR heard again on ten. Jack is putting the final touches to a very complete looking three band rig which he says will stay put when it is finished, so we should hear more of Jack in future. 6FR finds little time for Ham Radio these days, but still has a good receiver to keep in touch with activities.

Recent visitors to VK6 were VK6FW who stayed with 6FL and a m/m 2AKH who found time, while in port, to visit several ham shacks. Heard on forty arranging 50 Mc. skeds was a new Ham who is very keen on v.h.f. work, 6BO. Can still hear the DX answering the country chaps, so they must still be active. With as much chance of an answer as a 5-watt "peanut-whistle" in Kilowatt Alley, might I again request a few lines on the activities in the country? Hope I see some of you at the Dinner and that you all get safely home again.

TASMANIA

Owing to pressure of work I have not been able to get around or even listen much lately, so Geoff Clark has kindly stepped into the breach and has produced a summary of the doings for this month. So without further ado, thanks very much Geoff, it's all yours!

By dint of considerable detective work it is possible this month to present some more or less presentable notes. 7SK is far more popular, now, since he has succeeded in compressing his compressor. Hear you are moving to Mt. Nelson shortly Max. Some fellows will be pleased. Others, well, let's wait and see. 7RM heard on 20 regularly bowling over WS. 7PA recently visited the North-West Coast. Was heard paralysing the ether from 7AB's shack. Quite some party, eh Doug?

7KA building a modulator. 7DH can either suppress one sideband, or the carrier, but not both simultaneously. Looks like that phase shifting network. Isn't it Dave? Anyway, d.s.b.c. is something! 7AF worked a CTI the other afternoon and hasn't recovered yet. Is also having modulator trouble—but hear the new power tranny is due shortly—that's it Bob, it's audio wot counts. 7OM heard on 40 very late the other night, or should I say early one Sunday morning, working a VK6. Even the VK6s had long since gone to bed. 7GJ thinking of building a v.f.o. Going to "Clapp" it together, eh Jack. 7CA been posted to Northern Tassy and has the problem of shifting his rig or building afresh. 7JB heard pushing the key on 20, in one of those multitudinous DX contests. 7TR moderately active, believed to have been heard on c.w. Miracles will happen.

7AJ and 7DH getting all teed up for the 6 metre DX (?) season. 7IJ worked a couple of new countries. Hope they come good Lon. That would put you pretty close to the coveted 100 countries. 7XA has natty little beam motor assembly to hand. Wonder what it's for Charlie? 7BH active on 40 phone, but restricted for antenna space, has the 60 ft. high P.M.G. building right next door too. Wouldn't it, Brian. Also having hum trouble. Throw that mike away, OM. 7GB works Ws on 40 c.w. 7SD another c.w. man. Don is getting ideas on "modulashun."

A newcomer, 7DA. "Ack" Anderson, has been working the ZIs on 40. Has 6V6-807 and f.b. home-built eight tube rx. 7SJ's mike seems a bit too sensitive to harmonic QRM. 7AF heard a GI, went to call him and there was 7AL also. Bob didn't even try then. 7SK believed to have annexed a mobile power station for next National Field Day Contest. Nothing like making sure there are no flat batteries, Max. 7TA rather chagrined as has bet 7SK will beat him—but not with an AR88 and H.R.O. Geoff is buying out the local shops, and still building; recently visited VK3, travelled a colossal distance in a few days, visited most of Ballarat shacks, and returned with some useful gear, including a dozen nicely spot-welded aluminium chassis. Phew! Has also purchased 7GJ's beam tower, but no place to put it. 7BM forsaken the lower bands forever and gone v.h.f. permanently.

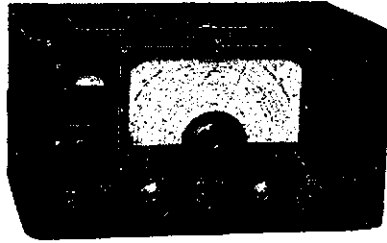
7FJ playing with supermodulation, with some success. 7RJ runs car without any coolant. Saves water anyway, Ted. 7CT seen in town, but not heard. 7FM active on 40. 7RY gone down to 2 metres it seems. Well chaps that about takes it off for this month, conditions have been lousy on 20 and 40. Ten metres is gradually improving and it shouldn't be long before those 59 plus 60 db signals start coming through! Anyway, 73 for now until next month.

