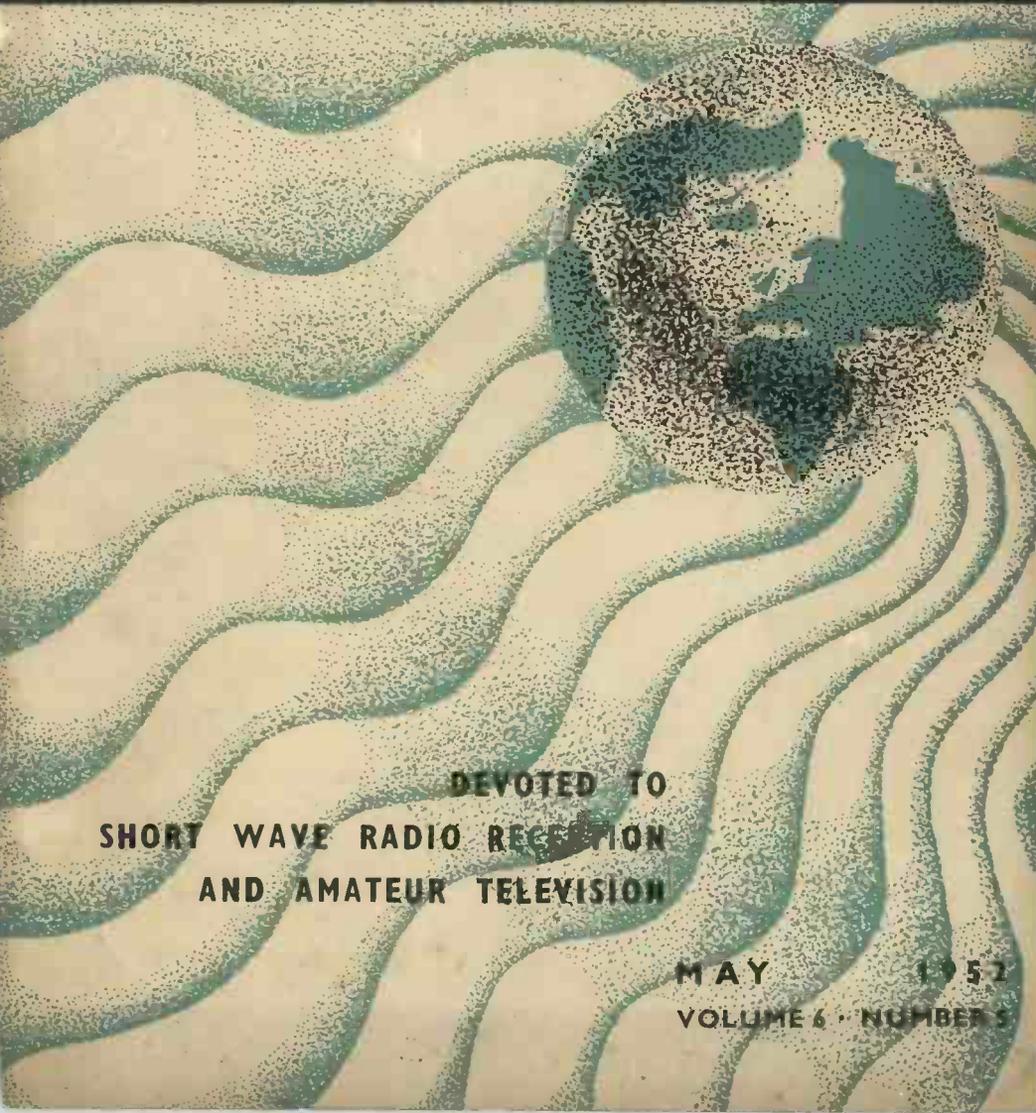


of the



SHORT WAVE LISTENER AND TELEVISION REVIEW



DEVOTED TO
SHORT WAVE RADIO RECEPTION
AND AMATEUR TELEVISION

MAY 1951
VOLUME 6 · NUMBER 5

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THE SHORT WAVE LISTENER AND TELEVISION REVIEW

VOLUME 6

MAY 1952

NUMBER 65

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EDITORIAL

SIMPLICITY

During recent months, many correspondents have commented upon the excellent results being obtained, either by themselves or others, on simple receivers in the 0-V-1 category. Added point is given to the undiminished value and appeal of straight sets when one reads in our DX feature of the solid achievements of a number of readers using such receivers.

The chief merits of the straight receiver are low cost, ease of construction and a quiet background. The advantages of a good superhet are much better selectivity, easier handling, high gain and loud-speaker reception—though it is very much a matter of opinion whether the latter is actually any great advantage.

Broadly speaking, a good "straight" in the hands of a competent operator will find any signal audible on the average communications superhet. It will not be as strong, and it may not be as easy to tune, but it will be there. This alone is a good argument for the straight receiver, particularly for the beginner starting out on the short wave bands.

For it can truly be said that the best way to get to know the bands is to begin with a straight receiver and headphones. The reason is that it is only by the use of 'phones that one can, so to speak, get close enough to the bands to experience the "feel" of them. And the quickest way to acquire real operating ability is to learn to tune and hold weak DX on a straight receiver. To this end, forthcoming issues will be dealing in full detail with home-constructed receivers of the simplest types.

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TABLE OF VALUES

Fig. 1. Circuit of the Receiver Complete.

Resistors

R1	V1 cathode bias	100 ohms
R2	V1 screen-grid decoupling	47,000 ohms
R3	V1 anode decoupling	10,000 ohms
R4	V1 AVC decoupling	100,000 ohms
R5	V2 cathode bias	350 ohms
R6	V2 AVC decoupling	100,000 ohms
R7	Grid stopper	47 ohms
R8	Oscillator grid leak	47,000 ohms
R9	Hexode screen stopper	5 ohms
R10	V3 AVC decoupling	100,000 ohms
R11/R12	Oscillator potentiometer	4,700 ohms
R13	Hexode anode decoupling	10,000 ohms
R14	V3 screen decoupling	120,000 ohms
R15	V3 cathode bias	470 ohms
R16	V3 anode decoupling	10,000 ohms
R17	V4 anode load	200,000 ohms
R18	V4 anode decoupling	22,000 ohms
R19	V4 cathode bias	1,000 ohms
R20	Demodulator diode load	470,000 ohms
R21	RF filter	47,000 ohms
R22	AVC decoupling	2 Megohms
R23	AVC diode load	1 Megohm
R24	V5 grid leak	100,000-ohms
R25	V5 grid stopper	47,000 ohms
R26	V5 cathode bias	250 ohms
R27	V6 grid leak	470,000 ohms
R28	V6 anode load	10,000 ohms
R29	V6 screen decoupling	47,000 ohms

Potentiometers

Rp1	RF gain control	5,000 ohms
Rp2	IF regeneration control	100,000 ohms
Rp3	AF gain control	500,000 ohms
Rp4	Tone control	10,000 ohms
Rp5	BFO injection control	500,000 ohms

Valves

V1	6SK7
V2	6K8
V3	6K7
V4	6Q7
V5	6V6
V6	6K7
V7	5Z4

Switches

S1	Send/Receive
S2	AVC on/off
S3	BFO on/off
S4	Mains on/off

Coils and Transformers

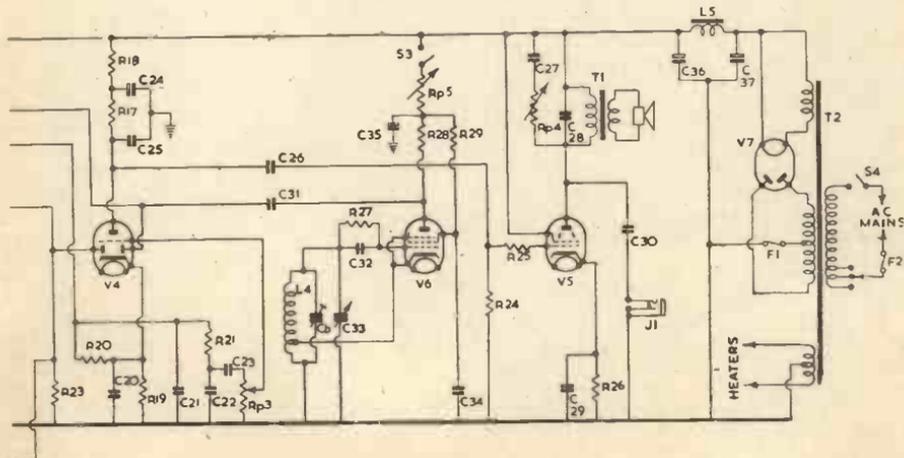
L1/L2/L3	Tuning coils to suit ranges required
IFT1/IFT2	transformers, 465 kc
L4	BFO coil (Wearite B-FO)
L5	Smoothing choke, 100 mA (minimum) 10 Henries
T1	Speaker transformer
T2	Power transformer. Secondaries: 250-0-250 V at 120 mA; 5 V at 2 A; 6.3 V at 3 A

Condensers

C1	RF tuning	160 μ F
C2	Mixer tuning	160 μ F
C3	Oscillator tuning	160 μ F
C4	V1 grid isolating	100 μ F
C5	V1 bias decoupling	0.1 μ F
C6	V1 anode decoupling	0.1 μ F
C7	V2 screen decoupling	0.1 μ F
C8	V2 AVC decoupling	0.1 μ F
C9	V2 bias decoupling	0.1 μ F
C10	V3 AVC decoupling	0.1 μ F
C11	Oscillator grid isolating	500 μ F
C12	Oscillator anode decoupling	0.1 μ F
C13	Hexode anode decoupling	0.1 μ F
C14	IF regeneration control	See text
C15	V3 screen decoupling	0.1 μ F
C16	V3 anode decoupling	0.1 μ F
C17	AVC diode feed	100 μ F
C18	V3 bias decoupling	0.1 μ F
C19	AVC decoupling	0.1 μ F
C20	V4 bias decoupling	25.0 μ F
C21	RF by-pass	100 μ F
C22	RF by-pass	100 μ F
C23	AF coupling	0.01 μ F
C24	V4 anode decoupling	2.0 μ F
C25	RF by-pass	100 μ F
C26	AF coupling	0.01 μ F
C27	Tone correction	0.02 μ F
C28	Tone correction	0.005 μ F
C29	V5 bias decoupling	25.0 μ F
C30	Headphone isolating	0.1 μ F
C31	BFO coupling	See text
C32	BFO grid isolating	200 μ F
C33	BFO pitch control	120 μ F
C34	V6 screen decoupling	0.1 μ F
C35	BFO decoupling	0.1 μ F
C36	HT smoothing	16.0 μ F
C37	HT reservoir	8.0 μ F
C38	Screen by-pass	.01 μ F
Ct	All trimmers to suit coils in use	

Fuses

F1	0.3 A
F2	1.0 A



inter-electrode capacitances offer what is virtually a short circuit to RF currents and so the stage gain is not of a high order. The frequency changer is also an ineffective amplifier, much less than the RF stage, so that it is of the greatest importance to obtain the maximum gain from the IF amplifier.

Selectivity depends, broadly, on the number of tuned circuits used. And on that score alone the inclusion of the RF amplifier is more than justified. Also, this stage will to a considerable extent reduce the annoying second-channel effects so noticeable in simple superhet receivers; it will, moreover, improve the signal-to-noise ratio which is more important than excessive gain.

The RF Amplifier

The choice of the valve for this position is fairly wide, almost any RF pentode being suitable. The EF50, for instance, is a popular and efficient proposition. However, if an RF gain control is to be incorporated it is more convenient to use a valve with variable- μ characteristics—especially if, as in the receiver being described, overall AVC is applied.

Probably one of the best types (and that used in the original set) is the metal 6SK7. A near substitute is the 6K7, but this has a top grid connection, whereas the single-ended construction of the 6SK7 enables more stable operation and higher stage gain to be obtained. Both types have a remote cut-off characteristic which enables high signal levels to be handled without danger of cross-modulation and distortion.

The potentiometer R_{p1} functions as the RF gain control and is a very worthwhile facility. When receiving strong signals the control is advanced (thus biasing back the valve) so that background noise level is considerably reduced. It is also extremely useful when sorting out the weaker signals and will prove invaluable in this respect once its control has been mastered under actual operating conditions. The fixed resistor R₁, of course, is included so that whatever the setting of R_{p1} there will always be a certain amount of standing bias on the valve.

Coupling to the mixer stage is inductive. Transformer coupling gives less signal transfer but has the great advantage of increasing selectivity and—incidentally—reducing second channel reception.

The Frequency Changer

For short wave work, the triode-hexode type of frequency changer is generally considered superior to the pentagrid arrangement since the tendency of "pulling," due to interaction between the two sections, is eliminated. Hence, a valve of the 6K8 class can be used satisfactorily.

The frequency changer is probably the most important stage in the receiver, since it is here that most of the troubles in home-built short-wave sets develop. Such matters as oscillator drift and spurious high-frequency oscillations can completely ruin the performance of an otherwise satisfactory receiver. Care must be taken in coil design, wiring and layout if freedom from trouble is to be obtained, taking particular care that in the wiring the two sections are isolated as far as practicable.

As a precaution against sharp peaks, often caused by parasitics, a small resistor R₇ is inserted at the oscillator grid. Although it is virtually impossible to obtain a constant amplitude output throughout the entire range, simple precautions such as the inclusion of anti-parasitic stoppers, attention turned to minimising stray capacitances and so forth, will materially assist. The anti-parasitic resistor should be inserted with the absolute minimum of wire connections and must be of the carbon type.

Incidentally, peaks and blind spots are often caused by the absorption of oscillator voltage at the resonant frequencies of coils not in active use. Therefore if switched wave ranges are used, it is important to arrange the switching so that all oscillator coils not in use are shorted out.

The parallel-fed oscillator circuit is used so that isolation between the oscillator tuned circuit and the injection electrode is increased; the actual tuned circuit then being at earth potential in contradistinction to the more usual series-fed arrangement. In the interests of stability, a potential divider network (R₁₁ and R₁₂) is provided, the former component functioning as both voltage dropper and anode load resistor. As a further aid to stability it is a simple matter to shunt a voltage regulator tube across R₁₂.

This bleeder system has another advantage in that normally the anode load resistor is fairly critical—too high a value providing too great a voltage drop and too low a value giving rise to considerable damping on the tuned circuit. To obtain the maximum stability it is necessary to ensure that the voltages on the hexode screen-grid and the oscillator anode are the same. Therefore the screen-grid feed is taken from the junction of R₁₁, R₁₂ and C₁₂—eliminating the need for a separate feed network.

The remainder of the frequency changer circuit needs little comment. The grid capacitor and leak are C₁₁ and R₈, the values being arranged to give the requisite long time constant in comparison with the frequency. The leak can be reduced somewhat if there is any tendency to "squegging" on the higher frequencies, but 33,000 ohms is about the safe limit. Resistor R₉ at the hexode screened

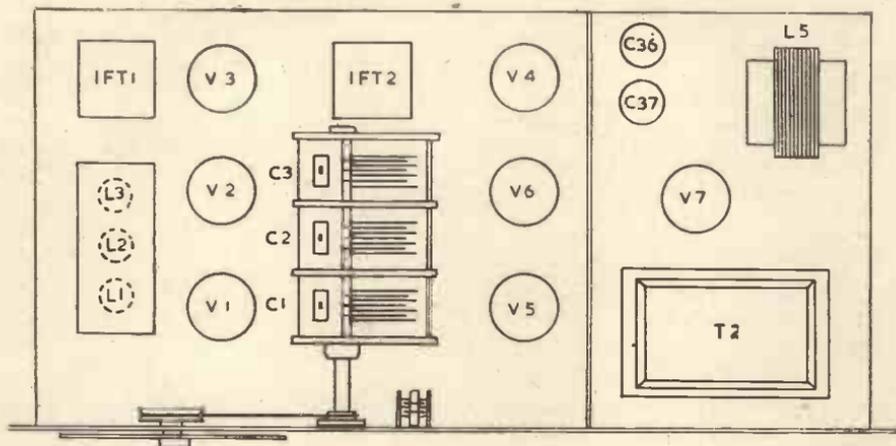


Fig. 3. Suggested chassis layout suitable for the receiver.

grid is of very low value (5 ohms) and is inserted to prevent parasitics. C8/R6 are the AVC decoupling components. The switch S1 is the send/receive switch should the receiver be used with a transmitter. When open, S1 disconnects the total HT supply to the frequency changer and RF amplifier, thus affording complete protection against damage to these valves by RF feedback from the transmitter.

The IF Amplifier

This stage is perfectly conventional, and the standard IF of 465 kc used. Where only one IF amplifier is used, one requires as much gain as possible; 465 kc enables maximum gain and selectivity to be achieved although admittedly at the expense of a certain degree of second channel interference.

Provision for IF regeneration is made, with Rp2 as the manual control. Judicious use of this control will enable much weak DX to be resolved when selectivity is increased. Regeneration is effected by the capacitance C14 and adjustment of the potentiometer Rp2. The capacitance may be obtained by the use of a very small trimmer or by simply introducing capacitance by running a short lead from the anode circuit near the grid wiring. The feedback should be adjusted so that when the screen voltage is at its highest, *i.e.* Rp2 is at the HT end, the valve starts to oscillate. This system is simple enough but proves very effective in use; and although the extra selectivity is achieved at a loss in gain, only a slight decrease is required to obtain substantially greater selectivity.

The Double-Diode Triode

This valve serves the normal triple function. One diode provides the AVC potential for application to the previous stages and is fed from the second IF transformer *via* a small capacitance. Switch S2 enables the AVC to be shorted out to chassis when receiving strong signals or when listening on CW. The choice of values for the AVC decoupling resistors is rather a matter of personal preference; those given are perhaps a good all-round proposition. A shorter time constant may be tried if very rapid fading is troublesome—by reducing the value of the constituent components.

The demodulator diode follows orthodox practice and is fed from the secondary of IFT2. R20 is the diode load resistor and R21/C21/C22 form an RF filter circuit, and C25 provides additional RF by-passing.

The triode section is a straightforward AF amplifier, with Rp3 acting as gain control.

The Audio Amplifier

This again is a conventional arrangement and requires little comment. C28 is a fixed tone compensating arrangement and C29/Rp4 comprise a top cut tone control, giving variable attenuation of the high frequencies. T2 is the speaker transformer and when using headphones (in J1) the primary functions as an output choke. The jack is best wired so that when the headphones are inserted the speech coil of the loudspeaker is disconnected. The choice of output valve is not critical by any means—almost any available valve of the 6F6/6V6 class will be suitable, although care

should be taken to ensure the correct value bias resistor.

The BFO

V6 is an RF pentode operating as an electron-coupled oscillator and acting as the beat frequency oscillator. It can be switched by S3 and the potentiometer Rp5 controls the amplitude of the injection voltage. It is coupled to the signal diode of V4 by a very small capacitance C, which may either be a small trimmer or made up of two parallel short strips of covered wire. This stage is completely screened in order to prevent radiation to the pre-demodulator stages of the receiver.

