

*of the*

1/3

# SHORT WAVE LISTENER



DEVOTED EXCLUSIVELY TO  
SHORT WAVE RECEPTION

APRIL 1950  
VOLUME 4 · NUMBER 5

# PREMIER RADIO

MORRIS AND CO. (RADIO) LTD.,

All Post Orders To: JUBILEE WORKS, 167 LOWER CLAPTON RD.  
LONDON, E.S.

(Amherst 4723, 2763, 3111)

152 & 153 FLEET STREET (Central 2833)

207 EDGWARE ROAD, W.2 (Ambassador 4033)

(OPEN UNTIL 6 p.m. SATURDAYS)

## We are now supplying NEW LONG RANGE TELEVISOR KITS

For the London or Birmingham frequencies  
at the same price as the standard kit

— £17/17/0 —

Five Easy to Assemble Kits are supplied:  
Vision Receiver with valves, carriage 2/6 . . . £3/13/6  
Sound Receiver with valves, carriage 2/6 . . . £2/14/6  
Time Base, with valves, carriage 2/6 . . . £2/7/6  
Power Supply Unit with valves, carriage 5/- . . . £6/3/0  
Tube Assembly, carriage and packing 2/6 . . . £2/18/6  
This unit includes the VCR97 Tube, Tube Fittings and Socket and a 6" FM Moving Coil Speaker with closed field for Television.

The Instruction Book costs 2/6, but is credited if a Kit for the complete Televisor is purchased.

Any of these Kits may be purchased separately; in fact, any single part can be supplied. A complete priced list of all parts will be found in the Instruction Book.

20 Valves are used, the coils are all wound and every part is tested. All you need to build a complete Television Receiver are a screwdriver, a pair of pliers, a soldering iron and the ability to read a theoretical diagram.

WORKING MODELS CAN BE SEEN DURING TRANSMITTING HOURS AT OUR FLEET STREET AND EDGWARE ROAD BRANCHES.

**TV PRE-AMPLIFIER FOR FRINGE RECEPTION AREAS.**  
We can supply the complete kit of parts to make this wide band wide Pre-amplifier, using 2 EF54 Pentodes. Powered by the TV Kit, it is completely screened. With all parts, valves, chassis, diagrams, etc., 27/6. All parts available separately.

The New Premier Catalogue, now ready, includes all the new TV Kits, Receiver Kits and thousands of component bargains. Send 3d. for copy.

**MAGNIFYING LENSES** for 6" CR Tubes. Increase picture size to that of a 9" Tube. Best quality, 25/- each.

**WHITE RUBBER MASKS** for VCR97 Tubes. 7/6 each. 9", 9/6. 12", 15/-.

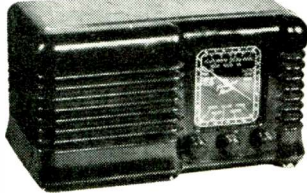
**NEW 2-VALVE ALL WAVE KIT.** 16 to 2,000 metres. Switched Coil Pack ready wired and tested. 2 Mazda HL23 Valves, 'Phones, H.T. and L.T. Batteries, Condensers, resistors, diagrams and steel case, all ready to assemble, £3/10/-, including Purchase Tax.

**METER KIT.** A FERRANTI 500 MICROAMP M/C METER, with separate high stability high accuracy resistors to measure, 15, 60, 150 and 600v D.C. Scale length 1 1/2", diameter 2 1/2", 10/- the complete kit.

**R107. ONE OF THE ARMY'S FINEST COMMUNICATIONS RECEIVERS.** (See W.W., August, 1945.)  
3 valves, R.F. amp. osc., frequency changer, 2 IF's (465 kc), 2nd detector, A.V.C. Af. amp. B.F.O. A.C. mains, 100-250v or 12v a.c.m., frequency range 17.5 to 7 mcs, 7.35 mcs to 2.9 mcs, 3 to 1.2 mcs. Monitor L.S. built in. Complete. Write for full details. Price £12/12/-, plus 21/- carriage and packing.

**PREMIER MIDGET RADIO KIT.** Due to greatly increased production, we are now able to offer this kit at a greatly reduced price. Including an attractive Bakelite case, 12" long x 5" wide

x 6" high. The valve line up is 6K7, 6J7, 6V6 and a Selenium rectifier in the A.C. model; and 6K7, 6J7, 25A5 and Selenium rectifier in the AC/DC model. Please state which is required. Both are for use on 200 to 250v mains. The dial is illuminated and the receiver presents a very attractive appearance. Coverage is for the medium and long wavebands. Complete kit of parts with cabinet in brown or ivory and diagrams. £4/19/6, inc. P Tax.



**PREMIER MIDGET SUPERHET KIT.** This powerful Midget Superhet Receiver is designed to cover the shortwave bands between 16 and 50 metres and the medium wavebands between 200 and 557 metres. Two models are produced, one for 200-250v AC mains, and the other for 200-250v AC or DC mains. Please state which is required. Both are supplied with the same plastic cabinet as the TRF Receiver. The AC valve line up is 6K8, 6Q7, 6Q7, 6V6 and a Selenium rectifier. The AC/DC line up is the same, with the exception of the output valve which is a 25A5. The dial is illuminated, making a very attractive receiver. Complete kit of parts with cabinet in brown or ivory, and diagrams, £6/19/6, inc. P.Tax.

