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The SHORT WAVE LISTENER

DEVOTED EXCLUSIVELY TO
SHORT WAVE RECEPTION

MARCH 1948
VOLUME 2 · NUMBER 4

THE **SHORT WAVE** LISTENER

A MONTHLY MAGAZINE FOR THE LISTENING AMATEUR

VOLUME 2 **MARCH 1948** NUMBER 16

Conducted by the Staff of *The Short Wave Magazine.*

Published on the third Thursday in each month by The Short Wave Magazine, Ltd., 49 Victoria Street, London, S.W.1 (ABBey 2384).

Single copy, 1s. 3d. Annual Subscription (12 issues) 16s. post free.

All editorial and advertising matter should be addressed to *The Short Wave Listener*, 49 Victoria Street, London, S.W.1.

Payment at good rates is offered for articles of short wave listener interest.

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MARCH 1948

EDITORIAL

Venture

With this issue we commence a new feature—"The VHF End"—to which we would draw the attention of all SWL's with an experimental interest in short wave radio.

While it is certainly not our intention to devote an inordinate amount of space to VHF technique, we shall from time to time be printing articles of a practical nature on the design and construction of VHF receiving equipment—and it is of course intended that "The VHF End" should be a regular feature. There is a vast amount of interesting work to be done on the VHF's, of which aerial design is not the least important.

The frequencies above 30 mc are not too easy, but that is only one more reason why the problems they present will be resolutely tackled by the really keen amateur, anxious to feel himself at grips with all aspects of his hobby.

Our new feature is the first in any radio journal in the world to be devoted entirely to the interests of SWL's active in the VHF field. While there is nothing particularly startling in this—since the *Short Wave Listener* is itself the only periodical of its kind in existence—it does mean that we are doing everything possible to keep our readers well abreast of developments in the technical sense.

The point of greater importance is, however, that by becoming active on the VHF's, the listening amateur can make a real contribution to progress in the VHF field, since it is on these frequencies that more activity and co-operation are urgently required. The going will be fairly hard for the newcomer, but the achievement of results will be its own reward.

We hope that readers interested will keep in touch with "The VHF End," as it will be our contributor's endeavour to develop a feature which for SWL's will parallel "Five Metres" in our parent *Short Wave Magazine.*

Adding a BFO

Simple Unit for the All-Wave BC Receiver

by **K. E. V. WILLIS (G8VR)**

(The ordinary domestic receiver can be modified for the reception of CW signals by the addition of the unit described here. It is easy to knock up and but few parts are required.—Ed.)

MANY listeners possess commercial all-wave receivers which are quite good for DX work, but since it is unusual for such receivers to be fitted with a beat-frequency oscillator, the reception of CW, unless it is an exceptionally strong signal which causes the receiver to "breathe," is impossible. It is a simple matter to construct an external unit, operating from the receiver power supplies, which may be used for Morse reception.

The first step is to find the intermediate-frequency of the receiver, assuming it is a superheterodyne. This will almost always be 465 kc. Having determined this frequency, an IF transformer is purchased, designed for that particular frequency. This is used for the tuning and reaction coils of the external oscillator unit. A radio-frequency pentode is now required, and in selecting such a valve, one should be chosen which has a heater voltage identical with the valves in the receiver. If the receiver employs 6·3 volt valves, a 6J7 will be quite satisfactory.

The Circuit

On a small chassis, the circuit as shown is constructed. It will be obvious that it is simply an oscillator at intermediate-frequency, but fitted with variable tuning.

The IF transformer must be slightly modified in the following way. One of the two windings is stripped down to about half the number of turns, or less, the exact amount of wire removed not being critical. Any trimmer condenser across this same winding, or adjustable iron-core inside it, is also removed. This winding then becomes the oscillator reaction coil. A midget variable condenser of about 25 $\mu\mu$F maximum value is connected across the other winding (C2 in the circuit) and is controlled by a knob on the front of the chassis. This is the BFO pitch control.

The supplies to the external oscillator may be brought out by means of a 4-way lead, two each for heaters and high-tension as shown, and either soldered directly into the receiver, or a plug and socket fitted for ease of connecting up. A toggle switch is provided to break the HT when it is required to receive modulated signals.

It is normally unnecessary to provide coupling between the oscillator and the receiver provided that the two are fairly close together. If the signal is too weak, a short length of insulated wire soldered to the anode pin of the oscillator valve and draped near the receiver will suffice.

To tune the oscillator on to the IF of the receiver, listen on the receiver with the oscillator supplies turned on, and adjust the remaining trimmer inside the IF can, using a screwdriver, until an audible note is heard in the receiver. Then the knob-controlled trimmer may be used to give a fine variation of pitch to suit the operator.

If the oscillator refuses to start, reverse the two anode coil connections. None of the component values shown in the circuit are very critical, and any approximate values discovered in the junk-box may be employed.

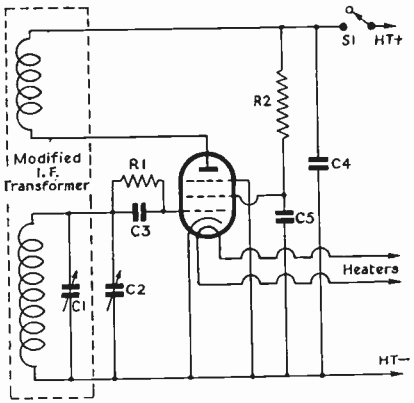


TABLE OF VALUES

BFO Unit for BC Receiver

C1	1F trimmer as fitted to 1F transformer *(see text)*
C2	25 $\mu\mu$F variable
C3	100 $\mu\mu$F
C4, C5	·01 μF, 350-volt wkg.
R1	50,000 ohms, ½-watt
R2	100,000 ohms, 1 watt
S1	Toggle on/off switch

Amateur Transmission - for the Beginner

The Radio Amateurs' Examination

Set of Specimen Answers

by **THE OLD TIMER**

(We have received many requests from readers to publish a specimen set of answers to the last Radio Amateurs' Examination paper, the questions for which appeared in full on page 37 of our January issue. Here, then, is the first part of a short series by The Old Timer in which these answers are worked out for the benefit of those who are hoping to take one of the future examinations. It should be noted that there are many ways of saying the same thing—but these answers should satisfy the examiner.—Ed.)

QUESTION 1 : An alternating voltage of 10 volts at a frequency of $100/2\pi$ mc is applied to a circuit consisting of the following elements connected in series :—

(i) an inductance of 10 micro-henrys,

(ii) a capacitance of 10 pico-farads,

(iii) a resistance of 10 ohms.

(*a*) What current flows through the circuit?

(*b*) What voltage appears across the inductance?

ANSWER : First dealing with the inductance, for the purpose of finding its impedance or inductive reactance, we must apply the formula $X_L = 2\pi f L$,

where X_L is inductive reactance in ohms,

f is the frequency in megacycles,

and L is the inductance in micro-henrys.

Substituting 10 for L, and $\frac{100}{2\pi}$ for f, we obtain the result $X_L = 1{,}000$ ohms.

Next we deal in similar fashion with the condenser. The formula for capacitive reactance is $X_c = \frac{1{,}000{,}000}{2\pi f C}$

where X_c is capacitive reactance in ohms,

f is the frequency in megacycles,

and C is the capacity in pica-farads.

Substituting 10 for C, and $\frac{100}{2\pi}$ for f, we obtain the result $X_c = 1{,}000$ ohms.

We may now obtain the figure for the total impedance of the circuit, with the three elements connected in series. The formula for this is

$$Z = \sqrt{r^2 + (X_L - X_c)^2}$$

where Z is the impedance in ohms,

r is the resistance in ohms,

X_c is the capacitive reactance in ohms,

and X_L is the inductive reactance in ohms.

As we have already shown both X_c and X_L to be equal to 1,000 ohms, these terms cancel out and we obtain the result

$$Z = \sqrt{r^2} = 10 \text{ ohms.}$$

We can now answer (*a*) and (*b*). Since the impedance of the complete circuit is 10 ohms, an alternating voltage of 10 volts will cause a current of 1 ampere to flow.....(*a*)

Since a current of 1 ampere is flowing, and the impedance of the inductance is 1,000 ohms, the voltage which appears across it must be 1,000 volts.....(*b*)

QUESTION 2 : What is meant by the "selectivity" of a tuned circuit? On what constants does it depend? Why is this quality necessary in a receiver?

ANSWER : The *selectivity* of a tuned circuit is a quality which depends upon the width of the resonance curve of the circuit. The answer to Question 1 has shown that an inductance and a capacitance in series can, in theory, give a combined impedance of zero at a particular frequency. This is the *resonant* frequency ; in the case of Question 1, if the frequency were to be varied on either side of the given figure of $100/2\pi$ mc, we should obtain a series of varying impedances, growing higher as the frequency moved farther away from the given figure. At the given frequency the impedance is lowest, and therefore the current flowing through the circuit highest.

Applying this to *parallel* circuits consisting of inductance and capacity, we find, instead, that the highest impedance is obtained at the resonant frequency. At this frequency, therefore, the current flowing *through* the circuit is at its lowest, although the current *circulating* in the circuit is at its highest. (Compare the behaviour of a "tank" circuit tuned to resonance.) In addition to its impedance or reactance, however, a circuit possesses DC resistance and the "goodness" of the circuit depends upon the ratio of the reactance to the resistance.

This factor has become known as "Q," which is defined by the formula

$$Q = \frac{2\pi f L}{R}$$

where $2\pi f L$ is the inductive reactance
and R the total resistance.

Since the "Q" of a condenser is normally much higher than that of the very best coil, it is the "Q" of the coil which limits the "goodness" of a circuit.

The formula for the impedance of a tuned circuit at its resonant frequency is

$$Z = \frac{(2\pi f L)^2}{R}$$

where Z is the impedance in ohms,
L is the inductance in henrys,
f is the frequency in cycles
and R is the resistance in ohms.

Applying the previous formula $Q = 2\pi f L/R$, we arrive at the third formula, $Z = 2\pi f LQ$, which shows that the impedance of a circuit is directly proportional to its "Q" at resonance.

A "high-Q" circuit is therefore most desirable when selectivity is required. The reason for this requirement is simple—a circuit which is not selective has a resonance curve sufficiently broad to accept a wide band of frequencies simultaneously. Under present-day conditions, with the entire spectrum crowded with stations packed closely together in frequency, such a circuit would be incapable of receiving any one station without interference from its neighbours on adjacent frequencies. Broadcast stations are normally separated by 9 kc, and a receiver with a resonance curve some 5 kc wide will separate them and still give a reasonable degree of fidelity of reproduction. For the amateur bands a much more sharply tuning receiver is essential.

QUESTION 3 : What is understood by the term "CW" and what special method is needed to detect CW signals? Describe a circuit arrangement which could be used for this purpose, illustrating your answer by a diagram.

ANSWER : The initials "CW" mean "continuous wave" and imply a continuous wave of alternating current at a sufficiently high frequency to be classed as within the radio spectrum. Such a wave, travelling through the ether, may be "intercepted" by an aerial and separated from other such waves by means of a tuned circuit. But it still cannot be detected by simple means, such as a pair of headphones. Although the latter would respond to a 50-cycle or a 500-cycle alternating current, they are unable to convert high-frequency CW into an audible signal, since the frequency is, of course, not within the audible range ; they would, in fact, provide no indication whatever, since the positive and negative half-cycles of a radio-frequency continuous wave would cancel each other out.

The method of "detecting" such a wave is to use a device known as a rectifier, which has the property of allowing a current to pass through it in one direction only. Within this category come crystal detectors and diode valves. By suppressing one set of half-cycles of the continuous wave the rectifier converts the alternating current into a pulsating direct current.

Fig. 1 shows a *triode* detector circuit for the reception of CW signals. Its operation

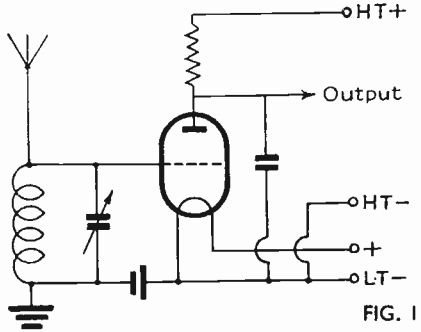


FIG. 1

is, briefly, as follows : an alternating voltage (*i.e.* bi-directional variation of voltage) applied to the grid of the valve is converted into a pulsating direct current (*i.e.* unidirectional variations) in the anode circuit. This may be used to actuate a pair of headphones, or a relay or other indicating device. There will still be no

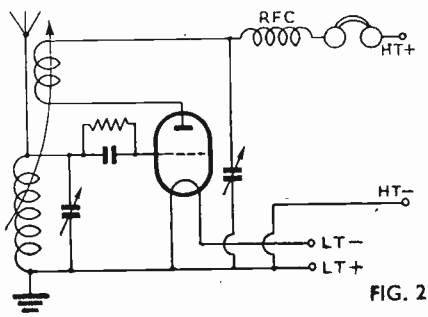


FIG. 2

audible signal in the headphones except a click which will take place when the CW signal starts and stops.

To transmit intelligence by means of CW, it must be keyed (*i.e.* broken up into characters such as dots and dashes). Although the triode shown does *detect* CW signals within the strict meaning of the word, to render them audible to an operator it is necessary either to supply an external beat-note from an oscillator at a frequency close to that of the continuous wave, or to apply reaction to the detector. Fig. 2 shows a leaky-grid detector with reaction, which will produce readable CW morse signals in a pair of headphones.

QUESTION 4 : What is meant by modulation? Describe a method of modulating a typical low-power RF amplifier.

ANSWER : To "modulate" a CW signal implies the superimposition of audible frequencies—either a continuous tone, speech or music—upon it. Thus a CW transmission (Fig. 3) may have a 500-cycle sine-wave superimposed upon it (Fig. 4) so that the resulting signal in a receiver is simply a 500-cycle tone.

When the signal is fully modulated, its amplitude varies from twice the amplitude of the unmodulated signal to zero ; this condition is shown in the diagram.

A low-power RF amplifier may be "anode-modulated" very simply by introducing the necessary audio frequencies

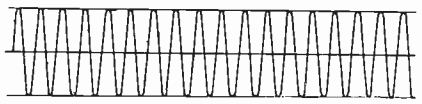


FIG. 3

into its anode circuit in series with the normal HT. Fig 5 shows a triode as an RF amplifier, with an audio-frequency generator supplying modulation *via* the secondary winding of a modulation

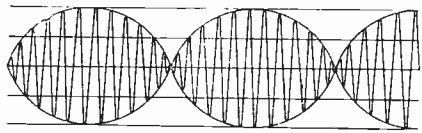


FIG. 4

transformer inserted in the positive HT lead. To obtain 100 per cent. modulation it is necessary that the audio input, in watts, should be *half* of the DC input to the triode.

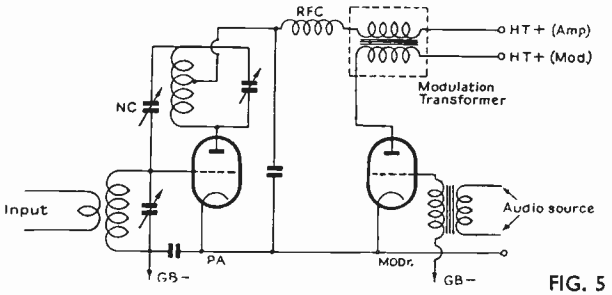


FIG. 5

NO MORE QSL'S, PLEASE!

With reference to the entry in August "Pse QSL," G2NM asks us to mention that he would be grateful if G SWL's would now desist from sending him general reception reports, as he has been deluged with cards from home and abroad.

"PRINCIPLES OF SHORT WAVE RECEPTION"

This is a booklet which will be of value and interest to all newcomers to short wave radio. Consisting mainly of reprints of receiver articles appearing in pre-war and early post-war issues of the *Short Wave Magazine*, the "Principles of Short Wave Reception" is a 32-page manual, of which some of the chapter headings are : Fundamental Principles and Simple Circuits ; Constructional Information for Two Receivers ; The Superheterodyne ; Notes on Communications Receiver Design ; Short Wave Converters ; and Adapting BC Receivers for Short Wave Reception.