The oscillator produces a note of around 1,000 c.p.s. and this can be adjusted to suit individual taste and listening requirements by the pitch control C33, a small variable condenser in parallel with the main tuned grid circuit.

The Power Supply

If the power supply is built in as an integral part of the receiver it should deliver around 250 volts at 100 or 120 mA. Good regulation is essential and care should be taken to ensure that the transformer is working within its specified ratings. The usual precautions against high ripple content must be taken. Although not essential, a centre tapped heater winding is a definite asset. A 0.3-amp fuse in the HT winding is a precaution against breakdown in the receiver and a 1-amp fuse protects the mains input side.

The mains on/off switch S4 can be ganged with the tone control or, better still, a separate toggle switch used. It must not be ganged to the audio gain control; in the first place this will cause unnecessary wear on the gain control track, and secondly, to do this usually means long leads, and the grid circuit of V4 must be kept well clear of all mains wiring.

Constructionally

The general layout is best determined by experiment before any holes are drilled and will be dependent to some extent on future plans. For instance, additions such as an S-meter, extra IF amplifier or RF stages may be in mind—in which case provision must be made on the chassis.

Some of the more obvious points are sometimes overlooked and perhaps a few words on this subject will be pertinent. Wiring, of course, must be rigid and take the shortest possible routes in stages where RF potentials are being handled, preferably using 18 SWG copper wire. Single-point earthing is definitely advisable and a good practice is to effect all earth bonding in stages handling RF potentials by means of heavy-gauge copper wire—connecting all common earthing points by a

busbar. This will prevent instability due to the presence of varying RF potentials at different parts of the chassis.

Low-loss components must be used in the RF amplifier and frequency changer stages—it is not so important in other stages since the signal voltages are at intermediate or audio frequencies. Silvered mica condensers should be used where the value is below 0.01 μF ; at and around this value they can be standard mica types, and above 0.01 μF non-inductive paper components are suitable. Resistors, of course, should be carbon non-inductive types of adequate rating.

Screening is important, but must be fully understood. The RF amplifier must be screened and if built on the same chassis it is as well to screen the power pack also. Isolation of the two frequencies in the FC stage is essential, and this is accomplished by careful planning of wiring. Actual screened leads should be kept to an absolute minimum; the more screening on leads the greater will be the by-pass to chassis so that *excessive* screening should be avoided. Normally, the only leads which will require screening are the leads from the aerial terminal to the RF amplifier signal grid and those leads taken to top cap grid connectors if passing through the chassis. This will, naturally, depend on the actual valves used.

The tuning arrangements will call for some thought. Plug-in coils can be used, commercial switched units incorporated or switched units made up using proprietary coils. This is entirely a matter of individual preference. Some form of switching is decidedly more convenient and the old bogey of inefficiency in this system is largely overcome these days. A good low-loss rotary switch is the first essential and suitable components are easily available. It is important to arrange the highest frequency coils nearest the range switch in order to reduce the length of the connecting wiring; on the higher frequencies the coil inductance is very low and the additional inductance of excessive wiring can be very disturbing. And, also important, the practice of shorting out the oscillator coils not in use (as already mentioned) is advisable. For the BFO grid coil, a standard proprietary BFO coil can be used. This coil, when tuned by the appropriate condenser, gives a frequency of up to some 5,000 c.p.s., although 1,000 c.p.s. is the most popular for average CW listening—the total parallel capacitance should be just under 120 μF to provide this note. There is little point in providing oscillator padding since the trimmer will enable alignment to be effected—the RF amplifier will be substantially flat. But if proprietary tuning assemblies are used which specify padding condensers these should, of course, be incorporated.

Trimmers and, if used, padders should be

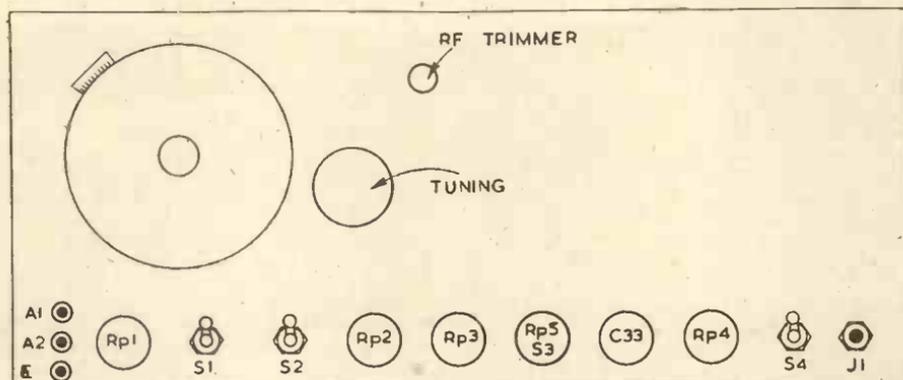


Fig. 4. A panel arrangement to use with the chassis layout of Fig. 3.

ceramic mounted and of rigid construction in the interests of stability. The three-gang variable should also be of low-loss construction and the vanes of ample thickness and spacing. Provision for bandspreading is not shown in the circuit. This can easily be provided if required, but there are enthusiasts who consider it hardly worth while. In the first place the bandset arrangements must be extremely accurate if dial readings are to be anything like consistent over a period. Secondly, it is difficult to arrange for full coverage of a given amateur (or broadcast) band with a complete rotation of the bandspread variable, with a given bandset/bandspread combination.

The constructor is, therefore, given the alternative of providing bandspread by the inclusion of suitable parallel variables, or of using a really effective slow-motion drive in conjunction with a full vision tuning dial. Such a drive must have no suspicion of backlash and possess a reduction ratio of around 50 : 1.

It is a good plan to bring out the RF stage trimmer as a panel control. This will enable the amplifier to be accurately resonated through the tuning range; when receiving a weak signal the value of this is quite appreciable. In the original receiver a small air dielectric variable, with standard $\frac{1}{2}$ -in. spindle, was so mounted and it proved to be one of the most useful controls on the panel.

The receiver should be housed in a metal cabinet for the obvious reasons and the speaker, if assembled with the receiver, should be bolted to the cabinet and *not* to the chassis otherwise vibration will undoubtedly create trouble.

In the interests of stability, it is recommended that the tuning gang (or alternatively the RF amplifier and frequency changer section) be

mounted on shock absorbers. This is not a stunt idea, but is to prevent vibration of the gang vanes due to acoustic feedback; this would, naturally, create instability and change of frequency. This is another reason why the gang vanes should be rigid and of adequate spacing. And, also, a sound reason why the speaker is best mounted separately!

The receiver, as described, has given good account of itself over a reasonably lengthy period of use. The performance is not, of course, entirely comparable with a commercial receiver using twelve or more valves! But it will be a considerable improvement over the more usual all-purpose receiver and certainly more useful than a receiver of the TRF class. It must be emphasised that in receivers of this type it is unlikely that any two individually built will give the same performance, even if all components are faithfully duplicated. Much rests on solid construction and plain common sense. To illustrate this point we remind readers of a well-known British amateur who, in pre-war days, constructed a special communications receiver designed for, and published in, a leading American magazine. When one of the designers visited this country he examined the receiver and unhesitatingly gave the verdict that it was superior in performance to the original prototype!

That is why anyone considering building a communications receiver, however simple, should have a good working knowledge of superhet theory, be able to construct gear in a workmanlike and imaginative manner and, should there be need for slight adjustments on completion, be capable of carrying out the testing necessary to enable the troubles to be corrected.

The receiver described is quite suitable for the constructor's first venture in the building

of communications receivers and will not only provide a useful piece of equipment but will enable valuable experience to be gained ready for the day when a double superhet, with all the refinements, is tackled. And as selectivity is the keynote in these times of crowded bands, it is worth remembering that, although a crystal filter is decidedly superior to any form of regeneration control on CW, the simple arrangement described in the IF amplifier stage can be adjusted to give results practically equal to a crystal when receiving speech.

Construction

No hard-and-fast rules are laid down as to actual construction, as the layout will depend largely on components to be used and the requirements of the individual. However, Fig. 3 shows the main component positions adopted for the original receiver; this can be used as a guide to those commencing work on this type of receiver for the first time.

As can be seen, no bandspread arrangements were made—the tuning being accomplished by a 50 : 1 slow motion mechanism fitted with a cord drive assembly. With the large calibrated metal dial, it was found that bandspread could be easily dispensed with, especially since anti-backlash gears (split) were incorporated.

The coil problem was solved by the use of a ganged plug-in system. The RF, mixer and oscillator coils (with their associated trimmers attached—except for the RF coils) for each range were mounted on a bakelite base into which three sets of pins were fitted, thus enabling the complete coil pack to be plugged into the three holders fitted to the chassis. This idea is, perhaps, a little involved, but by using the coil pack one is able to make a considerable economy in space, as only the three coils required will need accommodation. And, although switching is quicker, the serious listener does not require to keep changing bands every few minutes!

The panel controls are all accommodated along the lower section of the panel, except the RF trimmer. In order to reduce wiring, most of the associated potentiometers are mounted close to their respective valves and extension rods used to enable panel control to be accomplished. Brackets for the potentiometers were made up from heavy gauge aluminium, extension couplers of the flexible type fitted and an appropriate length of $\frac{1}{4}$ -in. rod inserted. To prevent "play" the panel was fitted with bushes; naturally, if this system is used, care must be taken to ensure accurate location of the potentiometer brackets in respect to the panel bushes.

MULTICORE MODEL TELEVISION ASSEMBLY LINE AT NORTHERN RADIO SHOW

As in previous National Radio Shows, Multicore Solders, Ltd., will provide the public with practical working demonstrations of soldering processes at the Northern National Radio and Television Exhibition which opens at City Hall, Manchester, on April 23. With the close co-operation of the radio works of Ferranti, Multicore, who have taken stand No. 39 in the main hall, will show Northerners how the vision strips of Ferranti television receivers are assembled, wired and finally soldered with Ersin Multicore solder. Under similar conditions to those generally found on assembly lines, operatives from the Moston works of Ferranti will actually manufacture this particular section of the receiver. A complete television chassis will show the public how the section being soldered before them is "married" to the main deck of the chassis. After assembly, the completed vision strips will be stored on the stand and then conveyed daily to the Ferranti works for final testing and incorporation in television receivers.

The care and precision undertaken by the Ferranti organisation in the manufacture of all their many products will be very evident from the careful assembly processes shown on the Multicore stand. To make it possible for the

public first to view these processes and then the completed and tested receiver under normal working conditions, Multicore Solders, Ltd., have taken a stand next door to Ferranti's television demonstration stand.

On another part of Stand No. 39, Ersin Multicore solder, which contains three cores of non-corrosive Ersin flux, is shown in a variety of alloys and gauges. Among the packs are standard 7-lb reels for factory use, 1-lb reels for processes where less solder is required per operative, and service engineers' size, 5s. cartons.

Radio enthusiasts and model makers will be interested in the 2s. Multicore solder kits containing four specifications of Ersin and Arax Multicore solders. Arax Multicore solder is a non-resin acid-free cored solder wire with washable flux residue. It will solder all metals except aluminium and is available in similar specifications to the Ersin-type solder.

Ersin Multicore solder has over a period of more than 13 years established itself as "the finest cored solder in the world," and examples will be shown of the specifications which are exported to 50 overseas countries including weekly deliveries to U.S.A. television factories.

Starting from Scratch

By The Old Timer

EVERY now and then one hears a short-wave enthusiast (whether transmitting or receiving) sighing for the thrills of the "Good Old Days" and wondering what it was about them that made everything so exciting. The answer to that one, if you are honest with yourself, is easy—you were a beginner then, and almost everything had the thrill of novelty.

There was nothing magic about the "early days," except that they were the early days for you. Every new listener, breaking into this hobby of ours for the first time, has the opportunity of tasting the joys which we older hands are now inclined to believe unattainable.

The interesting thing about this is that even the old hand can recapture some of those sensations by deliberately starting all over again with simple gear.

Without any hesitation I admit to being the possessor of a good commercial receiver; it is so good that I would not exchange it for any other that I have yet come across. But this means that I cannot thrill myself to bits by hearing a VK, a ZL or even a ZD9 on it! I merely think to myself "Well, all the keen listeners will be hearing this chap, so there's no reason why I shouldn't." But the other day, just for fun or "cussedness," I built myself the very simplest one-valver I could think of, out of junk-box parts.

This changed everything. Believe it or not, but I was quite excited on hearing a W6 on this thing—especially as he was every bit as easy to read as he was on the fourteen-valver. And now, crazy as it seems, I find I prefer scratching round on this little 0-V-0 when I am feeling jaded.

All this leads up to the main purpose of this article, which is to announce a series of "down-to-earth" descriptions of the very simplest gear, designed expressly for the complete beginner, but suitable, at the same time, for the experienced hand to play with.

For the Newcomer

After all, there *must* be a steady supply of people who, as yet, have never listened seriously on the short waves and are just starting to do so. Many of them, it is true, begin with a commercial receiver or some piece of ex-Govt. surplus gear, but there is no reason why many others should not build their own simple receiver for a matter of a few shillings instead of starting right off with something ambitious.

So we want to encourage a flow of beginners who are prepared to be *treated* as beginners; who will put together their own first 0-V-0 receiver, add an audio amplifier later on; maybe add a stage of RF; and generally refine and improve the thing until they have gained enough first-hand experience to compete with the best of our regular DX listeners.

The descriptive articles of these pieces of gear will not be hard-and-fast designs based on particular sets of components, but will be sufficiently detailed to enable readers with no experience of short waves, or even of constructional work, to put together their own simple gear with the "kitchen-table-and-screwdriver" technique.

By Easy Stages

It seems a sound idea to acquaint oneself with short waves in much the same way as the pioneers had to do—by starting at the top and working downwards. By this I mean that a man who has hitherto been a broadcast listener would be better advised to start exploring the 160-metre band for amateurs than to build a ten-metre converter and start on a band which is difficult at the best of times.

Fortunately the 0-V-0 with plug-in coils lends itself to this treatment, and by winding coils of the right sizes one can locate and explore each band in turn, taking it easily in one's stride and becoming familiar with the technique employed by stations in each new slice of landscape. The 160-metre band, known affectionately to amateurs as "Top Band" is one on which you can make a start at once. It is crammed with activity at week-ends and on all weekday evenings; there will be some strong local stations for you to try your hand at first. And even if there are no amateurs about (a rare occurrence except during daylight on weekdays) the band is "shared" with coastal stations handling ship-to-shore telephone, trawlers, lightships and innumerable other services. (Just how they all pack in without creating chaos is a mystery!)

But sooner or later you will get down to the amateur business, and from then on your doom is sealed—you will be bitten by the short-wave bug! If you live in a big town, then there are sure to be at least half-a-dozen local amateurs working Top-Band phone; if you go to one of the local Clubs you will doubtless meet some of them in person. From then on, you will begin to understand the

peculiar fascination which amateur-band listening has for the novice, and you will be experiencing all the thrills of radio that we Old Timers are so constantly mourning as long dead.

The Starting Gear

An efficient receiver of the 0-V-0 type consists of one valve, two or three plug-in coils, two variable condensers, half a dozen fixed resistors and condensers, and some sort of power supply. The latter may be a 2-volt accumulator (for a battery valve) and a 60-volt HT battery; or you may use a mains valve with a 6-volt transformer to light it, still using a 60-volt HT battery, without bothering to make an all-mains HT unit. In fact the latter is hardly worth while, as long as you are in the one-valver stage. Batteries are preferable from some points of view, and the drain on them is so small that they will last for an extraordinarily long time.

The Performance

Now the newcomer to short waves, having grown up with the idea that one uses five or six valves just to get the local broadcasting station, can hardly be expected to swallow the notion that one valve in a short-wave receiver will bring in stations from all over the world.

This is perfectly true, and what one has to realise is that you will not be listening to musical programmes roaring out of a loud-speaker, but to relatively weak signals in a pair of headphones. You will hear CW signals galore, and you may be seized with the urge to learn the Morse code and thus be able to interpret them. If you do, so much the better (for you), because most of the really interesting traffic over very long distances *does* take place on CW.

Telephony, however, is the modern means of communication, and the fact of only using one valve does not in any way debar you from receiving it. Starting, as we will, on the Top Band, you will find that a delicate hand on the controls makes wonders possible, and you will be able to resolve the weakest signals that you can hear.

This is the interesting point: on a big set you are limited not by the weakness of signals, but by the level of the background noise. Any signal that is weaker than the background will not be heard. On a small set such as a 0-V-0, the background is as quiet as it is possible to make it; therefore the number of signals that you will lose through excessive background noise will be reduced to the absolute minimum.

I used to say, before the war, that my very delicate and hotted-up one-valver would dig out and copy the weakest signal that I could find on the big superhet, *and* with a better

signal-noise ratio. That was true; but don't interpret that as meaning that the one-valver is the better set to use. The superhet is necessary, in the long run, on the grounds of selectivity—that is, to sort out the many stations there are on the more populated bands.

What we shall be describing next month, then, is a simple one-valver for the Top Band. By using other coils (which we will go into then) you will be able to cover the other bands as well, but for the absolute beginner's benefit we propose to make it primarily a Top Band outfit, the performance of which will be sufficiently good to give you a start on that most interesting band.

We shall also work out a system by which beginners who decide to make such a start can compare their results with each other, month by month, and we can also give an indication, from time to time, of what stations to listen for, when, and on what frequency.

There need not be any of the "lone pioneer" stuff about this—you can rest assured that what you are doing, others will also be doing, and that there will come a time when you can compare notes.

You now have a month to decide whether you want to join the merry fraternity.

Lastly, a word to regular readers and experienced listeners who have had the patience to follow this through to the end: Please bring these two pages to the notice of a friend of yours who has *not*, as yet, shown any interest in short-wave reception. It is the absolute "starter" that we are after, and you can help us to find him. Just reflect upon the amount of enjoyment you derive from your hobby, and ask yourself whether you cannot do a good turn by putting someone else on the bottom rung of the same ladder.

CORRECTION

In the article "Hints on the 0-V-1," on p. 102 of our April issue, the last paragraph in the second column should read "A double-ended 6J5 is made by using a 6J7 and strapping the screen and suppressor to the anode."

TOP BAND TEST RESULTS

The April issue of our *Short Wave Magazine* contains a full report on the 1952 Transatlantic Tests on the 160-metre band. Though conditions were poor for each of the Test sessions, results were no less interesting than last year. The same issue of the *Magazine* also carries six other main articles, as well as all the usual activity features. Ask at your bookstall, or remit 2s. 8d. to The Circulation Manager, *Short Wave Magazine*, Ltd., 55 Victoria Street, London, S.W.1.

The TV Elections

by F. L. de Baughn

TELEVISION will play a major part for the first time in the U.S. presidential election in November. Some experts, indeed, believe that television will decide the election.