**VALVES.** We have large stocks of new boxed valves at very low prices. All exempt from Purchase Tax. 11C6, 11D5, 11N5, 184, 185, 1N5, 1T4, 3A4, 3D6, 3U4, 5Y40, 5Z4, 6AC7, 6AG7, 6C5, 6F8, 6J5, 6J7G, 6K7, 6K8, 3U4, 5Y40, 6Q7, 6SA7, 6SJ7, 6SK7, 6SC7, 6SL7, 6SN7, 6U5, 6V6, 717A, 12A6, 12J5, 12K7, 12K8, 12Q7, 9005, 9005, VR55 (EBC33), VT92 (EL32), VR36 (EF36), VR57 (EK32), VR75, VR105, VR116, VR136 (EF54), VR137 (EL52), CV66 (RL37), CV1120 (8U2160A), CV1137 (RL16), CV1068 (AW4), CV189 (U19), CV2941 (EL50), VU39, 807, HYVAC XV, HYVAC XW, KT61, KTW61, U50, 6F8, AD1, 4090A, all 6/6. 6H6, 6SH7, 7193, VR78 (D1), all 2/6. VR54 (EB24), VR165 (8P81), VR92 (EA90), VR85 (954), VT121 (955), CV649 (956), CV102 (Xtal Diode), 1626, all 3/8. 6X5, HL23, RL18, VU111, VU133, VU134, CV6, VR91 (EF50), CV73 (D1E3), CV1189 (AC6 Pen), CV659 (1625), CV639 (843), NS2, DQF, BL63 (CV1102), 1616, CV67 (klystron), U17 (CV1113), PT25H (CV1046), all 5/-, 2X2, U74, CV1262 (U11), CV1141 (GD4F), GU50 (CV1072), VT30 (CV1030), all 7/6. 5R4, 5V4, 6B804, 25Y5, 25Z6, 2050, VT127 (Pen 46), CV1075 (KT60) (matched pairs 18/6), all 8/6, BB24, 6L6, P27/500 (PX25), 705A, 832, CV662 (812), DET5, GU50, all 10/-, 803, 25/-, 805, 17/6. 931A, 30/-, CV186, 40/-, CV19 (EHTT), 60/-, CV160, 60/-, CV12 (1191), 80/-, 861, 80/-, 838, 15/-, CV15 (EL266), 40/-, HY114B (CV3505), 15/-, MR300E (CV3558), 15/-, EL1292 (CV92), 20/-.

**C.R. TUBES**  
VRC517E, 20/-; VCR522, 15/-; VCR112, 15/-; ACR8, 15/-; VCR521, 5/-.

**CIRCLE CUTTER**  
Used with ordinary hand brace, will cut circles between 1" and 3 1/2" diameter in aluminium or steel up to 16 gauge, 5/-.

**MAINS NOISE ELIMINATOR KIT**  
Two specially designed chokes with three smoothing condensers with circuit diagram. Cuts out all mains noise. Can be assembled inside existing receiver, 8/- complete.

Have you had details of the new

## PREMIER MAGNETIC TELEVISOR KIT

Using 9" or 12" Tubes ?

# THE **SHORT WAVE** LISTENER

A MONTHLY MAGAZINE FOR THE LISTENING AMATEUR

---

---

VOLUME 4

APRIL 1950

NUMBER 41

---

---

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

Published on the third Thursday  
in each month by the Short  
Wave Magazine, Ltd., 53  
Victoria Street, London, S.W.1  
(ABBeY 2384.)

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

The British Short Wave League  
is associated with the *Short Wave  
Listener*. Inclusive BSWL  
membership 17s. 6d. (Half-year  
9s.)

All editorial and advertising  
matter should be addressed to  
*The Short Wave Listener*, 53  
Victoria Street, London, S.W.1.

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

EDITORIAL

## Research

This may well be thought by some to be rather a pretentious word to use in connection with the general pattern of SWL activities. Certainly, it is not being suggested that our army of SWL's should forthwith engage themselves upon radio research in the strict sense of the term.

But what we do think is that there is a great deal of useful factual information—of a kind which could be of great value in the field of Amateur Radio—locked away in the logs (and in the heads) of experienced regular listeners on the amateur bands. Data on what to expect on various bands under given conditions, the directions from which signals on various frequencies arrive at different times of day and periods of the year, the correlation of conditions with sunspot appearance and aurora manifestations, the density of amateur traffic on different bands during given periods in the 24 hours, and the general level of activity under the various prefix listings, are merely examples of what could be regarded as very useful lines of listener research.

It would of course take time (at least 12 months) and much patient work by a large number of SWL's prepared to make log entries under a wide range of headings (and having made the observations, to send them in) before anything positive could be formulated—and even then a number of corrections would have to be applied for the variable factors.

Nevertheless, planned effort on these lines would be of the greatest value for the progress of Amateur Radio, and as time went on the standard would improve, the coverage would increase, and the lines of research could be extended.

All this is by way of suggestion—what we want to know is whether, if you are interested, you would be prepared to co-operate and so help the progress of Amateur Radio.

## CONTENTS

APRIL 1950

Editorial	129
R.A.E. Questions	
Answered, Part III	130
The DX Three, Part I	133
“Pse QSL”	138
Have You Heard?	140
BSWL Review ( <i>Members Only</i> ) facing pp. 144-145	
Calls Heard	148
SWL Stations-No. 31	151
The VHF End	152
Broadcast Station List, Revision 62·73-129·6 metres & 11·49-19·58 metres	155
DX Broadcast	156

---

---

A COMPANION PUBLICATION TO "THE SHORT WAVE MAGAZINE"—  
THE JOURNAL FOR THE RADIO EXPERIMENTER AND TRANSMITTING AMATEUR

# R.A.E. Questions Answered

FROM THE MAY 1949 EXAMINATION

## PART III

by THE OLD TIMER

*(This concludes our treatment of the questions set for last year's Radio Amateurs' Examination. We hope that readers following the series will have found it helpful, and that those taking it will be successful in the R.A.E. to be held this May.—Ed.)*

**QUESTION 1.** What steps should be taken in the design of a transmitter to minimize the risk of interference to broadcast and television reception?

Indicate what special precautions can be taken to reduce radiation of harmonics.

*(Examiners' Report: "Fairly well done by most candidates.")*

**ANSWER:** Any answer to this question must, of necessity, be extremely condensed and sketchy, since the single subject of interference with television could be (and has been) the theme of many a series of lengthy articles.

To summarise the important points, the following steps must be taken with any transmitter:—

- (1) Elimination of key-thumps and over-modulation.
- (2) Elimination of all parasitic oscillations.
- (3) Reduction of harmonics to the lowest possible level in all stages—not merely at the aerial coupler.
- (4) Screening of all stages to reduce direct radiation from tuned circuits and wiring.
- (5) Use of an efficient aerial-coupling system as a final precaution.