The price is 1s. 8d. post free direct from us. Write the Circulation Manager, Short Wave Magazine, Ltd., 49 Victoria Street, London, S.W.1.

NEW ZONE MAP

The steady demand for our DX Zone Map has necessitated yet another reprint, which is now available in the same two-colour edition at 3s. 9d. from Amateur Radio supply houses or direct from us.

In preparation is a more elaborate version of the same map in five colours, printed on heavy linen-backed paper with the prefix lists amended to date, and priced at 6s., post free. It is a wall-mounting great circle map of the world, centred on London, showing the DX Zones, the callsign prefixes in each Zone, actual beam alignments and rough distances for all parts of the world from the U.K., with world-time referred to GMT. It is a really nice job, and will look well in any station. The size of both maps is the same—21 ins. by 35 ins. overall. Write the Circulation Manager, Short Wave Magazine, Ltd., 49 Victoria Street, London, S.W.1. Delivery of the 3s. 9d. version is immediate, and first supplies of the new five-colour map should be coming off by about the time this appears. The edition is necessarily limited in the case of the latter, since no more linen-backed paper is likely to be forthcoming.

Five-Metre Autodyne Converter

Describing a Practical Design

by **C. McNEIL GREIG**

(Our contributor, with very limited facilities, was determined to get going on VHF. Here is his description of a simple receiver that is giving results.—Ed.)

SO many articles nowadays seem to be written by experts who are really good at constructing equipment which looks good and sounds better; one bows to their superior knowledge and ability. Many amateurs are, however, not quite so clever with their hands, and appreciate simple articles dealing with simple equipment, together with a step-by-step argument as to why this or that was done and what snags can be expected. That is attempted in this article, which tries to explain the lines on which the work proceeded; maybe, it will give someone an idea for doing it a lot better. The design is not offered as perfection but merely as one which is known to work—any improvements will be joyfully and thankfully accepted and put into operation at G2FBU!

The writer suffers from the inconvenience of no mains, and at present no generating set either, although this may shortly be remedied. For this reason the minimum of gear possible has to be employed and inevitably it must remain of a fairly simple description.

During 1946 the writer operated D2XZ (on mains!) in Germany and, on returning, opened G2FBU on 160 metres with 1½ watts of CW. As equipment (and bands) became available the transmitter was taken down to 80, 40, 20, and then (with great difficulty) to 10 metres. Getting a good VFO note on 28 mc with batteries (using an ECO-FD arrangement) is not a simple matter. However G2FBU was putting out a fair enough signal on 10 metres by Christmas 1946.

Getting Going

During the whole winter 1946/47, the writer was exhorted to get on 5 metres, which frankly, was regarded as quite out of the question. In a moment of optimistic madness, however, the ECO was coaxed into driving the power FD on "five" and, miracle of miracles, it gave an output. Since this article is not concerned with the Tx, suffice it to say that after a fair amount of juggling, the transmitter was persuaded to give a T9 and reasonably stable note and it became obvious that G2FBU would have to "get on five or burst," which meant that a receiver had to be obtained as cheaply as possible.

All the usual books were consulted, but much head-scratching produced only the rather unhappy answer that 5-metre receivers were not as simple as might be assumed and seemed beyond the rather limited capabilities of the junk box at G2FBU—to say nothing of the constructional snags involved. A "super-regen" was considered and discarded for all the reasons for which they are discarded. A "straight" was the next idea but would require valves and so on which were not available without purchase. The same applied to a converter—which just about exhausted the possibilities.

First Rx Effort

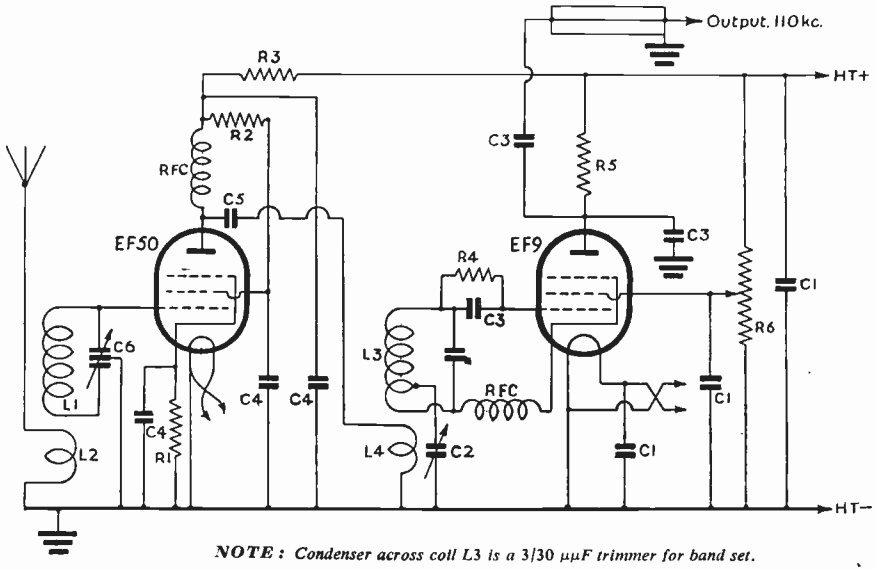
At this time a design described as an "RC coupled five-metre super" was suggested (still not any CW) but the detector was that remarkably simple device, the autodyne (used by Old Timers I believe, 'way back in the never never!). It was obvious that the IF must be around 110 kc or so and the main receiver at G2FBU (a battery straight) went up to 110 kc, while more important still, the comparatively few components were also available. For the valve an LS50 transmitting pentode was pulled into use and the whole lot built up optimistically, in a great hurry, with bits of aluminium screening sticking out at all angles. The chassis—regrettable, but true—was a wooden base board. After six hours' struggle the BBC television signals appeared, more or less, and something seemed to be happening; hand capacity was so bad it just wasn't true, and many hours passed before it was realised that the amount of feed-back required was very slight indeed; until then frightful howls and appalling distortion were the most that happened.

At last, however, the BBC appeared clearly at S5, *minus* howls, and all seemed well, apart from the hand capacity which was as bad as ever. The coils (which were self-supporting and wobbled beautifully if anyone breathed) were next cut to find the band and by a further miracle it was struck without great difficulty. G6NA

(1½ miles as the wave runs) then appeared at S9, although with hand capacity effects of the most superb kind which, coupled with a drift and the wriggle of the coils, produced reception known only to the more ineffective sort of constructor of amateur equipment. There was obviously only one thing to do, scrap the lot—at least it showed that the thing *could* be made to work; and scrapped it was forthwith.

box) were mounted underneath, inside the tin, and that was that.

In parenthesis it should be added that an IF stage was also built in on the "operator" side of the second screen, but as this seemed to give little or no gain, but lots of noise, it was removed. Subsequently an attempt was made to fit an IF transformer in the anode circuit, but this was not a great success and was also discarded so a description will not be given.



NOTE: Condenser across coil L3 is a 3/30 μμF trimmer for band set.

Improving the Rx

In the meantime an EF9 (a small 6-volt metallised RF pentode) with a Continental side-pin base, had been salvaged from the valve box, and a serious effort was made to produce an actual receiver which was more than a wild fantasy.

A small surplus variable condenser was obtained (2s.) and two screens were built up with a "compo" sweet tin (about 9 ins. × 5½ ins. × 3 ins.) as a base. The front screen mounted an Eddystone slow-motion drive, the second, some 6 ins. behind, carried the tuning condenser driven through an insulated spindle. The EF9 has top-cap grid and an old top-cap fitting which once had a parasitic suppressor in it carries the grid leak and condenser, the grid lead being about ½-in. long, which is not too bad. The coil was mounted on a small porcelain former just above the condenser and is admirably suited for the job. The other components (all ex-junk

TABLE OF VALUES

Five-Metre Autodyne Converter

C1	0·1 μF
C2	As available (50 μμF used)
C3	100 μμF
C4	·001 μF
C5	50 μμF
C6	As available (25 μμF)
R1	300 ohms
R2	1,000 ohms
R3	2,000 ohms
R4	1 Megohm
R5	20,000 ohms
R6	100,000 ohm potentiometer
L1	5 turns on 1-in. former
L2	1 turn on same former
L3	4 turns on 1-in. former
L4	2 or 3 turns.

At first the tuning condenser was put straight across the coil, but subsequently a 3/30 μμF trimmer replaced it, the main tuner being across one turn of the coil. This seems to give adequate band spreading, although it could perhaps be advantageously increased still further by decreasing to three-quarters or half a turn.

Results !

The coil was meant, in the first place, to cover the BBC television sound and, on switching on, there it was, hand capacity was only slight, and in general the receiver handled quite well. The coil was then cut to 58 mc, and with one turn as the aerial coupling and a dipole 15-ft. high, the first 5-metre QSO from G2FBU (G6LK on CW) came most unexpectedly, while G5US was being called. G5US himself was then contacted on 'phone, quickly followed by G6XM.

Hectic work on the Tx then ensued, until that was operating nicely and a number of QSO's obtained, G2XC (Portsmouth) and G5MA/P providing the nearest approach to DX worked, although FA9 and HB9 were heard.

All this work had been done in still weather ; then the wind blew, and it was quite evident that an RF stage was an urgent necessity if anything under S9 was to be worked successfully in rough weather, since the slightest breeze caused a horrible signal flutter.

An EF50 then appeared like manna and was immediately taken into service. A very simple RF stage was built into the other half of the back section of the box, which was tricky, since space was at a premium although in fact it produced no real snags. The final circuit is the one shown and, after a little preliminary fiddling, it worked. The actual layout followed the circuit diagram itself.

No real gain was obtained through the addition of the RF stage, although a very slight and possibly imaginary increase is apparent ; signals, however, now remain steady, while hand capacity is very slight indeed (almost certainly due to using a "tin" instead of a proper chassis). A National Health Baby Food tin covers the whole of the back portion and seems to add to the stability and at last G2FBU has a receiver which, although perhaps not brilliant, is fairly effective and certainly gets one on "five" for a minimum of expense and complication. If a start had to be made from scratch (but the writer refuses to rebuild !) use would probably be made of two EF50's instead of the present EF50/EF9 layout, although the top cap of the EF9 is certainly an advantage.

One last word : Five metres is a very pleasant band on which to work and everyone seems to be more than helpful.

Have you heard?

AMATEUR BAND COMMENTARY

by the

DX Scribe

Judging by the volume of the mail—usually an infallible guide—interest this past month has been higher than ever. Newcomers to the "Have You Heard?" fraternity continue to make their very welcome appearance, and the old-stagers remain faithful as of yore. In fact, we now seem to have reached a level of activity where it would be quite impossible for any new DX station to crop up on the amateur bands without being duly mentioned in this column the following month. Without being over-organised, it is the kind of short-wave listening that really means something—and may I say how much all the readers' letters are appreciated and how much good stuff they contain.

Zone 23

The chief excitement of the period has been the very welcome appearance of AC4YN, both on 28 mc 'phone *and* 14 mc CW. So many readers have logged him on one band or the other that it is really safe to say that only the unlucky missed him. Zone 23 was also represented, however, by C8KY on 14 mc 'phone and CW, although he was heard only by a few. At all events, we do know that there is still a chance of the occasional burst of activity from this otherwise most elusive Zone.

The other elusive one, Zone 19, has also been behaving better. Nearly every morning it has been possible to hear UAØKGA on CW on about 14080 kc ; he has a T7 note, is obviously a commercial operator, and is situated at Cape Schmidt, north of Wrangel Island. Yet another station in Zone 19 is UAØKKB in Vladivostok, also on 14 mc CW. "USØKGA" was evidently the same as UAØKGA, and my theory is that he started up using the wrong prefix and then settled down to the "UA."

Calls Heard

The two SLP's were as well supported as usual, and the 7 mc one turned out to be quite a " lucky strike," judging by the lists. All the SLP lists that arrived by the deadline appear in Calls Heard ; but unfortunately only a small fraction of the general lists could be accommodated. This leads me to an important point. Rather than receive a huge pile of general lists every month, from which I have to try to select a few with fairness and impartiality, I would like to have just enough to occupy the balance of the three pages, after the SLP lists have been fitted in.

Therefore, in future, please ration yourselves to *one* general list each month, and no more. If you cover all bands, work them in rotation, sending in 28 mc the first month, 14 mc the second, and so on. Even then, of course, there's no guarantee that we shall have room for *all* of them ; but at least the percentage of disappointed readers will be much smaller. So watch it, please : SLP lists *plus* ONE general list, and we will see how it works out next time.

The HAZ Marathon

The 1948 scores have got away to a flying start, with L. Collis (Banstead) heading both lists—a nice performance. He was the only reader to make 39 Zones on 'phone and CW, and he will find the top of the list a hot seat to occupy—especially as it gets more and more difficult to add new ones as the score mounts. His missing Zone is 39—VQ8AZ please note ! Best "bags" of the month were AC4YN, UAØKGA, UA1KEC (Franz Josef Land), UA3BD/UP2, CR7BB, ET3AD, VP3TR and CP5EP.

Top post-war scorer is N. A. Phelps (London, N.10) with 40/190 ; an interesting newcomer to his list was WØOZW/KS6, on 14 mc CW. N.A.P.'s actual listening time in January was 25 hours, and he finds from his 1947 log-book that listening time during 1947 averaged 28 minutes per day.

G2CIN, now in Canada, has been visiting many VE's. Here he is (foreground) at VE2KG, Quebec, who has an R.1155 receiver with Emdo converter. The Tx is 6L6-RK39, with 50 watts, into a 4-element beam.

28 and 14 mc DX

The general "shape" of the bands remains more or less as before. On 28 mc in the mornings one can usually hear KG6, J8, J9, VU, VS7 and the Middle East on 'phone ; the afternoons see the band full of W and VE, with sometimes a burst of West Coast W's at about 1700. Between the two periods (round about noon) one finds VP6, KZ5, KP4 and any other West Indies stations that happen to be on. When the W's do *not* come through there is usually a good selection of South Africans and South Americans instead. VK and ZL are there most mornings until noon.

On 14 mc, as usual, "anything goes," according to conditions. The most interesting period is usually from 1700 until midnight ; between 1700 and 1900 I have heard W6, W7, KL7, VE8, KH6, ZS, VQ4, PY, LU and ZL all coming in together. The time to catch the elusive Siberians is between 0900 and 1100. Afternoons are not as good as they might be, but often J3, J9, VU, VS6 and PK6 break through, if the short-skip QRM allows them to !

B. Needham (London, W.11) offers AC4YN, HV9J, OY8LA and other far-from-common ones ; he says, rightly, that knowing when and where to listen is the secret of a good log. A. H. Onslow (Hove) comes up with OY8LA and FR8AB (St. Denis, Reunion). The latter was on 14 mc 'phone and is in Zone 39. He also collected UAØSI in Zone 18, and wants to know whether SP5OQ (28 mc) is genuine. The SP's are on the other side of the Iron Curtain, so we cannot be sure about what may be happening in Poland.

R. S. Stott (Upminster) has returned to short-wave listening after 13 years and managed to include AC4YN in his first list—1600, January 26 on 14 mc. T. W. Jones (Birmingham) heard W6WAW but missed his /HZ suffix, though he logged most of the Siberians already mentioned. Nice ones on 14 mc from D. A. Pullen (Colchester) include FT4AE, ZD1BD, KH6CT (S9 'phone) and UN1AO ; on 28 mc he heard ZD2KC, ZD4AS, KZ5FW, UH8AF and YV4AM, to pick out a few of the rare ones. He also logged "KC5I," but this is probably a garbled version of YR5I, whose sending is admittedly frightful !