Four years ago, at the last election, television was still in its infancy in the United States. There were half a dozen stations on the Atlantic and Pacific coasts with, perhaps, 1,000,000 viewers.

To-day there are more than 100 stations and, at a conservative estimate, 30,000,000 regular viewers. Co-axial cables link the cities across the continent so that a political rally in New York can be sent "live" to the Pacific coast, the cities and towns on the Canadian border and the far south-west.

Plans have been made already for television broadcasts from the Republican and Democratic conventions in Chicago in July. They will be sponsored by the Philco Corporation, manufacturers of radio and television sets. The firm is reported to be paying about £1,250,000 for full television rights.

In the campaign proper following the conventions a number of firms are sponsoring regional television programmes.

The rival presidential candidates will address meetings in, say, Los Angeles, and be seen and heard in cities and towns within a 100-mile radius. For the "keynote" speeches—the major speeches of the campaign—national hook-ups will be arranged.

All this is producing new problems for the party chiefs. They are looking for "radiogenic" speakers to support the party leaders just as, with the coming of sound radio, they searched for speakers with what was termed a good radio personality.

Twenty years ago the late President Roosevelt fought—and won—the first radio election. Nobody has been able to assess just how many

votes he swung by the force of his personality expressed through his broadcast speeches.

President Roosevelt was rated the greatest radio personality in U.S. politics.

How do the party rivals rate on television? The presidential candidates have not been selected yet but it seems the Democrats will have a "pull" over the Republicans.

President Truman, for instance, is said to fare better on television than on ordinary radio. One of his principal lieutenants, Senator Kefauver—mentioned as a possible Presidential candidate as Mr. Truman has decided not to stand again—won television audiences of 30,000,000 every day when he was directing the Senate's Crime Investigating Committee in its public hearings in New York and Washington.

On the Republican side, Mr. Harold Stassen is a more engaging television personality than Senator Taft. Governor Earl Warren, also mentioned as a possible candidate, is better than either. The mystery man on the Republican side is General Eisenhower because his television appearances have been very few and limited to a matter of seconds.

NEW NETHERLANDS ORGANISATION

We are officially informed that the Vereniging Van Radio Zend Amateurs (V.R.Z.A.), the Dutch Society of Radio Transmitting Amateurs, is now in being and is confined to licensed PA's only. The main reason for the formation of V.R.Z.A. is that the PA membership of V.E.R.O.N., the Dutch post-war organisation formed by the merger of two earlier societies, amounted to 18 per cent. only of the total. The transmitting fraternity in Holland was therefore not fully represented, and felt the need for a new organisation of their own "For Transmitters Only." The V.R.Z.A. QSL Bureau (P.O. Box 190, Groningen, Holland) handles cards for all PA transmitters, and the society also publishes *CQ-PA* as its own journal.

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HAVE YOU HEARD?

AS predicted, we have, once again, had a better month's listening, with every prospect of a steady improvement as we move into Spring conditions. The form at present seems to be that we have good patches and bad periods (the "periods" being rather longer than the "patches"). But, at least, we are getting the occasional burst of good DX, which is something to be thankful for after rather a grim winter.

Of course, the Ten-Metre band is almost out of the running, for the time being, but that must be expected—probably for a full year or more. Twenty has given vent to bursts of really good conditions, and I mean "good" by any standard. The LF bands have not been of much use except to the specialist who is prepared to dispense with quite a lot of sleep in order to squeeze their contents from them.

TEN-METRE CONDITIONS

Our friend, J. W. Cave (Parkstone), has seized on the bad state of the band as an opportunity to get his logs up to date. As a result of this, he has now put himself into the Four-Band Table, and note his ten-metre score of 181 countries (Phone)! This puts him well ahead of the next best on that band, and goes to show what *can* be done by specialising in one band.

D. L. McLean (Yeovil) comments on a few openings, but says strengths have been poor. The only station he mentions is ZP4BB. M. S. Gotch (Saffron Walden) heard CR6, MI, OQ, VQ2 and VQ3. D. W. Bruce (Eltham) caught it open once or twice with ZS's, VQ4's and VQ3PBD.

K. B. Ranger (Strood) says the usual state has been a "deep, unbroken and profound silence," but managed to catch it at better times, which brought him CE2CC (S9), EL10A, FF8PG, MI, OQ, VQ2 and ZE. W. J. Amphlett (Smethwick) describes it as "the biggest flop of all," and he only logged VQ4RF and a ZS.

C. J. Rourke (Belfast) describes the band as "a perpetual sizzle," but he did get CR6AJ for a new one. J. Stubbs (Cleckheaton) caught just one opening and heard ZB1AG, ZE2KM and an MM. I. S. Davies (London, N.13) collected CR6, LU, VQ2, VQ4 and ZS. R. A. Hawley (Goostrey) found a Sunday morning that was very good for VQ4's. K. Parvin (Thornton Heath) caught only two DX signals—VQ2NS and ZS6CV.

N. C. Smith (Petts Wood) was a little luckier and collected CE6AB, CR6's, EA8's, LU, VQ2, VQ4 and ZE. A few others make casual mention of the odd DX or semi-DX station on the band, but nothing startling has happened. My own description of Ten is "dead but won't lie down," although I did hear ZD6DU one morning!

TWENTY-METRE DOINGS

And so to the band that everyone seems to patronise through thick and thin. This month it hasn't been too thin, and with a little patience all sorts of things could be coaxed out of the noise and the QRM. Just to show what can be done, we will start with the two stalwarts of this band—D. W. Bruce and N. C. Smith, whose struggle for top place in the Four Band Table is driving them both along at a fine speed.

D. W. Bruce's phone loggings were FD8AB, F18AA, TG9HW, HRISO, HR1UA and "stacks of VS6, VS7, VS1 and some DU's." On CW he added, F18YB, FR7ZA, YA1AA and 4U-AJ. All the others are thrown in as "sundry VK's on phone with the odd VQ4, KZ5 and TI stations, all round about 1200."

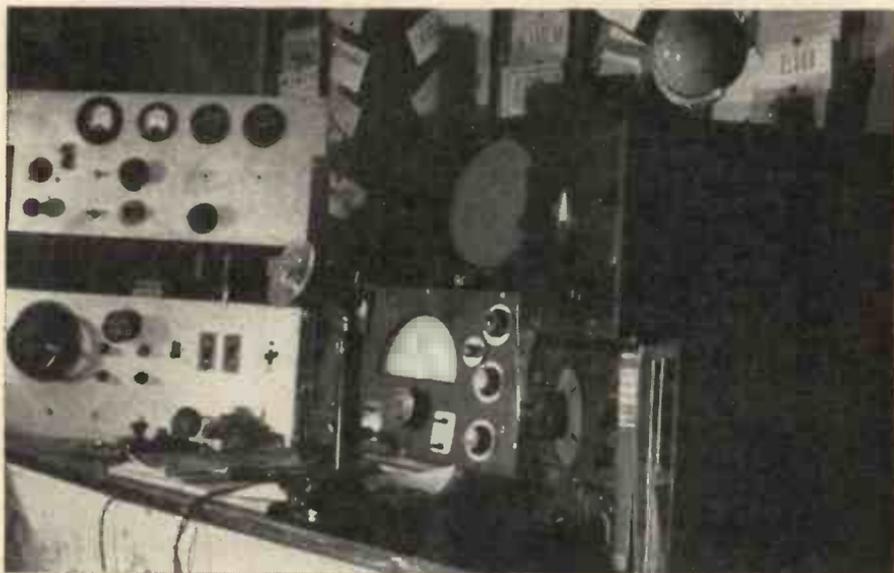
N. C. Smith went for CW and was pleased to find FD8AA, FR7ZA, YA3UU, F18YB and UA9KOG in Novosibirsk (Zone 18). His best phones were AP2K, DU9VL, PZ1WK and XZ2KN.

At the head of our Phone Only Marathon list is none other than H. Warburton (BAOR), who says conditions have varied to the point of exasperation, but have been interesting all the same. He put up a new aerial, 68 ft. long and centre-fed with 300-ohm ribbon, and thinks it was well worth the trouble. Best DX on phone was CR4AJ, CX1CA, DU9VL, JA7RW, KG6's, KL7ADR, VP1AZ, 4LZ and 6KM, XZ2UM and 2PD, ZD9AA and ZP4BB. He also heard the Kashmir station 4U-AJ, whose status as a country is, at present, uncertain, and "subject to review later."

H.W., together with many other readers, logged that funny one signing SB1L; no one seems to have a clue about him yet. Another "funny" was I5RS, giving QTH as Mogadishu, although the Somalia stations are supposed to be allotted I5Z... call-signs. Best signal of the month—shared between VS1DS and DU9VL.

D. L. McLean's phone DX on Twenty included CR6, HI, HZ, KG4, KL7, MP4, VE8, VP3 and 7, VQ5, VS1, 6 and 7, XZ,

AMATEUR BAND COMMENTARY by the DX Scribe



An impression of the operating position at ZB1AIS, Sliema, Malta. Previously, he was G3AIS, New Malden, Surrey. The receiver at ZB1AIS is a rebuilt Eddystone 358X, using miniature valves.

ZD9, ZP and ZS3—a nice bag. He also mentions I5US (see above!), KT1JS/Airborne, 5A2TV/Airborne and W4QS/Mobile in Florida. D.L.M. tells us that ZS1TGE, queried last month, is with an expedition in Zululand (ZS5).

J. P. Warren (Croydon) chips in with DU9VL, VS6 and 7, ZP4AF, VP7NU, VQ3BM and XZ2KN, the main feature having been DU9VL. This chap bids fair to outdo ZS2MI as "station of the month," which is quite something from such an uncommon spot as DU-land.

A. Deakin (Stretford) collected several new ones, such as CO, CR4, HC, HK, VP9, VQ5 and the like. In answer to a previous query about VS4VK, he says that, according to CT1BW, this station is in Brunei and operates on Sunday afternoons on 14300 kc. A.D. asks whether Danzig and PI (Dutch weather ships) count as countries! A definite No to this one.

H. M. Graham (Harefield) has managed a little afternoon listening lately, which has pleased him much better than the "dead" evening sessions he has been having. He logged DU9VL and XZ2EM for the best two of the month, also MP4KAC and YI3BZL very consistently. Gotaways were VS1DS and ZD9AA—also, he believes, FB8BB. H.M.G. asks whether the 9S4 stations are recognised as

a country . . . they are. There is also a buzz going round that the P.T.B. have recognised VS1 and VS2 as two separate ones from now on; I will confirm that next month.

H. J. Lamb (Southampton) found things quite good, and comments on VS7RSC, the Colombo Exhibition station. He adds that ZS2MI should be off the air by now. VU2AK was heard when using only 25 watts, and cards are in from HE9LAA, KG6AAE, HZ1AB, VQ2GW and VU2JU. L. W. Ross (Bath) mentions CR6AR and 6BC, FF8DA, VQ4BU, VP6SD and YV5BX, along with some lesser lights, as the best of the month. He also has a lot to say about Calls Heard, which we will comment upon later.

J. Carwardine (Bournemouth) is having a complete rebuild, but he felt out of touch and listened on the broadcast receiver. In just over a week he collected HC1FG, MP4KAC, VK, VP6, VQ4 and 5, VS7RSC, Y1 and ZS. This should cheer up some of those types who think you need a Collins or an AR88 to log the DX these days.

A. E. Carter (Romford) logged EA6AT for a new one, and queries 4U-AJ (see above). C. R. Burchell (Walsall) did nicely with DU9VL, FR7ZA, W4CG/KV4, ZD9AA and ZS3E. He says that our Commentary last month helped him out in several ways, includ-

ing the call-sign of W4CG/KV4. He mentions hearing 5A2TL "in the Canal Zone;" this must have been a spot of portable operation in MD5, for 5A2TL is in Tripoli.

C. S. Pollington (Chichester) found conditions very good over a 10-day period, and logged DL4IM/M operating from a plane "9,000 ft. over the Pacific." Others were DU7SV and 9VL, several VS1's and XZ2EM. J. Butcher (Blackpool) says ZL2BE is wonderfully consistent round about 0800, and the Far East is very good in the afternoons, including VS1DS, XZ2EM and (you've guessed it) DU9VL.

A. W. G. Boulton (Norwich) logged DU7SV and 9VL, KG4AF and YA3UU—all on CW. F. McClymont (Alloway) only took in two days, but heard three DU's, JA2AG, VS1, VK9, XZ and KH6. K. M. Parry (Sandwich) suggests the award of a medal to

ZS6BW for handling ZS2MI's cards! He has logged FI8AA, KL7, DU9VL, CR4AI, VP7NU and some ZP's, but would like more gen. on FI8AA, giving QTH as Saigon and name George. K. M. P., referring to cards, says he gets a better response from the DX stations who *do not* ask for reports.

H. J. Hill (Whitley Bay) has never managed to unearth ZS2MI, and feels that it must be a record or something. He thinks Twenty is "just stirring in its sleep," and says the nicest catch of the month was ZS8B, the most consistent being TA3AA and 2EFA. Others were VU2JU, JA2OM, PKIAC, YV5AQ and the usual VP's and VQ's.

G. Moses (Crewe) returns after a long absence, and says that he has regarded conditions this year as pretty terrible. And then he was amazed, on checking up, to find that he had heard 3Z and 117C on phone—which all

FOUR-BAND DX

(POST, WAR)

LISTENER	SCORE	28 MC	14 MC	7 MC	3.5 MC	COUNTRIES
D. W. Bruce (Eltham)	538	166	226	97	49	236
N. C. Smith (Petts Wood)	529	111	226	134	58	232
N. S. Beckett (Lowestoft)	466	102	193	118	53	203
M. G. Whittaker (Halifax)	464	131	181	105	47	195
K. Parvin (Thornton Heath)	427	145	181	59	42	187 (P)
D. S. Kendall (Potters Bar)	412	148	169	58	37	185 (P)
D. L. McLean (Yeovil)	395	157	178	28	32	192 (P)
J. P. Warren (Croydon)	386	120	177	56	33	183 (P)
R. A. Hawley (Goostrey)	381	129	175	53	24	209
J. W. Cave (Parkstone)	354	181	139	10	24	191 (P)
K. M. Parry (Sandwich)	340	123	154	34	29	164 (P)
S. Smith (Kenilworth)	329	81	160	60	28	162 (P)
W. Neal (Birmingham)	319	82	156	60	21	168
M. S. Gotch (Saffron Walden)	315	117	132	39	27	158 (P)
I. S. Davies (London, N.13)	314	79	142	59	34	150 (P)
H. M. Graham (Harefield)	297	92	140	37	28	154 (P)
A. L. Higgins (Aberkenfig)	252	79	124	30	19	145
J. H. Lloyd (Enfield)	239	45	145	44	35	153 (P)
A. O. Frearson (Birmingham)	231	81	102	34	14	130
A. E. Carter (Romford)	226	78	108	17	23	128 (P)
D. K. Cocking (Farnborough)	201	69	100	18	14	116 (P)
W. J. Amphlett (Smethwick)	194	24	96	50	24	112
J. Stubbs (Cleckheaton)	170	43	97	20	10	107

goes to show! W. J. Barwick (Romford) also returns after two years of National Service, and has been playing with a new receiver and new aerial. His Calls Heard list tells most of the story, but he mentions VS7EP, DU9VL and F18AA, with VK9DB as a Getaway.

A short list from J. E. Kelly (Northenden) includes CO8MP, HI6EC and PZ1WK on phone, with FF8AG, PJ5TR, UQ2AN and ZL4GA on CW. K. B. Ranger says the strength of some of the ZS's (notably 6BW and 6OW on March 11) simply had to be heard to be believed. He was sad to miss ZC3AX, who was being worked by CT1BW, but he heard HI6EC (1130) and also FQ8SP, HZ1TA, VQ5AU, VS7RSC, VQ2WP and YI3BZL.

In spite of patchy conditions W. J. Amphlett logged EQ3FM, FF8AG and VS2CY on CW, with KV4AA on phone. C. J. Rourke comments on the unusual times at which some DX has been heard, such as HI6EC (1150), KL7AFR (1015), VK4FJ (1350) and ZS6RA (2320). New countries were the relatively easy ones 3A2AH and 5A2TT.

J. Stubbs did quite well with new ones, such as CR6, DU, HZ, XZ and 3A. He would like some information on CS1WB, heard at 1846—and several others mention this and another CS. At the moment we can't place them.

B. R. J. Pooley (Pangbourne) went out for CW and found CR5JB, CR9AF, F18YB, VP5RU and ZS8MK; phone gave him CE3AE, DU9VL, ST2AB and ZD4BF. He gives the consistency prize to VQ3BM, often up to S9 on CW. He asks whether FB8ZZ (Amsterdam Island) counts as a new country—he does. And FB8BB is in Madagascar. About SB1L and MN2AC we know nothing, except that the latter is a Maritime Mobile operating under cover because he is not licensed!

I. M. Marshall (Chelmsford) has found the band open for South America until 2300, the best signals being YV5AB and "the inevitable PY2CK." TI2TG has also been good (using a kilowatt). In the other direction, MP4KAC, VS1DS and 2CY have been among the best. Others worthy of mention—ZL2BE, CO8MP and 2DJ, CX4CS, OA4EH and ZS7C.

B. Sutton (Liverpool) reports phone from TF5SV, VP7NT, VS1AX, YI3BZL and ZP2AA. J. R. Paul (Lymington) comments on short-skip conditions with G's, GM's and GW's rolling in. Best DX was CO2BJ, DU9VL, KR6HW, PZ1WK and ZS3E.

I. S. Davies offers ZP7AW, VS7, KL7, HH2X, YN1AA, FR7ZA and ZS3E. He also tells us that JA0IJ has left Iwojima and that AJ4AB/ST (the Eclipse station) became ST2AB but is now home in California. The best for R. A. Hawley were KG6FAA, VS1DS, 6BE and 7FJ, VU2JM and XZ2EM.

On CW he found UA0KKB, VS6RS and VS7RSC. But he says the band was very patchy, with some days good and some terrible.