Of these five headings, the first two are likely to affect broadcast receivers in the immediate vicinity; and all five will probably affect television receivers.

Elimination of key-thumps depends largely upon the method selected for keying. Many elaborate systems employing relays and valve keying may be adjusted to "shape" the dots and dashes until there are no undesirably abrupt makes and breaks.

With a simpler system, such as cathode keying of an early stage—not necessarily the oscillator—a simple key-thump filter, such as that shown in Fig. 3, is an absolute necessity. It consists of an audio-frequency choke in series with the keying lead (to slow down the "makes"), a condenser across the key (to delay the "breaks"), and a pair of RF chokes in the keying leads, especially if they are long,

to prevent RF radiation (from any small spark at the key) from being let loose along leads and into the early stages of the transmitter.

### Over-Modulation

Modulation monitoring is a subject in itself, and is dealt with in the answer to Question 8 (March, 1950, *Short Wave Listener*). Over-modulation is a definite transmitter fault; even if it does not happen to cause BCI or TVI, it will spread interference near the frequency on which the transmitter operates and must obviously be avoided at all costs. Constant monitoring of the modulation is essential.

### Parasitics

Parasitic oscillations may occur on all sorts of spurious frequencies, having no relation to the frequency on which the transmitter is operating. They are often caused by what we may term "accidental tuned circuits" occurring in the wiring of the transmitter; resonant chokes, fixed condensers-plus-chokes-plus-long wiring; grid circuits and screen circuits oscillating at some remote frequency; and so on. The well-known technique of "stoppers," together with efficient screening of grid circuits from anode circuits, will generally remove most of such parasitics. A grid stopper may be a low resistance wired directly against the grid terminal of a valve; the usual screen or anode stopper consists of a heavy-duty resistor with a small RF choke wound over it and connected in parallel with it.

Fig. 1 shows a Buffer or low-power PA stage using a tetrode valve. All the circuit elements marked in heavy lines have been added to the basic circuit arrangement as precautions against TVI. Some of them (R1, C3, C6, for example) are aimed chiefly at parasitics, but many of them are also meant for harmonic suppression, to which we now pass.

### Harmonics

Probably the chief source of interference with television is the direct radiation of harmonics. The London vision transmitter, as is well known, operates on 45 mc, and obviously a transmission on 43 mc will cause substantial interference with it. Such a transmission could

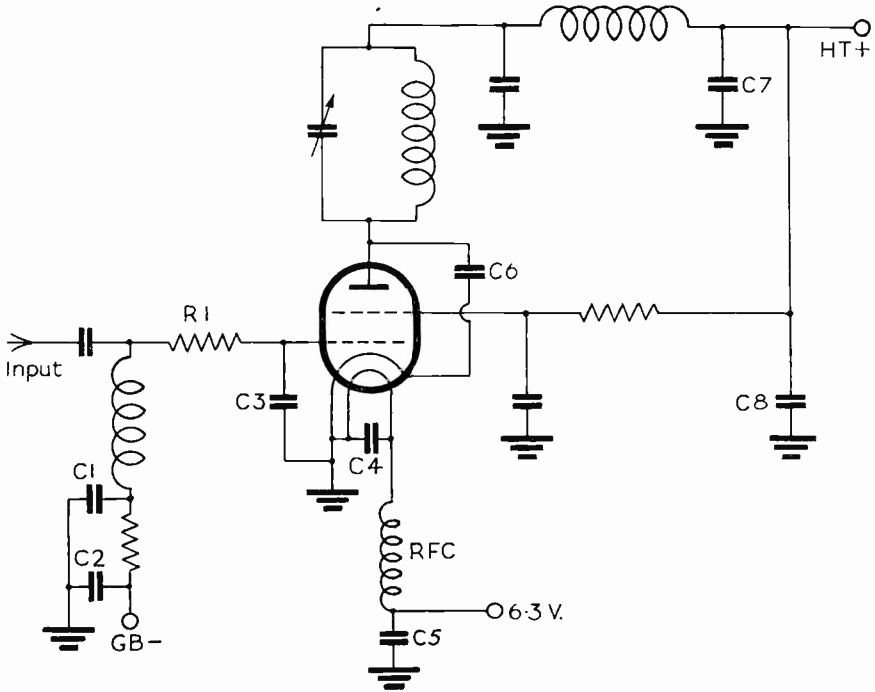


Fig. 1. The circuit referred to for Ques. 1. Circuit elements C1-C8, R1 and heater choke RFC have been added for TVI suppression.

occur as the third harmonic of a transmitter working on 14.33 mc, or the sixth harmonic of one on 7.17 mc.

Such harmonics must be suppressed in the early stages of the transmitter, or they will be handed on to the final stage and amplified there. Early suppression is naturally simpler and more complete. At one time the "harmonic trap" was favoured, and this consisted of a small rejector circuit, tuned to the frequency of the offending harmonic and placed in series with leads to tank circuits, coupling connections to aerial circuits, and so on.

Nowadays it is the tendency to use a low-pass filter incorporating a trap circuit, rather similar to that shown in Fig. 2. This may be placed in series with low-impedance lines or co-axial cable (which is recommended for use between a buffer stage and the final PA) and again between the final tank circuit and the aerial coupler. Such a filter must be built into a small metal box which is earthed. The tuning of the trap circuits in such a position is much flatter than that of harmonic traps used in high-impedance lines, such as the leads to tuned circuits.