A. J. Slater (Southwick) queries the credentials of HE1AB on 14 mc ; I imagine he is all right and lots of people

ZONES HEARD
LISTING

Listener	1948		Post-war	
	Zones	Countries	Zones	Countries
'PHONE and CW				
L. Collis (Banstead) ..	39	131	40	160
D. W. Bruce (Eltham) ..	38	112	40	169
N. A. Phelps (London, N.10)	37	117	40	190
G. Curtis (South Harrow) ..	37	110	40	160
A. Baldwin (London, E.11) ..	37	105	40	156
O. A. Good (Oswestry) ..	37	97	39	173
A. H. Onslow (Hove) ..	37	92	39	156
A. J. Slater (Southwick) ..	36	99	38	152
R. S. Stott (Upminster) ..	35	108	38	127
R. A. Hawley (Goostrey) ..	35	93	39	151
C. S. S. Lyon (Liverpool) ..	34	106	40	168
W. N. Sandeman (Rudyard)	33	88	37	106
L. N. Goldsbrough (Wirral) ..	33	87	40	164
W. J. C. Pinnell (Sidcup) ..	30	94	39	146
T. W. Jones (Birmingham) ..	30	74	37	123
M. E. Bazley (Birmingham) ..	27	78	34	111
D. A. Pullen (Colchester) ..	26	61	34	95
G. P. Watts (Norwich) ..	25	60	38	149
M. Harrison (Darlington) ..	20	55	36	135
'PHONE ONLY				
L. Collis (Banstead) ..	35	101	36	135
R. A. Hawley (Goostrey) ..	35	88	37	137
A. J. Slater (Southwick) ..	34	82	36	142
A. H. Onslow (Hove) ..	34	79	37	147
B. Needham (London, W.11)	33	97	35	114
D. W. Bruce (Eltham) ..	32	91	37	140
A. Bannister (Manchester) ..	32	73	35	116
D. L. McLean (Yeovil) ..	31	87	36	133
L. N. Goldsbrough (Wirral) ..	31	70	36	129
E. W. B. Aldworth (Ashford)	30	81	35	113
J. M. Graham (Glasgow) ..	30	81	—	—
O. A. Good (Oswestry) ..	30	70	36	114
K. R. Toms (Boreham Wood)	28	80	33	99
D. Kendall (Potters Bar) ..	28	70	34	110
G. Hare (Leadenham) ..	27	71	35	121
T. W. Jones (Birmingham) ..	25	58	36	114
A. W. Robertson (Cranford)	24	59	34	106
N. A. S. Fitch (London, E.10)	23	53	32	94
G. Chambers (Huddersfield)	20	46	—	—
W. B. Harrald (London, S.E.21)	18	31	34	92
M. Harrison (Darlington) ..	17	48	35	130
A. E. Lincoln (Grimsby) ..	17	42	35	111

have heard him and counted him as a new country during the month. A.J.S. also queries OY8LA—another one heard by many listeners. He is on 'phone and gives his QTH as Box 35, Thorshavn, Faeroes, so we shall soon know if he is genuine. Regarding "EDZ," also known as EA7EDZ, EA8EDZ, and EA9EDZ, so many people contribute confusing information to the subject that I am letting it drop! There *is* a station whose call-sign ends with EDZ—let's leave it at that, shall we?

SWL's—Viewpoints

J. H. Tilley (Enfield) overheard a conversation between XAFG (an Englishman) and XAMC (an American) on the subject of SWL reports. The former welcomed them but the latter didn't approve of them at all and obviously would not QSL. So save your cards in the Trieste direction as far as XAMC is concerned. VP4TT (Trinidad) actually appeals to SWL's to desist—not suprising, on the whole, as he says he receives an average of *ten SWL reports a day*, and simply cannot afford 300 cards a month for SWL's. Moral of all this: Keep your reports for the stations not heard by *everyone*. Listen for the weak ones and let the big noises go! For getting cards, our own "PSE QSL" feature is very helpful.

N. S. Beckett (Lowestoft) has logged CT2AB, OY8LA and

This is the station of C6HH, with his signature in Chinese in the margin. His signal will be well known to many readers of "Have You Heard?"

ZD3B on 14 mc 'phone during the month ; he has moved to another house and therefore is not in the list as yet, his listening time having been short. D. F. Willies (Holt) heard LY1BC on 28 mc—a fishy one if there ever was ! (LY used to be Lithuania). D.F.W. has logged a heap of DX on 14 mc and several MM's on 28 mc ; he also comments on the large variety of two-letter D4's mostly giving their QTH's on 3·5 mc. We are informed that these are pirates, as are *all* the DA stations and others with curious "D" prefixes.

K. R. Toms (Boreham Wood) tells us that his career and that of the *Short Wave Listener* began at about the same time, since when he has been patiently trying to break into the "14 mc—General" lists. This month he sent a long one, which has gone to the printers ; I hope it appears and doesn't fall under the axe. He says that KC4AC on Possession Island is causing a flutter in the States, but hasn't yet heard him. Other queries—which Zones for VE8MB (Cornwallis Island) and VE8PA (Melville Island or Melville Peninsula)?

Last month there was a query about D4AWK/6. There's nothing exciting about him—QTH is Ausbach. When worked by GM2BUD he was using 5 watts, which distinguishes him from most D4's, who seem to have access to hotted-up BC 610's. P. Hunter (Morden) writes on the subject of all the DA stations—as do many others. They will go down to posterity as the most audacious pirates on record !

W. B. Harrald (London, S.E.21) mentions a few interesting tit-bits. He heard a Norwegian Skymaster, LN/HAV, working G8IG from somewhere near Rome ; he also logged AK7DL, working G3DO and saying that he was on the North African Coast—using a home-made transmitter which eventually caught fire ! Finally, for those who missed XACP when he was in Sardinia, W.B.H. reminds us that I4FFL is there.

Commercial or Home-Brewed ?

D. Garrard (Ipswich) suggests that we form a section for "QRP" listeners—that is to say those who use simple one-lungers or 0-V-1's in these days when the commercial superhet seems most popular. Actually, some of the highest scorers on the list use 0-V-0 or 0-V-1 jobs and manage to keep pace with the mightiest of the Mighty Wurlitzers. It still is a fact that a well-operated 0-V-1 can hold its own against all comers for CW reception ; on 'phone in conditions of bad QRM it is pretty ticklish to handle, but can still work wonders.

O. A. Good sends an "Oswestry Bulletin" in which he makes very in-

DX QTH'S

CR7AY } CR7BB }	Box 812, Lourenco Marques, Mozambique
CR7VAL	Aeradio, Quelimane, Mozambique.
FT4AB	10 Boulevard Didon, Carthage, Tunis.
HC2HP	Dr. H. Parker, Box 664, Quito, Ecuador.
HK3FF	Box 584, Bogota, Colombia.
HZ2TG	c/o WØZRA, 805 South Lake, Sioux Falls, S. Dakota.
KZ5ES	Box 658, Howard Field, Panama Canal Zone.
KZ5NB	US Naval Station, Balboa, Panama Canal Zone.
MD1H	Cyrenaica Signals Sqdn., Benghazi, MELF 6.
MD1I	LAC J. O. Brown, RAF El Adem, MEF 7.
MD5NB	L/Cpl. Wright, No. 1 Sqdn., 3 GHQ, Signal Regt., Fayid, MELF.
MD7DA	Maj. D. Macdonnell, R. Sigs., Cyprus Signal Sqdn., MELF 3.
OX3BC	c/o Arctic Weather Bureau, Washington, DC.
ST2CH	RAF Station, Khartoum, Anglo-Egyptian Sudan.
TG9BA	Al Broll, c/o PAA, Guatemala City.
VK5AE	Box 234, Post Office, Darwin, North Australia.
VQ8AY	Ed. Goldsmith, Phoenix, Mauritius.
VQ8AZ	P/O R. J. A. Small, RN, 15 The Camp, Phoenix, Mauritius.
XE3AC	c/o Airport Manager, CMA, Campeche, Mexico.
YA3B	Box 5, Kabul, Afghanistan.
YS1AC	Arcadio Chavez, Villa del Guardo, El Salvador.
ZD4AT	Capt. E. J. Devaney, RASC, School of Infantry and Education, Teshi, Accra, Gold Coast.
ZS1GR	PO Box 380, Capetown.

teresting comparisons between this year and last. He was amazed to find January 1948 so much better than January 1947, and the improvement over December 1947 was also tremendous. Points O.A.G. makes are the extraordinary consistency of ZL2BT's 'phone on 14 mc, 0830-0930; the profusion of South Africans; the number of Zone 1 and Zone 2 stations (KL7's and VE8's); and the West Indies crowd with CO, HH, HI, KP4, VP2 and so on. He spent 32 hours at the receiver, all on 14 mc. O.A.G. was doubly unlucky during the month—he missed AC4YN's appearances, and he learned that C6HH is *not* in Zone 23, which brought him down from 40Z to 39! (Others still counting C6HH—please note. Personally I still feel that he *is* Zone 23, but *CQ*, sponsors of the Zone scheme, have ruled that he is not).

D. W. Bruce (Eltham), one of our young 0-V-1 exponents, has added five to his list with AC4YN, ZS3D, UN1AA, ZK1AH and FY8AL. The latter was on 7 mc CW at 2230 and is, of course, in French Guiana. M. E. Bazley (Birmingham) sends his first letter and says that he was prompted to listen on 7 mc by my remarks last month. He found it well worth while. M.E.B. listens somewhat intermittently, his father being G2BOZ and very active!

From Kenya

R. F. B. Featherstone is a reader in Nakuru, Kenya, and gives an interesting slant on DX down there. On 28 mc he receives ZS all day, G from 1000 to 1200, W from 1300 to 1600. His biggest thrill of the month was to hear his very first KL7, and on 7 mc at that! He describes VQ4EHG as the Hallicrafters Expedition to East Africa—we hope to hear more about that.

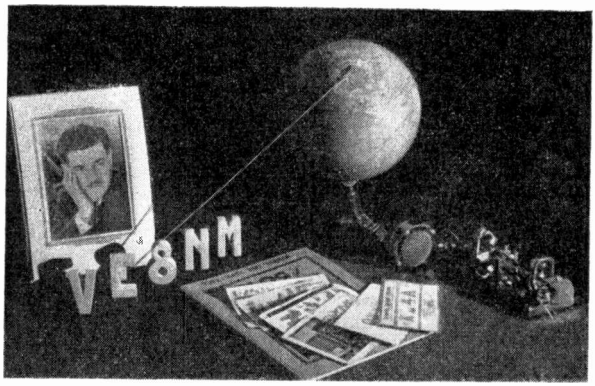
N. A. S. Fitch (London, E.10) found last month's SLP useful in showing him how his performance compared with some of the regulars; he has decided that a new aerial and a noise limiter are required. He, too, heard the mysterious AK7DL having the fire (or another one) and brands him as a phoney. Finally he would like the QTH of ET3AF if anyone has it.

G. Curtis (South Harrow) logged AC4YN at 1520 on 14 mc, working OH2PK and SM5LL; he has therefore replaced C6HH, so to speak, and still holds Zone 23 safely. G.C. remarks that two G's and several Europeans were happily calling CQ right on top of AC4YN, and there was a general lack of panic! He would like any gen that's going on YQ5U and SP3TX, and he brings up a new query on Zones. Lourenço Marques is shown on the Zone Map as being just inside Zone 38—although Mozambique is in Zone 37. While we must accept the Zone areas, it would seem that Lourenço Marques should be just on the other side of the boundary line. CR7's are Zone 37—that's the main point.

F. W. Lindley (Dundee) is a keen pre-war SWL who has been goaded back into activity. Using an EF54/EF50 converter working into his domestic receiver he broke into the 28 mc SLP, and has since been busy on the band, finding no shortage

of DX. He mentions VK5AE (one of the two active VK5's in North Australia) who has been putting in an excellent 'phone signal this month (QTH in list). Queries from F.W.L. : KZ5W and CZ1A?

C. S. S. Lyon (Liverpool) logged AC4YN, CP5EC, PK4VD and OY3IGO, to name four nice ones. He brings out a good point by saying: "You can't hear the DX if you listen only to strong signals; but if your'e used to listening only to weak CW signals, when the band is full of short skip you just don't hear what composes this blanket, but look underneath it." Nicely put, don't you think? Other points from C.S.S.L.: YL5CO claims to be QRP in Latvia; LZ1AB was heard on 7 mc and TA1UN on 3·5 mc; M16 is of course Eritrea, replacing the old I6 prefix; and how about an HAC on 3·5 mc? C.S.S.L. has it, with PY4QE, XE1A, G8VB, FA8BG, ZC6BK and ZL4GA. 32 Countries in 11 Zones on 3·5 sounds like good going.



The very attractive photo-QSL card of VE8NM, Fort Smith, N.W.T., Canada. He runs 300 watts to a pair of 813's and the Rx is an AR-88LF.

A. F. Hayton (London, N.13) heard HI6DC, KV4AD, CT2AB, ET3AD and AC4YN during January. The latter popped up at 2245 on the 16th; he seems to have been heard at all times of the afternoon and evening on 14 mc. E. W. B. Aldworth (Ashford, Kent) is another new correspondent, and sends in his first lists. He has 35Z and 113C post-war on 'phone only.

L. N. Goldsbrough (Wirral) received AC4YN on 28 mc 'phone, and 'YN said that a new station in Sikkim, AC3NC, would be on the air shortly. L.N.G. remarks that Zones 26 and 28 are pretty elusive these days, and of course Zone 39 always was.

VHF Listening

The general response to last month's Editorial and the comment in this column has been such as to decide us to begin a VHF feature in the *Short Wave Listener*—the first article appears this month, under a separate heading. Incidentally, one letter was of particular interest, from E. Northcott (Plymouth) who enclosed a QSL from W9VZP, on whose 50 mc signals he had reported. In an accompanying letter, W9VZP made it clear that this was the sort of SWL report that really *was* appreciated. It's just another way of saying that if *you* send a report that is different in any way from what all the others are sending, you will probably get a nice QSL back. The "difference" may be expressed by hearing someone on an unusual wave-band, or by hearing someone that all the rest of the gang don't hear.

Returning to the DX bands, R. A. Hawley (Goostrey) has continued his quest for MM's—very successfully too. He also tells us that the VK8 prefix, formerly used for North Australia, is now used for a "Flying Doctor" service, and that the shortage of 'phone from VS6 is because all the Hong Kong amateurs have to put in a spell of CW before being licensed for 'phone—irrespective of the pre-war experience.

R. Winters (Melton Mowbray) listens on 3·5 mc only with an Army 68T set, and heard EZ7CW working a PA and telling him that he was unlicensed. EZ was the old prefix for the Saar. Albrecht Heinrichs (Braunschweig) is DE-6777, and laments the lack of radio papers in Germany. He covered the 7 mc SLP and says that W6WAW/HZ was really a Maritime Mobile, as he was on *s.s. W. M. Thilgman*, bound for Singapore.

D. L. McLean (Yeovil) has also been out after the MM's and has collected some nice DX—W2IBZ/MM off Japan, and W3NKS/MM off Mozambique among them. D.L.M. says he spends about nine

hours per week at the receiver. R. L. Sketton, a 14-year-old from London, S.E.12, writes to say that the Norwegian prefixes are as follows: LA, normal amateurs; LB, portables; LC, amateurs in the Army; LF, commercial stations working amateur traffic; LI, expeditions. I might add that I think LJ is used by amateurs in the Norwegian Navy.

M. Harrison (Darlington) makes remarks about EA8EDZ, PX1C (cards for him are being returned !) and D4AWK/6 (already mentioned). He also comments on KC5I—but I am sure this was YR5I. E. G. Cressey (Wisbech) heard HZ1AB on about 25 mc. I imagine the IF of his set must have been about 1·5 mc ! J. M. Graham (Glasgow) remarks on the large number of ZC6 stations heard nowadays, and asks whether anyone knows if C4CA is genuine.

The same station, C4CA, crops up in a short list from D. I. Cruse (Sidcup)—another 14-year-old. On 14 mc he has heard YV1AM, HK1FI, CR7AF, OX3EE and lots of PY's. K. Callow (Mansfield) has pushed his post-war total up to 183, but as he didn't send a 1948 score he doesn't appear in the list this time. He heard AC4YN and also VK3QP/MM at Tahiti. K.C.'s "ticket" has just arrived, so he won't be spending quite so long at the receiver. Good luck to him, from us all.

W. Q. Sandeman (Rudyard) increased his total of countries by 19 in the last month or two, and will be glad to learn that UAØKGA *is* in Zone 19.