K. Parvin gives 4U-AJ as the pick of the month and says it's good to see him in the log, even if he's not a country yet. Others—DU9VL, I5US, VK9DB and ZD9AA. Nice

HAZ MARATHON 1952

Listener	Zones	Countries
PHONE and CW		
N. C. Smith (Petts Wood) ..	38	143
D. W. Bruce (Eltham) ..	37	159
B. R. Davies (Beckenham) ..	37	135
R. G. Poppl (Beckenham) ..	37	132
A. W. G. Boulton (Norwich) ..	35	119
B. R. J. Pooley (Pangbourne) ..	33	108
F. H. McClymont (Ayr) ..	32	95
R. A. Hawley (Goostrey) ..	31	91
W. J. Amphlett (Smethwick) ..	29	95
D. S. Kendall (Potters Bar) ..	27	100
O. H. Black (Leicester) ..	26	63
A. O. Frearson (Birmingham) ..	14	40
W. Neal (Birmingham) ..	13	40
PHONE ONLY		
H. Warburton (BAOR) ..	34	110
J. P. Warren (Croydon) ..	33	105
G. Moses (Crewe) ..	32	117
K. Parvin (Thornton Heath) ..	32	115
Dr L. McLean (Yeovil) ..	30	104
L. Corder (Hadleigh) ..	29	93
J. Stubbs (Cleckheaton) ..	29	80
L. W. Wilkins (Bromley) ..	28	93
R. A. Hawley (Goostrey) ..	28	74
I. S. Davies (London, N.13) ..	27	103
D. S. Kendall (Potters Bar) ..	26	90
C. J. Rourke (Belfast) ..	26	78
H. M. Graham (Harefield) ..	25	67
A. Deakin (Stretford) ..	23	77
A. E. Carter (Romford) ..	23	65
W. J. Barwick (Romford) ..	23	60
H. D. Woodward (Manchester) ..	22	76
R. J. Riding (Wednesfield) ..	22	50
H. J. Hill (Whitley Bay) ..	20	63
A. W. Tideswell (Stoke-on-Trent) ..	18	60
D. K. Cocking (Farnborough) ..	16	39



"Calling CQ Twenty?" VS7DB on the microphone at VS7RSC, the Ceylon Society's station at the Colombo Exhibition earlier this year.

Gotaways were FD8AB, F18AA, KJ6AS and 8W4AF (Yemen). D. S. Kendall (Potters Bar) singles out KL7ADR, MP4KAC, W4CG/KV4, ZP7AW, KZ5AA and EL9A. CW brought in F9QV/FC, FQ8AE, FM7WF and LZ1KAB.

E. J. Woodsell (Teddington) asks us about K1NAR. He's all right—the Americans use K as well as W for a prefix; he also queries UA7VA, S9 on CW. This is a funny one, but a month or two back I heard UA7VL on CW—obviously from the Far East by the time of day and type of signal. I should say they were both pirates (or the same pirate!) but doubtless way over in the Zone 19 region.

D. Warren (Weymouth) asks about AE1USA and AE1GP. This is a regular query; all stations with this type of call are in the American military network and operate just outside the edges of the amateur bands.

FROM OVERSEAS.

G. Waddington (Hong Kong) checked up his log for nine months of 1951 and found that he had collected 40 Z and 92 C, among them the whole of South America, which is DX from VS6-land. He says he has been in the listening game for 16 years and still enjoys every minute of it—that's what we like to hear!

D. C. Stace (Spring Creek, N.Z.) gives us a little more gen. on what he hears out there. "Plain ordinary QRM" comes from JA, KG6, KH6, KR6, HC, VE7, VK, VR2, W6 and 7, ZK1 and 2, ZL and ZM. "Nuisance QRM" hails from DU, KB6, KW6, TG and TI. KJ6, KW6 and KX6 are rare, and he would like cards from VR1, VR4 and VR6. He has logged all calls from PK1 to PK7, but

would still like to hear from Monaco, Andorra and San Marino!

FORTY-METRE REPORTS

Some of the stalwarts have been squeezing the DX out of this band once more, and it certainly has been interesting at times, although not, I think, as good as last season. N. C. Smith says it has "gone off" in the early evenings, so only late night and early morning stuff are any good for the chaser. He logged 13 ZL's, five VK's, FM7WF, VP6FM, VP5BH and 8AP, ZE3JP, XE3AH, HK5CR and ZS3K—among others! All CW, of course.

D. W. Bruce found VQ4HJP an outstanding CW signal at 589 most evenings, along with KP4's and PY's, and ZL's in the mornings. J. P. Warren had a good month with the phones, including VK2AHA, HK1HQ, LU7DX, PY8MQ and a few others. He missed HC1FG. L. W. Ross (Bath) mentions TA3AA and 5A2TG.

C. R. Burchell's short list includes YV1AP, ZL4AC and a couple of 5A's. G. Moses says that the logging of DX phone on this band calls for a special technique, or a special kind of ear-drum, or both, and he takes his hat off to those who can get outside Europe on phone.

J. L. Hall (Croydon) says the VK's and ZL's are breaking through on phone around 0700 these days; one morning he heard all sides of a four-way between G2PL, VK2AHA, VK2ASJ and ZL1HY. On the CW side he has pulled in KH6JJ, OA4ED, OQ5RA and a dozen or two ZS's, while Gotaways included VK9GW.

VP6AL and TA3AA brought D. Woodward (Manchester) his first DX on the band. I. S. Davies observed the "Monitor Period" on March 22 and found the band packed with PY's, most of his other DX being the "Zone 33 Mob." The answer to his query, last month, about VP2 is that J. H. Lloyd (Enfield) heard VP2SE on phone at 2355, early in January.

Two new countries for K. Parvin were HC1FG and 9S4BE. He also heard VP6AL, working VP6WR and a VP2, believed to have been VP2MD. ZL, VK, PY and the North Africans have also been logged. D. S. Kendall rounds off this report with CR4AG, 4AJ, 4AP, VP2SE, 5A2TT and several PY's on phone, with KP4KD, TF5TP and ZE3JP on CW.

EIGHTY METRES

The most startling report on this band is contained in J. L. Hall's list of Calls Heard. He adds in his letter that on March 23, round about 0300-0500, he heard OQ5RA, LU7AZ, PY7WS, VP6CDI and VQ4HJP all QRM-ing each other on 3510 kc, while a little higher up was ZS3K! (Yes, this is Eighty.)

N. C. Smith was listening the same morning



Some of the membership at the Ixworth Radio Club meeting in February last. Among those in the group are: G2AJU, G8MU, G2BUM, G2DJM, G3GIH, G2HMG and G3DPN.

and heard much about the same DX; others mentioned by him are KZ5CS and 5CW, KP4's, KV4AA, LU4DAN and 7JO, VE's, VP6AA, ZL's and, of course, some W's.

J. P. Warren, it may be remembered, thought he heard ZS6BW on 80-metre phone. He has now had a card saying that 'BW was not on, but that it was his friend ZS6DW. Well, one ZS6 is as good as another—especially on 80-metre phone!

W. J. Barwick mentions only one station, but that is CM9AA—phone on 4000 kc. W. J. Amphlett heard what he thinks was "a good phoney"—YA1AH (March 5 at 2344). J. H. Lloyd has been filling up some of the European gaps in his log, but has not heard much else.

K. Parvin was one of the lucky ones, having logged HR1BG, working W4IYC on phone at 0700 one morning. Finally (for this band)—your Scribe doesn't often quote his own DX pickings, but this time can offer the following on 80 CW: VQ4AQ, 4CM and 4HJP, VP6AA and 7NM, ZE3JP and ZS3K.

TOP BAND TOPICS

The DX is disappearing from the Top Band, but I must mention the amazing performance of KV4AA in the recent ARRL Contest. He came on the band to pick up a few points by working W's, and ended up by working all districts USA, three Canadian districts, and

being heard by KH6IJ and ZL1BY! He also heard ZL1BY, but they didn't manage to make contact.

H. J. Hill says the band is on its way out, although G-DX has been quite good for him. I. S. Davies picked up a new country in GM3GUS. M. G. Whitaker (Halifax) mentions GM3HXC (Orkney), 3HVS (Banffshire) and some new G counties. He is especially interested in the GM's, as he has been shifted up there himself and is now GM3IGW for a period of roughly three years. He is in the rare county of Clackmannanshire, from which he requests reports. They will be QSL'd—"one hundred per," as the saying is.

J. H. Lloyd says he heard W2ZZA/MM, operating from South of Oslo, on March 2. Everyone was chasing him, and for a while it put any 20-metre chase in the shade!

R. Iball (Workshop) refers back to the Transatlantic Tests, and tells us that he logged W1BB, 1LYV, 9NH, VE1EA and 2WW, and EK1FM on the last leg. He found a new country in the guise of SM5BSB/7, and also heard OH, HB and the OK's. R.I. says he doubts the authenticity of GM3HXC (assumed by everyone to be in Kirkwall, Orkney), as he has had no replies to reports, and an SWL friend of his has had a report returned from Kirkwall marked "not known."

(over)

THE BIG NEWS

Here is an item that some of you will already be prepared for, but many will not have heard. We have not had it officially, but it seems quite certain that the Fourteen-Metre (21-mc) band will be opened to the W's on May 1. Other countries in the Western Hemisphere will probably get the go-ahead at the same time, but it seems unlikely that we, on this side, will have heard anything by then.

So *Fourteen* will be the new happy hunting-ground of the SWL and just plain torture for the transmitting man. On the strength of this we are going to make next month's monitor periods cover this band, so as to give it a real starting-up. The band extends from 21000 to 21450 kc, and, simultaneously with its opening, the 14-mc band is reduced to 14000-14350.

MONITOR BAND FOR MAY

We will leave this wide open as far as listening hours are concerned, because we don't know what the characteristics of this new band will be (although it is obvious that they will be somewhere between those of the 28 and 14-mc bands). So if you want to be in on the "Monitor Band" idea, log everything you hear on 21 mc (Fourteen Metres) on Saturdays and Sundays between April 26 and May 25. Don't send in enormous lists full of W's, but say "35 W1's, 46 W2's, 21 W3's," and so on. List the rarer ones such as WØ, 6 and 7, and VE 4-8 (if any). But watch out for other countries, because there may turn out to be a whole band full of North and South American DX after May 1. Make your lists *either* Phone or CW but not both.

Reports for the April Monitor Band—Forty-Metre phone, week-ends, 2200-2300—should come in with your next letters, in the form of Calls Heard lists containing *not more than 40 calls*, and clearly marked "Monitor Band."

CALLS HEARD

The general lists have been getting out of hand lately, chiefly by spreading themselves and becoming too long. As the number of lists received has been rather less than usual—due to bad conditions and loss of enthusiasm—we have not worried unduly about it. Now, however, the numbers are on the increase again, so we must ask readers to *keep them to 25 calls*.

L. W. Ross refers to this and other phenomena, and says he doesn't see the use of several lists of Calls Heard, all listing much the same calls. He would like to see an Activity List, compounded from *all* the Calls Heard lists, giving all the stations heard on each band in a concentrated form.

We can see what he is getting at, and quite agree in some respects, but it is well known that

the majority of readers *do* like the separate lists, for two reasons: First, to see what other people have been hearing; Second, to see their own list in print and to compare it with the others.

STRAY

Would reader P. King (Offaly, Eire) be so good as to get in touch with an SWL compatriot of his? He is asked to write or make himself known by any means to Robert Williams, Willfield, Kinnitty, Birr, Co. Offaly, Eire.

Next month's deadline is first post on April 23, and for the following month first post on May 29. Address everything to "DX Scribe," *Short Wave Listener & Television Review*, 55 Victoria Street, London, S.W.1. Good luck, good hunting and a happy opening on Fourteen Metres!

THE QSL BUREAU

Our QSL Bureau handles cards on a world-wide basis, mainly by direct mail. Its full use (both ways) is confined to direct subscribers and BSWL members. Cards inwards are accepted for any G operator, irrespective of whether he is a subscriber.

H.A.C.

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CALLS HEARD

GENERAL

28 mc

I. S. Davies, 127 Hazelwood Lane,
Palmer's Green, London, N.13.

PHONE: CR6AO, 6AT,
LUIDCE, 5AR, VQ2NS, 4RF.
(Rx: R.208.)

C. J. Rourke, 130 Ravenhill Avenue,
Belfast, N.I.

PHONE: CR6AJ, MI3LK, 3RR,
3ZX, OQ5CK, 5VD, ZP7AW,
ZS5CY, 6LF, 4X4AS. (Rx: S.740.)

K. B. Ranger, 89 Station Road,
Strood, Kent.

PHONE: AR8BB, CE2CC,
CN8CS, EL1QA, FF8PG, MI3LK,
3ZX, OQ5CA, 5CX, 5VD,
PY7QY, TA2EFA, 3AA, VQ2JC,
2NS, W2MAK/MM, 5RGO/MM,
YO3RF, ZBIAG, ZE3JT,
ZS2VRF, 6OP, 4X4AS, 4CW,
5A2TO. (Rx: 0-V-1.)

A. E. Carter, 86 The Drive, North
Romford, Essex.

PHONE: MI3ZX, OQ5RU,
ZS5JY, 6CV, 6KD, 6LF, 6TB,
6ZK, 4X4CW. (Rx: R.208.)

Sgt. Waddington, G., Army Guard
Dog Unit, BAPO No. 1, Hong
Kong.

PHONE: KH6AHQ, 6IJ, 6KF,
KM6AX, KR6FN, W5QJ/MM,
6YYQ/MM.

D. L. McLean, 9 Cedar Grove,
Yeovil, Somerset.

PHONE: EA8AX, LUIDCE,
3DH, 7CB, PY2CK, 3CL, W7NXU/
MM, ZP4BB, ZS6CB, 6CV, 6KD,
6LF, 6TH, 6XT. (Rx: SX28 and
AR88LF.)

R. A. Hawley, Torriew, Brookfield
Crescent, Goostrey, Cheshire.

PHONE: MI3LK, 3RR, 3ZX,
TA3AA, VQ4ASC, 4AU, ZS6SG,
6ZK, 4X4BB. (Rx: AR-88 and
S.504.)

14 mc

Sgt. Waddington, G., Army Guard
Dog Unit, BAPO No. 1, Hong
Kong.

PHONE: CM5AAH, CR6AG,
KC6DX, KL7AH, MF2AA,
PY9BR, VK1BS, ZK1BC, 2AA,
ZL2AAM.

R. F. Veysel, 14 Ricks Road,
Bitchgrove, Cardiff.

PHONE: CO2GJ, EA8AX,
PY6BN, 7RP, 8IJ, TA2EFA, 3AA,
TF5SV, 5TP, VP6FD, VQ4BU,
V57SRC, YV5AB, 5BB, ZBIAXJ,
IBZ, 1GKU, 4X4BA. (Rx: 5-valve
domestic Murphy.)

Please note these simple rules for
sending in your lists of Calls
Heard.

28 mc: No Europeans.

14 mc: No Europeans or North
Africans, no East Coast
U.S.A. or Canada, no PY

7 mc: No Europeans.

3-5 mc: No Europeans.

1-7 mc: Nothing under 200 miles.

Arrange logs in the form given
in this section with (a) Prefixes
in alphabetical order, but not
repeated after the first one; (b)
Numbers in numerical order and
repeated as part of the call sign;
(c) Callsigns in alphabetical
order. For example:—VK2GW,
2ZC, 3CP, 4UL, VP1AA, 2GB,
5BJ, 7NM, VQ4RF, 8AF.
Underline each prefix; put your
name and address at the head,
and type of receiver at the foot;
restrict your lists to a total of 25
calls. In short, make them out
exactly as those shown herewith,
but take as much space as you
like. Microscopic writing is
neither necessary nor popular.
And if you want to use our Calls
Heard Report Forms, specially
produced for the purpose and
supplied free of charge, send a
large S.A.E. to the office, with a
card marked—"Report Forms,
please."

N. C. Smith, 79 Greencourt Road,
Petts Wood, Kent.

PHONE: AP2K, CR6AR,
DU9VL, EL9A, HK5CR, KL7ADR,
MP4KAC, PZ1WK, T12RC,
VE8MY, VP3LF, 9AK, VQ2DT,
2HW, 5AU, VU2JU, XZ2KN,
ZC6AG, ZE2KZ, ZD9AA,
ZL2ALZ, 4CU. (Rx: S.750.)

G. Moses, 65 Rallton Avenue, Crewe,
Cheshire.

PHONE: AR8AK, CR6BC,
EL9A, HH2X, H18WF, KG6AD,
MP4KAC, TF5SV, VE7CN, 8SF,
VP4T1, 5TB, VQ3CC, 4ERR,
W4CG/KV4, ZL2BE, ZP3NB,
ZS4DM. (Rx: S.750.)

I. S. Davies, 127 Hazelwood Lane,
Palmer's Green, London, N.13.

PHONE: EL9A, FR7ZA,
HH2X, KL7ADR, 7AFR, KV4AQ,
VK7CK, VP3LM, 9AW, VQ3BM,
3CP, 5AU, VS7DS, 2CY, 7RSC,
7WA, VU2AK, W4CG/KV4,
YN1AA, 1AN, YV1AJ, 1AN, 3AU,
ZD4BF, ZP7AW, ZS3E. (Rx:
B.36.)

Kenneth Parvin, 98 Winterbourne
Road, Thornton Heath, Surrey.

PHONE: CR6BC, DU9VL,
HH2X, HP1MH, HR1SO, 15US,
KG4AU, KL7ADR, 7AFR, 7AIR,
KZ5NM, OA6C, PZ1WK,
TG9HW, VK9DB, VS1DS, 1EG,
2CY, W4CG/KV4, XZ2KN,
ZD4BF, 9AA, ZP3NB, ZS3E,
4UAJ. (Rx: 504.)

R. J. Woollard, 27 Ternterden Road,
Tottenham, N.17.

PHONE: DU9VL, CO2BL,
EL9A, MP4KAC, OQ5CA,
OX3BD, TF5TP, VK2ID, 2QR,
VP6FO, VQ4BU, 4CO, 4AQ,
4FCA, 4ERR, VS2CY, 7BE, 7RSC,
ZD4BF, ZL2JL, 2PF, ZS1BB,
6BW, 6DW, 6UX, 6CY.

J. R. Paul, Hopefield, Wainsford
Road, Lymington, Hants.

PHONE: CO2BJ, DU9VL,
EA9AT, HC1FG, KP4AC,
KR6HW, MI3LK, OX3MW,
PO1WK, TF5SV, VP4LZ, 6WR,
9AZ, VQ2NS, 4BU, VU2JM,
YV5EN, ZD4BF, ZL2BE, ZS3E.
(Rx: S.640.)

J. P. Colwill, Hay Common,
Launceston, Cornwall.

PHONE: CE4AD, HC1FG,
HH2X, KL7ADR, KP4CO, 4FF,
4HF, 4KE, 4OM, 4PM, KZ5AA,
VP6JB, 6SD, VQ3BSB, 4AQ,
4CO, 4FCA, 4RF, W7GBY,
YV1AA, 1AC, 3AU, 5BV, ZS6MU,
6RA. (Rx: Vidor CN361.)

L. Corder, 88 Angel Street, Had-
leigh, Suffolk.

PHONE: CR4AD, 6AC, 6AJ,
EP3SS, EQ3FM, HC1FG, HR1SO,
HZ1TA, VQ5AU, 5BDS, V86BA,
ZD9AA, ZP4AW, ZS7C. (Rx:
9-valve super.)

D. C. Stace, Box 30, Spring Creek,
New Zealand.

CN8FH, DU7SV, HC2OL, JA2DS,
4MC, 7RW, 8IJ, KB6AO, 6AQ,
KC6DX, KG6HL, KH6JY, 6AAF/
KW6, KR6HI, LU3DCQ, 8DBN,
OA1B, 4DE, PY2AJN, 4RJ,
VR2AP, VS1AG, 2ES, Y13BZL.