(Continued on Page 25)

JUST ARRIVED

CONTROLS—

Main Tuning.
Aerial Trimmer.
Oscillator Trimmer.
Audio Gain—Mains On/Off.
R.F. Gain.
Bandspread/G.C. Switch.
Noise Limiter.
Stand-by/Receive Switch.
C.W./Phone Switch.
B.F.O. Pitch Control.



VALVE COMPLEMENT—

Type 7H7 R.F. Amplifier.
.. X81 First Mixer.
.. 7H7 1600 Kc. I.F. Amplifier.
.. X81 Second Mixer.
.. 7H7 100 Kc. I.F. Amplifier.
.. 7R7 Detector and A.F. Amp.
.. 6H6 Noise Limiter.
.. L63 B.F.O.
.. KT61 Output Amplifier.
.. U50 Rectifier.
.. 7475 Neon Stabiliser.

ADDITIONAL FEATURES

- ★ Automatic volume control applied to R.F., 1st I.F., second mixer, and 100 Kc. I.F. Output flat within 10 db with input varying between 3 and 100,000 microvolts.
- ★ Illuminated S meter included. S9 equals 100 microvolts. 6 db per S unit.
- ★ Attractive steel black crinkle enamel cabinet, 22½" x 14" x 12½".

The "Commander" Double Superhet. Communications Receiver

WRITE FOR DETAILS
AND
FREE ILLUSTRATED
FOLDER.

ADDITIONAL PERFORMANCE

- ★ Audio output 3 watts into 2/3 ohm Speaker. Headphone output suitable for high or low resistance phones.
- ★ B.F.O. operation on low 100 Kc. I.F. ensures high stability and freedom from drift.
- ★ Aerial input balanced or unbalanced to earth. Signal/Noise ratio substantially constant with input between 70-400 ohms.

Designed and manufactured entirely in England by Radiovision (Leicester) Ltd.

AUSTRALIAN AND NEW ZEALAND
FACTORY REPRESENTATIVE . . .

BRIGHT STAR RADIO

1839 LOWER MALVERN ROAD,
GLEN IRIS, VIC. Phone: UL 5510.

*Even the TRIMAX factory
is Transformed!*

... Now at a NEW ADDRESS
CHARLES ST., NTH. COBURG MELB. AUST.

NORTHERN ZONE

Mr. Arnold Wolf gave the long awaited lecture on the equipment used in Launceston's two-way radio equipped taxis at our September meeting. This was installed in a fleet of taxis by Phillips (Aust.) Ltd. so that a base station could keep in constant touch with the cars and so direct them from one call to another without the necessity of the cars reporting back to base. The advantages of such a system are too numerous to mention and the description of the equipment used made a very interesting lecture.

Evidently the present trend in the zone is away from DX and the lower frequencies because at present 7BQ, 7DB, 7TE, and 7PF are either building, or have just completed, 144 Mc. crystal controlled transmitters.

The only active stations on the lower frequencies at present are 7RK, 7LZ and 7BH, the latter stations operating on telephony only.

This portion of the year could aptly be called the Contest season. Last month I commented on the first week-end of the VK DX Contest. If conditions were as bad elsewhere as they were here for the remaining periods, the least said the better.

The telephony section of the CQ Contest has just concluded. Judging by the interest shown by overseas stations, this is certainly going to become one of the leading DX Contests in the world.

Conditions, although erratic, showed a decided improvement over the previous week-ends and all continents were heard competing. The major breakthrough appeared to be east and west and it was surprising the number of good signals from the Central American countries. Outstanding amongst these were TIEHP, XEIA, XEIAO, XN1OC, HK4AF, TI2OE, HP1TS, and HP1LO. YK1AO in Damascus gave several VKs and ZLs a new country.

Naturally all members were very pleased to hear that Tasmania had won the R.D. Award. Who will have the trophy twelve months from now remains to be seen, however, judging by the comments heard during the Contest period, all those competing had a grand time and next year's battle should be the best yet. Our congratulations go to 2PA, 7KB and 8RU for their magnificent scores.