OK1AW looks over a few cards just in from the QSL Bureau !

The 1·7 Band

Keen followers of this band are L. M. Singletary (Honiton), R. Pascoe (Truro) and G. Bennett (Bovington), all of whom write on the subject. Unfortunately we haven't had any room for 1·7 mc Calls Heard this month, as they had a very good showing last time.

ZONES HEARD CLAIMS

Follow these simple rules when making your claim for "Zones Heard" :

(1) Use a post-card or separate sheet from your letter.

(2) Give the four figures in this order : 1948 Zones, 1948 Countries, Post-war Zones, Post-war Countries.

(3) When making your first 1948 Claim, send with it a list, in order of Zones, giving one station in each, with the date, time and frequency.

(4) When making additions to 1948 Claims, include only stations heard in the *two months* preceding the date of posting.

Set Listening Periods

February 28, 2100-2300 GMT—7 mc (no Europeans).
February 29, 0800-1000 GMT—14 mc (no W or VE).

Separate lists, please, for 'phone and CW ; all lists (including only *one* general list) and claims, with your story on the month's doings, to the DX Scribe, *Short Wave Listener*, 49 Victoria Street, London, S.W.1, by March 3. Good Luck and Good Listening !

CALLS HEARD

Please arrange all logs strictly in the form given here. Note, in particular, that the prefixes must be in alphabetical order, and that the number but not the prefix must be repeated with each callsign (e.g., W1AZ, 1BCR, 1CQP, 2DY, 2EF, etc.). The callsigns, after the number, must also be in alphabetical order. Where listening has been on more than one band, a separate list should be sent for each band, under the appropriate heading. In other words, study the layout of the lists below, and make yours exactly like them.

SET LISTENING PERIODS

28 mc

Jan. 25, 0830-1030 GMT

A. Frost, 18 Beechwood Avenue, Thornton Heath, Surrey.

'*PHONE:* HZ1AB, ST2JF VU2LJ, ZB1AK, ZL2FL.

CW: UA3ADS, UB5KBI, VK4AP, VU2LJ.

T. S. W. Strevens, 70 Thirlmere Ave., Lower Tilehurst, Reading, Berks.

'*PHONE:* CR9AM, HZ1AB, ST2JF, SVØAC, VU2AF, 2BG, 2LJ, W6PJN/KG6, ZB1AC, 1AH, 1AK.

J. M. Graham, 2 Kelvinside Terrace West, Glasgow, N.W.

'*PHONE:* CN8AW, FA8CF, HZ1AB, ST2JF, VK2AKR, 2AMU, VU2AF, 2BG, 2CQ, 2CS, 2LJ, W6VKV/I6, ZB1AC, 1AG, 1AH, 1AK, 2A, ZC6JL, 6MF, ZD2KC, ZL3JO, ZS1T. (*Rx : Marconi CR* 100.)

D. F. Willies, The Wilderness, Grove Road, Holt, Norfolk.

'*PHONE:* HZ1AB, SV1RX, VU2AF, 2BG, 2LJ, ZB1AC, 1AH 1AK, 2A, ZC6MF, ZD2KC. (*Rx : R*103/*A with converter.*)

"XYL," 43 Grenville Place, Brighton, Sussex.

'*PHONE:* HZ1AB, ST2CH, VU2AF, 2AM, 2LG, W6PJN/KG6, 6PMY/KG6, ZB1AC, 1AK, 1H, ZE2JV.

J. E. Denton, 28 Bismarck Street, York.

'*PHONE:* HZ1AB, ST2JF, VK2AK, VU2AF, 2BG, 2CQ, 2LJ, ZB1AC, 1AH, 1AK, ZD2KC, ZE2JV, ZL3JO, ZS1T, 6U. (*Rx : Eddystone* 504.)

N. D. Atkins, Gt. Sankey, Warrington, Lancs.

'*PHONE:* FA8CF, HZ1AB, KA1ABF, OQ5BL, ST2JF, VK2ANU, 2HAR, VU2AF, 2BG, 2CQ, W1PPN/MM, 6PJN/KG6, ZB1AC, 1AH, 1AK, 2KC, ZD4AL, ZS6C, 6FC, 6JB. (*Rx : 1-V-1.*)

E. G. Dommett, 38 Yonder Street, Ottery St. Mary, Devon.

'*PHONE:* CR9AM, HZ1AB, OQ5BL, ST2JF, VK2AKR, VU2AF, 2BG, 2LJ, W6PJN/KG6, W6VKV/I6, ZB1AC, 1AH, 1AK, ZC6MF, ZD2KC, 4AH, 4AL, ZL3JO, ZS6BG.

CW: UB5KBI, VK4AP. (*Rx : RME* 69.)

D. Garrard, 17 Hill House Road, Ipswich, Suffolk.

'*PHONE:* HZ1AB, ST2JF, VS7PS, 7VS, VU2AF, 2LC, 2LJ, W1PPH/MM, W6EJN/KG6, ZB1AC, 1AH, 1AK, ZD2KC, 4AL, ZE2JV, ZS6U.

Edwin Nottingham, Lyndhurst, Upper Poppleton, York.

CR9AM, FA8CF, HZ1AB, KA1ABX, ST2JF, SV1RX, ØAC, VK2AKR, 2AMU, VU2AF, 2BG, 2CQ, 2LG, W6VKV/I6, ZB1AB, 1AC, 1AH, 1AK, ZD2KC, ZL3JO, ZS1T. (*Rx : Skyrider* 5-10.)

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

'*PHONE:* HZ1AB, ST2JF, SV1RX, ØAC, VU2AF, 2LJ, W6PJN/KG6, 6VKV/I6, ZB1AC, 1AH, 1AK, ZC6JL, ZD2KC, 4AH, ZL3JO, ZS6FC, 6U. (*Rx : AR88LF.*)

A. W. Robertson, 149 Firs Drive, Cranford, Middx.

'*PHONE:* FA8CF, HZ1AB, ST2CH, VU2AF, 2LJ, W6PJN/KG6, ZB1AC, 1AK. (*Rx : 1-V-2.*)

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

'*PHONE:* CR9AM, FA8CF, HZ1AB, J8ASC, ST2JF, VK2AGU, 2AKR, 2AMU, VU2AF, 2BG, 2CQ, 2LJ, ZB1AC, 1AH, 1AK, ZC6MF, W1PPH/MM, W6VKV/I6, 6PJN/KG6, ZL3JO.

CW: HZ1AB, VU2LJ VS6AE, UB5KBI. (*Rx : Eddystone* 504.)

F. W. Lindley, 22 Panmure Terrace, Barnhill, Dundee.

'*PHONE:* FA8CF, HZ1AB, I1LW, MD5GW, ST2JF, VK2AKR, VU2CQ, 2LC, 2LJ, ZB1AC, 1AH, 1AZ, ZD2KC, ZL3JO, ZS1T.

CW: HZ1WS, VU2LJ. (*Rx: EF*54/*EF*50 *converter.*)

N. A. S. Fitch, 79 Murchison Road, London, E.10.

'*PHONE:* FA8CF, HZ1AB, ST2JF, VU2AF, 2CQ, W1PPH/MM, 6PJN/KG6, 6VKV/I6, ZB1AC, ZD2KC, 4AH, 4AL, ZE2JN, ZS6FC, 6U. (*Rx : Mains* 1-*V*-1.)

D. Kendall, 40 Aberdale Gardens, Potters Bar, Middlesex.

'*PHONE:* FA8CF, HZ1AB, OQ5BA, ST2JF, VS7PS, VU2LJ, W6PJN/KG6, 6PMY/KG6, ZB1AC, 1AG, 1AH, 1AK, 2A, ZD2KC, ZE2JV, ZS6FC, 6U. (*Rx : Home-Built* 14 valve Superhet.)

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

'*PHONE:* FA8CF, HZ1AB, J8AFK, ST2JF, VK5AE, VS7PS, VU2AF, 2CQ, 2LJ, W6PJN/KG6, ZB1AC, 1AH, 1AK, ZC6NF, ZD2KC, ZE1JH, 2JN, 2JV, ZL3FL, 4AO. (*Rx : 0-V-1.*)

W. N. Sandeman, Rock House, Rudyard, nr, Leek, Staffs.

'*PHONE:* CR9AM, FA8CF, HZ1AB, ST2JF, SV1RX, ØAC, VK2AMU, VU2BG, 2CQ, 2LJ, W6PJN/KG6, 6VKV/I6, ZE2JN, ZS1C, 6FC, 6U.

CW: PY2OE, VK2KW, 4AP. VS6AE, ZS5IK, 6JW, 6OY. (*Rx : Hallicrafters S*-36.)

G. P. Watts, 62 Belmore Road, Thorpe, Norwich, Norfolk.

'*PHONE:* FA8CF, HZ1AB, OQ5BL, ST2JF, VK6HL, VS7PS, VU2AF, 2CQ, 2LJ, W6PJN/KG6, W6VKV/I6, ZB1AC, 1AG, 1AH, 1AK, ZB2A, ZD2KC, ZE2JN, 2JV, ZS6FC, 6FT, 6LF, 6U. (*Rx : Hallicrafters S*-20.)

A. J. Slater, 72 Underdown Road, Southwick, Sussex.

'*PHONE:* CR9AM, FA8CF, HZ1AB, ST2JH, VU2AF, 2BG, 2LJ, W6PJN/KG6, 6VKV/I6, ZB1AC, 1AH, 1AK, ZD2KC, 4AH, ZE2JV, ZS1T.

CW: MI6ZJ, VK4AP, UB5KBI, ZB1AB. (*Rx : S.X.* 24.)

C. S. S. Lyon, 15 Ullet, Road, Liverpool 17.

'*PHONE:* FA8CF, HZ1AB, W6VKV/I6, ST2JF, VU2AF, 2BG, 2LJ, ZD2KC, ZS1T, 6U.

CW: UB5KBI, VK4AP, VS6AE, VU2GH, ZS6JW.

B. Needham, 31 Bomore Road, Kensington, London, W.11.

'*PHONE:* FA8CF, HZ1AB, KA1ABX, MD5GW, OQ5BA, ST2JF, VS7PS, VU2AF, 2BG, 2CQ, 2LJ, W6PJN/KG6, 6VKV/I6, ZB1AB, 1AC, 1AH, 1AK, ZC6MF, ZD2KC, ZE2JC, ZL3FL, ZS6U. (*Rx : R*208.)

7 mc

Jan. 24, 2100-2300 GMT

"XYL," 43 Grenville Place, Brighton, Sussex.

CW: CN8BI, FA8BG, 9IO, UB5KBQ, VE1CY, 1ED, 1RK, 2JH, 2KU, 2UI, 3BAW, W1AEH, 1AFI, 1EAX, 1JVP, 1LIP, 1NST, 1ON, 1ONX, 1POK, 1QGO, 1QOG, 1QWV, 2ASR, 2BBU, 2BSS, 2FEO, 2GPP, 2MUU, 2TYE, 2VDZ, 2VOH, 2VXU, 2WTJ, 3BBC, 3KLE, 3MWM, 3PIF, 4KOQ, 4KYI, 4MSU, 8DKR, 9CKM, 9QVG.

R. Pascoe, 6 Higher Moresk, Truro, Cornwall.

CW: EA8MM, FA8BG, MD5ZC, VE1RK, W1AQT, 1BW, 1PEG, 2GPP, 2OEC, 3CHV, 3RGW, 6WAW/HZ, ZS2CR. (*Rx :* 0-*V*-1.)

M. Harrison, 36 Southend Avenue, Darlington, Co. Durham.

CW: FA8BG, VE1CY, 1ED, 2ABV, 2JH, W1AEH, 1PEG, 1PMR, 1QLD, 1VY, 2MHX, 2UMR, 2WCO, 3BBC, 3CHV, 3DYU, 3NQB, 4KMF, 8HUK, 8KWU. (*Rx : R*1155.)

A. Frost, 18 Beechwood Avenue, Thornton Heath, Surrey.

CW: LB2XB, MD5ZC, UA3AK, 3KTB, UB5BC, VE1BV, 1CY, 1ED, 1RK, 2JH, 2JL, 2TA, W1DGS, 1DID, 1EAX, 1ONX, 1PEG, 1ZIS, 2OWA, 2PGU, 3BUP, 3DYU, 8HUK.

J. L. Hall, 14 Trossacks Road, London, S.E.22.

CW: FA8BG, MD5ZC, PY4IR, VE1BV, 1CY, 1ED, 1IM, 1RK, 2ABT, 2TA, 2UI, 3BBR, W1AEH, 1DGS, 1HNN, 1KMM, 1OTJ, 1PEG, 1PEK, 1PLO, 1PLU, 1POK, 1QLD, 2FRK, 2GPP, 2GVP, 2JNY, 2LBJ, 2MVQ, 2TBK, 2TLW, 2TYE, 3BBC, 3OAS, 4CIV, 4HX1, 4LOI, 4MBE/4, 4RGW, 8BLU, 8KRU, 8MFX, 8UQR, 8YBO.

A. Heinrichs, Kastanienallee 73, Braunschweig, Germany.

CW: FA8BG, MD5ZC, VE1RK, 2JH, W1DGS, 1KRV, 1ONX, 1PEG, 2ALB, 2BXU, 2GUR, 2GVP, 2JIB, 2JMP, 2OEC, 2QZK, 2SOE, 3DYU, 3LH, 3OAS, 4IJW, 6WAW/HZ, 6WDH/2. (*Rx :* 0-*V*-2.)

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

CW: VE1CY, 1RK, 2JH, W1ONX. (*Rx : Eddystone* 504.)

W. J. C. Pinnell, 40 Melville Road, Sidcup, Kent.

CW: FA8BG, MD5ZC, PY4IR, VE1CY, 1RK, 2JH, 2TA, 3BBR, W1AEH, 1EAX, 1GXY, 1ONX, 1PEG, 1QWV, 1VY, 2AMA, 2BXU, 2CJX, 2GGP, 2GP, 2JF, 2OWA, 2TJZ, 2UMV, 2UZN, 2VXU, 3BBC, 3MWM, 3NBX, 4MWH, 6WAW/HZ, 8MFX. (*Rx : V55R.*)

L. Collis, 6 Brighton Road, Banstead, Surrey.

CW: FA8BG, UA6SF (Crimea), VE1RK, 1UG, 2JH, 2TA, W1BW, 1DGS, 1LIP, 1NAR, 1NHT, 1ON, 1ONX, 1PEG, 1PLV, 1PMV, 1POK, 1UZ, 2AMA, 2CWV, 2IT, 2JAU, 2JIB, 2JNY, 2LBJ, 2TLW, 2UZN, 3BBC, 3KBT, 3MLZ, 3QVJ, 4LJJ, 6WAW/HZ, 8KRU, 9VQG, ØAXD.

W. N. Sandeman, Rock House, Rudyard, nr. Leek, Staffs.

CW: FA8BG, MD5ZC, VE1CY, 1RK, W1BTT, 1BW, 1ONX, 1PEG, 1POK. 2BXU, 3DYU, YR5I.

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

CW: FA8BG, 9IO, FY8AL, MD5ZC, VE1BV, 1CY, 1RK, 2JH, 3ABW, 3MI, W1ONX, 1OQK, 1PLV, 1QIS, 1YBX, 2FRK, 2MVQ, 2OEC, 2OLZ, 2SMY, 2UK, 3CHV, 3KBT, 4GRN, 4MWH. (*Rx :* 0-*V*-1.)

C. S. S. Lyon, 15 Ullet Road, Liverpool 17.

CW: FA8BG, 9IO, W6WAW/HZ, MD5ZC, PY4IR, UB5BC, 5KBB, VE1CO, 1CY, 1RK, 2FM, 2JH, W1DID, 1EAX, 1LIP, 1MKX, 1MVC, 1NHT, 1ONX, 1PMR, 1PEG, 2CJX, 2JAU, 2JF, 2TYE, 3BBC, 3BVN, 3DYU, 4IJW, 8HUK, 8KRU. (*Rx :* 0-*V*-1.)