The use of chokes in filament leads, and by-pass condensers across filament terminals on valveholders (RFC and C4, in Fig. 1) is often beneficial and sometimes essential. It must be remembered that a stray harmonic does not need a tuned circuit to radiate it; it can be strongly radiated from a lead, even if this lead starts inside a screened box and then penetrates outside. Choking and by-passing, together with the shortening of all leads, will

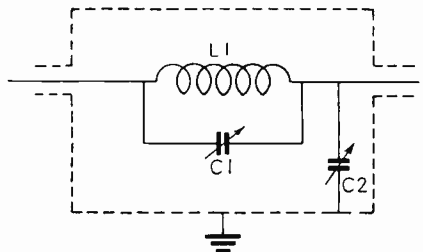


Fig. 2. A low-pass filter for harmonic suppression. (Ques. 1.)

gradually reduce the chance of harmonic radiation, and low-pass filters and traps will eventually suppress any small amount that does come out of a stage of a transmitter. Needless to say, good condensers and coils must be used in the tuned circuits of these traps and filters, where a good "Q" is as essential as anywhere else in the transmitter; further, all leads in and out of their small boxes should be of co-ax, with completely screened fittings.

During all the process of harmonic tracing and reduction, a grid dip meter is an invaluable asset.

**Screening**

Little need be said about this, except that it is highly desirable that the *entire* transmitter, including the tuned circuits, should be effectively screened, care being taken over the bonding together of the various sections and the earthing of the whole. Where keying leads, power leads and so on emerge from the screening, they should be by-passed to earth; the leads themselves may also be screened. The RF output should preferably be brought out (from a link coupled to the final tank circuit) on co-ax cable, again through a properly screened connector.

**Aerial Coupling**

It may even be necessary to screen the condensers and coils of the aerial coupling unit, although, if harmonics have been effectively suppressed throughout the transmitter, none will be generated here. It is highly desirable, in bad cases of TVI, to use an aerial with a low-impedance feed, which makes it possible once more to come out of the aerial coupling unit with co-ax (again, with a screened socket). End-fed aerials, single-wire feeders, and so on, of necessity, radiate large amounts of RF from points near the house, and a distorted voltage/current distribution on the aerial (caused by bringing the end down to the transmitter) may

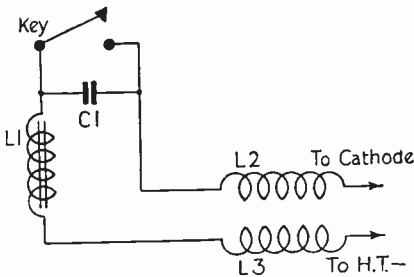


Fig. 3. Another essential circuit arrangement for interference suppression—a key thump filter. (Ques. 1.)

cause all sorts of troubles with the earthing arrangements, thereby nullifying much of the good work carried out with screening and suppression.

**QUESTION 5.** State the essential difference in the operation of a triode valve as a detector and as an amplifier. Explain the meaning of the terms "amplification factor" and "impedance" of a valve.

*(Examiners' report: The first part of this question was well done by most candidates, while the second and third parts were fairly well done. With regard to the latter part of the question, a number of candidates gave the DC instead of the AC resistance of the valve.)*

**ANSWER:** The operation of a triode valve, for any purpose, depends on the fact that small variations of voltage applied to its grid produce variations in the anode current of the valve. The characteristic curves of such a valve (Fig. 4) show that over a wide range of grid voltages the anode current varies with a straight-line characteristic. In other words, a varying voltage applied to the grid, within certain limits, produces a *correspondingly* varying anode current.

The valve may, however, be operated as a detector (or rectifier) by utilising the bottom

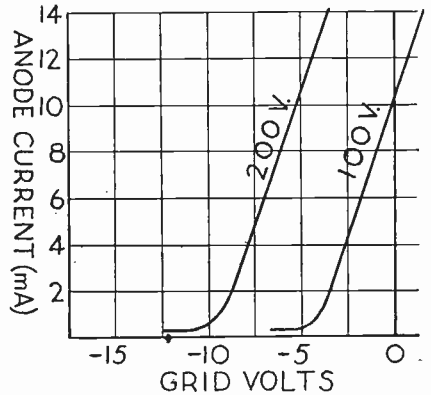


Fig. 4. Taking out curves for a triode valve—see text on Ques. 5.

bend of the curve. Take, as an example, the curve in Fig. 4, marked "200 V." Apply a standing bias of 10 volts negative to the valve. Its anode current will be almost zero. If, now, a swinging grid voltage with an amplitude of  $2\frac{1}{2}$  volts in either direction be applied, the positive half of the swing will increase the anode current to 5 mA, while the negative half of the swing will have virtually no effect upon the anode current. This condition is known as "bottom-bend" (or "anode-bend") detection.

If, however, the standing grid voltage be five volts negative, the same alternating voltage applied to the grid from an external source will now produce a symmetrical variation of the anode current. The positive half of the swing will increase this current by the same amount as the negative half will decrease it; thus, no rectification takes place, but *amplification* has been achieved. The generation of a large alternating voltage from a small one is the result, although the power comes, not from the valve, but from its source of HT supply.

The *amplification factor* of a valve is the

measure of the efficacy of the grid in controlling the anode current. An amplification factor of 10 implies that a change of one volt in the grid voltage will have the same effect upon the anode current as would a change of 10 volts in the anode voltage.

The *impedance* of a valve may be expressed as the ratio of a change in anode voltage to the change in anode current which is produced thereby. The changes should be very small to give an accurate result. Note that the ratio of anode voltage to anode current, in the static state, gives only the DC resistance of the valve.

## The DX Three

### TRF RECEIVER DESIGN FOR HOME CONSTRUCTION

#### PART I

by W. N. STEVENS, G3AKA

*(The straight as distinct from the superhet type of receiver will always hold its place in the amateur world—if only for its simplicity, ease of construction and therefore its cheapness. Since the construction of one's own apparatus is the hallmark of the true amateur, this design will be of considerable interest to those who want to build themselves a good general coverage short wave receiver.—Ed.)*

IN these days of multi-valve superhets, the modest TRF receiver seems to be taking a back seat. The superhet has so much in its favour. It was not quite so bad before the war and, indeed, very many transmitting amateurs used simple two- and three-valve "straights" to take care of their receiving needs. But with the ever-increasing population on the crowded amateur frequencies of the present time, the TRF has given way to the superhet, with its great advantage of high selectivity.