I. M. Marshall, 38 Cedar Avenue,
Chelmsford, Essex.

PHONE: CO2DJ, 8MP, CX4CS,
HH2ME, H16EC, HK1FI, KP4HF,
OA4HE, OQ5CF, T12TG, VK2WT,
3ALY, VP4LL, 5AK, 5AY, 6WR,
VQ4FCA, 5CK, VS1DS, 2CY,
7RSC, VU2JM, W4CG/KV4,
YV3AU, 5AL, ZS1DM, 6DW, 7C.
(Rx: R.1155/A.)

H. J. Hill, 242 Whitley Road, Whitley Bay.

PHONE: AR8BL, EA8AY, 9AS, JA20M, KP4FJ, KL7ADR, OX3WX, 3BD, OQ5KA, PK1AC, TA2EFA, 3AA, VE5VP, 80D, VQ2HW, 4CA, 4AQ, VP6FO, 6SD, VU2JU, 4X4FK, 4AT, YV5AQ, ZS6AG, 6DW, 6ME, 6RA, 6TP, 8B. (Rx: R.107.)

D. Woodward, 16 Abbotsford Road, Chorlton, Manchester, 21.

PHONE: MI3LK, MP4KAC, TA2EFA, 3AA, TF3AS, VP3LK, 6KM, 6MO, 6WR, VQ2DT, 2AN, 4AC, 4AQ, 4BU, 4ERR, YV5AB, 5AO, ZS2MF, 6CY, 3V8AQ, 4X4BA. (Rx: H.M.V. Broadcast.)

B. R. J. Pooley, Harbinger, Nautical College, Pangbourne, Berks.

CW: CR5JB, 9AF, CX1FY, FB8BE, F18YB, FM7WF, FR7ZA, HC1FG, KG4AF, KV4AQ, MP4BDD, 4KAF, T12TG, VP5RU, VQ2GW, 3BM, VS6CG, 7NG, Y13BZL, YV5AB, ZE3JN, ZS2M1, 3K, 8MK.

PHONE: CE3AE, CR6BC, DU9VL, KL7ADR, ST2AB, VP3LF, VQ5AU, XZ2EM, ZD4BF.

W. J. Barwick, 8 Kingston Road, Romford, Essex.

PHONE: CR4AD, DU9VL, EA9AS, 9AT, EL9A, F18AA, KL7ADR, MP4KAC, SV0W0, TF3AS, VP6KM, 6MR, 6SD, 6WR, VQ2HW, 4AC, 4BU, 4RF, 5AU, V57EP, 7RSC, Y13BZL, ZD4BF, ZS3E. (Rx: AR88.)

C. J. Rourke, 130 Ravenhill Avenue, Belfast, N.I.

PHONE: FF8DA, HH2X, KL7AFR, KR6GJ, KZ5TT, MP4KAC, OQ5BG, VK4CQ, 4FJ, VP3HAG, 4TI, 5AK, 6CJ, 9AS, VQ2HW, 4FCA, V57FG, 7RF, 7RSC, 7WA, W4CG/KV4, Y13BZL, ZD4BF, ZE2JK, ZL2BE, ZP4BB. (Rx: S.740.)

W. J. Amphlett, 201 Oldbury Road, Smethwick, Staffs.

PHONE: EA8AW, 8AY, KL7ADR, KV4AA, VK2QR, 4FJ, 4RT, 4VJ, 4GX, V57RSC, YV5AB, ZS6DW.

CW: EQ3FM, FF8AG, F18YB, VK2ANN, 3EG, VS2CY, W9TN, ØADT, ZL2GL. (Rx: S.750.)

D. W. Bruce, 39 Dunkery Road, Eltham, London, S.E.9.

PHONE: CR4AL, 4AJ, 6BC, 7AH, DU1AL, 9VL, EA6AB, FD8AB, FF8DA, F18AA, HH2ME, 2X, HI6EC, 6TC, HP1MH, HR1SO, 1UA, JA2BC, KL7ADR, KV4AQ, KZ5AA, 5AR, MP4KAC, OQ5CA, ST2AB, TG9HW, VE8RO, 8SF, VP3HAG, 3LF, 4CO, 4LL, 4TI, 5AK, 5AO, 5BP, 7NT, VQ3CH, 5AU, 5CK, VS1AD, 1DS, 1EG, 2BS, 2CY, 6BA, 7BE, 7EP, 7FG, 7GR, 7GV, 7RF, 7RSC, 7WA, W4CG/KV4, Z2XKN, Y13BZL, YN1AA, ZC6AG, ZD4BF, 9AA, ZP7AW, ZS2M1, 3E, 7C.

A. E. Carter, 86 The Drive, North Romford, Essex.

PHONE: CO2GJ, HH2X, SUIAS, TF5SV, VQ4AA, 4AQ, 4BU, 4FC, 4RF, 5AU, VS2CY, 7GV, 7RSC, 7WA, XZ2EM, 2KN, YV5AB, ZD4BF, ZS1BV, 6BW, 6CY, 6DW, 6Z, 4UAJ. (Rx: R.208.)

C. R. Burchell, 109 Dartmouth Avenue, Walsall.

PHONE: CR4AJ, 6AG, 6AJ, 6BC, DU9VL, EL9A, FF8DA, FR7ZA, HP1MH, HZ1TA, 15US, MP4KAC, OX3GG, SUIAS, VP5AK, VS1DS, 2BS, 2CY, W4CG/KY4, Y13BZL, ZD2CD, 4BF, 9AA, ZS2M1, 3E. (Rx: H.M.V. 1120.)

H. M. Graham, 28 Park Lane, Harefield, Middx.

PHONE: AR8BC, DU9DL, HZ1TA, MI3ZX, MP4BAB, 4KAC, TA3AA, TF5TP, T12CAF, VQ2DT, 2HW, 4ERR, XZ2EM, ZB1AS, Y13BZL, YV5EA, ZC4JB, ZS1SW. (Rx: 1-V-1.)

M. S. Gotch, Bridgetts, Widdington, Saffron Walden, Essex.

PHONE: JA2BC, KL7ADR, MI3LK, MP4KAC, TF5TP, VK2ID, VQ2DT, 4AA, 4ACQ, 5AU, Y13BZL, ZB1H, ZD4BF, ZL2BE, ZS6BW. (Rx: 13 valves and Q-5er.)

J. Riley, Holland House, Oakfield, Sale, Cheshire.

PHONE: JA2GU, KL7AFR, VK2AGW, 2QR, 2XW, 3RT, VP6FO, 6SD, 9AX, VQ4AQ, 4BU, WØFYW, ØTWP, ØYXO, 6YX, 7DL, 7DV, 7HIA, 8CPB, 8DVA, 8JP, 8RLT, Y13BZL, YV5AB, ZL2BE, 2WS, ZS1BV, 2BC, 2MI, 6DW, 6SG, 4X4CW. (Rx: 1-V-2.)

B. R. Davies, 73 Eden Road, Elmers End, Beckenham, Kent.

PHONE: HH2X, MP4KAC, OA3C, PK3TA, VQ3CP, 5AU, VS1DS, 7RSC, VU2US, ZC3AG, ZP2BB.

CW: AP2N, FB8BD, KG6AAY, VP2GH, V57NG, 7XG, VU2BC, ZD9AA. (Rx: S.640.)

D. W. Bruce, 49 Dunkery Road, Eltham, London, S.E.9.

CW: CR5AD, DU1MB, EA6AM, ØAC, EP3SS, FB8BB, 8ZZ, FF8AG, 8DA, F18YB, FØ8AE, FR7ZA, HH3L, HP1BR/3, JA2KW, KG4AF, 4AO, 4AU, KH6AAQ, 6GS, KR6DT, KV4AA, 4AI, 4AQ, 4AU, KK6AH, KZ5AE, 5GF, ØAAEK, PK3CW, VK1W0, VP7NZ, 8AI, VS6AE, 6BC, 6CG, 7BR, YA1AA. (Rx: AR88D and NC120.)

S. Smith, 40 Stoneleigh Road, Kenilworth, Warks.

EA9AT, KL7ADR, 7WC, KP4CO, 4DU, MI3LK, ØQ5ER, SP2KA, ST2AB, TA2EFA, 3AA, TF3AS, 5SV, STP, VE8RH, VP5BP, 6FO, 6SD, 9G, VQ4ERR, 4CA, 4RF, VS2BS, 7RS, ZS2BJ, 6DW, 4X4CW, 3A2AM, 5A2TP, 2TU. (Rx: CR100/4.)

L. C. Bromley, BSWL 4334, 25 High Street, Wem, Salop.

PHONE: EA8AW, EP3SS, JA2OF, 2AM, ØHSN, OX3WX, TA3AA, TF3AS, 5SV, W6SAC, 6YS, ZB1AJX, 1AH, ZP1GKU. (Rx: S.740.)

E. J. Woodsell, 68 Railway Road, Teddington, Middx.

PHONE: CO8MP, KZ5AR, LU5DU, OX3BD, VK2ACT, 3AUP, VP5AK, VQ4BU, 4ERR, 4RF, 4SCA, YV3AU, 5AB, ZC6AM, ZD4BF, ZS1DM, 2BJ, 6KD, 6ME, 2AT. (Rx: R.1155/A.)

Peter Daniels, 120 Hill Street, Wishaw, Lanarkshire, Scotland.

CE2CC, HH2X, KP4FJ, KT1BB, KT1PU, LU5DU, 2DJ, 8FAO, MI3OK, MP4KAC, OQ5CA, OX3GD, 5FP, TA3AA, VK2KS, 3NF, VP9AW, VS1DS, W6SAC, ZL2AV, ZS1BV, 6LY, 4X4AT, 4DK, 5A2CG, 2TB, 2TH, 2TP, 9S4AD. (Rx: R.107.)

H. Warburton, Munster Lager—B.A.O.R.

PHONE: AP2N, CR4AJ, 6BC, CX1CA, DU9VL, HC1FG, HP1MH, JA7RW, KG6AD, FAA, KL7ADR, 7AFR, KP4CJ, KZ5AA, LU4DD, 5DJ, 7AAD, MI3LK, MP4KAF, OQ5RU, VP1AZ, 4LZ, 6KM, VQ2HW, 3FM, 4FCA, 5AU, VS1DS, 2CY, 6AL, 7BE, VU2AK, W4CG/KV4, XZ2UM, 2PD, ZD4BB, 9AA, ZE2JK, ZP2BB, 4U-AJ. (Rx: PCR2.)

D. L. McLean, 9 Cedar Grove, Yeovil, Somerset.

PHONE: CR6AN, HH2X, HI6EC, HZ1TA, ISUS, KL7ADR, 7AFR, KG4AU, MP4KAC, OA6C, VE8RH, VP3AG, 7NT, 7NU, VQ5AU, VS1DS, 6BA, 7RSC, W4CG/KV4, XZ2DN, Y13BZL, ZD4BF, 9AA, ZP4AF, 4BB, 7AW, ZS3E, 7C. (Rx: SX28 and AR88F.)

L. W. Ross, The Cottage, Claverton Manor, Claverton, Bath.

PHONE: AR8BA, CR6AR, 6BC, EA6AT, 8AW, 8AY, 9BC, FF8DA, KP4HF, LU5DU, MI3LK, OX3BD, PY2JU, TA3AA, 3FAS/M, VK4RT, VP6SD, VQ4BU, Y13BZL, YV5BX, ZL2QK, ZS1BV, 3V8BB, 5A2CG. (Rx: BC.342.)

J. Canwardine, 41 Seaward Avenue, West Southbourne, Bournemouth.

PHONE: HC1FG, MP4KAC, TA2EFA, 3AA, TF5TP, VK5RN, VP6MO, VQ4ERR, 5AU, V57RSC, Y13BZL, ZS1BV, 6DW, 6ME, 4X4AT. (Rx: Bush 5-valve.)

J. Butcher, 27 Westfield Road, South Shore, Blackpool, Lancs.

PHONE: DU9VL, MI3LK, KL7ADR, 7YZ, KP4FF, TF5TP, VP5AK, 6FO, 6SD, 9VV, VQ2HW, 4AQ, VS1DS, W7AQO, 7LH, XZ2EM, Y13BZL, YV5BQ, ZL2BE, ZS6DW, 3V8AQ, 4X4BA. (Rx: 1-V-1.)

C. S. Pollington, 8 Cleckheaton Road, Chichester, Sussex.

PHONE: DL41M/M, DU7SV, 9VL, TF5SV, VP4LL, VSIAG, 1AX, 1DS, 2CY, VSTWA, XZ2EM, Y13BZL, ZL2BE. (Rx: AR88LF.)

J. Stubbs, BSWL 4310, 5 Manor Street, Hartshead Moor, Cleckheaton, Yorks.

PHONE: CO2OZ, 8MP, CR6AC, DU9VL, EA8BB, 8AJ, EA9AS, HZ1TA, LU5BU, OX3BD, VE7BF, VP6FO, 6SD, VQ4AA, 4AQ, 5AU, VS1EG, 1DS, 2BS, 2CY, 7FG, 7RSC, XZ2EM, YV5BZ, 5EA, ZL2BE, 3T2AH, 4UAJ, 5A2CG. (Rx: 8-valve super.)

A. Jackson, 57 Delacy Avenue, Almondbury, Huddersfield.

PHONE: CM2CA, HH2X, KL7ADR, KP4CO, 4FF, 4FU, 4HF, 4JA, 4OA, LU1KR, 4CI, VK21D, VP5AK, 6JB, 6KM, 6SD, 6WR, 9AW, 9VV, YV5AB, 5AO, 5BF, 5BQ, 5FI. (Rx: Battery 0-V-0.)

J. E. Kelly, 53a Palatine Road, Northenden, Manchester.

CW: FF8AG, KV4AA, KZ5GF, LU8EE, 9AJ, MI3RR, OQ5RA, PJ5TR, TI2TG, UB5NTA, UQ2AN, VK2AST, 2ED, W7FJE, ZL4GA. (Rx: Naval 0-V-2.)

PHONE: CO8MP, HC1KJ, HI6EC, KL7ADR, PZ1WK, VK2ABA, 3GA, 5BZ, VP6SD, Y13AU, YV5AB. (Rx: Naval 0-V-2.)

R. W. Pennells, Neals Cottage, Lamberhurst, Near Tunbridge Wells, Kent.

PHONE: CO2VW, FR7ZA, KL7ADR, MP4KAC, OQ5LD, OX3BF, ST2AB, TF3AS, VE6NW, 8RH, VQ3CP, 4CO, 5CK, W4CG/Port KV4, 6YX, 7JMY, XE2KW, XZ2KN, Y13BZL, YV5AB, ZE3JK, ZD4BF, 9AA, ZS1BK, 2MI. (Rx: 1-V-2.)

N. C. Smith, 79 Greencourt Road, Petts Wood, Kent.

CW: FB8BB, FD8AA, FI8YB, FR7ZA, JA21M, KG6ABI, KH6MG, FR7ZA, JA21M, KG6ABI, KH6MG, KL7PI, MP4BBD, UA9KOG, VE6MN, 7APA, VS1CZ, 2CY, 6CG, 7GQ, VU2CK, 2CM, 2SS, YA3UU, ZD4BH, ZS3SI. (Rx: S.750.)

L. W. Wilkins, 9 Palace Road, Bromley, Kent.

PHONE: CE3AE, 3CZ, CO2OZ, CR4AI, HZ1TA, KLADR, KP4ES, 4FF, 4FJ, KV4AQ, 4CG/P, KZ5AA, OQ5BG, TI2TG, TG9HW, VO6V, VP3LF, 4TI, 5AK, 6MO, 6WR, 9L, VQ2DT, 3CH, 3CP, 4AA, 4BU, 4CO, 4ERR, 4FCA, 5AU, VK21D, 2KS, 2LO, 3AUP, 3ND, 3TA, VS1DS, 2CY, 6BA, 7FG, 7GV, 7RF, 7RSC, ZD9AA, ZL2BE, ZS6DW, 7C. (Rx: NC 173.)

R. A. Hawley, Torview, Brookfield Crescent, Goostrey, Cheshire.

PHONE: CO2OZ, 6OK, EA8AY, 9AS, HI6EC, KG6FAA, PY2CK, 4BU, 7HK, VQ2HW, 4AQ, VS1DS, 6BE, 7FJ, VU2JM, VV7ADS, XZ2EM, Y13BZL, YU3AU, ZD4BF. CW: UA0KKB, VS6RS, 7RSC. (Rx: AR88 and S.504.)

D. G. Stevenson, High Trees, High Roding, Dunmow, Essex.

PHONE: CE3AA, CR4AD, JAZAM, KP4ES, 4FF, MI3LV, 3RR, 3ZX, OQ5BG, OX3MJ, LU5DD, TA2EFA, 3AA, TF5TP, 5SV, VO6V, VP3LF, 5BP, 6FO, VQ2HW, 4AA, 4AQ, 4BU, VS1DS, ZD4BF, 9AA, ZS1BV, 6BW, 6SG, 5A2TO, 2TH. (Rx: R.1155/A.)

A. Deakin, 11 Cressingham Road, Stretford, Near Manchester.

PHONE: AR8BC, 8BD, CO2GJ, CR4AJ, EL9A, HC1FG, HK4AM, KP4ES, 4FJ, W4CG/KV4, MI3LK, 3RR, 3ZX, MP4KAC, OQ5BG, SU1AS, TA3AA, VE8RJ, VP6SD, 6KM, 9AK, 9VV, VQ2HW, 3CP, 4AA, 4AC, 4AQ, 4BU, 4ERR, 5BU, V5TRS, YV5AB, 5BF, ZS6BW, 6DW, ZL2BE, 4X4AT, 4BA. (Rx: H.M.V. Broadcast.)

Henry J. Lamb, BSWL 4293, 222 Honeysuckle Road, Southampton, Hants.

PHONE: AR8BC, KP4CU, MP4KAC, OQ5BG, 5YL, PZ1WK, TA2EFA, TF5SV, 5TP, VK3AKA, 4FK, VO1S, VP3CW, 6AA, 6SD, VQ2DT, 4AQ, 4BU, 4RF, VS2CY, 7NG, 7RSC, VU2AK, Y13BZL, ZD4BF, 6DW, 9AA, ZE2KO, ZS1BV, 2MI, 6BW, 6DW. (Rx: R.62.)

7 mc

Kenneth Parvin, 98 Winterbourne Road, Thornton Heath, Surrey.

PHONE: CM8LS, CN8MF, CR4AG, EA9AI, 9AR, 9AT, 9BB, 9BC, FA3FB, 8BE, HC1FG, LU7BF, PYIAHL, 1AXB, 2PW, 4NE, 9BE, VK2APK, VP6AL, Z2LAAK, 5A2TI, 2TT. (Rx: 504.)