G. P. Watts, 62 Belmore Road, Thorpe, Norwich, Norfolk.

CW: CN8BI, CO2LT, FA8BG, MD5ZC, UA3KTB, VE1BV, 1CY, 1RK, W1BW, 1EAX, 1ONX, 1PEG, 2ALB, 2VJB, 3BV, 6WAW/HZ. (*Rx : Hallicrafters S.*20.)

A. J. Slater, 72 Underdown Road, Southwick, Sussex.

CW: CN8BI, FA8BG, MD5ZC, UB5BC, VE1CY, 1RK, 2JH, 2TA, W1BNB, 1LIP, 1ONX, 1OTO, 1PEG, 1POK, 1QMD, 1RS, 2GUO, 2GPR, 2JNY, 2OCC, 2SW, 3BBC, 6WAW/HZ. (*Rx : S.X.* 24.)

GENERAL

7 mc

J. L. Hall, 14 Trossachs Road, London, S.E.22.

CW: CE3DQ, 3DZ, CM2AT, 2BU, 2DO, 2PF, CO2PC, 6AV, CN8BI, 8MZ, EA8FT, 8MM, FA8BG, 8IH, 8HQ, 9IO, G3AHY/EP, J9ATT, KP4AO, 4CP, 4KD, KZ5ND, LU2LE, MD1E, 5ZC, OX3MG, 3ME, 3SF, PY1AHL, 1FW, 1LQ, 2AFS, 2CK, 2QW, 4CI, 4IE, 4ZG, 7WI, TI2WR, UA3BD/UP2, UA9KCA, UD6BM, UG6AB, 6WD, UH8AA, UI8AA, UJ8AE, VE4RO, 8MH, VK2WH, 3KY, 3QN, 3XB, 2PA, VQ5JTW, W5AGZ, 5ANE, 5BK, 5BRS, 5ERM, 5EWZ, 5RX, W6ANN, 6ITY, 6KRI, 6PUZ, 6RIE, WØCFB, ØKSY, ØMKR, ØSO, XE2LA, ZB1LR, ZB2A, ZC6BK, 6SM, 6WL, ZD3B, ZL2MM, 2QM, 2VB, 3FP, 3JF, 3LL, 4FT, ZS1M, 2G, 5U.

'PHONE: CN8MZ, FA8BE, 9IO.

A. Baldwin, 28 Wallwood Road, Leytonstone, E.11.

CW: CM8CC, ET3ZT, PX1C, VE1ED, 1MU, VP9D, W1GTY, 1RQ, 2GVP, 2RCL, 4KPC, 4LUR, 4MVU, 5NGL, 9BRN.

M. Harrison, 36 Southend Avenue, Darlington, Co. Durham.

'PHONE: CN8MZ, FA8BE, ZC6A.

CW: CM7RS, CO2PC, FA3JY, 3WW, 8IH, HH2CW, KP4CP, MD5KW, 5PC, UD6BM, UI8AB,, VE1CY, 1ED, 2ABV, 2DU, 2JH, 2TO, 3NS, VO2BF, VQ3WCP, W1AFI, 1AKG, 1BHK, 1BW, 1EAX, 1EXH, 1FMH, 1GKJ, 1GVH, 1GXY, 1HKG, 1PEA, 1QLD, 1QUQ, 1VY, 1WU, 2AIS, 2FA, 2HFF, 2HFJ, 2HFM, 2ILO, 2JA, 2LKM, 2LKS, 2MDM, 2MHX, 2NUU, 2OLG, 2ORN, 2OUQ, 2QKQ, 2RDK, 2RIJ, 2RXR, 2SLF, 2SMK, 2SYE, 2UEA, 2UGV, 2UMR, 2URQ, 2UYX, 2WFS, 3BBC, 3DCS, 3CHV, 3DYU, 3JPE, 3JTC, 3NF, 3NRA, 3NRE, 4MDQ, 8HUK, 8KWU, 8TNB, 8ZYE, 9BJM, ZC6BK, 6SM. (*Rx : R*1155.)

R. Pascoe, 6 Higher Moresk, Truro, Cornwall.

CW: CN8BI, 8FB, 8MZ, 8NZ, EA8MM, EL4A, FA8BG, G3AHY/SU, HH2CW, K4NAA, MD5ZC, PY1AHR, 4IE, 6AK, 7WI, UA1BE, 4HC, 6UC, UR2KAA, VE1CY, 1RK, 2JL, 3AI, 8OW, W1AKN, 1AQT, 1AW, 1BOR, 1BW, 1PEG, 2BSS, 2CBS, 2EWT, 2EYS, 2GPP, 2LMH, 2NGW, 2NWY, 2OCC, 2OEC, 2RDK, 2RPH, 2USA, 3CHV, 3FJU, 3JEV, 3KQJ, 3QT, 3RGW, 4COD, 4L0R, 6WAW/HZ, 9MXP, ØJNC, ZC6WF, ZD3B, ZL2MM, 2QM, 3FP, 3JF, 3LL, 4IE, ZS2CR 6OV. (*Rx :* 0-*V*-1.)

A. J. Slater, 72 Underdown Road, Southwick, Sussex.

'PHONE: CN8AV.
CW: CN8BI, EA8MM, FA8BG, 8DG, 9IO, KP4KD MD5ZC, OX3ME, UB5BA, 5BC, 5KAB, 5KAU, 5KBA, 5KBI, UC2AC, 2AD, 2BE, 2CD, 2KBA, VE1AP, 1CY, 1GT, 1RK, 1UA, 1WR, 2JH, 2TA, 3AGX, VK3QH, 3ZC, VO2R, VQ8AA, W4AAM, 4DNR, 4EFO, 4FFN, 4IVN, 4LLH, 4LSK, 4WV, 6WAW/HZ, ZC6CL, ZS2EC. (2000-2359 *GMT: January* 1-31 ; *Rx : S.X.*24.)

C. S. S. Lyon, 14 Ullet Road, Liverpool, 17.

CW : CN8MZ, FA8BG, KP4DO, 4KD, LZ1B, OX3BG, PY1FW, 2ADI, 2OB, UA1BE, 4FC, 6KJA, UB5KBI, UJ8AD, UO5AE, UR2KAA, VE1IC, 3AWB, VP4TR, VQ4KTH, 5JTW, W1BTT, 1IWU, 2LKN, 2VX, 3AOO/2, 3GIX, 4LOI, 4MPE, 8IZQ, 9CIA, 9CKM, ØCFB, YR5I, ZB1LR, ZC6BK, ZL2MM, ZS1FN, 2CR. (*Period January* 4-*February* 2.)

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

CW : FA8BG, 8HQ, 9IO, FY8AL, MD5ZC, VE3ABW, 3MI, 7AC, 8OW, W4GCW, 4GRN, 4JFW, 4LLH, 4MFR, 4MVU, 4WMH, 4TMW, 5QZ, 6ITY, 8BHW, 8BTV, 8DKR, 8DRA, 7MJ/9, 8NGC, 8NJI, 8UMA, 8WCC, 9CHV, 9GHX, 9JJZ, 9VGN, ØMHC, ØSO, ØZKT, ZL1IB, 1MN, 2QM. 3LL, 4FT, 4IH. (*Rx :* 0-*V*-1.)

14 mc

D. F. Willies, The Wilderness, Grove Road, Holt, Norfolk.

'PHONE : AR8AB, CE5AW, CM9AA, CN8BA, 8BK, CO2EH, CR9AG, 9AM, EK1DI, EL2A, 3A, 5A, FA8CF, HK4CO, HZ1AB, J9AAR, 9ABO, KA1ABX, 1CB, KP4CU, 4DP, 4EZ, LU3DH, 4BC, LY1BC, MD5LR, OQ5AR, 5BA, 5BL, 5BR, PY4RK, PZ1A, ST2CH, 2JF, 2MP, SV1GY, 1RX, VE5RD, 6TM, VK2ADC, 2AFE, 3NP, 5AE, 6HL, 6HM, VP4TU, 4TZ, 5AL, 6CDI, 6JC, 6KM, VQ2DH, 3EDD, 4ERR, 4GWB, VS7AC, 7PS, VU2AF, 2BG, 2BJ, 2DG, 2GB, 2LJ, 2QV, 7BR, 7JU, W1PPH/MM, 2LDH/MM, 2QIC/MM, 5NKA/MM, 6PJN/KG6, 7FS/MM, ZB1AC, 1AG, 1AH, 1AK, 1E, 2A, ZC6JL, 6JP, 6JU, 6MF, 6NF, ZD2KC, 4AL, 4AH, ZE1JH, 1JM, 1JX, 1JZ, 2JV, ZL3CX, 3JO, 4AO, 3CN, ZS1DH, 1T, 6AJ, 6CT, 6EB, 6FU, 6GF. 6JB, 6LF, YV4AL, 4AM. (*Rx :* 103/*A with converter*).

G. Braithwaite, 15 Ayr Street, Belfast, N.1.

CE3AB, CN8AW, 8BA, 8BB, 8BK, 8EG, 8MA, 8MB, 8MI, 8VA, CO7VP, CX2AX, 2CL, EA7BA, 9AI, EK1AD, EL5A, HK1FQ, I1AW, 4FFL (Sardinia), LU4AA, NY4ZQ, OX3BD, 3BF, 3GE, 3GX, PY1AK, 1ACQ, 2CK, 7BN, 7JE, SVØAB, TR1P, UA1BG, VE8NB, 8PA, VO2AV, VP2GB, 2GE, 6MO, 9F, VQ3ALT, 4ERR, 4NSH, VU2LU, YV5AB, 5AY, ZB2A, ZC6JL, 6JR, ZE1JS, 2JN, ZS5Q, 5DW, ZL2BT. (*Rx : V55R.*)

K. R. Toms, 42 Hillside Avenue, Boreham Wood, Herts.

'PHONE : AR8AB, CE1AI, 1BE, 3AB, 3AE, 6BQ, CO2LA, 7VP, 8BV, 8MP, CP5EP, 5ET. CT2AB, CX2AX, 2CO, 5AP, D4AVF/EL, EA9AI, EK1DI, EL5A, ET3AG, FT4AC, 4AF, 4AI, HH2CW, 2X, HK1AT 1BE, 1BL, 1FI, 1FQ, 1GE, 3AO, 3BI, 3CK, HZ1AB, KH6CT, 6IJ, KP4BG, LU1JC, 3BH, 7CK, 7CW, 7DX, MD1H, 2G, 5AM, 5AP, 5AR, 5BL, 5LR, NY4ZQ, 4GZ, OA4M, OQ5AV, OX3BD, 3GE, 3GF, 3GG, PY1AC, 1ACQ, 1CR, 1KZ, 2AK, 2JU, 4BU, 4QX, 6AF, 7BN, 7PA, 7VA, PZ1J, ST2CH, 2GE, TI2AY, 2NY, 2OA, 2RC, TR1P, VE6FC, 7PO, 8MB, 8NB, 8PA, VK2AGU, 2BM, 2BT, 2IL, 2NG, 2NI, 2TE, 3AG, 3CA, 3DH, 3HF, 3KU, 3LN, 3YN, 4VD, 5TR, VO1AC, 1Y, 2BF, 2BJ, 2BN, 2BP, 2M, 4Q, 4V, 6J, VP2GB, 2GE, 4TAU, 4TAX, 6MO, 6MY, 9F, VQ2AG, 2JM, 2PL, 3ALT, 4KTB, 4NSH, VS2BU, VU2LU, 2MB, YS3PL, YV3AL, 5AB, 5ABT, 5AV, 5AY, 8AG, ZB1AH, 1AI, 2A, ZC6JL, 6JM, 6JP, 6JR, 6JU, 6JV, ZV3B, ZE1JI, 1JS, 2JN, 2JV, ZL2BT, 3CV, ZS1B, 1BJ, 1BU, 1BV, 1ED, 1EH, 1EU, 1GR, 1OX, 1T, ZVR, 2CI, 5B, 5BS, 5Q, 6BY, 6DW, 6EA, 6GI, 6JC. (*Rx : Philips PCR.*)

28 mc

N. A. S. Fitch, 79 Murchison Road, London, E.10.

'PHONE : AR8AB, CE3AB. CM8AA, CN8BV, FA3JY, 8CF, HZ1AB, J9AAR, KP4EZ, LU3DH, MD5GW, 5KW, 5LR, 5OV, ST2JF, 2MP, TG9JK, 9TK, VE5EA, 5RD, 5XU, 6LL, 6MJ, 6PP, 6TA, VP2KS, 7JC, VQ2DH, 4AWH, VS7AC, 7PC, VU2AF. 2CQ, 2LJ, 7BR, W1PPH/MM. 3NKS/MM, 6PJN/KG6, 6VKV/I6. ZC1AF, ZD2KC, 4AH, 4AL, ZE2JN, ZL4BN, 4CN, ZS6EB. 6EJ, 6FC, 6JB, 6LF, 6U. (*Rx : Mains* 1-*V*-1.)

B. D. Atkins, Gt. Sankey, Warrington, Lancs.

'PHONE : C4CH, CX1DB, EK1DI, EQ2L, FA3JY, 8CF, HC1AK, HZ1AB, KA1ABF, KP4DP, KZ5SW, OQ5AR, 5BL, ST2CH, 2JF, TG9RV, VK2ANU, 2HAR, 5AE, VP6EJ, 6FO, 5JM, VQ3EDD, VS2BU, VU2AF, 2BG, 2CQ, 2DG, 2QV, 2TM, W1PPN/MM, 5AXI/MM, 6PJN/KG6, 8QPH/MM, XZ2KW, ZB1AC, 1AF, 1AH, 1AI, 1AK, 2KC, ZD4AL, ZE1JE, 1JH, 1JO, ZS1AX, 1BV, 1FD, 1S, 1T, 6AH, 6C, 6EB, 6FC, 6GI, 6JB, 6JM, 6JP, 6JV, 6LF, 6U. (*Rx :* 1-*V*-1.)

D. Kendall, 40 Aberdale Gardens, Potters Bar, Middlesex.

'PHONE: AR8AB, CE3AB, CM9AA, CN8AB, 8BA, 8BK, 8EH, 8MZ, EK1DI, EL3A, 5A, FA3FB, 3JY, 8CF, HC2OA, HH2CW, HK1AX, 3AB, 3BI, 4CO, HZ1AB, J9ABX, KA1CB, KG6AAF, 6AD, KP4DP, 4EZ, KZ5FW, LU2DM, 3DH, MD5BO, 5DW, 5KW, 5LR, 5TS ,7RJ, OA4BG, OQ5AR, 5BA, PY2LM, ST2CH, 2JF, 2MP, SVØAB, ØAB/A, ØAC, 1RX, TF3EA, TG9RV, UA1AA, 1AB, 1BE, VE4FU, 4CQ, 4SH, 4SJ, 5BA, 5EK, 5RB, 5TA, 5XU, 6EY, 6GA, 6GY, 6ID, 6LJ, 6NJ, 6TM, VK2ADC, 5KL, 6HL, VO2AP, 2T, 2Z, VP2GB, 2KS, 4TAX, 4TT, 6CDI, 6FO, 6KM, VQ2DH, 3EDD, VS7AC, VU2DG, 2LJ, 7BR, W1PPH/MM, 2VZE/MM, 2WMV/C9, 3NIC/MM, 4LGP/KP4, 6PJN/KG6, 6VKV/I6, 7RNT/MM, 9TKS/KP4, YV4AM, ZB1AB, 1AC, 1AG, 1AH, 1AK, 1L, 1S, 2A, ZC6JB, 6JU, 6NF, ZD2KC, 4AH, ZE1JH, 1JM, 1JO, ZL3AO, 3AP, 3AW, 3BX, 3FL, 3JO, 4KN, ZS1AX, 1P, 1T, 5DE, 5Q, 6CM, 6EJ, 6FN, 6GD, 6JB, 6JI, 6KS, 6LF, 6NE, 6U, 6W. (*Rx :* 14 *valve home built Superhet.*)

A. W. Robertson, 149 Firs Drive, Cranford, Middlesex.

'PHONE: CN8BA, EK1DI, FA8CF, HZ1AB, J9AAR, 9ABO, KP4DP, 4EZ, LU2DH, ST2JF, TF3EA, VK5AE, VP6KM, VU2AF 2LJ, W6PJN/KG6, ZB1AC, 1AK, ZS1T. (*Rx :* 1-*V*-2.)