Although the TRF cannot call the tune as regards selectivity, it is quite as sensitive, and in some cases may be more convenient, than a superhet. For instance, the listener without a mains supply must rely on battery-operated gear and, although there is nothing to prevent him building a battery superhet, a TRF is usually more economical on batteries and LT supplies since the number of valves in use is generally less. For the beginner, too, the straight receiver is an advantage—it is easier to construct and serves as a useful introduction to the interest of home construction.

After building a one-valver (the advisable first step) he can progress to an 0-V-1 and thence to a TRF 1-V-1 of the type about to be described. Another asset of the straight receiver is that it is easier on the pocket!

However impressive the technical aspects of a superhet appear, the TRF should not be despised as a "DX machine." Despite the admitted superiority of the superhet in many respects, the newcomer need not fear that his simple TRF will be disgraced in the matter of performance. There is an extremely low background noise (for all practical purposes—nil) as compared to the superhet, with its inherent "hiss," and it can be surprisingly sensitive. It may not have that "punch" typical of the superhet, but after all it is the signal-to-noise ratio that matters. Remember that as S8 signal against an S5 background is no better than an S3 signal with a silent background.

The humble TRF has, in the past, won many battles in the scuffle for DX and will, no doubt, remain as an effective DX-getter. And don't forget that apart from the receiver the operator who handles the set plays a large part in the proceedings. A TRF in the hands of an intelligent and capable operator can often outstrip the results obtained from an elaborate superhet with a mere knob-twiddler at the controls. Then there is the aerial—but that's another story. . . .

#### The Circuit

A glance at the circuit of Fig. 1 will show that

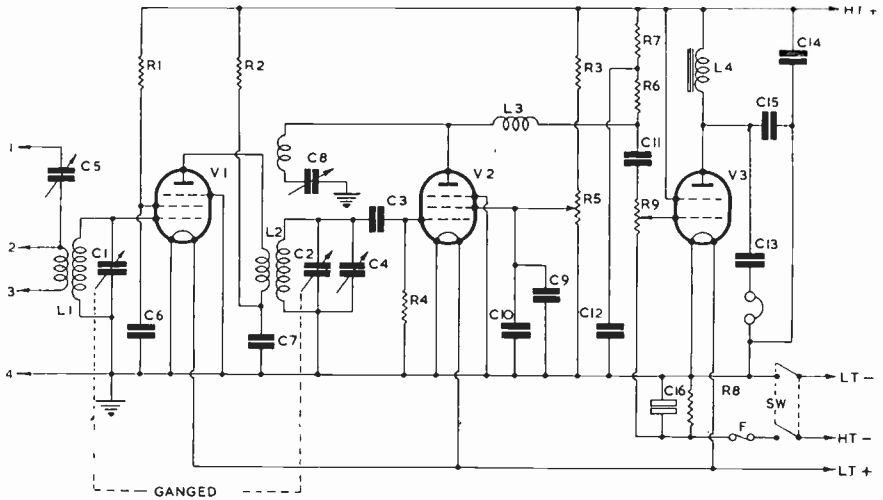


Fig. 1. Circuit complete of the three-valve TRF receiver. Values are given in the table and drawings showing physical wiring details are included in the article.

#### TABLE OF VALUES

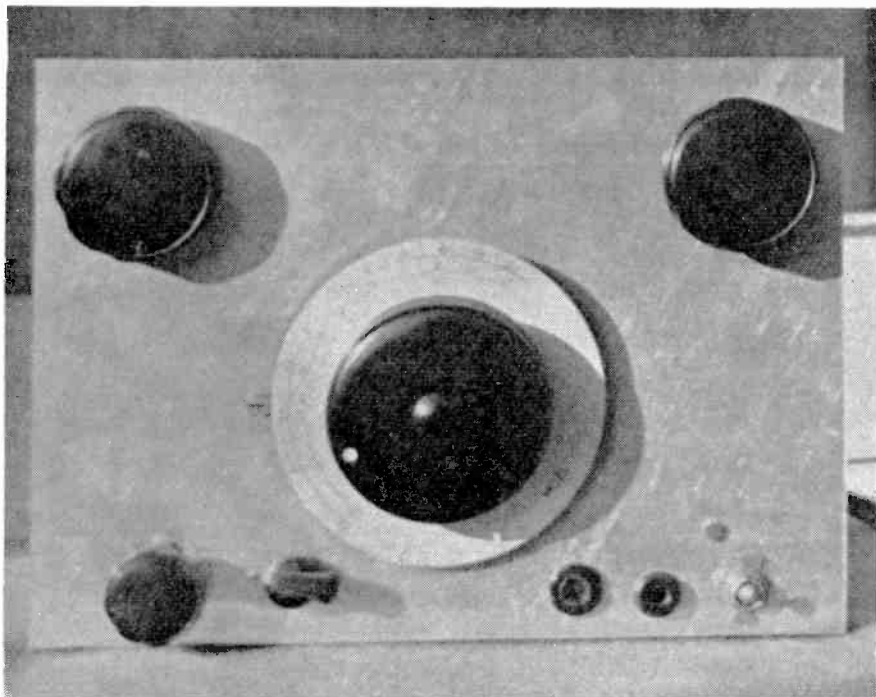
Fig. 1. The DX Three TRF Receiver

Condensers		Valves	
C1, C2	= Twin gang, 150 $\mu$ F each section	V1 RF stage	= KF35
C3	= 100 $\mu$ F, mica	V2 Detector	= KF35
C4	= 15 $\mu$ F, variable	V3 Output	= KT2
C5	= 50 $\mu$ F, variable		
C6, C7, C9,		Coils	
C15	= 0.01 $\mu$ F, paper	L1	= Standard 4-pin plug-in coils
C13	= 0.1 $\mu$ F	L2	= Standard 6-pin plug-in coils
C8	= 200 $\mu$ F, preset	L3	= SW RF Choke
C10, C12,	C14 = 2.0 $\mu$ F, paper	L4	= Output choke
C11	= 0.05 $\mu$ F, paper	Miscellaneous	
C16	= 25 $\mu$ F, 25v wkg. electrolytic	1	Four-pin coil base
Resistors		1	Six-pin coil base
R1, R3	= 40,000 ohms	2	International Octal valve bases
R2, R7	= 20,000 ohms	1	British five-pin valve base
R4	= 2 Megohms	1	Slow-motion drive—for twin gang
R5	= 50,000 ohms, potentiometer	1	60mA fuse and fuse holder
R6	= 50,000 ohms	1	Phone-jack socket
R8	= 450 ohms	1	On/Off switch (DPST)
R9	= 250,000 ohms potentiometer	1	Epicyclic drive—for reaction control R9
		4	Aerial and earth terminals—Or terminal strip
		1	Epicyclic or other slow-motion drive for bandspread
		5	Mounting tag strips