One disappointment was the large number of non-eligible entries from all States. VK7 appeared to have a high percentage until the other States were also checked. This gave the rather astonishing percentage figures shown. VK2 25.5, VK3 26, VK4 21.7, VK5 16, VK8 20.5, VK7 20.7. This just goes to prove that near enough is not good enough for the judges. The winning State will require to do better than this next year.

The November meeting of this zone is to be a business and general discussion evening, so all members are requested to attend. Bring all your bright ideas and be at the King's Hall at 8 p.m. on Friday, the 9th of December.

CORRESPONDENCE

The opinions expressed in these letters are the individual opinions of the writer, and do not necessarily coincide with those of the publishers.

R.D. CONTEST

Minden, via Rosewood, Queensland.

Editor "A.R.," Sir,

The 1949 R.D. Contest has been decided and heartfelt congratulations to VK7. I was very interested in the score board published in the November issue and worked out the following interesting percentages:—

Percentage of participants who sent logs	VK2	3	4	5	6	7
Percentage of eligible logs	41	36	45	35	89	90
Percentage of licensed Hams taking part	15	13	16	16	25	33

Now it was stated that the new multiplier would appear to make it impossible for the larger States to win the coveted trophy. I do not agree with this statement. VK7 had one-third of its licensed Hams taking part. If the last State on the list, VK3, had had one-third of licensed Hams taking part and had 80 per cent. of these send in eligible logs (as was the case with VK7), the VK3 multiplier would have been 0.26. Score for VK3 then would be 307.7 x 0.26 equals 80, and the winner.

Therefore I do not believe that the reason that the larger States did not win is any fault in the multiplier system. The fault lies with the States themselves. Each State must awaken greater interest in the R.D. Contest and get a great percentage of licensed Hams to take part, and must also get a considerable increase in the ratio of logs sent in to participants.

It is also noticed that of all licensed Amateurs in VK, only 16 per cent. took part—why?

The Remembrance Day Contest is an all Australian Contest and is held to remind us of those Hams who made the "Noble Sacrifice." Is it asking too much for Hams of Australia to take an active part in such a Contest?

—F. H. SHANNON, VK4SN.

OPERATING SUGGESTIONS

65 Railway St., Traralgon, Vic.

Editor "A.R.," Sir,

QRM on various bands is frequently very objectionable. On 40 metres, at least, I think it could be cut down considerably in the following ways:—

- (1) Never reply to a CQ call which is QRMed.
- (2) If a station answering a CQ is QRM, request him to shift to a clear channel before confirming QSO.
- (3) Allot a single frequency (preferably outside the band!) for those Amateurs who, lacking a dummy antenna, are forced to whistle, test, count, or otherwise clutter an already crowded band. Alternatively, restrict such tests to the period 2 a.m. to 5 a.m. or thereabouts.

Hoping these suggestions will find some favor, and discourage careless or selfish operation.

—H. REID, VK3RH.

TO OPERATORS OF SLOW MORSE TRANSMISSIONS

Cape Condie Lighthouse,
Kangaroo Island, S.A.

Dear Sirs,

I have just received advice to the effect that I was successful at the October examination for the A.O.C.P. I therefore wish to take this opportunity to thank you for the part you played in bringing this about, namely slow morse transmissions.

Although it is the duty of Lightkeepers to be proficient in visual signals, it is a far different matter when it comes to sound, and had it not been for these practice sessions, I would never have got through as well as I did.

So once again I extend my heartiest thanks and congratulate you on the fine job you are doing. Keep up the good work as there is possibly hundreds more like me.

—A. W. WINTER.

ABSTRACTS FROM OVERSEAS MAGAZINES

"Single Sideband for the Average Ham," W. M. Rust, "QST," August, 1949, p. 47.

The simplest a.s.c. rig yet seen. Uses the phasing method, but does away with as many tubes as possible (leaving only six).

"Simplicity On Six," E. P. Tilton, "QST," August, 1949, p. 40.

6AG7 oscillator-doubler with 26 Mc. crystal, 82B9 amplifier with 100 watts input.

"Technical Topics," "QST," August, 1949, p. 32. Adjusting the antenna coupler and harmonic filter for best results.

"A Power Distribution Panel," B. B. Boss, "QST," August, 1949, p. 30.

Some thoughts on neat ways of handling the a.c. supply to the rig.