27 mc

D. Kendall, 40 Aberdale Gardens. Potters Bar, Middlesex.

'PHONE: W1AJO, 1FT, 1MIO, 1OFU, 2ABQ, 2DSU, 2HH, 2KKS. 2LUB, 2RKT, 2YL, 3LT, 3NNX, 4BCO, 5BUZ, 8ATK, 8DAL, 8INS, 8JRG, 8KUW, 8VDC, 9RWC. (*Rx :* 14 *valve home built Superhet.*)

3·5 mc

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

'PHONE: GD2FRV, 6IA, HB9AB, LX1JW, OZ7HQ, 8YL, VE1EE, 1LW, 1PX, 3ART, VO6J, W1BHC, 1EMF, 2CCI, 2KKO, 2OEC, 2RDZ, 2RUI, 3BTK, 3FJU, 3HOF, 4CPG, 4CPK, 4MGZ, 9BMD. (*Rx : AR88LF.*)

C. S. S. Lyon, 15 Ullet Road, Liverpool 17.

'PHONE: EA3OS, PY4QE, VE1GR, 1IE, 1KP, 1LG, 1QW, VO1I, 1T, 2K, 2W, 6J, W1AAH, 1CNX, 1DAS, 1DHD, 1FAU, 1GIX, 1MZQ, 1PCH, 1ZE, 4DCQ, 4DCW, 4KMS, 4LT, XE1A.

CW: FA8BG, OX3ME, TA1UN, VE1BB, 1EY, 1KQ, 1RF, 2SC, 3AGX, W1AQE, 1BPX, 1CUN, 1DEG, 1GUC, 2AJR, 2CAY, 2EQS, 2LRW, 2SUG, 3FQZ. 3GBB, 4AAV, 4BOL, 4ETS, 8BAS, 8HCL, 8SFI, 9AEH, ZC6BK, ZL4GA. (*Period : Dec.* 31-*Feb.* 3. *Rx :* 0-*V*-1.)

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.

CN8MZ 38 *Mitraillette-Quercy, Rabat, French Morocco.* Requests reports on 7059, 7100, 14390 and 28220 kc 'phone and CW.

CR6AI *P.O. Box* 51, *Lubango, Angola, Portuguese West Africa.* Operating 'phone and CW on various frequencies in 14 mc band, 1600-2300 GMT.

D2FP *Sergts. Mess, RAF Station Wahn, B.A.O.R.* 19. Reports on VFO-controlled 7 and 14 mc 'phone, operating all day week-ends and Wednesdays, and 1700-2200 GMT daily.

D2IA *"F" Troop Signals, Osnabruck, 5 RHA, B.A.O.R.* 10. Operating 'phone on 3·5 mc, 2000-0100 GMT, and on 7 mc 1200-1330 GMT daily. 100 per cent. QSL station.

EI9S *Lt. T. J. Sheerin, Sig. Corps, Curragh Camp, Co. Kildare, Eire.* Reports wanted on 7 and 14 mc CW, operating 1800-2359 GMT daily.

F3RA 18 *Rue de Vignolles, Gretz, S-et-M, France.* Reports requested on 3·5, 7, 14 and 28 mc CW and 'phone ; operating periods irregular.

F9DW 4 *Avenue d'Huart, Longwy, M-et-M, France.* Operating 'phone and CW on 3·5, 7, 14 and 28 mc bands, most evenings and 1200-1300 GMT daily. Uses VFO on 3 5 and 7 mc, with CC on HF bands.

G2BIM *Carlton, Longpark Hill, Maidencombe, Torquay, S. Devon.* Reports requested on 1·7 and 3·5 mc CW and 'phone ; latter particularly wanted, with critical comments on quality.

G2BZQ 99 *Glebe Road, Cambridge.* Reports on QRP CW on 7, 14 and 28 mc bands, operating 1900-2000 and 2215-2315 daily ; also 1400-1600 and 1700-2000 week-ends. 100 per cent. QSL station.

G2CLO 23 *Seamer Street, Scarborough, Yorks.* Operating CW on 7025 and 7065 kc, daily after 1700 GMT and during week-ends. 100 per cent. QSL station.

G2DBF 80 *Victoria Road, Bournemouth, Hampshire.* Wants reports on 58·7 mc transmissions, operating 1200-1300 on Sundays and after 2100 on weekdays, using 'phone and CW.

G2DUP 46 *Loftus Road, London, W.*12. Reports wanted on 14070 kc CW from distances over 1,000 miles ; operating Thursdays 1900-2030, Saturdays 0900-1030, and Sundays 0900-1030 and 1630-1830 GMT. All reports QSL'd.

G2FWP 3 *Police Cottages, Lyndhurst, Hants.* Repo ts wanted on 3510 and 7040 kc CW ; operating times irregular.

G2HA 5 *Macclesfield Road, Buxton, Derbyshire.* Requests reports on 7 and 14 mc CW, spot frequency 7180 kc, operating 1400-1500 and 1830 GMT onwards.

GW3ALE *Holmestower, Dinas Powis, Glam., S. Wales.* Operating VFO-controlled CW and 'phone near 1806 kc, daily after 2230 GMT.

G3BWR 31 *Wood Lane, Prescot, Lancs.* Reports from over 200 miles on 1806 kc CW, and over 3,000 miles for 14 and 28 mc CW transmissions ; operating daily after 1800 GMT, and during week-ends 0900-1600 GMT.

G3BYQ *P.O. Radio Station, Leafield, Oxford.* Reports requested on 3510, 3547, 7020, 7095 and 14040 kc CW ; no fixed operating periods.

G3CFO 3 *Diamond Terrace, Greenwich, London, S.E.*10. Reports wanted from south and south-west on various CW frequencies in 3·5 mc band ; 100 per cent. QSL station for reports from this area.

G3CGD 30 *St. Luke's Road, Cheltenham, Glos.* Welcomes all reports on QRP CW transmissions on 7073 and 14146 kc ; operating periods irregular.

G3CKL 180 *Dominic Drive, London, S.E.*9. Requests reports on 3507, 3512 and 7010 kc CW, operating periods 1830-2300 GMT Mondays to Fridays, and 1400-2300 GMT week-ends ; input 8 watts. Genuine SWL reports QSL'd 100 per cent.

G3CMY 62 *Clifton Road, Weston-super-Mare, Somerset.* Operating CW, VFO-controlled and with various crystals, on 3·5, 7 and 14 mc, active most days. Reports on 7 and 14 mc from outside U.K. only.

G3DCB 27 *Elms Road, Worksop, Notts.* VFO-controlled CW on various frequencies in 1·7, 3·5 and 7 mc bands. Operating most evenings after 1800 GMT ; all reports acknowledged.

G3DFE 114 *Gloucester Place, London, W.*1. Reports requested on QRP CW transmissions in 7 and 14 mc bands from distances outside radius of 100 miles from London.

G3PZ 254 *Cheltenham Road, Gloucester.* Operating CW and 'phone on 50·1 and 58·68 mc, 2130-2300 GMT most days.

G3QZ 102 *Camrose Avenue, Edgware, Middlesex.* VFO-controlled 'phone on 3·5, 7 and 14 mc ; reports wanted from area south of London.

GM4HZ *Dyce Airport, Aberdeen, Scotland.* Operating 14086 kc CW, 14340 kc 'phone and 28172 kc CW and 'phone, during periods 0900-1230 and 1500-2000 GMT.

G5BS/A *F/Lt. C. S. Bradley,* 16 *MU, RAF Stafford, Staffs.* Would appreciate reports on 3767, 14100 and 14300 kc transmissions under above call.

G5XF 1088 *Manchester Road, Castleton, Rochdale, Lancs.* Operating 'phone and CW on various frequencies in 1·7 mc band, 1700-1745 and 2030-2230 GMT daily (1030-1300 on Sundays), and also on 3·5 mc, 2030-2230 GMT.

HB9BP *Dachslernstr.* 89, *Zurich-Altstetten, Switzerland.* Reports requested on 3500-3600 kc CW, operating 2000-2200 GMT.

I1AOF *Via Properzio* 2, *Roma, Italy.* Reports wanted on 7, 14 and 28 mc CW and 'phone transmissions.

I1AOH *Via Montevideo* 15, *Genoa, Italy.* Operating 'phone and CW on 14 mc band during periods from 1100, 1800 and 2200 GMT daily.

KP6AA *Palmyra Island, Central Pacific, via Hawaii.* Operating VFO-controlled 'phone and CW on all bands at irregular periods.

KZ5SW *Box* 577, *Howard Field, Panama Canal Zone.* Reports requested on 28520 kc 'phone, operating 1200-2200 GMT daily.

LU4DJN *Avenida San Martin* 333, *Ramos Mejia, F.C.O., Buenos Aires, Argentina.* Operating CW on 14016 kc from 2200 GMT and on 28032 kc from 1500 GMT.

LX1AC *Rue Pierret* 1*A, Luxembourg.* Operates 'phone on all bands 3·5-56 mc, during periods 1000-1200, 1300-1500 and 1700-2359 GMT.

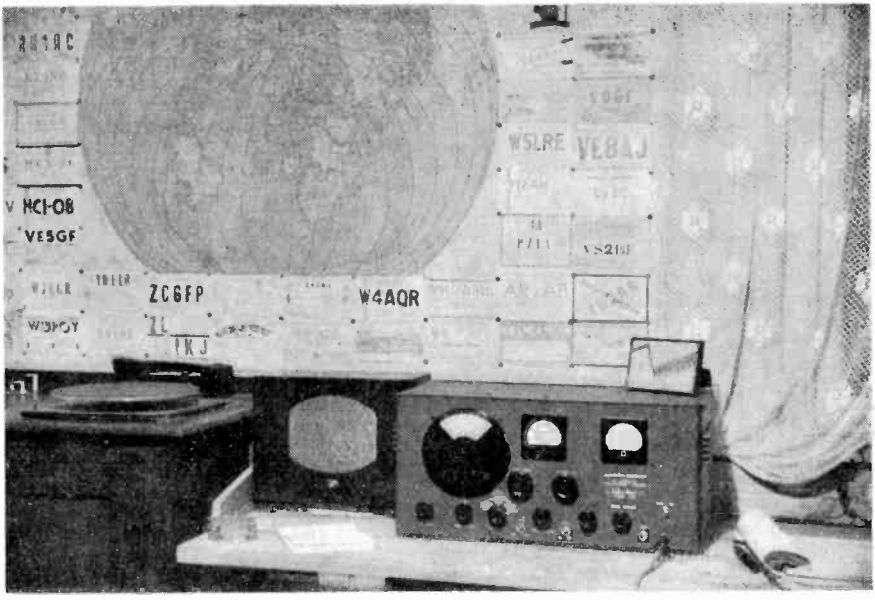
OH6OB *Bror Eng, Nykarleby, Finland.* Operating CW in band 3500-3650 kc, 1600-2200 and 0500-0600 GMT daily.

OK1DR *P.O. Box* 36, *Pardubice, Czechoslovakia.* Operating 'phone in bands 3685-3950 kc, 14150-14250 kc and 28200-28600 kc ; 100 per cent. QSL station.

OZ9H *Bernstorffsveg* 13*A, Hellerup, Denmark.* Operating 'phone on 3·5, 14 and 56 mc bands.

PY1HQ *Rua Major Fonseca* 10, *Sao Januario, Rio de Janeiro, Brazil.* Reports requested on CW transmissions 14000-14100 kc, 1800-2359 GMT ; and 28 mc CW, 0700-1800 GMT.

PY4AE *Praca Princeza Izabel* 25, *Pocos de Caldas, Minas Gerais, Brazil.* Requests reports on 'phone and CW on 7055, 14073, 14110 and 28146 kc CW and 'phone ; operating during periods 0900-1100 and 2000-2300 GMT.



SWL STATIONS

No. 9

A. J. SLATER, 72 Underdown Road, Southwick, Sussex, is a well-known correspondent to our DX features and his station will be of interest to many readers.

The receiver is an SX-24, purchased second-hand some time ago, which had to be put in order for serious work. Though the Rx side is not extensive (the other item of equipment is a record player) the aerial system is. For the LF bands, A. J. S. has a 132-ft. end-coupled long-wire, used on 1·7-7 mc. For 14 mc, he has two dipoles, E-W and N-S, delta-matched with 600-ohm line, giving pretty well all-round coverage on that band. On 28 mc, he uses a two-element beam, also coupled through 600-ohm line and T-matched.

To date, listening has been mainly on 'phone, with 36Z and 142C heard; a total of 91 countries has been verified post war, with 44 of the American States. Finding all this a little too easy, A. J. S. is now working up his CW and giving more attention to 7 mc, on which band DX becomes more relative!

His hope for the future is, of course, a ticket, for which studies are proceeding—we are sure all readers will want to wish him luck.

CAN ANYONE HELP?

G. S. Hall, 17 High Street, Needham Market, Suffolk, would like to hear from readers who have constructed the A.S.W.6 receiver. Please write him direct.

The VHF End

Amateur Bands—DX Possibilities—Recent Results—VHF Calls Heard

by **A. A. MAWSE**

(We have pleasure in offering this new feature, to be contributed regularly each month by an authority in the VHF field, in the hope that it will stimulate more SWL activity on the higher frequencies. The response to the February Editorial suggests that many readers will welcome "The VHF End."—Ed.)

THE response to last month's Editorial has decided us to embark on a monthly VHF column, to serve as a medium for the exchange of information and opinion amongst those listeners who are interested in frequencies above 30 mc, and at the same time encourage others to explore these fascinating regions.

Amateur Bands

At present the main interest in the VHF spectrum is, undoubtedly, the amateur five- and six-metre bands, and this month we shall be mainly concerned with these. British, as well as most European, amateurs are at present licensed to operate in the band 58·5 to 60 mc. In most other parts of the world, the amateur band is 50 to 54 mc, but some G stations are permitted to use these frequencies until April 30. In the future, bands around 144 and 420 mc are likely to become available to the amateur.

DX Possibilities

Normally, the range of VHF waves is very limited and not many years before the war it was generally considered that reception beyond the optical horizon was exceptional. But with the improved technique in both transmission and reception during recent years, together with the greater activity all over the world, it is now true to say that conditions suitable for long-distance reception exist often enough to make the 5- and 6-metre bands of real interest to both the DX hunter and the experimenter.

Propagation

There are three main methods by which VHF signals can be propagated beyond the horizon. First, at the peak of the sun-spot cycle, every 11 years or so, the maximum usable frequency (MUF) rises considerably above normal and may reach 60 mc on rare occasions. During the past autumn, which has seen one of these peaks, signals from North America, Egypt and South Africa have been received in this country on frequencies around 50 mc (6 metres). Among the outstanding stations have been W1HDQ, VE1QZ, ZS1P and ZS1T, SU1HF and MD5KW. The last of these, in the Suez Canal Zone, tells us he QSL's every 6-metre report received. At the moment of writing, the MUF has fallen and the prospects of further DX reception during February and March do not appear so good as was thought a month or two ago. But a spell of intense solar activity might well change the picture, so it's worth having a regular check on the band. Morning hours are best for MD5 and SU, and the afternoon for the North Americans. And don't forget, 6-metre DX stations appreciate reports and will amost certainly QSL !

Sporadic-E

A second type of long-distance reception occurs mainly in the summer months during daylight hours. It is very erratic in its appearance and produces signals from about 400 to 1,200 miles. This is known as Sporadic-E, since it is thought to be due to a sporadic ionisation at the level of the E layer, which causes intense reflection. Frequencies as high as 90 mc may be affected, and double-hop reflection is a possibility, so doubling the range. During last summer, starting in early May and continuing to early September, signals from all parts of Europe and as far as Malta and Algeria were audible in this country on many days. Elaborate aerial systems are not required for this type of DX. We heard our first Spor-E signals from Italy on an aerial only 10 ft. high, but that is not to say that a good aerial is not an advantage.