there is nothing out of the ordinary in the receiver. Three valves are used, with KF35's as tuned RF amplifier and detector, and a KT2 in the output stage. L1 is a four-pin plug-in coil of the Denco horizontal type, but quite obviously other types of coil, either standard or home-wound, could be used. C5 is the aerial series trimmer, which, brought

out to the panel, will prove to be a useful control. A pre-set condenser, situated on the chassis, could be used if desired, but the writer preferred a panel control for convenience and for the fact that it balances the layout of front panel controls. The degree of coupling can be varied when trying out different types of aerial as some aerials have a more pronounced





General front-panel view of the completed receiver.

damping effect than others. This applies to end-feed aerials.

For dipoles, provision is made in the customary manner. The feeders are taken to terminals 2 and 3. When using a Marconitype, terminals 3 and 4 are joined together and the aerial attached to terminal 1. A simple shorting strip across the appropriate terminals is simplicity itself.

C1 and C2 are the two sections of a twin-gang tuning condenser, tuning the RF and detector stages respectively. L2 is a six-pin plug in coil, similar to that used in the RF stage. The RF stage is coupled to V2 inductively, this being preferred to resistance-capacity coupling as it tends to give greater selectivity. The inclusion of the RF stage will not give an enormous increase in gain, but it does isolate the aerial from the detector. There will be an increase in gain, but the chief advantage is in the increased selectivity.

The variable condenser C4 is for band-spreading and it is used in the customary way—in parallel with the main tuning condenser. It may be pointed out that the RF and detector

grid circuits will not be in line, since there is more capacity in the detector stage. This is, of course, true in theory and a fixed condenser the same value as C4 could be included. In practice, however, the tuning is sufficiently flat for this slight discrepancy to be ignored. If the proportion of error were increased, loss of gain would occur, but, in this case, there is no great advantage in adding the extra capacity to the RF grid circuit.

The detector employs a standard leaky-grid circuit and reaction is obtained in the now usual method of varying the voltage on the screened-grid. C8 is a pre-set condenser, which, once set, need not be altered. When the receiver is completed, set the potentiometer R5 at about midway and the main tuning condenser to about the central position. Then adjust C8 until the receiver is just oscillating. A little judicious hand-in-hand adjustment between R5 and C8 will give the best position for maximum signal strength. Remember to set the main tuning control about half-way as, with any receiver using controlled reaction, there is bound to be some, if only slight,

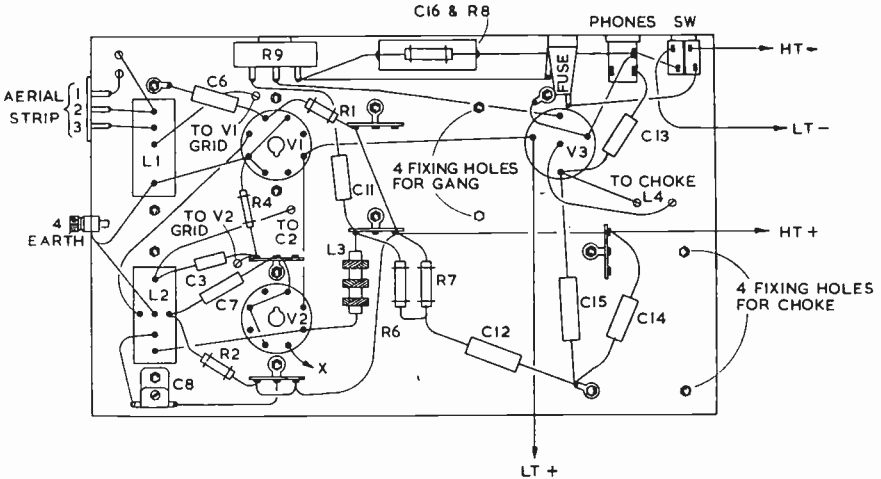


Fig. 2. Under-chassis wiring and general construction, 3 valve TRF receiver. For clarity, the circuit round the screen of V2 (elements C9, C10, R3, R5) has been omitted, and are shown separately in Fig. 3. The diagram above is intended as a guide only and is not drawn to scale. Components are in their relative positions, with point-to-point wiring shown. The tag strips use existing holes for anchorage, and "X" on the lead from pin 4 of V2 goes to the arm of R5.

difference in the degree of regeneration as the frequency alters.

The two condensers in parallel from the wiper of R5 to earth may be puzzling to some. The smaller one is the usual by-pass condenser whilst the larger one, the 2  $\mu$ F, is for filtering out any noises made by the potentiometer control when rotated. If the effectiveness is doubted, try disconnecting one end of the condenser and then rotate the control. The

noise can become unbearable—at the least very unpleasant.

RC coupling is used between the detector and output stages. This is less liable to cause trouble than transformer coupling—and it is simpler and cheaper, too. The gain control is R9, in the grid of the output tetrode. Auto bias is applied to the KT2—a very worth-while inclusion. Choke output is used, keeping the 'phone leads away from the HT line.

(To be continued)

TOP BAND NOTE

SWL's regularly active on 1.7 mc will know that certain frequencies are used for shore-ship working with the small craft round our coasts. The frequencies are 1825 kc (GKZ), 1835 kc (GNF) and 1845 kc (GLV); these are GPO-operated stations working CW and phone to vessels on 1650 and 2012 kc. And during the current period of Top Band DX conditions, the W's and VE's can be found in the band 1800-1825 kc, with G's trying to get across on about 1790 kc. A complicating factor for the W's is the high level of interference in the East Coast area from Loran. This is a long-distance pulse navigational aid occupying a fairly wide band of frequencies at the HF end of the Top Band.