"The Coffee Can V.F.O.," E. Hayward, "QST," August, 1949, p. 22.

6V6 Clapp oscillator on 80 metres driving 6V6 untuned buffer.

"Noise Generator Technique for the V.H.F. Man," E. P. Tilton, "QST," August, 1949, p. 20.

Noise generator for 28, 50 or 144 Mc. One of the most useful gadgets a v.h.f. man could have, but uses a 5722 tube.

"A Super Interlaced Beam for 10 and 20 Metres," A. Usher, "QST," August, 1949, p. 17.

Four elements on 10 metres and three elements on 20 metres, mounted on the same boom.

"A 25 Mc. Installation for the Car," G. P. McGinnis, "QST," August, 1949, p. 11.

2E30 crystal oscillator, 2E24 amplifier, modulated by p.p. 2E30s. Discussion on the best means of control, antennae, etc.

"Crystal Ball For Your Mobile Rig," G. M. Brown, "CQ," August, 1949, p. 26.

A combined S meter, carrier meter, and modulation level indicator.

"Oscar II," W. A. Sperry, "CQ," August, 1949, p. 24.

An improved audio milliamper, volt and ohm meter for the sightless Amateur.

"A Quick Change of Pace for the Prop. Pitch Motor," D. Saunders, "CQ," August, 1949, p. 20.

By eliminating one of the gear reductions, the output gives 1 r.p.m. with 9 volts a.c. on the motor, which quietly ticks over at about 1,000 r.p.m. Very full instructions and photographs for performing the necessary operation.

"Tone Modulating the BC221," J. E. Pitts, "CQ," August, 1949, p. 14.

Uses the existing tubes to produce RC oscillations.

"A V.F.O. for the Mobile Rig," J. Grimes, "CQ," August, 1949, p. 11.

6K8 as electron coupled v.f.o. on 7 Mc. Emphasis on small size and rigid construction.

"The Attio Amblor," P. F. Lucas, "Short Wave Magazine," August, 1949, p. 458.

An indoor aerial for 7 Mc. which wanders about in all directions under the roof. Seems to radiate equally well in all directions.

"Case Against the N.B.F.M. Mode," P. F. Cundy, "Short Wave Magazine," August, 1949, p. 430.

By considering the amount of power in the side bands, concludes n.b.f.m. is a poor second to a.m.

"Triode Converter For Two," W. J. Crawley, "Short Wave Magazine," August 1949, p. 442.

6J6 push pull r.f., 6J6 push pull mixer, 6J6 tube pull oscillator. Gives noise figure of 4 db which is approx. 6 db better than a 6AK5 r.f. stage.

"Practical S.S.B. Driver, Part II.," H. C. Woodhead, "Short Wave Magazine," August, 1949, p. 425.

Continuation of description of a.s.c. rig using a balanced modulator to remove carrier and a filter of the crystal gate type to remove the unwanted sideband.

"Beam Design and Adjustment," W. A. Sparks and S. S. Leigh, "Short Wave Magazine," August, 1949, p. 422.

Full of information on 2, 3, 4 and 5 element beams. Gives dimension, gain, radiation resistance, angle of radiation, front to back ratio, etc.

"Double Superhet For Ten, Part I.," A. B. Wright, "Short Wave Magazine," August, 1949, p. 418.

6AG5 r.f., 6J6 mixer-oscillator, 1st i.f. 1,500 Kc., 2nd i.f. 465 Kc., S meter, noise limiter, etc.

"Your First Transmitter," R. L. Parmenter and C. E. Clark, "Radio and Television News," August, 1949, p. 26.

Two valve c.w. transmitter for 80, 40 and 20. 6C4 Pierce crystal oscillator, capacity coupled to 807 running 60 watts input. Provision for break-in operation.

"A Cathode Follower V.T.V.M.," E. J. Schultz, "Radio and Television News," August, 1949, p. 52.

A single tube v. and a 0-1 Ma. meter measures up to 1,000 v. d.c. at 12 megohms input resistance and measures resistances up to 100 megohms with a 1.5 v. dry cell.

"Crystal Controlled Portable V.H.F. Transmitter," R. B. Tomer, "Radio and Television News," August, 1949, p. 34.