GDX

Under certain *weather* conditions, the range of reception of VHF signals can be extended up to several hundred miles. Warm settled weather favours this extension, but space will not permit us to deal in detail with the mechanism of this type of propagation this month. To many VHF operators DX of this kind (GDX as they call it) is the most thrilling of all. It needs really efficient apparatus all round, as the signal strengths are usually very low, and location does matter. Naturally winter months are not the best for this

FIVE-METRE CALLS HEARD

N. Druce, 13 Nursery Avenue, Shirley, Surrey.

CW: G2AJ, 2BB, 2BRR, 2CIW, 2HDY, 2KG, 2MR, 2NH, 2WS, 2YL, 3BLP, 3BTC, 3CU, 3CWW, 3HT, 4CG, 4IG, 5AS, 5MA, 6GB, 6LX, 6PG, GUH, 6VX, 8IG, 8SM.

PHONE: G2AJ, 2JU, 2NH, 2MV, 4IG, 4KD, 4NT/A, 5AA, 5AS, 5CD, 6LX, 6NF, 6VX, 8KZ. (*Eddystone convertor into 7-valve superhet : Aerial, indoor half-wave dipole.*)

P. J. Towgood, 6 Guildhill Road, Southbourne, Hants.

Less than 25 miles : G2NM, 2XC.

25 to 50 miles : G2CWL, 5US, 6XM, 8RS, 8TS.

Over 50 miles : G2AJ, 2BMZ, 2KG, 2MR, 2NH, 2YL, 3BLP, 4JO, 5AS, 5MA, 6VX, 8KZ, 8SM. (*January 17-25, receiver 1-V-2, EF54, EF50, EF36, EL32.*)

J. E. Denton, 28 Bismarck Street, York.

G2FJD, 2IQ, 2MA, 2TK, 3APY, 3CC, 3COJ, 3WQ, 4JJ, 5BD, 5GX, 5YV, 6BX, 6MN/A, 6OS, 6YO, 8SJ. (*Heard fairly regularly on Eddystone 504 with 3-stage convertor.*)

R. L. G. Kemp, Hye House Cottage, Crowhurst, Battle, Sussex.

F8NW, G2HLF, 2QT, 3AAK/A. (*January 18-25, on 1-V-0 receiver, using EF50's.*)

GDX, but we include a few Calls Heard lists to give you some idea of what can be heard under the *worst* of conditions. As an encouragement, during the recent Five-Metre Contest run by the *Short Wave Magazine*, over 140 stations were reported active on the 58 mc band, ranging from Newcastle in the north, to Torquay and Hythe in the south, while there is also activity in GM and GI.

Some Receiver Hints

From time to time articles describing VHF receivers will appear in the *Short Wave Listener :* those readers who have back numbers will find a design for an RF and detector unit, employing EF50's, in the December, 1946, issue. This is for use with any LF amplifier. The issue itself is now out of print, but if there is sufficient demand a reprint of the circuit can be given here. A circuit for an autodyne type of receiver is also ready for publication, and we may be able to get it into this issue of the *Short Wave Listener*. On the subject of battery receivers, pre-war we ourselves used an 0-V-1, employing a PM2HL detector, and on it heard much Spor-E and GDX. But remember, the normal battery SG valve is a dead loss on 5 metres, and you are better without such an RF stage !

For the enthusiast who has mains and a communication Rx available then the obvious answer to the Rx question is a convertor. The normal Rx is tuned to 5 or 10 mc and used as an IF amplifier. Suitable valves in the convertor are 955, 9002, RL16, 6J6 or EF50 as oscillator ; 954, 6AK5, EF50 as mixer ; 6AK5, EF54 or EF50 as RF amplifier. We hope to give a design for such a convertor in the near future.

Those already equipped for 5 metres may care to listen over the week-ends March 13-14 and April 10-11 (note the dates) when the *Short Wave Magazine* is running special Activity Periods starting at 1500 GMT on the Saturday. Logs covering these periods will be very welcome for publication, as well as more general VHF Calls Heard lists. Let us see your effort, no matter how modest, as we all have to start somewhere.

Also, when writing let us know how many *counties* you have heard on 5 metres, as we want to begin a "Counties Heard" panel. The starting figure will be 10, but we reserve the right to increase it to a higher number at a later date !

Reports for next month should be sent to A. A. Mawse, c/o *Short Wave Listener*, 49 Victoria Street, London, S.W.1, to reach us by March 4, at the very latest.

MONTHLY COMMENT DX broadcast

by

R. H. GREENLAND, B.Sc.

World-wide reception of Short Wave programmes

It is much to be regretted that a number of letters arrived too late for mention in the February number. If readers will endeavour to send their correspondence to arrive by the date given at the end of the previous month's article, we shall be able to incorporate their news in the issue following. For the reason thus stated, the first part of this commentary is devoted to letters received early in January.

Australasia

My first correspondent is F. Smallwood (Bramley, Leeds), who is the proud possessor of a letter of verification from the New Zealand Broadcasting Service in reply to his reception report of their test transmissions carried out during the week ending November 18, 1947. F.S. heard the broadcasts on two frequencies, 15280 kc and 11780 kc between 0800 (S8) and 1100 (S5); the official verification card is pink in colour, overprinted with the words: "Dominion of New Zealand National Broadcasting Service, Stations ZL3 and 4, Wellington." My own news is that the transmitters are located at Titahi Bay and operate with 7½ kW power. Over 1,500 reception reports have already been received, but a definite date for the official opening of the station will not be decided until the contents of all the letters have been analysed, to give the authorities a picture of reception generally in all parts of the world.

Asia

Two readers have taken me to task, and rightly so, for announcing that the Japanese station heard was on 9630 kc, a channel already occupied by CKLO with its massive signal. Actually, I was operating a new receiver which had not then been calibrated; later, JOAK's frequency was found to be 9655 kc. My apologies to R. V. Aldridge (Amersham, Bucks) and M. E. A. Matthews (Stratford-on-Avon).

C. A. Wharton (Harehills, Leeds, 8) was successful on Christmas Day in logging an American Forces Network station in Japan on 6015 kc at 0937. With the slogan: "This is the Far East Network," which C.A.W. heard, this appears to be JKD, Tokio, which relays AFRN programmes from 2230 to 1500 daily.

E. J. Coates (Dagenham) has sent in a most detailed list of frequencies and times of transmission from Radio Saigon, French Indo-China; these are given in the Tabulated Schedules section. His QSL card gives the station name in bold red letters; he mentions, too, that the station is actually owned by the Post Office and is loaned for special transmissions to France from 1530 to 1600 each day in addition to the normal broadcasting hours. Dr. T. B. Williamson (St. Albans) logged FZR (Radio Saigon) on 6165 kc at 1530, closing with call in French given by a woman; and on 11778 kc at 1345 with call and talk on trade in Indo-China and the Far East. T.B.W. also reports that FXE, Beirut, 8038 kc, is heard on Thursdays only with a special programme in English entitled "The Voice of America from Radio Lebanon."

M. E. A. Matthews (Stratford-on-Avon) has persevered in his attempts to log ZBW3, Hong Kong, 9525 kc, and was successful on December 20, when, between 1420 and 1505, he heard a recorded commentary of the Louis-Walcott fight from this station. Dr. Williamson has logged YFA4, Celebes, 9358 kc, between 1440 and 1455 with the call "This is Radio Macassar." J. M. Simpson (Aberdare Gardens, N.W.6) observes that YFA4 can occasionally be heard after 1500 with Hawaiian guitar music until 1600, and on Boxing Day it was active until 1630.

He mentions that the announced times of broadcasting are 2300-1500 daily.

ALL TIMES GIVEN IN THIS ARTICLE ARE GMT EXCEPT WHERE STATED

F. W. Hardstone (Streatham, S.W.16) has logged YHN, Djokjakarta, Java, 11000 kc, between 2230 and 2330, with an English programme directed to Australia and the U.S.A., including a News at 2245. Signal strength has been S9 *plus* on occasions.

Africa

J. M. Simpson (Aberdare Gardens, N.W.6) has some worthwhile news about this continent. He informs us that Radio Club de Moçambique, Lourenço Marques, is a strong signal on 9640 kc during the afternoons.

His verification card received on December 24 gives the following frequencies, however: CR7AA, 6130 kc; CR7AB, 3490 kc; CR7BD, 4920 kc; CR7BE, 9580 kc; CR7BF, 4850 kc; and CR7BG, 740 kc. From the Azores, too, he reports excellent reception on 11090 kc between 2000 and 2100 nightly. The call is: "Aqui Portugal, Ponta Delgada, Emissora Regional dos Açores," and the time at 2100 is recorded by a beautiful chiming clock. J.M.S.'s third one is OTC2, Leopoldville, 9745 kc. He writes: "This station has been broadcasting appeals to listeners for reports on reception and nature of programmes desired. Apparently SWL letters received are so few that this station may have to discontinue or curtail its broadcasts."

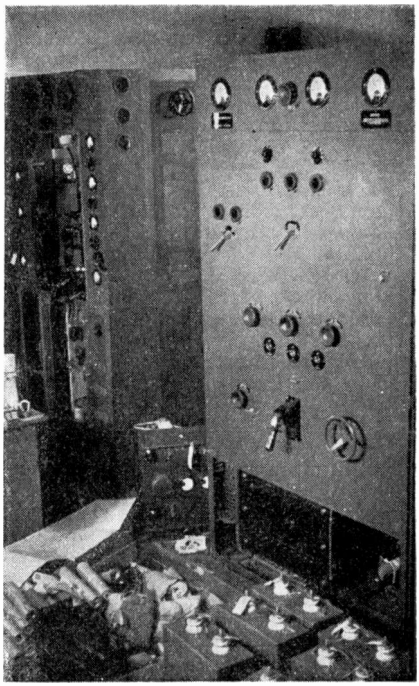
M. E. A. Matthews (Stratford-on-Avon) has at last logged Accra, Gold Coast, on 4915 kc. He found it at 1740, giving local news and reminding listeners that they must renew their licences, the penalty for failing to be in possession of such being named as a fine of £100 !

At 1800, the station (ZOY) announced that it was working in parallel with 7295 kc and was closing down. The station on the latter frequency, however, is supposed to be located at Port Louis, Mauritius.

M.E.A.M. mentions that he has heard Radio Tananarivo, Madagascar, 10615 kc, after the appointed closing time of 1740. D. O. French (Norwich) reports ZQP, Lusaka, Northern Rhodesia, now heard on 9705 kc most days between 1630 and 1700, but more of this one later.

Latin America

Dr. T. B. Williamson (St. Albans) has again logged CE1185, Santiago, Chile, on 11850 kc around 2245-0100 with an S6 signal. He comments on its pronounced carrier hum and says that a three-note descending chime precedes the call: "CB138 y CE1185, Radio El Mercurio en Santiago." T.B.W. has more news of



One of the transmitter panels at ZQP, Lusaka, Northern Rhodesia.

Central Americans, too. The Honduras station on approximately 6050 kc has been identified as HRA, Tegucigalpa, 6045 kc, using as its slogan: "La Voz de Lempira." In the Dominican Republic, HI8Z, Santiago de los Caballeros, has reappeared on 7220 kc around 0001, and HI2A on 7290 kc gives its call at twenty minutes past the hour as: "La Voz de Re-Eleccion y La Voz del Pueblo," followed by a trumpet fanfare and the correct time. T.B.W. mentions that PJC1, Willemstad, Curacao, is a consistent signal on 7250 kc from 2330 onwards and that all announcements are in Dutch, including the call: "Hier ist der CUROM de Willemstad ob Curacao."

M. Norton (West Bromwich) has received a verification from HCJB, Quito, Ecuador, together with six coloured postcards of beauty spots. J. G. Garrood (Letchworth) seeks to identify the American station mentioned in the January issue of the *Short Wave Listener* as broadcasting Gospel services and includes a cutting from the current number of the *Crusaders' Magazine*. It reads: "Radio

Quito, high up in the Andes mountains, in the city of Quito, capital of Ecuador, 9350 ft. above sea level, devotes the whole of its time to evangelical broadcasting." J. M. Simpson (London, N.W.6), commenting on the same station, says that its 12455 kc channel can be heard from 1930 with German, French, and Swedish broadcasts, and an English programme beginning at 2200. SWL reports and letters are answered over the air on Fridays at 2230-2245. J.M.S. refers to three Cubans, namely: COBQ, 6320 kc, and COHI, 6450 kc, both heard between 2150-2200 relaying an outside sports broadcast, and COBC, Radio Progreso, 9360 kc, logged with dance recordings around 2300. D. O. French (Norwich) mentions the last named as being a loud signal at this time.

North America

D. O. French has listened to an interesting child psychology programme entitled "Doorway to Life," which is given each Saturday at 2230 by CBS over WOOW, 9700 kc, and WRUS, 9570 kc, amongst others.

On Christmas Eve, D. A. Pullen (Colchester) logged VONH, St. Johns, Newfoundland, 5970 kc, without the customary interference ; the call was given at 2200. Three readers have news of KRHO, Hawaii. J. M. Simpson (London, N.W.6) has heard him on 9650 kc with English news from New York, 1045-1100, after which Russian and Chinese broadcasts were given. P. E. Woolmer (Grantham) gives this one as his best DX in recent months, with a broadcast of "The Voice of America" between 0900 and 1000 on 9650 kc. F. Smallwood (Bramley) heard KRHO closing at 1505.

Europe

Several readers have news of European short wave stations. F. Smallwood logged test transmissions from the Norwegian State Broadcasting Service during December between 2330 and 0030 nightly on 9610 kc and 6185 kc ; the transmitters are located in Frederikstad.

P. A. Finn (Iver, Bucks) had the thrill of logging the same stations on January 3, when King Haakon inaugurated the Norwegian State Network at 1900. It was announced that one transmitter was using 10 kW power, the other 8 kW.

L. W. Lowis (St. Leonards-on-Sea) forwards some valuable information concerning Portugal and Italy.

(1) Emissora Nacional de Radiodifusao, Rua do Quelhas, Lisboa (Lisbon).
27·17 m, 11030 kc, 10kW. 2100-2300 daily.

(2) Servizio Radiodiffusioni per l'Estero, Via Vittorio Veneto 56, Roma (Rome).
49·30 m, 6085 kc, 1545-2045. English news bulletin : 1950-2000.
31·15 m, 9630 kc, 1545-2045. English news bulletin : 1950-2000.
2230-2350 for Latin America, and
2355-0110 for North America.
News: 0050-0100.
19·84 m, 15120 kc, 2230-2350 for Latin America, and
2355-0110 for North America.
News: 0050-0100.

L.W.L. gives similar schedules for Switzerland and Sweden ; these are included in the Tabulated Schedules section.

I. E. Alfrey (London, W.4) has made a recent study of Spanish transmissions, which include the following :

EAJ9, Malaga, 7012 kc. Musical programme 1900-1930. Call : Radio Nacional Espagna en Malaga.
FET1, Valladolid, 7000 kc. Slogan : Radio Nacional Valladolid.
EAJ3, Valencia, 7032 kc, with call : Radio Valencia.
EAJ43, Santa Cruz, Teneriffe, Canary Islands, 7268 kc, with call : Radio Nacional en Teneriffe.
Tetuan, 7090 kc, with frequent call : Aqui Radio Africa, Tetuan. (Both Spanish and Arabic are used.)

All these can be logged regularly between 1900 and 2300 daily. L. W. Lowis (St. Leonards-on-Sea) includes EAQ, Madrid, which operates daily with an English programme, 2000-2030, on 9368 kc, and with a power of 40 kW.

J. M. Simpson (London, N.W.6) and J. H. Saunders (Torquay) have logged the Services broadcast station on 6513 kc. My latest information about this one is contained in a letter from O/C No. 2 Field Broadcasting Unit, British Forces Network, Hamburg. He writes : "The information you give regarding programme is correct, and it is noted that this station, 'Radio Bahrenfeld,' has again changed its frequency. No information can be given regarding station, call, location, etc., because this station has no authority to

relay programmes from the British Forces Network, which transmits only on 219 and 274 metres in the medium-wave band."