SOME VK FIGURES

The Australian P.M.G. announces that "authorised civilian radio stations" in that part of the world total 7,354—but of these only 2,754 are licensed amateurs. Nevertheless, on a population basis this is actually much higher proportionately than the total number of licensed G's, though the U.K. figure is about 8,500 amateurs now with radiating permits.

JOIN THE LEAGUE!

The steady increase in the membership of our British Short Wave League is a sure sign that SWL's generally recognise not only the value of the work the BSWL is doing for them, but also the advantages of membership. One of these is the *BSWL Review*, incorporated with the *Short Wave Listener*, the subscription thus covering the combined journal of 44 pages, free to all League members.

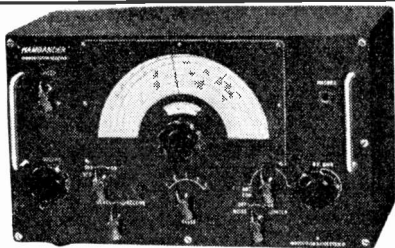
For Further Information and Form of Application write:

The Manager,  
British Short Wave League,  
53 Victoria Street,  
London, S.W.1.

**" HAMBANDERS "**

**" HAMBANDERS "**

**" HAMBANDERS "**



WILL BE ROLLING OFF THE ASSEMBLY LINES AGAIN IN MARCH !!! Constant demand has forced us to increase our production capacity and re-introduce this **" DOUBLE WINNER "** (I.S.W.W. DX CONTEST WINNER 1948 AND 1949) COMMUNICATIONS RECEIVER. THE **" HAMBANDER "** is the only new FULLY GUARANTEED RECEIVER specially designed for the HAM and SHORTWAVE LISTENER covering the 10 METRE DX and all other HAM BANDS at a PRICE BELOW £49 WE GIVE YOU THE NEW **" HAMBANDER "** MODIFIED FOR BOTH A.C. MAINS OR EXTERNAL VIBRATOR UNIT OPERATION FOR £6-7-6 DEPOSIT AND 12 MONTHLY PAYMENTS OF £1-15-3 (8/9 weekly) CASH PRICE **£25-10-0**

Please Note that, owing to the LARGE EXPORT DEMAND for our **" COMMANDER "** Receiver, quantities of **" HAMBANDERS "** will be LIMITED SO YOU ARE ADVISED TO ORDER WITHOUT DELAY SEND 2½d STAMP FOR ILLUSTRATED BROCHURE

**RADIOVISION (LEICESTER) LTD., 58-60 RUTLAND ST., LEICESTER.**

PHONE : 20167

**Come to SMITH'S of  
EDGWARE ROAD  
THE FRIENDLY SHOP  
FOR ALL RADIO COMPONENTS**

We stock everything the constructor needs—our 25 years' experience of handling radio parts and accessories enables us to select the best of the regular lines and the more useful items from the surplus market in:

Loudspeakers and Phones	Valves and CR Tubes
Transformers and Chokes	Cabinets and Cases
Meters and Test Equipment	Capacitors and Resistors
Pickups and Turntables	Coils and Formers
Switches and Dials	Plugs and Sockets
Metalwork and Bakelite	Aerials and Insulators
Books and Tools	Motors and Generators
Valve Holders and Cans	Wires and Cables
Metal Rectifiers	Panel Lights and Fuses
Sleeving, Nuts and Bolts, Tags, Clips, Grommets and all other bits and pieces	

**NOTHING TOO LARGE—NOTHING TOO SMALL!**

Everything you need under one roof—at keenest possible prices

No general catalogue is issued owing to constantly varying stocks and prices, but we shall be pleased to quote you. Lists are available for the following lines, in which we specialise, and can thoroughly recommend:—

1. The increasingly popular "Electro-Voice" range of Transformers and Chokes. "As good as the best—yet cost little more than the cheapest!"
2. The "G.L.G." 16-gauge Aluminium Chassis. "For the man who takes a pride in his rig."
3. "K-A Products" Television Aerials. "A real engineering job."

**H. L. SMITH & Co. Ltd.**  
**287/9 Edgware Rd., London, W.2**

Telephone: Paddington 6891

Hours 9 till 6 (Thursday, 1 o'clock)

Near Edgware Road stations, Metropolitan and Bakerloo

**A READER'S COMMENT**

One of our correspondents suggests that the article "Be a Good SWL" in the March issue of the *Short Wave Listener* was entirely unjustified in the sense that it amounts to a reflection on SWL's generally. This is, of course, far from being either the case or the intention, and we feel quite sure that most SWL's would have read this particular article in the spirit in which it was meant. Or are we wrong?

**THE WAVELENGTH RESHUFFLE**

By the time this issue appears, the BBC will be operating all its medium- and long-wave stations to the Copenhagen Plan. As almost every BC station in Europe is affected, it is not unlikely that there will be a certain amount of mutual interference until all transmitters have been settled on their new frequencies. The allocation to which all BC authorities worked up to March 15 was that agreed at Lucerne as long ago as 1933.

**NEW OFFICE INTERCOM GEAR**

The firm of Hadley Sound Equipments (Smeethwick) are offering a very neat inter-communicating system for business houses, allowing contact between as many as 20 points through a central automatic exchange which does all the work. No switchboard operator is necessary, control being auto-manual from each extension unit.

**IGNITION SUPPRESSION**

One of the most annoying manifestations on the TV screen is that caused by passing cars—particularly as it can quite easily be prevented. The cure is a one-and-sixpenny resistor fitted in the distributor main lead. To the manufacturers and traders offering these suppressors (and free fitting) is now added the firm of City Motors, Ltd., of Oxford, Reading and Bicester.