I. S. Davies, 127 Hazelwood Lane, Palmers Green, London, N.13.

PHONE: CN8BQ, 8CJ, 8CS, 8FC, 8MS, CR4AD, 4AJ, EA8BF, 9BC, FA8BE, HE9LAA, LU5JUD, PY1SF, 2ALA, 4AJ, 4ALN, 4NG, 6AY. (Rx: B.36.)

W. J. Amphlett, 201 Oldbury Road, Smethwick, Staffs.

CW: CN8BJ, 8EX, FA9UP, K2FIO, KG4AF, PY2AUX, 4AGN, TF3NA, W2WZ, 3BVN. (Rx: BC.348 and S.750.)

J. P. Colwill, Hay Common, Launceston, Cornwall.

PHONE: LU7BF, PY4AA, 4LN, 7WP, VP6L, 5A2TT. (Rx: Vidor CN361.)

N. C. Smith, 79 Greencourt Road, Petts Wood, Kent.

CW: CO8FH, CT2BO, FM7WF, HK5CR, KV4AA, KZ5NC, MI3DD, HK5CR, KV4AA, KZ5NC, MI3DD, VK2EO, 3CP, 3YW, 4CG, VP4CQ, 5BH, 6FM, 8AP, W5CKY, XE3AH, ZL1BY, 1MQ, 1NP, 2MM, 3GQ, 3JQ, 3MQ, 3OP, 4FT, 4JA, ZS3K. (Rx: S.750.)

3.5 mc

J. L. Hall, 2 Coombe Court, St. Peter's Road, Croydon, Surrey.

PHONE: EA9AP, KP4CP, PY6EP, 5A2TT.

CW: CN8AF, 8EG, 8EX, 8FB, CO2BC, CT2LV, EA9AP, F9QV/Corsica, FA3WW, 8BG, 8CR, 8DA, 8IH, 8RJ, 9RZ, 9UP, 9VN, KG4AF, KP4JE, 4KD, KZ5CS, 5DE, LU7AZ, OQ5RA, PY7WS, TI2FG, 2PZ, UB5BC, VP4LZ, 5AR, 6CDI, 7NZ, VQ4HJP, W5CKY, 5KC, 5QM, 5ZD, 6ZAT, 0AIW, ZL1HM, 1MB, 1MQ, 2GL, 3JT, 3OP, 4IE.

N. C. Smith, 79 Greencourt Road, Petts Wood, Kent.

CW: CN8FO, KP4DJ, 4JE, KV4AA, KZ5CS, K5BDK, OQ5RA, PY7WS, VE1EA, 3AGK, VP6AA, VQ4HJP, W8JN, ZL1MB, 3PJ, ZS6OW. (Rx: S.750.)

1.7 mc

Robert Iball, 48 School Road, Langold, Worksop, Notts.

CW: G13HT, 3KV, GM3HVS, 3HXC, HB9CM, OH7OH, OK1AEF, 1AVJ, 1FA, 1OKU, 1UQ, 2BUP, 3AL, 3OBK. (Rx: 0-V-0.)

*Short Wave Listener & Television Review
covers all SWL interests*



SWL Stations

NO. 45

THIS station—owned and operated by R. F. Hills at 27 Elms Road, Harrow Weald, Middlesex—was originally started in 1947, after R.F.H. had heard a local amateur harmonic on a rather unselective home-built receiver. This got him going with an 0-V-1, using plug-in coils, which operated efficiently for some time. It was followed by a 1-V-1, and then in January, 1951, a B.36 ex-Govt. receiver was acquired, and has been much modified since. Later, the RF Units 24 and 27 were installed. The former operates on the 28 mc band, and the RF-27 is used without frequency coverage modification.

In 1949 amateur TV receiver construction also began to interest R.F.H. The assembly shown in our photograph is tuned to Alexandra Palace, and will in due time be provided with a converter for receiving amateur TV transmissions.

From left to right in the photograph, there is the B.36 with its speaker; then the TV receiver; on the B.36 is the power pack, giving various outputs and supplying the converters next to it. The meter is switchable into any HT line. Shortly to be added to the station equipment is a wide-coverage preselector. The aerial is an end-fed long-wire, and does duty on all bands.

R.F.H. has also provided himself with a work bench, which is to the left of the operating table and out of the photograph. His main interests are DX listening, TV reception and constructional work, though at the moment activities are somewhat limited due to studies.

VOLUNTARY TRAINING OF R.A.F. CLASS "G" RESERVISTS

During the training of Royal Air Force Class "G" Reservists last year, a number expressed their willingness to come forward for a fortnight's additional training this year if allowed to do so. The Air Ministry are most anxious to encourage any volunteers from the Class "G" Reserve provided they are of the branches and trades which are being called this year and which are as follows:—

Officers: Fighter Controller, Radar Supervisor.

Airmen: Radar Operator, Wireless Fitter

(G), Radar Fitter.

Applications, giving name, service number and address, should be sent in the case of officers to Under-Secretary of State for Air, Air Ministry D.P.10, Adastral House, Kingsway, W.C.2; and in the case of airmen to Air Officer Commanding, R.A.F. Record Office (9 Division), Royal Air Force, Gloucester.

As the attendance of these volunteers will, in many cases, affect employers, it is imperative that they obtain the consent of their employers before applying.

PSE QSL

The operators listed below have informed us that they would like SWL reports on their transmissions, in accordance with the details given. All correct reports will be confirmed by QSL card. To maintain the usefulness of this section please make your reports as comprehensive as possible.

- CE4AD Casilla 336, Talca, Chile. VFO-controlled 14 mc CW, 0001-0300 GMT.
- CN8FN Box 28, Casablanca, Fr. Morocco. 3, 5, 7, 14 and 28 mc phone and CW, 1800-2359 GMT.
- CR6AJ Adelino Santos, C.F.B., Nova Lisboa, Angola. 7, 14, 28 mc phone, 1130-1230 and 1800-2359 GMT.
- DL6RO } Kirchenlamitzerstr. 22, Schwarzenbach/
DL6RQP } Saale, Bavaria, Germany. 144-138, 144-2475, 144-6 and 145-8 mc phone and CW, 2000-2300 GMT. Details QSB and Wx.
- DL6XC Karl Schetter, Luern, Unna/Westfalen, Germany. 3-5 and 7 mc phone and CW, 1200-1330 and 1900-2330 GMT.
- DL9CB Heubingstr. 22, Hagen/Haspe, Germany. 3, 5, 7 and 14 mc phone, 1700-2100 GMT.
- E14E Avenue House, Countess Road, Killarney, Co. Kerry, Eire. 7 mc CW, 1900-2300 GMT and weekends. Details of QSB; style of sending.
- E17E 16 St. Albans Road, South Circular Road, Dolphins Barn, Dublin, Eire. 7 and 14 mc CW, at 1830 and 2230 GMT.
- F8TR 29 qual J. J. Delorme, St. Aignan sur Cher, Loir-et-Cher, France. 7050 kc CW, 7100 kc phone; 0700, 1215, 1730 and 2030 GMT. Condx.
- G2BJN 28/29 Church Gate, Loughborough, Leics. 3-5 and 7 mc CW, 0730-0845 and 1830-2200 GMT. Reports from N. America and outside Europe.
- G3GOF 7 Creighton Road, Millbrook, Southampton. 145-4 and 436-2 mc phone and CW, 1900-2300 GMT. Reports over 50 miles for 145-4 mc.
- G3HDA 128 Sutton Park Road, Kidderminster, Worcs. 3-5, 7 and 28 mc phone and CW, VFO.
- G3HYJ 15 Hillside Road, Thorpe, Norwich, Norfolk. 1-7, 3-5, 7 and 14 mc CW, 1900-2100 GMT and weekends. Stability; clicks, chrp; harmonics.
- HAS5P Bartalc Bela Street 41.I.B.ap., Budapest XI, Hungary. 1-75, 3-8, 7 and 14 mc QRP phone and CW, 2000-2359 GMT.
- HBI1L } Hanrose 25, Zurich 55, Switzerland. 14020-
HB9EL } 14040 kc CW, 1800-2000 GMT. Comparative reports.
- LA8P E. Pedersen, Fagernes, Narvik, Norway. 3-5, 7 and 14 mc phone and CW, 0900-1300 and 2200-0300 GMT.
- LZ1KAB P.O. Box 830, Sofia, Bulgaria. 7, 14 and 28 mc CW, 0500-1000 and 1400-2000 GMT.
- OZ7BM Ingemannsvej 37, Viby fylland, Denmark. 7 mc phone, Saturday 1400-1700, Sunday 1100-1500 GMT.
- PA0JI Sternstraat 5-B, Rotterdam, Holland. 3-5 mc phone and CW, 1800-2200 GMT. Modulation.
- PY3DZ P.O. Box 1111, Porio Alegre, Rio Grande do Sul, Brazil. Reports on 14 and 28 mc phone.
- SM3ZF Karl Svensson, Visge, Sweden. Reports required on 50-5 mc phone.
- SMSAFU Hornsgatan 51.III, Stockholm, Sweden. Reports on 3-5, 7 and 14 mc CW.
- SMSANY Observatoriegatan 2-A/4, Stockholm, Sweden. Reports on 3-5, 7 and 14 mc CW.
- SMSBJD Ymsenvaegen 5, Johanneshov, Sweden. 7 mc CW, 1900-2200 GMT, Sundays 0600-1400 GMT; 14 mc CW, Sundays 0300-0600 GMT.
- SP2KGA ul. Kopernika 18, Gdansk, Poland. 7 and 14 mc phone and CW.
- VE2AKP 877 Outremont Street, Outremont City, Montreal, Quebec, Canada. 7 and 14 mc CW and phone. Speech quality and modulation.
- VE3WY T. C. Wylie, R.R.1, Glencoe, Ontario, Canada. 3-5, 4, 7, 14 and 28 mc phone and CW, 0400-0800 GMT.
- VESKR 405 Duffield Avenue, Moose Jaw, Sask., Canada. VFO, all bands, phone and CW, 0900-1300 and 2200-0300 GMT.
- VE8DE L.A.C. Sullivan, W., R.C.A.F. Station, Whitehorse, Y.T., Canada. 3-5, 7 and 14 mc CW and phone. Modulation; DX heard calling VE8DE.
- VK2AMB 31 Murdoch Street, Cremorne, N.S.W., Australia. 14 mc phone and CW, 0600-1100 and 1400-1600 GMT. Also 7 mc phone and CW.
- VK2OW 157 de Boos Street, Temora, N.S.W., Australia. Reports on 14 mc CW.
- VK3ACW C. Welch } Bank Street, Avenel, Victoria,
VK3IJ } D. Twigg } Australia. Reports on 14 mc phone and CW, 0700-1400 GMT.
- VK3XU 73a Gingell Street, Castlemaine, Victoria, Australia. 14 and 28 mc phone, 0600-0900 and 1200-1600 GMT.
- VK7SA C. H. A. Armstrong, South Arm, Tasmania, Australia. 14 mc phone, 0600-0800 GMT.
- VQ5CK Box 162, Kampala, Uganda. 14 mc phone and CW, 0500-0600 and 1600-2200 GMT.
- W1NY 16 Ripley Street, Wilbraham, Mass., U.S.A. 3508 and 14034 kc CW, 2300-2359 GMT.
- W2CMK 3 Normandie Place, Cranford, New Jersey, U.S.A. 14 mc CW, 1145-1230 GMT.
- W2EQS 48 Prospect Avenue, Westwood, N.J., U.S.A. 1-8, 3-5, 7, 14, 28 mc CW; 1-8, 28 mc phone.
- W2KAK 2621 Burriss Place, Union, N.J., U.S.A. Reports on 3-5, 7 and 14 mc phone and CW.
- W2LMB 622 Overton Place, Long Branch, N.J., U.S.A. 3970 kc phone, 2330-0130 GMT.
- W3FXT 444 Harmon Road, Philadelphia, Pa., U.S.A. Reports required on 14 mc CW.
- W3LXE 37 South 6th Street, Indiana, Pa., U.S.A. Operating all bands, phone and CW. Quality.
- W3NNX 1306 East 36th Street, Baltimore, Md., U.S.A. 14, 27, 28 mc phone, 1600-1900 GMT.
- W3NXV 1203 25th Street Ext., Beaver Falls, Pa., U.S.A. 3-5, 7, 14 and 28 mc phone and CW, after 0500 GMT and week-ends.
- W3PQR 549 Farnsworth Avenue, Clairton, Pa., U.S.A. VFO-controlled 14 and 28 mc phone.
- W4COW 412 Harrison Street, Portsmouth, Va., U.S.A. 3835, 14204, 14250 and 14298 kc phone.
- W4SLH 84 Robin Hood Road N.E., Atlanta, Ga., U.S.A. 28 mc phone, operating 1400-1800 GMT.
- W9CNW } D. C. Miller, RFD.1, Waldron, Ind.,
W9NTP } U.S.A. 4, 14 and 28 mc phone and CW.
- ZC4MH M. W. Heffernan, Box 451, Nicosia, Cyprus. 14 mc phone and CW. Modulation quality.
- ZD2HAH H. Hearl, P. and T. Dept., Ikela Airport, Ikela, Lagos, Nigeria. 14 mc CW, 0600-0800, 1600-1800 and 2200-2359 GMT.
- ZE2JO H. Collard, Box 37, Causeway, Salisbury, S. Rhodesia. 14020 and 14050 kc CW, 1800-2200 GMT., Sat. 1300-1500, Sun. 0900-1200 GMT. Comprehensive reports, especially from GI, GM, GW.
- ZE2KZ A. Wilson, Paisley Road, Kopje P.O., Salisbury, S. Rhodesia. 14 mc phone, Sat. 1300-1500, Sun. 0900-1200 GMT. Comprehensive reports, especially from GI, GM and GW.
- ZS2VF 46 Paul Kruger Avenue, Kensington, Port Elizabeth, S. Africa. 14 mc phone and CW, 1600-2200 GMT. Also 28 mc phone and CW.
- ZS6AFN 12 Merriman Avenue, Highlands North Ext., Johannesburg, S. Africa. 14 and 28 mc phone and CW, 1600-2200 GMT.
- ZS6ZO 36 Cambridge Avenue, Craighall Park, Johannesburg, S. Africa. 1-8, 3-5, 7, 14, 28 and 50 mc phone and CW, 1700-2100 GMT and weekends.

THE V H I F END

by A. A. MAWSE

SEO or CC, and Choice of IF—

Station Reports and News—

Calls Heard and The Tables—

THERE are still many VHF listeners (and transmitters) who fail to realise that the most important part of a 2-metre converter is the input end. If the input stage is well designed, it does not matter much (within reasonable limits) what happens after. Your conductor is driven to say this because twice during the past month, once over the air and once in a letter from a correspondent, has he encountered a statement that a change from a self-excited oscillator to a crystal controlled line-up in a converter has improved its capabilities of picking up weak signals. If this is really so then it would appear that there was something very faulty with the SEO. Admittedly, if such an oscillator is unstable, or modulated with AC then the readability of signals may be reduced, but there is no need for an SEO to suffer from these faults. Given a well designed and constructed circuit and a stabilised HT supply there is very little to choose between an SEO and CC. With crystal control the oscillator frequency is, of course, fixed and tuning is effected by varying the IF. It is desirable that no harmonics, overtones, images, and so forth of the oscillator frequency should appear in the IF band in use, and this means careful calculations beforehand. It is also essential that there should be no break-through at the intermediate frequency, and that means adequate screening of the IF amplifier and careful design of the converter. Signals at IF sometimes get through the neutralising condensers when push-pull 6J6 stages are in use and can be troublesome. From this it may be realised that CC in the converter is not necessarily the end of all troubles. And it may be as well to remember the possibilities of TVI when choosing the crystal frequency! Make sure none of the stages tune in the local TV band and, if possible, that no harmonics of the crystal fall in that part of the spectrum.

The SEO type of converter has the advantage of greater flexibility, and if break-through is

occurring a slight change of IF can be made to dodge the trouble. On the other hand, stability is not likely to be sufficiently good for a really accurate frequency calibration to be made, and if a weak signal fades out one feels an urge to start searching for it just in case the tuning has drifted! None of these points however affect the *signal-to-noise ratio* of the converter and that is what decides its efficiency.

The actual choice of IF in either case is largely determined by the performance of the receiver to be used as the IF amplifier. It should, however, be remembered that the use of a low frequency means that the oscillator and signal frequencies are very close and unless there is very complete screening oscillator volts may be injected into the RF input of the converter with a consequent reduction in signal-to-noise ratio. The oscillator frequency must, therefore, be sufficiently removed from signal frequency to avoid any appreciable acceptance by the RF input tuned circuit.

This is particularly important where broadly tuned RF stages are employed. Frequencies of the order of 8 to 10 mc are often satisfactory but in some cases it may be advisable to use higher than this and 28 to 30 mc is often chosen.

Around the Stations

With conditions generally failing to come up to the standard of February and somewhat of a lull in activity, reports are few this month. Several of our regular correspondents have, in fact, missed out this time. As your conductor writes this snow is falling fast and a north-east gale threatening to wreck his beam, so perhaps it is too much to expect any two-metre DX.

A. H. Edgar (Newcastle-on-Tyne) has been finding things rather brighter up in the north during the past two months. With his beam outside he has been hearing the Lancashire stations quite well. G2OI and G3A00 in that county provided him with new signals. His counties total so far this year is five. His best DX has been G2XS (Mansfield) while G5YV (Leeds) has been heard on phone working DX. Locally G2FO and G3DMK have provided signals on which A.H.E. has been able to make comparative tests on his loft and outdoor aerials. The latter is definitely superior.

VHF CALLS HEARD

W. C. Askew, 2 Burrough Road,
Somerset, Melton Mowbray,
Leics.

G2BFT, 2BN, 2BUJ, 2COP, 2FJR,
2FNNW, 2FZU, 2HCG, 2HIF,
2HOP, 2UQ, 3ABA, 3BK, 3BLP,
3CGQ, 3CXD, 3DJQ, 3DUP,
3EEL, 3EGE, 3EHY, 3ELI, 3FFC,
3FGT, 3FUW, 3GHI, 3GUD,
3GWB, 3GZM, 3HAZ, 3IAI, 3VM,
3WW, 4FO, 4HT, 5ML, 5RW,
5SK, 5YV, 6NB, 6YU, 8DV/A,
8GL, 8KH, 8QK, 8QY, 8SY,
GW2ADZ. (Rx: 6/6 Converter
into Commander; 4-element Yagi,
650 ft a.s.l. February 22-March 21.)

A. H. Edgar, 15 Dene Terrace, South
Gosforth, Newcastle-on-Tyne, 3.

Phone and CW: G2BCY, 2FO,
2OI, 2XS, 3A0O, 3DMK, 3EGF,
5YV, 8SB. (Rx: 6/6, 6/6, 2 x 955
into S640, 4-element vws. Yagi 7 ft.
above roof. All heard February-
March.)