Design of dry battery transmitter for 144 Mc. to have the least current drain per watt output. 8 Mc. crystal operated on third overtone by half 3A5. Other half of 3A5 doubles to 48 Mc. 3B4 triples to 144 Mc. and drives another 3B4 as straight amplifier.

"A Low Power Rig for C.W. or F.M. Phone," O. L. Woolley, "Radio and Television News," August, 1949, p. 48.

The circuit is conventional and straight forward. Tube line-up is 6SJ7, 6J5 speech amp., 12A6 oscillator, 12A6 buffer doubler, and 807 final. The v.f.o. is modulated for f.m. by the resistance variation method (loop modulation to old timers).

"High Gain Directional Array for Marginal T.V. Reception," L. E. Greenlee, "Radio and Television News," August, 1949, p. 28.

Full details for constructing a five element beam consisting of folded dipole, three directors, and a reflector. Actual dimensions given for frequencies in the range 54-216 Mc., and appropriate formulae are given to calculate element lengths and spacings for other frequencies.

6. The contest will extend from 0730 hrs. G.M.T. Saturday, December 10 to 1830 hrs. G.M.T. Sunday, December 11, 1949, and from 0730 hrs. G.M.T. Saturday, December 17 to 1830 hrs. G.M.T. Sunday, December 18, 1949.

7. For the purpose of this contest, stations located in India, Ceylon, Burma, and Pakistan will be considered as local stations and in one zone. The rest of the world will be divided into zones according to their country prefix list. An entrant not located in one of the prescribed prefix zones shall be considered as being in a prefix zone nearest to his station.

8. Bands.—Only 14 and 28 Mc. Amateur Bands will be used.

9. Code Groups.—All entrants will exchange a five figure (phone) or six figure (c.w.) groups with the contacted stations. The first two (for phone) and first three (for c.w.) figures will denote the signal report in RST and the last three, the serial number of the station contacted, e.g. for the eighthth phone contact your number will be 59080 (assuming that his signals are R5 S9 at your end) and for the two hundredth c.w. contact your number will be 599200, etc. The exchange of these groups is essential for claiming points.

10. License.—Conditions laid down in the entrant's licence must be observed.

11. Band Monitoring.—Special band monitoring stations under the auspices of the A.R.C.I. will be active during the contest. Any station reported off frequency by these stations will be disqualified.

12. Scoring.—(a) Contacts with, or reports from, ships or unlicensed stations will not count for points.

(b) Only contacts with stations located in other than the entrant's own zone will count for points.

(c) Only one contact with a specific station may be made on each band during each week-end of the contest; stations contacted during the first week-end may be contacted again during the second week-end for points.

(d) Twenty points will be awarded for the first contact on a specific band (i.e. same station may be contacted on 14 Mc. and 28 Mc. bands and 40 points scored). Nineteen for the second contact, 18 for the third, and so on down to 1 point for the twentieth contact, in each zone, i.e. (contacts with different zones will count separately for points so that for the first contact in each zone you can claim 20 points).

(e) A bonus of 350 points will be awarded to any entrant working all zones during the contest.

(f) A bonus of 1,000 points will be awarded to any entrant working all zones twice during the contest.

(g) A bonus of 50 points will be awarded to any entrant working all countries during the first week-end.

(h) A bonus of 150 points will be awarded to any entrant working all countries once during each week-end.

13. Log.—All entrants must forward a log sheet recording their contacts, as their entry form. The log should contain the following information:—

(a) heading showing (i) Name of entrant; (ii) QTH of entrant; (iii) Call sign; (iv) Details of Tx; (v) Details of Rx; (vi) Details of antenna; (vii) A signed declaration as follows:—"I hereby certify that my station was operated strictly in accordance with the rule and spirit of this contest and I agree that the decision of the A.R.C.I. Contest Committee shall be final in all cases of disputes."

(b) Body, giving following information: (i) Date; (ii) Time of contact G.M.T.; (iii) Band; (iv) Call sign of the station contacted; (v) Five or six figure group sent; (vi) Five or six figure group received; (vii) Prefix zone; (viii) Points claimed.

CLASSIFIED ADS.

Advertisements will be accepted under this heading from the trade, and/or others who are actively engaged in trading as a livelihood. Rate: 15/- per inch.