Talking of medium-wave stations, though it is scarcely within my province, two readers refer to the excellent reception of American medium-wave stations in recent weeks. A. J. Slater (Southwick, Sussex) compares, amongst a host of others, VONF (640 kc) with VONH (5970 kc), CJCB (920 kc) with CJCX (6010 kc), XEW and XEWW (9500 kc), and ZNS with ZNS2 (6090 kc) in the Bahamas. J. H. Saunders (Torquay), with a plea for more medium-wave news, quotes WCBS (880 kc) as being his best effort. Finally, a challenge from E. Strangeway (Scagglethorpe, Yorks), who would like to know why so many reporters use no more than a few feet of indoor aerial !

The second batch of listeners' letters is most gratifying in regard both to the increased volume received and the very useful information contained in them.

E. Wicks (Bournemouth) has heard JCKW, Jerusalem, 7220 kc, and ZL12, Wellington, 9540 kc. The latter was logged at 1400 on January 18. Our old friend D. O. French (Norwich) is the first to report the reception of the Japanese station referred to earlier as JOAK on 9655 kc. Actually, this appears to be JKF1, Tokio, which operates 2225-0815 daily and relays the programmes of JOAK. D.O.F. has also heard CR7BJ, Lourenço Marques, 9645 kc, signing off at 2045, and VLQ3, Brisbane, 9660 kc, audible evenings 2000-2100, with BBC news, Queensland shipping report, and market prices. O. A. Evans (Epsom) has heard XGOY, Chungking, on 6140 kc with English news at 1400 and continuing until 1645. He mentions that FXE, Radio Lebanon, Beirut, 8036 kc, announced that, as from January 11, its English Hour would be presented from 1500 to 1600 daily.

E. Hatch (Greenhithe, Kent) has received a card from Radio Andorra, with all details given in Spanish. The short wave outlet is on 5980 kc, and the schedule 1130-1400, 1800-2310 ; the message on the card reads : "Thanks to it (the 60 kW transmitter), all Spain listens every night, with absolute clarity, to Radio Andorra's concerts, always compounded of cheerful music and never of squeamish chatter" ! The address is : Emisiones Radio Andorra, Andorra la Vieja.

L. W. Lowis (St. Leonards-on-Sea) again puts in a batch of helpful information. In particular, he mentions ZAA, Albania, 7850 kc, which gives English at 2015, French at 2030, and the address is : "Drejtorija Qendrore e Radio pshapjis Shqiptare, Rue Conference de Peza 3, Tirana, Albania." Radio Nederland Wereldomroep, Postbus 137, Hilversum, Holland, the "Happy Station," operates PHI, 11730 kc, PCJ, 9590 kc, and PGD, 6020 kc, for an English programme to Great Britain commencing at 1730 weekdays.

R. Iball (Langold, Worksop) has logged the Bucharest station on 6210 kc, with English 1900-1930, and using the slogan : "Long Live the Roumanian People!" Two Canadians are among his best logs, namely, CFRX, heard at 0445 with the identification "CFRX, Toronto, on 6070 kc, broadcasting the regular programme of CFRB," and CBFW, Montreal, 6090 kc, heard with French and English announcements and the direction : "Radio Canada," at 0435.

The remaining letters refer to Latin Americans. M. Norton (West Bromwich) has received a QSL from LRA1, 9690 kc, Radio Del Estado, Buenos Aires, Argentina. He writes : "It appears that further reports are required from England as they

are about to increase their power from the existing 7 kW to 50 kW. No transmission times were forwarded, but I usually locate their signal from 2300 onwards. I might add that this is a Government station operated by the Ministry of the Interior and that they were kind enough to forward IRC for further reports." I. E. Alfrey gives news regarding the 6000 kc channel; he notes that when ZFY, Georgetown, British Guiana, is audible, PR13, Belo Horizonte, Brazil, is not, and *vice versa*. HHCM, Port-au-Prince, Haiti, 6165 kc, has been identified by I.E.A. at 2315 with the slogan: "The National Broadcasting Company." E. Strangeway (Scagglethorpe, Yorks) remarks that VP4RD, Port of Spain, Trinidad, can still be heard on the 9625 kc channel (officially it is 9645 kc) around 2300, particularly after CKLO, 9630 kc, has closed down. E.S. found PJC1, Willemstad, Curacao, 7250 kc, with a good signal at midnight.

E. G. Cressey (Wisbech) is puzzled about a commercial station in British Guiana which he picked up on January 22 at 2020, and again on the following day at the same time. There was a broadcast of world news in English, followed by a commentary, and the frequency was 7860 kc. We wonder if Radio Tirana was broadcasting simultaneously! S. P. Pratt (Portsmouth) logged a commercial station announcing as "PPH, Rio de Janeiro" in the 25-metre band (frequency not given). Our information is that the Brazilian commercial W/T station PPQ operates on 11670 kc but is not used for broadcasts. A similar poser comes from A. Packwood (Rochdale), who has logged a Buenos Aires station operating in the 25-metre band between 2300 and 2355, using an eight flute notes record, and giving the call: "Hello! Hello! This is CPH calling!" Perhaps PPH and CPH are one and the same transmitter; any information, please?

A few late items are to hand from other correspondents. H. Hedley (BAOR3, Nr. Hamburg) kindly forwards a comprehensive list of HF broadcast stations, and this will be included in our next issue. H.H. observes that conditions in general have been good, for, on January 16, he logged experimental station CFRB on 6070 kc between 0445 and 0530.

A request for reports was made, to be submitted to Toronto, Canada.

He has logged KWIX (9570 kc) and KCBF (11810 kc) with News in a dual transmission at 0400, and Singapore (BFEBS) on its four frequencies, 6770 kc, 9690 kc, 11735 kc, and 15300 kc, before closing at 1635. M. Forrest (Laverstock, Wilts) sends information regarding a Canadian on 15090 kc, heard with programmes in French from 1756 to 2000. This one is CBLX, announcing as: "Ici

TABULATED SCHEDULES

I. Radio Saigon, French Indo-China, 11780 kc, 6190 kc, 18390 kc.

English Service.
11780 kc.

GMT		
0045	Daily.	News.
1000	Daily.	News.
1015	Mon.	"Last Week in Indo-China."
	Tues.	South East Asia Chronicle.
	Wed.	Talk for Women.
	Thurs.	Talk on Indo-China.
	Fri.	Inside Hollywood.
	Sat.	French Standpoint.
	Sun.	Literary Talk.
1030	Daily.	Light Music—French Songs—Dance Music.
1330	Daily.	Talks as for 1015. Short Play on Sundays.
1345	Daily.	French Songs.
1350	Fri.	Listeners' Letter-box.
1400	Daily.	News.
1415	Daily.	Talk, Editorial or French songs.
1420	Daily.	Dance music.

II. The Swiss Short Wave Service, Berne. (28, Neuengasse, Berne.)

Calling North America.—2230-2315 on 11865 kc, and 0130-0330 on 9535 kc, 6165 kc, and 11865 kc. Daily.
Calling England.—1915-1945 on 11865 kc. Daily.
Calling Australia and New Zealand.—0715-0845 on 11865 kc and 11715 kc. Mondays, Tuesdays, Thursdays and Saturdays.
Calling the Orient.—1500-1630 on 11865 kc and 11715 kc. Mondays, Tuesdays, Thursdays and Fridays.
Calling South Africa.—2045-2130 on 11865 kc. Daily.
Calling Latin America.—2145-2215 on 11865 kc, and 2330-0100 on 9535 kc, 7210 kc and 11865 kc. Daily.
European Service.—Sundays 0555-0640, 0745-2200. Weekdays 0540-0640, 1115-1215, 1700-2200 on 6165 kc and 9535 kc.
Calling Osteuropa.—2000-2030 on 7380 kc.
Calling Africa.—Saturdays only 1430-1630 on 15305 kc, and Saturdays only 1430-1510 and 1550-1630 on 11865 kc.
Calling Japan.—Fridays only 0715-0845 on 17784 kc and 15305 kc.

III. Radiotjanst, Stockholm, Sweden. (Kungsgaten 8.)

SBP	11705 kc:	1100-1400 Weekdays, 0700-1355 Sundays.
SDB2	10780 kc:	0100-0200 daily, 1500-2300 Weekdays, 1400-2200 Sundays.
SBT	15155 kc:	0540-0800, 1100-1400, 1500-2300 daily, 0700-2200 Sundays.
SBU	9535 kc:	0100-0200 daily.
SBO	6065 kc:	0540-0800 Weekdays only.

Radio Canada, CBX, Montreal" at the quarter-hours. M.F. finds that ZFY, Georgetown, 6000 kc, is a good signal after 2310, when there is a programme preview. There are three transmissions daily, 1100-1300, 1500-1700, 2000-0100, and M.F. notes that before 2305, Radio Innsbruck, Austria, uses the same channel. P. E. Woolmer (Grantham) finds Radio Australia very strong during the morning broadcast to the British Isles; the best channels are VLA6, 15200 kc, and VLB3, 11760 kc. Finally, E. Strangeway forwards a new schedule received from Radio Batavia. A programme to the British Isles is presented at 1700 on 19340 kc and 15150 kc; this is a half-hour transmission which includes news, commentaries, and musical selections from Indonesia. E.S.'s HF station could have been KSUI, 42700 kc, operated by the State University of Iowa in Iowa City, or WCAH, 42900 kc, run by the Board of Education of Buffalo City, New York State.

BC SLP's

In response to frequent requests that we should include a Set Listening Period in our Calls Heard section, we have decided to introduce one experimentally towards the end of February. This will be from 1400 to 1500 on Sunday, February 22; only broadcasting stations between 25 and 55 metres should be logged, no European transmitters to be included. Please note that the closing date for the next issue of these SLP logs and all other correspondence for this column is February 28 latest (but send them along earlier if you possibly can), addressed R. H. Greenland, c/o *Short Wave Listener*, 49 Victoria Street, London, S.W.1.

READERS' CIRCLE

Heavy demands on our space have prevented the appearance of this feature for some little time. Direct subscribers (only) who wish to have their QTH's published in "Readers' Circle" are requested to inform us accordingly, either when renewing their subscriptions or taking out a new one. We do not print names and addresses automatically in this particular feature.

SUBSCRIPTION LIST

This is open for direct subscribers—those who wish to obtain the *Short Wave Listener* from us. The cost is 16s. for twelve issues, post free, and guarantees the mailing of a copy direct on the day of publication of the *Short Wave Listener*, the third Thursday in the month. Write the Circulation Manager, Short Wave Magazine, Ltd., 49 Victoria Street, London, S.W.1.

SHORT WAVE BROADCAST STATIONS

Revision 25·35-31·12 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 the short wave broadcasting services of the world operate. For economy of space, this band is dealt with in five sections, a list of active stations in one of these sections being given in full every month. Such revision 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.

Frequency	Wavelength	Callsign	Location
11835	25·35		Algiers.
11830	25·36	VUD4	Delhi.
		WCDA	New York.
		VLW3	Perth, W.A.
11820	25·38	GSN	Daventry.
11814	25·39	HEU5	Berne.
11810	25·40	VLB4	Shepparton.
		WGEA	Schenectady.
		KCBF	Los Angeles.
			Rome.
11800	25·42	GWH	Daventry.
		KZFM	Manila.
		CE1180	Santiago.
			Moscow.
11790	25·45	WRUA	Boston.
		WLWO	Cincinnati.
		KNBI	San Francisco.
		VUD3	Delhi.
11785	25·46		Vienna
11782	25·46		Luxemburg.
11780	25·47	OIX3	Lahti.
		ZL3	Auckland.
		HP5G	Panama City.
		XENN	Mexico City.
			Saigon.
			Moscow.
11770	25·49	GVU	Daventry.
		WGEA	Schenectady.
		KNBI	San Francisco.
		S.E.A.C.	Colombo.
		VLA4	Shepparton.
		VLB3	Shepparton.
11765	25·50	ZYB8	Sao Paulo.
11760	25·51	CKRA	Sackville.
		VLA8	Shepparton.
		VLG10	Lyndhurst.
		VUD11	Delhi.
11750	25·53	GSD	Daventry.
11740	25·55	HVJ	Vatican City.
		VLB10	Shepparton.
		CE1174	Santiago.
		COCY	Havana.
			Moscow.
11735	25·56	LKQ	Frederikstad.
			Singapore.
11730	25·58	PHI	Hilversum.
		WRUW	Boston.
		WRUL	Boston.
		KGEX	San Francisco.
		CE1173	Santiago.
			Paris.
11725	25·59	XORA	Shanghai.
		JVW3	Tokio.
11720	25·60	PRL8	Rio de Janeiro.
		ZJM7	Jaffa.
		CHOL	Sackville.
		OTM4	Leopoldville.
11715	25·61	HEI5	Berne.
		FHE3	Dakar.
11710	25·62	WLWR1	Cincinnati.
		VLG3	Lyndhurst.
			Moscow.
11705	25·63	SBP	Motala.
		CBFY	Montreal.
11700	25·64	GVW	Daventry.
			Paris.
11690	25·66	HP5A	Panama City.
11685	25·67	HVJ	Vatican City.
11680	25·68	GRG	Daventry.
11650	25·75	XTPA	Canton.
11645	25·76	OTC3	Leopoldville.
11602	25·85	PLN	Bandoeng.

Frequency	Wavelength	Callsign	Location
11595	25·87	VRR4	Stony Hill.
11250	26·67	XMAG	Nanking.
11090	27·05		Ponta Delgada.
11027	27·20	CSW6	Lisbon.
11000	27·27	YHN	Djokjakarta.
10780	27·83	SDB2	Mortala.
10615	28·26		Tananarivo.
10600	28·30	ZIK2	Belize.
10380	28·90	PLS	Batavia.
10260	29·24	XRRA	Peiping.
10220	29·35	PSH	Rio de Janeiro.
10130	29·62	HH3W	Port-au-Prince.
10060	29·82	PLY	Bandoeng.
10000	30·00	XGOL	Foochow.
9985	30·05		Brazzaville.
9958	30·13	HCJB	Quito.
9915	30·26	GRU	Daventry.
9870	30·40		Johannesburg.
9830	30·52	COBL	Havana.
9825	30·53	GRH	Daventry.
9800	30·61		Moscow.
9765	30·72	OAX4K	Lima.
9760	30·73	TGWA	Guatemala City.
			Moscow.
9750	30·77	KCBR	Los Angeles.
9745	30·78	OTC2	Leopoldville.
9740	30·80	XGOA	Nanking.
			Moscow.
9730	30·83		Leipzig.
9728	30·84	CE970	Valparaiso.
9725	30·85	CSW7	Lisbon.
9720	30·86	PRL7	Rio de Janeiro.
			Moscow.
9710	30·90		Moscow.
9705	30·91	ZQP	Lusaka.
9700	30·93	WLWS2	Cincinnati.
		KCBF	Los Angeles.
		CP25	La Paz.
		FZF6	Fort-de-France.
9695	30·94	XUPA	Tai-Pei, Formosa.
		JKG	Tokio.
9690	30·96	GRX	Daventry.
		LRA1	Buenos Aires.
			Singapore.
9685	30·98	TGWA	Guatemala City.
		XEQO	Mexico City.
9680	30·99		Moscow.
			Omdurman.
9675	31·01	GWT	Daventry.
		YDC	Batavia.
		JVW2	Tokio.
9670	31·02	VUD11	Delhi.
		WNRX	New York.
		VUD2	Delhi.
		VUD3	Delhi.
			Vienna.
9669	31·03		Tananarivo.
9660	31·05	VLQ3	Brisbane.
		XGOY	Chungking.
		HHBM	Port-au-Prince.
		HVJ	Vatican City.
9655	31·07	HED6	Berne.
		JKF1	Tokio.
9653	31·08		Jaffa.
9650	31·09	WCBN	New York.
		KNBA	San Francisco.
		KCBA	Los Angeles.
			Moscow.
9645	31·10	CR7BJ	Lourenco Marques.
		VP4RD	Port of Spain.
9640	31·12	GVZ	Daventry.
		KZRH	Manila.

Printed by Lochend Printing Co., Ltd., London, S.W.9, and published by the Proprietors, The Short Wave Magazine, Ltd., 49 Victoria Street, London, S.W.1. March 1948. Printed in Great Britain.