A. W. Blandford (Mitcham) found the band open as far as Northampton, Cambridge, Portsmouth and Somerset on a few occasions, but, in general, heard little that he could describe as startling. However, he is expecting some good DX to be coming along soon. 70 cm stations are often heard, and he has recently overhauled his Yagi for that band as well as putting up his closed-spaced job for two metres on a 32-ft. pole.

R. W. Thomas (Clapton) who is ex-D2IP, has just made his debut on Two. He has built his converter out of bits and pieces from two RF26 units. Initial tests were with a 2-element close-spaced beam, but a 3-element Yagi has since come into use. L. A. Whitmill (Harrow Weald) found conditions fairly good, particularly at the end of February, but activity has he feels been poor. He has not heard an ON or a PA for months and is yearning for the summer and some real DX.

P. J. Towgood (Bournemouth) has been somewhat indisposed but managed a little listening from time to time. He lists March 20, 21 and 24 as the worst of the evenings encountered. What signals there were on those evenings were most unstable, and at times no signals at all were audible. His best nights were March 11 and 13. On the former date there were very stable paths to London and Kent, and at the same time northern signals including G5YV were coming through. On the 13th conditions were definitely favouring northern stations, and all signals from the east of Northants were unstable. G5YV, on phone, was perfectly steady for long periods. Amongst other evenings he mentions March 7 and 18 as not completely fruitless but unreliable.

L. A. Whitmill, 762 Kenton Lane,
Harrow Weald, Middlesex.

G2AHP, 2AIW, 2BN, 2BZ, 2DUS,
2FTS, 2HCG, 2HDZ, 2HIF, 2MQ,
2XC, 2YC, 3BNC, 3BVG, 3CVO,
3DIV, 3DUP, 3ENI, 3FAN, 3GBO,
3GHI, 3GMZ, 3GOP, 3HBN,
3HBW, 3HCU, 3HSC, 3MI, 3WW,
4HT, 4MW, 5LK, 5TP, 5UF, 5YV,
6AG, 6GR, 6NB, 6QN, 6RH, 6TA,
6YU, 8DV/A, 8IL, 8LN, 8OU,
8SM, GW2ADZ. (Rx: 6/6 pre-amp.
into RF27 modified into S640.
Aerial 5-element Yagi fed with 80
ohm coaxial. February 26-March
25.)

J. Jones, 85 Weald Square, Clapton,
London, E.5.

Phone: G2AIW, 2BRR, 2BZ,
2FVD, 2MV, 2WJ, 3BLP, 3DUP,
3ECA, 3FZL, 3GSE, 3HBN, 3WW,
5DT, 5UM, 6AG, 6CB, 6NF, 6RH,

6YP. (Rx: RF27 into S640 at 7-7
mc. 3-element c/s Yagi—300 ohm
ribbon 20 ft. high, block of flats.)

H. J. Balsam, 38 Wantage Road,
Didcot, Berks.

Phone: G2AOK/A, 2AVR, 2BN,
2BUJ, 2BZ, 2FNNW, 2FQP, 2FTS,
2FVD, 2HCG, 2HDZ, 2HIF, 2LW,
2MM, 2MQ, 2MV, 2PU, 2TP,
2WJ, 2XC, 2XV, 2YB, 3ABH,
3ASG, 3BK, 3BLP, 3BNC, 3CCP,
3CGQ, 3CJY, 3DUP, 3EDD,
3EHY, 3EJA, 3FAN, 3FGT,
3FUW, 3FSD, 3FZL, 3GHI,
3GHO, 3GOP, 3HAB, 3HAZ,
3HBW, 3VM, 3WW, 4AP, 4GR,
4HT, 4SA, 5BM, 5HB, 5LJ, 5ML,
5TP, 5YV, 6AG, 6GT, 6JK, 6KB,
6OH, 6RH, 6TA, 6XY, 6YP, 8DM,
8DV/A, 8IL, 8OU, 8SY, 8VZ,
GW2ADZ. (Rx: 12AT7 RF/Mix
12AT7 C.C. osc. into a Commander.
Antenna 4 over 4, 28 ft. high.
Heard February 25-March 24.)

H. J. Balsam (Didcot) has been finding activity improved and conditions fair, while W. C. Askew (Melton Mowbray) also has found things rather better than usual. His calls heard list, which covers four weeks including the good spell at the end of February, shows 19 counties heard.

In Conclusion

Lists of calls heard on the VHF Bands are always acceptable and are certain of appearance, provided certain simple rules are followed. One of these rules is that they should be on a separate sheet of paper and not in the middle of a letter! Most of the other rules are embodied in the fact that they should be set out in the form in which such lists appear in this column. Special forms to assist in the compiling of lists can be obtained free of charge on request.

Next month's letters, reports and all your VHF news should be sent to A. A. Mawse, *Short Wave Listener and Television Review*, 55 Victoria Street, London, S.W.1, to arrive by April 23 at latest.

BROADCAST RECEIVING LICENCES

Approximately 12,687,000 broadcast receiving licences, including 1,386,000 for television, were current in Great Britain and Northern Ireland at the end of February 1952. For the second month in succession the number of television licences has increased by more than 100,000.

Motorists are reminded that they need a separate broadcast receiving licence for a wireless set fitted in a car.

Swiss DX Contest

MAY 1952

THE Swiss Short Wave Service is running a world-wide amateur DX Contest over the 24-hour period May 6-7. There will be prizes, and souvenirs for all comers. The date has been chosen as giving, for all concerned, just about the best listening time, when conditions should be good.

This Contest is being run in conjunction with all transmissions of the DX Programme of the Swiss Short Wave Service, as given in the Table herewith. These wavelengths and frequencies will be in operation from May 1 onwards.

Form of the Contest

The Contest itself is a mixture of Broadcast and Amateur Radio—it is described as a "world-wide multiplex." Three stations will be operating in Switzerland, listening in the 20-metre amateur band; their call signs and exact frequencies are secret. Shortly after the Swiss Short Wave Service DX Programme begins, in each transmission on May 6-7 (see Table) a start signal will be given after an announcement and explanation from the studio.

It will then be for the amateurs taking part to contact one of the three Swiss stations on 14 mc. The amateur who is first to raise any one of the three stations is the winner for that transmission.

To make the Contest as fair as possible for all comers, entrants are divided into two categories: Those within 1,865 miles of Switzerland, and those outside this radius. All contacts will be timed and the results for each transmission announced during the course of the DX Programme.

Prizes are to be awarded for each category in each transmitting period, but there is no zone limit apart from the distance. In other words, an amateur living in Canada can take part in the Contest included in the programme transmission to Great Britain, while an operator in Sweden can be in the race with the New Zealanders. However, a prize won in an earlier transmission automatically disqualifies the winner from taking part in later ones, although second men in and all others are, of course, eligible to try again. A point here is that before the Contest takes place it will be up to the amateurs taking part to find out which transmission of the Swiss Short Wave Service comes in best in their particular locality. For this purpose, programme schedules of the Swiss Short Wave Service can be obtained on request (address below).

Logs and Reports

A special prize will be given for the best report sent in, judged on neatness, accuracy and detail. Transmitting logs should be forwarded to: DX Editor, Swiss Short Wave Service, Neuengasse 23, Berne, Switzerland, to arrive not later than May 31. Full results will be read out in the June DX Programme.

SWISS DX CONTEST SCHEDULE

MAY 6-7, 1952

U.K. and Ireland	(Tuesday)	1905 GMT	HEU3	9665 kc	31.04 metres
			HER2	6055 kc	49.55 metres
North America I	(Wednesday)	0150 GMT	HER3	6165 kc	48.66 metres
			HEI3	7210 kc	41.61 metres
North America II	(Wednesday)	0335 GMT	HER4	9535 kc	31.46 metres
			HEU3	9665 kc	31.04 metres
			HER5	11865 kc	25.28 metres
			HER5	11865 kc	25.28 metres
E. Australia & New Zealand		0735 GMT	HER5	11865 kc	25.28 metres
W. Australia & Far East	(Wednesday)	0920 GMT	HER6	15305 kc	19.60 metres
			HER7	17784 kc	16.87 metres
South-east Asia & Japan	(Wednesday)	1305 GMT	HER6	15305 kc	19.60 metres
			HER5	11865 kc	25.28 metres
			HER7	17784 kc	16.87 metres
India & Pakistan	(Wednesday)	1505 GMT	HER5	11865 kc	25.28 metres
			HER7	17784 kc	16.87 metres
South Africa	(Wednesday)	1505 GMT	HER6	15305 kc	19.60 metres
Middle East	(Wednesday)	1705 GMT	HER5	11865 kc	25.28 metres
			HED7	15120 kc	19.84 metres

Are YOU a Member of the British Short Wave League?

WORLD WIDE RECEPTION OF SHORT WAVE PROGRAMMES

DX *broadcast*

MONTHLY COMMENT BY R. H. GREENLAND, B.Sc.

WE have lately received from the Burma Broadcasting Service, Rangoon, a verification card for their broadcasts around 1500. They have three transmissions daily as follows:—0100-0230: 9540 kc; 0530-0730: 9540 kc, 6035 kc; 1200-1515: 9540 kc, 4775 kc. The English programmes are at 0115-0130, 0615-0645, 1415-1515. In February, 1946, broadcasting in Burma was handed over by the British authorities to the Civil Government; now, the aim and objects of the Burma Broadcasting Service are to carry out its responsibility to the country in political, cultural, educational and religious fields. Both the technical and the programme staff are under the control of the Director, U Khin Zaw. The BBS is still using the three transmitters left behind by the Psychological Warfare Division of SEAC; for short wave broadcasts, the two 7.5 kw short wave Marconi transmitters are being used. The studio is housed in a residential building on Windermere Crescent, Rangoon, and it is so small that it is only possible to have one big studio for "live" musical items.

The Control Room Desks are equipped with Marconi OBA Type 8 Mixers, while recordings are taken with the three CB Duo Speed MSS Recording Machines on MSS and Presto discs. As to the future, plans are already under way for the purchase of more powerful short and medium-wave transmitters and for the construction of a proper Broadcasting House.

External services will then be established to provide entertainment for BBS listeners all over the world.

Australasia

VLB9, 9580 kc, has improved of late for its morning transmission to the United Kingdom. On February 26 at 0815 there was an interesting talk on Australian exhibits to be seen at the Colombo (Ceylon) Trade Exhibition, and on February 29 at 0745 the Acting Registrar gave an impressive account of the University of Western Australia at Perth. With over 2,000 students, this university is, perhaps,

unique in that there are no lecture fees, and each student pays only a very small amount each year towards general expenses.

VLA11, 11760 kc, is perhaps best heard around 2142½ when the time is given as "17½ minutes to eight." With a News following at 2145, the announcer says: "We welcome now Kure and the subsidiary station Iwat-Kure." These are Commonwealth broadcasting stations in Japan.

Australian DX'ers over VLB9 can usually be heard on Sundays at 0700. On March 9 we listened to the voice of Cleve Costello introducing the well-known SWL Arthur Cushen of Invercargill, New Zealand (recorded by Radio New Zealand on the previous Tuesday).

Arthur Cushen mentioned reception of more than 1400 short wave stations, some of which, of course, have been amateurs.

New Zealand itself was logged over ZL2, 9540 kc, with a dramatic feature between 0730 and 0800 on February 29.

Asia

"Australian DX'ers Calling" gives the news that BED21, 9335 kc, on the island of Taiwan, has been testing between 0830 and 0915 with the following English announcement at 0830 and 0900: "This is Station BED21 on the air testing." J. C. Catch (South Shields) offers YDF, Djakarta, Indonesia, 6046 kc, with a foreign News at 2330, and B. Mercer (Hulme, Manchester) gives CR8AA, Emisora de Goa, Portuguese India, still audible on Sundays at 1530 with "Bringing Christ to the Nations" over 9610 kc. B. M. says that a "Voice of America" transmission almost blots it out at 1600, but he has been able to submit a report which has been verified by registered Air Mail within 14 days. It has since been reported that Goa has an English broadcast at 0730-0930 over 17890 kc and that reports are requested, but we have not managed to log this one so far.

The British Far Eastern Broadcasting Service, Singapore, has been logged by us on 17755 kc, closing at 1645 with the playing of "God Save the Queen." "Australian DX'ers"

ALL TIMES GIVEN IN THIS ARTICLE ARE GMT EXCEPT WHERE STATED

announces that BFEBS has replaced its 15300 kc channel by 15435 kc which it uses from 0915 to 1415 and from 1600 to 1630. J. C. Catch provides the short wave news from India. VUD2, New Delhi, 3495 kc, was noted with native music at 1645; and another, probably VUD3, 442 kc, was logged at 1645.

In Madras, VUM2, 4921 kc, is often audible at 1630 with a programme of native music.

FXE, Beirut, Lebanon, 8037 kc, has been heard with Western dance music at 1740; after an Arabic direction at 1745 there came Arabic songs with a female singer. Radio Iraq, Baghdad, 11724 kc, has the following schedule: 0430-0600, 0930-1100, 1330-2000; our experience is that it is not often a very strong signal for its English transmission at 1915.

Africa

J. C. Catch hears the Omdurman station in the Sudan on 9735 kc broadcasting an Arabic programme at 1830; it announces "Hoona Omdurman." We again listened to its weekly English broadcast on Friday, February 29 at 1730, when the opening announcement informed us that the programme was being radiated on short waves over 30-78 metres and 40-90 metres. Is the latter a new frequency or did we mistake the reading? The talk at 1745 was by Bob Matthews, script writer and camera man of the Sudan Film Production Unit. We learnt how this feature had been built up since 1950 when all initial attempts at film-making were entirely connected with local government work. Since those days there have been numerous experiments in field work both with black and white and with colour films, but inevitably, during the period of the exposure there is some native who needs must stand right in front of the camera. J. C. C. again mentions the new 20-kW trans-

mitter of Radio Clube de Angola at Luanda, whose frequency has been measured as 11861 kc and has been noted operating after scheduled sign-off time of 2030 (Saturday).

B. Mercer says that Cairo, Egypt, 9715 kc, was a *terrific* signal with News in English at 1900; he adds that they now verify recent reports by letter. He also heard Accra, Gold Coast, 4915 kc, at very fair strength, between 1730 and 1800, and he has lately received from this station a QSL letter.

According to Graham Hutchins (Radio Australia), Radio Addis Ababa, The Voice of Ethiopia, operates in parallel between 1600 and 1810 (or 1815), when it closes down on frequencies of 6422 kc and 9624 kc; in the 19-metre band, ETAA, 15047 kc, is on the air from 1630 to 1915.

We logged this one at 1740 with a broadcast of native music. On March 15, between 2315 and 2345 we logged (with difficulty) the elusive ELB1, Monrovia, Liberia, radiating a programme of dance music; after a brief announcement at 2345, the station closed down with the Liberian National Anthem; the frequency was slightly higher than 6025 kc.

According to *Swedish DX*, Radio Tananarivo, Madagascar, still broadcasts two distinct transmissions simultaneously. (See "DX Broadcast," May, 1951.) A French transmission operates over 3205 kc, 6172 kc and 9515 kc, and one in Malgache (the native tongue) is radiated on 7374 kc and 9693 kc. The best time for reception in the United Kingdom would be afternoons around 1400 to 1530.

The East Africa Command Forces station now operates from Nairobi (and not MacKinnon Road) on 7265 kc with a power of 250 watts.

The schedule is:—Weekdays, 0300-0500, 0930-2000; Sundays, 0400-2000; and the

TABULATED SCHEDULES

I. Radio Canada

Canadian Broadcasting Corporation

CKNC, CKLX	European Service.	1300-1405.
CKNC, CKCX	European Service.	1305-1630.
CKNC, CKCS	European Service.	1630-2015.
CKCS	European Service.	2015-2030.
CKCS, CHOL	European Service.	2030-2045.
CHOL	European Service.	2045-2100.
CHOL, CHLR	European Service.	2100-2200.
CHOL, CKLO	European Service.	2200-2330.
CKLO, CKNA	Australian Service.	0840-0950 (Sundays and Wednesdays only).
CHOL, CKLO	Caribbean Service.	1850-2240.
CKLO, CKOB	North-West Territories Service.	2315-0005 (Sundays only).
CKNC, 17820 kc;	CKCS, 15320 kc;	CKCX, 15190 kc;
		CKLX, 15090 kc;
		CHOL, 11720 kc;
		CHLR, 9710 kc;
		CKLO, 9630 kc;
		CKOB, 6090 kc;
		CKNA, 5970 kc.

Reports to be sent to: Engineering Department, P.O. Box 6000, Montreal, Quebec.

II. The British Far Eastern Broadcasting Service, Singapore

6175 kc, 0930-1115; 7120 kc, 1130-1245; 1300-1630 (Sundays, 1645); 9690 kc, 0915-0930, 1130-1245, 1430-1530; 11955 kc, 0915-0930, 1130-1145 (Sundays, 1645); 17755 kc, 0900-1145, 1300-1630 (Sundays, 1645). News in English is at 0915, 1100, 1300 and 1600. A programme of Home News from European countries for their Forces in Korea can be heard daily, 0900-0915 on 15300 kc and 17755 kc.

address for reports is P.O. Box 4040, Nairobi, East Africa.

On March 18 we logged Lourenço Marques at S9 with fox-trots, the frequency being 15287 kc. Tangier (Voice of America), 6085 kc, gives a good feature by Philip Nourse entitled "The American Bookshelf," between 2200 and 2215 on Wednesdays.

North and Central America

In Canada, CKLX, 15090 kc, has been logged at 1345 when working in parallel with CKNC, 17820 kc. Listeners were asked to send their comments and suggestions to the Canadian Broadcasting Corporation, Box 7000, Montreal, Canada.

On March 2 we listened to the 1915 Sunday feature: Radio Amateurs' Programme over WABC, 15270 kc. Bill Leonard, W2SKE, introduced this fascinating American Radio Relay League programme; later, José Koledo, KP4HZ, of San Juan, Porto Rico, was interviewed in connection with "Ham" work on that island.

HROW, Radio Monserrat, Tegucigalpa, Honduras, has been heard with popular Latin-American songs on 6675 kc at 0035 by B. Mercer. At 2215 we have heard HOLA, HOLA, 9505 kc, with a variety broadcast in English; gongs preceded the direction given at 2230, which is: "This is HOLA in Colon, Republic of Panama." In Nicaragua, it is understood that Radio Mundial is back on 6465 kc until as late as 0400 daily (Radio Australia). TGWA, La Voz de Guatemala in Guatemala City, was loud and easily identifiable with its marimba music heard over 15170 kc at 2215; the direction in Spanish was given at 2220.

J. C. Catch offers HI8Z, Cadena Nacional, Santiago, Dominican Republic, operating between 5028 kc and 5031 kc, and heard on several occasions around midnight, our time. B. Mercer hears the other Santiago D.R. station on 9680 kc with the call "HI2A, La Voz de Releccion" at 0215. He has logged ZQI, Kingston, Jamaica, on 3360 kc, with a Sports discussion at 0130. On the island of Cuba, COBZ, Havana, 9025 kc, has been audible between 2145 and 2200 with a sponsored Spanish programme.