100 and 1,000 Kc. CRYSTALS

100 and 1,000 Kc. genuine G.E. vacuum mounted Crystals, 0.01% accuracy, brand new; suitable for Bendix Meters and other instruments. £5/5/- plus sales tax (8/9) each, posted. R. H. Cunningham and Company, 62 Stanhope Street, Malvern, Vic. UY 6274.

AUDIO FREQUENCY EQUIPMENT AND DESIGN

An Inexpensive Microphone Case Feb. p.7
 Another System of a Simple Speech Clipper July p.6
 Compact 75 Watt Modulator Oct. p.3
 Parallel Cathode Modulation Apr. p.7
 Restricting Speech Range in Speech Amplifiers Dec. p.8
 Series Cathode Modulation .. Jan. p.3
 Series Screen Modulation of the Type 3 Mark II. Mar. p.12
 Suggestions For Reducing Hum Feb. p.10
 Universal Speech Amplifier .. July p.6

MEASUREMENTS AND TEST EQUIPMENT

A High Stability Frequency Meter May p.5
 Another Use For Small Rectifiers Jun. p.11
 A Simple Frequency Divider Jun. p.9
 Suggestions for Use of Germanium Crystals Mar. p.11
 Two Suggestions for Use of Germanium Crystals July p.15
 Using VK3WI Standard Frequency Transmissions Jan. p.14
 Versatile Measuring Instrument July p.7
 Wide-Range Signal Generator Nov. p.3

MISCELLANEOUS

A.C. for the D.C. Ham Feb. p.3
 Cheap Rectifiers for Relay Operating Voltages Dec. p.10
 Curing That Stubborn B.C.I. Jan. p.6
 Disposals Genemotors as A.C. Motors Dec. p.7
 DX Countries of the World Jan. p.9
 Eighty Metres and How! Mar. p.9
 High Frequency R.F. Chokes Nov. p.8
 Hints and Kinks July p.7
 List of Countries by Prefixes July p.9
 Propeller Feathering Motor as a Beam Rotator Jun. p.3
 Push-to-Talk or Break-In .. Feb. p.9
 Results of 1949 B.E.R.U. Contest Dec. p.14
 Results of 1949 National Field Day Contest Apr. p.10
 Results of 1949 Trans-Tasman Contest Aug. p.12
 Rewinding D.C. Relays Apr. p.4
 Sporadic E Observations Nov. p.9
 Tasmania Wins 1949 Remembrance Day Contest Nov. p.11
 The Quad Beam Jan. p.11
 What, No Beacons? Mar. p.4
 1948 VK-ZL Contest Results Oct. p.12

RECEIVING

A Crystal Controlled Converter Jun. p.7
 An Effective Audio Filter Unit Jan. p.12
 Crystal Controlled Converter for Six Metres Nov. p.4

Hints on Identifying and Tuning a S.S.S.C. Signal .. Jun. p.4
 Modifications to AR8 Receiver Oct. p.5
 Notes on Double Conversion Receiver Design Mar. p.3
 Receiver Base Mounting ... July p.4
 Triple Conversion Receiver ... Dec. p.3

TRANSMITTING

A Filter Type S.S.S.C. Transmitter Aug. p.3
 Checking Crystal Frequency with the Type 3 Mk. II. .. Dec. p.10
 Crystal Controlled Transmitter for 144 Mc. Apr. p.8
 High Stability V.F.O. Apr. p.3
 Improving the Stability of the Type 3 Mark II. Jan. p.16
 Modifying the FS6 Transceiver Jan. p.8
 Series Tuned Electron Coupled Oscillator Sep. p.7
 Simple A.M.C. Circuit That Really Works Dec. p.5
 Single Sideband Suppressed Carrier July p.3
 The Phasing System of S.S.S.C. Sep. p.3
 Using the BC375E Transmitter Coil Units May p.3
 V.F.O. Using Surplus CRV-52233 Coil Unit Nov. p.7
 576 Megacycles, Jan. p.5

HAM ADS

9d. per line, minimum 2/-.

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 by 8th of the month, and remittance must accompany advertisement. Calculation of cost is based on an average of six words a line.

FOR SALE.—Bendix TA12 Transmitter, power supply and modulator. Converted for 10, 20, 40 and 80 metres. First class order. J. F. Anderson, Nullawarre, Victoria.