South America

In Uruguay, the "star" station is still CXA19, El Espectador, Montevideo, on 11835 kc, which gives this announcement at 2200: "You are going to listen to the News bulletin for 7 p.m."

The actual News to which this refers is given in the Spanish language only. Another Uruguayan is CXA30, 6035 kc, which has been logged here with dance music with an English flavour around 2215.



Clive Costello presenting his own feature "This Radio Age" over Radio New Zealand, at 0915 GMT on the first Tuesday of each month. He would like reports on these transmissions from readers of "DX Broadcast."

Both J. C. Catch and B. Mercer deal with PZH5, Paramaribo, on 5759 kc. J. C. C. logged it at 2330 on a Saturday with a re-broadcast of the American "Hit Parade"; B. M. says that on January 26 at 0130 they announced that as from February 2, 1952, PZH5 would be broadcasting in English and Spanish, but no specific times were quoted. B. M. has also logged a comparative stranger in HCAS4, La Voz de Caraquez, Bahia, Ecuador, operating on a channel of 4202 kc and varying from poor to excellent signals night by night. B. M. writes: "Incidentally, all Ecuadorean stations now have the number at the end of the call-letters and not as before after the prefix HC."

J. C. Catch has been hearing ZFY, Georgetown, British Guiana, 5981 kc, with a sponsored programme around 0001. Note his remark about AFY: "The only English-speaking station on the South American Continent," implying, of course, that this is the language used as a medium for everyday conversation. J. C. C. also gives YVRA, Radio Monagas, Maturin, Venezuela, on 3492 kc, logged around 2330, and LRY, Buenos Aires, Argentina, 9452 kc, noted at 0030 with three ascending vibraphone chords and the identification "Radio Belgrano." A new Venezuelan bearing the call-letters YVQV and located at Carutano occupies the 3320 kc channel and can be heard at 0300 (Arne Skoog, Stockholm).

B. Mercer's Brazilians include PRB9, Radio Record, Sao Paulo, on 9505 kc, heard

recently with excellent signals around 0030; and PRL7, Radio Nacional, Rio de Janeiro, 9720 kc, heard at 0250 with sambas and at 0300 with Portuguese News and S9 signal.

J. C. Catch mentions two comparatively new Brazilians at Sao Luiz in the State of Maranhao. These have been heard around 2130 and are ZYM8, Radio Ribamar, on 4786 kc, and ZYY9, Radio Timbira, on 4976 kc.

Europe

The Swedish DX broadcast is now given as follows: Fridays, 1515, 11705 kc; 2230, 11705 kc; Saturdays, 0715, 6065 kc.

Nordwestdeutscher Rundfunk, Hamburg, is on the following schedule: 7290 kc, 0400-1550, 1551-0000; 11795 kc, 0500-1550, 1551-0000; 15275 kc, 0400-1000, 1100-0000; 17815 kc, 1820-0000; 17845 kc, 0400-1800. It is reported that the Greek Armed Forces station is using 3720 kc in parallel with 6340 kc on the following daily schedule: 1500-2200; J. C. Catch tells us that CSA92, Ponta Delgada, 11092 kc, can be heard at fair strength nightly from 2000 to 2100.

All our readers know that the Swiss Short Wave Service is a live-wire concern, always coming forward with new plans for making listening worth while; you will probably read elsewhere of their May competition for active transmitting amateurs! The Swiss transmitting centre at Schwarzenburg has in its 15 years of existence become an immense network of 10 rhombic aërials surrounding an ultra modern station with 10 transmitters. In the transmitting shack which is L-shaped, there are two main halls. The 10 transmitters are located on the ground floor; below are the machine rooms including those for filament heating as well as the high-tension rectifiers for grid bias and for anode voltages for the transmitters, as well as the water-cooling system which uses the rainwater caught by the roof. All antenna and transmitter lines are interchangeable, so that any transmitter can be switched to any antenna. The 10 rhombic antennæ beam the overseas programmes of the Swiss Short Wave Service to distant countries. These antennæ can be reversed, so that, for example, the beam fixed on Winnipeg can also be used for North-East Africa. Beam direction can be very simply changed by bringing the feeder line to one or other of the opposite points on the longer axis of the rhomboid. The average height of the antenna masts is 25 metres, which provides the required 10 deg.-20 deg. angle of the field. If the mast is shorter, the angle is proportionally greater, while, if the mast is higher, the angle decreases.

The Swiss Short Wave Service has set about reflecting daily life in Switzerland, talking of its industries, its sports, its mountains and its

politics—not in a bombastic “I told you so” manner, but coolly, calmly and objectively. There are classical concerts, request programmes, outside broadcasts and the like, and up-to-date News commentaries complete the mosaic of the Swiss Short Wave Service’s programmes.

Still in Switzerland, the United Nations Information Centre at Geneva broadcasts Monday to Friday over 6672 kc (7625 kc also reported by Swedish DX) with Information in English at 1830 and in French at 1845. Signal strength is usually approaching the S9 mark.

R. Stocks (London, N.1) has been listening in the small hours to Latin-American stations on the medium waves, and comments particularly on Rio de Janeiro, though he does not give the frequency. With the advent of spring, it is expected that these conditions will soon no longer apply, for such remarkable reception on medium waves (6,000 miles) appears to depend on the fact that there is darkness at both ends and throughout the path linking the transmitter and reception stations.

A. Aitchison (Letchworth, Herts) has little place for foreign stations which do *not* use English announcements; his contention is that the average reader would like to read more about those stations which present definite English programmes. (May we say that we have endeavoured to offer these in our Tabulated Schedules section.)

Since the foregoing notes were written, we have received another large batch of letters, the contents of which are here appended.

V. E. T. Hovell (Great Dunmow, Essex) writes to tell us that he is in regular correspondence with Colombo and gives their schedule: 15120 kc, 7190 kc, 11975 kc, 0145-0730, 1330-1645, and recommends their Government Tourist Bureau programme on Sundays at 1500. He also hears HCJB on 1511 kc from 2100 onwards (except Mondays). P. A. Jackson (Bexley, Kent) gives the full Argentine English broadcasts: 0400-0600 (15290 kc), 1800-1900 (11880 kc), 1900-2045 (15290 kc), 2230-0130 (17720 kc), and mentions that Radio Eireann, Athlone, is on 9595 kc with News in English at 2210. Dr. J. Kyle (Portstewart, N. Ireland) has heard experimental transmissions from Athlone on 5093 kc and 6230 kc during the afternoons. On March 3 he listened to the Barbados Turf Club Handicap relayed by Cable and Wireless from Bridgetown on 7547 kc.

Dr. Kyle has a letter verification for Lusaka, Northern Rhodesia, 3914 kc. To quote: “All the transmitting aërials are omnidirectional and designed for high angle radiation, so I think reception outside Central Africa is due to unusual seasonal conditions.”

R. T. Blackmore (Exeter) has received a very interesting booklet from Radio Indonesia;

it includes information, technical and otherwise, on broadcasting there. The revised schedule for Europe is: 1900-2000, YDF7, 11770 kc; YDC, 15150 kc; this latter transmitter will be replaced by a Philips 50 kW one in June this year.

R. T. B. also gives PRL4, 9770 kc and COBZ, 9025 kc, heard respectively at 2300 and 2345.

Ron Abrahams (Hounslow, Middlesex) again sends a fine batch. He has heard Radio Kabul, 9975 kc, with request recordings of "Lucky in Love" and "I've Got a Feeling You're Fooling" between 1630 and 1650 on Sundays. The initial announcement is "You are listening to Radio Kabul on 445.1 metres, 674 kc in the medium wave, and on short wave 30.08 metres, 9975 kc, with a programme of listeners' requests." The final direction is: "That ends our English programme for today; tune in next week at the same time for another request programme."

CRSSB, Sao Tome, 17677 kc, is still heard Sundays from 1200 to 1300, and VLX4, Perth, W.A., 4897 kc, at fair strength between 2215 and 2235, the direction at 2230 being "The time is half-past six; this is the ABC in Perth."

C. R. Johns (Bournemouth) listened to the following at the times stated and received great satisfaction by so doing: CHLS, 9610 kc, World News at 2233; Cairo, 9715 kc, Programme Review at 1915; TAP, 9465 kc, Press Review at 2115; ZYK2, 9565 kc, "Brazil Calling" at midnight. We welcome a report from J. L. Collins (Shaftesbury, Dorset) who notes the following audible stations: ZYK2, Recife, 15145 kc, with a woman singer at 1645; OTC, Leopoldville, 9745 kc, with Wednesday DX Night; Radio Andorra, 5990 kc at 1347; and EAJ9, Malaga, Spain, 7020 kc with Spanish songs at 2145.

R. P. Welch-Bartram (Aylesbury) possesses a verification letter for Radio Tupi, PRG2, 1040 kc, Brazil. Others in the Network are PRF3, 960 kc; ZYB7, 6095 kc; ZYB8, 11765 kc and ZYB9, 15155 kc—the address is: Emissoras Associadas, Rua 7 de Abril 230, 4 Andar, Sao Paulo.

Congratulations to B. Mercer (Manchester) who has succeeded in logging Lagos, Nigeria, on 7255 kc between 2153 and 2216.

The programme consisted firstly of well-known marches, and after 2200 came native songs; the final direction was: "We have now come to the end of our programmes for the day. This is the Nigerian Broadcasting Ser-

vice; we will be on the air again tomorrow at 0530 (0430 GMT)." "God Save the Queen" followed. B.M. also logged Barbados and Ulan-Bator-Choto, Mongolia, 6400 kc.

J. C. Catch (South Shields) heard ZNB, Mafeking, 8238 kc, with "Waltz Time Music" at 1830; ETAA, Ethiopia, 15052 kc, with native music at 1730; Radio Kabul, 9973 kc, opening at 1615 with a March and brief News in English, and he tells us that the new Japanese station JOA, 7180 kc, is heard in California, USA, around 1200-1300.

J. C. C. has a verification letter signed by J. Cavalcante Melo for ZYI21, 4935 kc, a station operated by the local Natal newspaper.

F. R. Baigel (Dublin) has some authentic News about Radio Eireann direct from this Ireland station. News bulletins and weather forecasts are broadcast daily between 1830 and 1850 on 17840 kc, and between 2210 and 2230 on 11760 kc; there are both a male and a female announcer who take turns with this specific task.

G. S. Wilson (Banff) has received from Roger V. J. Allard, ON4AA, Traffic Manager OTC, Post Box 26, Brussels 1, Belgium, the following message: "We have pleasure to inform you that our Leopoldville station (Belgian Congo)—Call OTC, frequency 9767 kc, regularly broadcasts special 20-minute programmes for radio amateurs in collaboration with amateur clubs."

E. Kirby (Leeds, 7) heard "Listeners' Request" from OTC at 1930, and listened to Radio Australia, 9580 kc, at 1515 (Sunday); whilst a former correspondent, D. H. Smith (Hatch End, Middlesex) tells of his logging of CE1515, Radio Corporation, Santiago, Chile, on 15150 kc at 2025; PRK9, Belo Horizonte, Brazil, 15200 kc at 2055; and XDXE, Mexico City, 15220 kc, S4-6, at 2010.

Finally, R. Hallett (Regent's Park, Sydney, Australia) gives his views on short wave conditions in that vast continent. He has logged all the undermentioned recently: Delhi, 4960 kc, at 0230; Bombay, 6150 kc, at 0200; Madras, 6085 kc, at 0130; Calcutta, 6010 kc, at 0130; Radio Kashmir at Srinigar, 3335 kc, at 0130.

We congratulate all our correspondents on their most valued (and very accurate) contributions; altogether a very good month in the realm of short wave broadcasting.

Your reports for next month, which are always welcomed, should be addressed: R. H. Greenland, "DX Broadcast," *Short Wave Listener & Television Review*, 55 Victoria Street, London, S.W.1. By May 15, please!

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SHORT WAVE BROADCAST STATIONS

Revision 60-33 to 104.2 Metres and 10.17 to 13.89 Metres

Giving Frequency, Wavelength, Callsign and Location

These lists appear each month, covering the 11-128 metre section of the wave band within which all short wave broadcasting services of the world operate. For economy of space, this band is dealt with in eight sections, a list of active stations in one of these being given in full every month. Such revising is necessary due to constant changes of frequency, callsign and operating schedules. All stations appearing in our lists are normally receivable in this country and are under regular observation.

Fre- quency	Wave- Length	Callsign	Location	Fre- quency	Wave- Length	Callsign	Location
4972	60-33	YVLK	Caracas.	3970	75-66		Rome, Italy.
4970	60-36	HJAE	Cartagena.	3960	75-75		Djedda, Saudi-Arabia.
4960	60-48	YVQA	Cumana.	3945	76-06		Delhi, India.
		VUD2	Delhi, India.	3930	76-34	EQD	Teheran, Iran.
		HJCR	Bogota.				Rome.
4950	60-61	ZOI	Kingston, Jamaica.	3914	76-65	ZQP	Lusaka, N. Rhodesia.
4948	60-64	HJCW	Bogota.	3900	76-92	FIQA	Tananarive, Madagascar.
4945	60-67	YDA3	Bandoeng, Java.	3800	78-95	ZEB	Bulawayo.
			Johannesburg, S.A.	3720	80-64		Athens, Greece.
4940	60-73	JKM	Osaka, Japan.	3590	83-57	YVRA	Maturin.
		VUD	Delhi, India.			YVQA	Cumana.
		ZYE5	Natal, Brazil.	3550	84-51	YVOC	San Cristobal.
4935	60-79	YVMQ	Barquisimeto.	3530	84-99	YVKT	Caracas.
4930	60-85	HJAF	Cartagena.	3528	85-01	CR7AB	Lourenco Marques.
		YDP	Medan, Sumatra.	3515	85-35	YVOG	Barcelona, Venezuela.
		CR7BU	Lourenco Marques.	3505	85-59	YVXX	Caracas.
		HCCF4	Quito.	3495	85-84	VUD2	Delhi.
4920	60-98	VUM2	Madras, India.	3450	86-96	YVOI	Barcelona, Venezuela
		YVKR	Caracas.			APK	Karachi, Pakistan.
4915	61-04	ZOY	Accra, Gold Coast.				Johannesburg.
4910	61-10	JKI	Tokio, Japan.	3445	86-84		Lourenco Marques.
		YVMH	Coro.	3430	87-46	LR53	Buenos Aires.
4900	61-21	HJAG	Barranquilla.	3395	88-35		Colombo, Ceylon.
4899	61-23	YVOF	Bolivar.	3390	88-50	YDA	Bandoeng, Java.
4897	61-26	ZOI	Colombo, Ceylon	3365	89-15	VUD	Delhi.
		VXL4	Perth, W.A.	3360	89-28	YVOG	Barcelona.
4895	61-29	PRF6	Manaos, Brazil.			ZOI	Kingston, Jamaica.
		HJCH	Bogota.	3350	89-55	APL	Lahore, Pakistan.
		ZRG	Johannesburg, S.A.	3341	89-79	YVMU	Carora.
4890	61-35	YVKC	Caracas.	3325	90-23	YVQL	El Tiare.
4885	61-41	HJDP	Medellin.				Campina Grande, Venezuela.
4880	61-48	VUC2	Calcutta, India.	3320	90-36	DZB2	Manila, P.I.
		YVKF	Caracas.	3305	90-78	VUC2	Calcutta.
4879	61-49	ZQP	Lusaka, N. Rhodesia.	3265	91-90		Pernambuco, Brazil.
4875	61-55	HJFH	Armenia.	2880	104-2	GRC	London.
4865	61-66	HJFA	Percira.	29500	10-17	CXA22	Montevideo, Uruguay.
		PRC5	Belcm, Brazil.	27000	11-11	CXA11	Montevideo.
4860	61-73	VUD3	Delhi, India.	26550	11-30	GSS	London.
		JKL	Tokio, Japan.	26400	11-36	GSR	London.
		YVPA	San Felipe.	26100	11-49	GSK	London.
4856	61-78	HJCA	Bogota.	25750	11-65	GSQ	London.
4854	61-79	VQ7LO	Nairobi, Kenya.	25640	11-70	HER9	Berne.
4850	61-86	YVMS	Barquisimeto.	25610	11-71	PPF	Amsterdam, Holland.
4848	61-90	HJGF	Bucaramanga.	25600	11-72	WRUL	Boston, Mass.
4845	61-92	CSA93	Ponta Delgada.	22520	13-22		Moscow.
		ZYU8	Teresina, Brazil.	21750	13-79	GVT	London.
4842	61-96	YVOI	Valera.	21740	13-80	KCBR2	Los Angeles, Cal.
4840	61-98	VUB	Bombay, India.			HVJ	Vatican City.
4835	62-05	HJKE	Bogota.				Paris, France.
4830	62-14	YVOA	San Cristobal.	21730	13-81	WRCA2	New York.
4825	62-18	HJDE	Calif.			LLQ	Oslo, Norway.
		ZYE7	Parmaiba, Singapore.	21720	13-81		Singapore.
			San Fernando.	21715	13-82		Stockholm, Sweden.
4820	62-24	YVRC	Antofagasta, Chile.	21710	13-82	GVS	St. George, Bermuda.
		CE482	Lourenco Marques.			CHLA	London.
4815	62-31	CR7BV	Cucuta.	21690	13-83		Sackville, Canada.
		HJBB	Maracaibo.	21680	13-84	VLC21	Tangier.
4810	62-37	YVMG	Sao Tomé.	21675	13-84	GVR	Shepparton, Australia.
4807	62-41	CR5ST	Manaos.	21670	13-84	LLP	London.
4806	62-43	ZYS8	Maracaibo.	21660	13-85	VUD	Oslo, Norway.
4802	62-46	YVME	Johannesburg, S.A.	21650	13-85	WLW03	Delhi, India.
4800	62-50		Bolivar.	21640	13-86	GRZ	Cincinnati, Ohio.
4790	62-63	YVOC	Barranquilla.			OLR7C	London.
4785	62-70	HJAB	San Luiz, Brazil.	21630	13-87	WRCA	Prague.
		ZYM8	Valencia.			KRCA2	New York.
4780	62-76	YVLA	Singapore.			WLW0	San Francisco.
			Bucaramanga.	21620	13-87		Cincinnati, Ohio.
4777	62-80	HJGB	Rangoon, Burma.	21610	13-88	WRCA1	Colombo, Ceylon.
4775	62-82		Sao Paulo.			KWID	New York.
4755	63-09	ZYY3	Maracaibo.	21605	13-89	HEI9	San Francisco.
4752	63-13	YVMA	Guatemala City.	21600	13-89	CKRP	Berne, Switzerland.
4170	71-94	TGOA					Sackville, Canada.

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