FOR SALE.—Converted 11 valve BC348Q Receiver, noise limiter, crystal filter. Two new 35Ts, one 25T, one converted BC454 (6-9 Mc.). W. Wells, 23 Waterloo St., Camberwell, Melbourne. Phone WF 7132.

FOR SALE.—Kingsley S9er and coils, 6, 10, 20 metres with 6AK5, £6/10/-. Also 802, new, £2/5/-. Sat. or Sun. afternoon. W. Stevenson, 11a Maud St., Ormond, Vic.

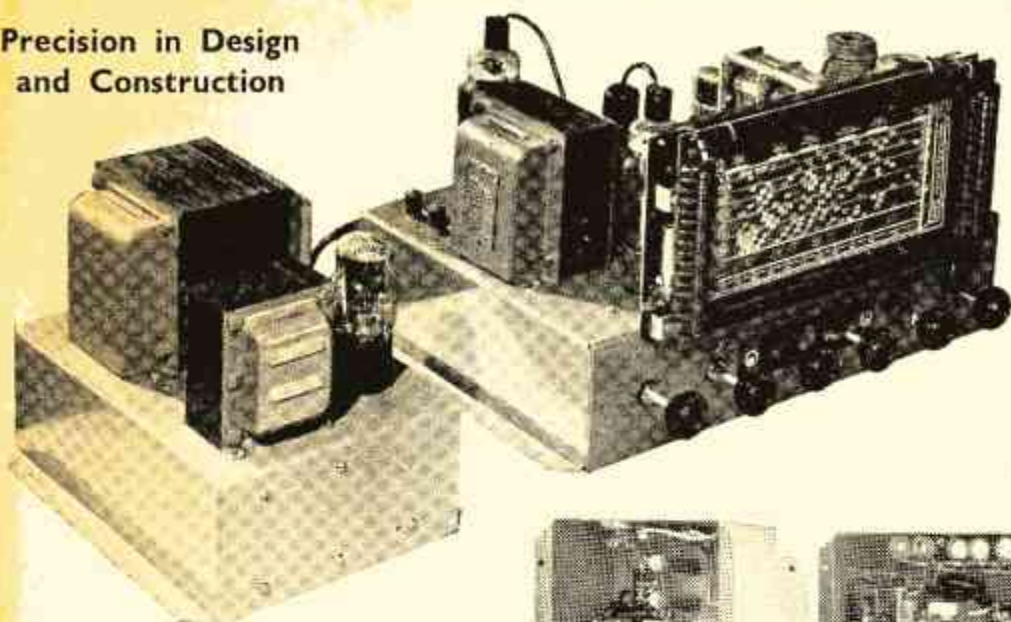
WANTED.—Plugs and cables for connecting Bendix RA10FA Receiver to remote control unit. K. Semmler, Box 26, Murtoa, Victoria.

WANTED.—TR1143A Service Manual required urgently. Bennett, Lilydale, Victoria. Phone 98.

WANTED.—Will pay 10/- for May or October 1940 issue of "QST." G. Miller, 18 Ward St., South Melb., Vic.

RED  LINE **MATCHED TRANSFORMER**

Precision in Design
and Construction



KITS
for all
classes of
Electronic
Equipment

E.g.—The Williamson
High Fidelity Negative
Feed Back Amplifier.

**Transform Your
Transformer Problem**

Your problem will be "transformed" from a headache to a craftsman-built component when you consult Red Line Equipment Pty. Ltd.

"RED LINE" are Specialists in the design of Transformers and Chokes to individual requirements.

A GUARANTEE



OF
DEPENDABILITY

- ★ Power Transformers
- ★ High Tension Plate Transformers
- ★ Low Tension Filament Supplies*
- ★ Output Transformers
- ★ Class B Driver Transformers
- ★ Multi Impedance Modulation Transformers
- ★ Heavy Duty Power Supplies
- ★ Swinging and Smoothing Chokes
- ★ Wide Range Audio Equipment
- ★ Frequency Dividing Networks

*Insulated for High Voltage if required.

RED LINE EQUIPMENT PTY. LTD.

WORKSHOP: 2 Coates Lane, Melbourne (Central 4773).
CITY OFFICE: 157 Elizabeth St., Melbourne (MU 6895, 3 lines).

Veall's Electrical & Radio
Pty. Ltd.
Arthur J. Veall Pty. Ltd.

Homecrafts Pty. Ltd.
Radio Parts Pty. Ltd.

NEW SOUTH WALES:
U.R.D. Pty. Ltd.
Homecrafts Ltd.

QUEENSLAND:
B. Martin Pty. Ltd.
A. E. Harrold.

VICTORIAN DISTRIBUTORS:

Howard Radio Ltd.
A. G. Healing Ltd.

Healings Pty. Ltd.
Motor Spares Ltd.

Warburton Franki Ltd.
Lawrence & Hanson Ltd.

INTERSTATE DISTRIBUTORS:

Genradio Industries
(Maryborough).
J. Michelmore & Co.
(Mackay).

SOUTH AUST.:
Gerard & Goodman Ltd.
Newton McLaren Ltd.
Unbehau & Johnstone Ltd.

Radio Wholesalers.
TASMANIA:
Lawrence & Hanson Ltd.
Noyes Bros. (Aust.) Ltd.



The
LEADING
5 BAND

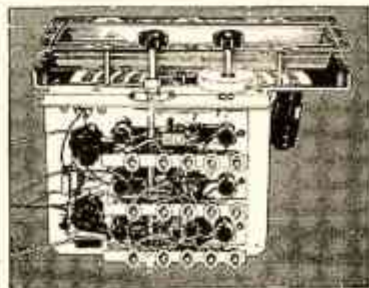
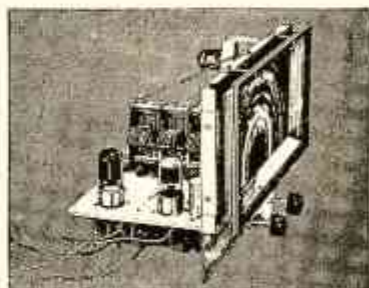
Electrical **BAND SPREADING**
TUNING UNIT

Aegis does it again! This time its multi-band tuning unit, specially developed for the Custom Built Console of the modern lounge! The unit is actually the entire "Front End" of a radio receiver, completely assembled and wired and accurately calibrated in megacycles and aligned. For those who are especially keen on listening to exciting Overseas Broadcasts direct from their origin, plus hundreds of Amateur Radio Operators talking to one another all over the world, small ships at sea, aircraft, police, and standard broadcast Interstate, we highly recommend the Aegis KC.5. Tuning on the Shortwave Bands is just as easy as tuning the Broadcast. Once a Station is logged on this beautifully clear dial, you can rest assured it will appear at the same position next time.

SPECIAL FEATURES

Complete coverage of all popular bands obtained with FIVE SWITCH POSITIONS: (550-1630 Kc.), (3.4-4.05 Mc.), (9.8-7.5 Mc.), (9.9-12.5 Mc.), (13.9-16.2 Mc.). Bands indicated on dial include 16, 19, 20, 25, 31, 40, 49, 80 Metres, and Standard Broadcast.
Multi-coloured, full vision, illuminated dial, 12½ inch x 7½ inch.
Band change switch operates Automatic Band indicator on dial face. Fly wheel spin tuning shaft.
Provision for "Magic Eye" tuning indicator.
Positively no back lash on dial drive with 29:1 ratio.
Special Perspex dial pointer prevents incorrect logging.
All coils possess high quality, adjustable, iron-dust cores.

Trimmers have high "Q" factor.
Best quality Moulded Mica, Ceramic, and Paper Condensers incorporated in circuit.
I.R.C. Resistors used throughout.
Stabilised Voltage Control on Screens of both R.F. and Converter Valves.
R.F. Stage on all wave bands.
Something new and exclusive in Dial Escutcheons.
A.W.A. three-gang Tuning Condenser floated on rubber.
Whole unit may be mounted on four rubber grommets when attached to chassis.
All associated resistors and by-pass condensers included complete.
Any number of valves and control circuits can be built around this unit to give the desired results. (We recommend two I.F. stages using Angis J20 and J21 I.F. Transformers.)
Only five connections to make, to feed into any 455 Kc. I.F. channel.
Gold Letter Station Transfers for all Australian Stations supplied.



AEGIS
MANUFACTURING COMPANY PTY LTD

208 Little Lonsdale St., Melbourne

or Selected Wholesalers
throughout Australia!