# 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.

- CO6PP** Pedro Pastrana, Central Tlucuc, Las Villas, Cuba. 7010, 7020, 14300 and 14310 kc phone and CW, at 0630 and 1730 GMT.
- DL11H** Lintenstrasse 10, Neumunster, Germany. 14 mc phone and CW operation.
- DL11X** Box 130, Husum, Germany. 7 and 14 mc CW, after 1900 GMT. 28 mc CW within 1000 miles.
- DL1UM** Loderstrasse 111, Darmstadt, Germany. Reports on 3·5, 7, 14 and 28 mc phone and CW.
- DL1XT** Entenbachstrasse 45, Munchen 9, Germany. Reports on 3·5, 7 and 14 mc CW.
- DL3AO** Katharinenstrasse 62, Esslingen/Neckar, Germany. 7 and 14 mc CW, 1800-2000 GMT.
- DL3FM** Klinsenburgstr 30, Mulheim/Ruhr, Germany. 3·5, 14, 28, 144·7 mc phone and CW, week ends.
- DL3GO** Njederichstr 38, Koln, Germany. CW operation all bands, 1800-2300 GMT.
- DL3JH** Erich Kohler, Bad-Homburg V.D.H., Saalburg, Germany. 3·5, 7, 14 and 28 mc phone and CW.
- DL3QV** Hans Kuhl, Schweinebruck u Varel, Oldenburg, Germany. 3·5 and 7 mc CW, 3·5 mc phone, 0500-1200 and 1700-2359 GMT.
- EA6CT** Avda. Jose Antonio, 527-1a Barcelona, Spain. 14 mc phone, 1500-1800 GMT.
- EK1FP** 2 Rue Cook, Tangier, Tangier Zone. Reports on approx. 14170 kc CW.
- G2BP** 73 Skinner Street, Chatham, Kent. Reports on 14110 kc CW, evenings and weekends.
- GW3FSP** Sunnyridge, Castle Street, Skewen, Neath, Glam. 144·9 mc CW, 1830-2300 GMT.
- G3G1P** Mount Carmel, Hamit Road, Burslem, Stoke-on-Trent, Staffs. 3·5 mc CW, 2000-2359 GMT.
- G3GJY** 14 Bewlay Street, Bishopthorpe Road, York. 7050 kc CW, after 1900 GMT, and weekends.
- G3GRF** 10 MacLagan Road, Bishopthorpe, Yorkshre. Reports on 1·8 mc CW, 1800-2359 GMT.
- HB9DT** Perolles 77, Fribourg, Fr., Switzerland. 14 mc phone and CW, 1800-1900 GMT.
- I1DJ** Corso Regina Margherita 121, Torino, Italy. 7140, 7160, 14280 and 14320 kc phone, 1200-1600 and 2200-0200 GMT.
- K2BF** 324 East Street, Bound Brook, N.J. U.S.A. 28·6-29·4 mc phone, Saturday and Sunday.
- KG4AK** D. Constantino, Navy 115, Box 18, c/o F.P.O., N.Y., N.Y., U.S.A. 14213 and 28584 kc phone, 0600 and 2100-2300 GMT.
- KP4KP** W. Lee, Station Hospital, APO. 845, c/o P. M., N.Y.C., U.S.A. 28 mc phone quality, 1100-1200 and 1600-1800 GMT. Signal-to-noise report.
- OH8OC** Onni Sutela, Pello, Lapland, Finland. 7 14 and 28 mc phone and CW, 0800-1400 GMT.
- PY1ARZ** Rus Noronha Santos 157, Rio de Janeiro, Brazil. 14072 kc CW, 2100-2300 GMT.
- PY7VA** Rua Agapito Santos 641, Fortaleza, Ceara, Brazil. VFO-controlled 14 and 28 mc phone.
- SM5AEV** C. Jonsson, FSS, FCS, Vaesteras, Sweden. 7 mc CW, 1600-2359 GMT, weekends 1200-0600.
- ST2TC** T. Christodoulides, International Aeradio, Ltd., Malakal, Sudan. 14mc CW, 1500-2200 GMT.
- TG9RB** c/o U.S.A. Embassy, Guatemala City, Guatemala. 14175 kc phone, 1800-2200 and 2300-2359 GMT. Report modulation, hum, QSB.
- UP2KBC** Grunvaldo 16, Kaunas, Lithuania, U.S.S.R. 7 and 14 mc CW, 1500-2100 GMT.
- VE3BCB** 204 Ranleigh Avenue, Toronto 12, Ontario, Canada. 28228, 28240, 28272 and 28320 kc phone, and 28320 kc phone, 1200-1800 GMT.
- VE3BZK** 75 Lawrence Avenue West, Toronto, Ontario, Canada. 14 mc CW, 2330-0500 GMT.
- VE4AB** 168 Sherbrook Street, Winnipeg, Manitoba, Canada. 14 and 28 mc phone and CW, Condx.
- VE4EK** 441 Scotia Street, W. Kildonan, Manitoba, Canada. 14185 kc phone, 0600-0800 GMT, 28370 kc 'phone, 1400-1500 GMT.
- VK2TE** A. Boyd, Charles Street, Charlestown, N.S.W., Australia. 14 and 28 mc phone, 0600-0900 GMT. Comparative reports and consistency.
- VO1AM** 21 McKay Street, St. John's, Newfoundland. Reports on 14110 kc CW, 1600-2300 GMT.
- W1HQH** Box 5, Cape Cod, Mass., U.S.A. 28610 and 29198 kc phone, 1200-1400 GMT.
- W2NLK/MM** 125 Bregman Avenue, New Hyde Park, L.I., N.Y., U.S.A. Reports on 28 mc phone.
- W4EWP** Box 31, Lookout Mountain, Tennessee, U.S.A. 7 and 14 mc CW, afternoons and evenings.
- W4KKG** J. W. Lyle, Rt. 3, Jeffersonton, Va., U.S.A. 14100 and 28000 kc CW, 0100-0600 GMT.
- W4LPT** 209 Pamlico Circle, Norfolk 13, Va., U.S.A. 28020-28100 and 28508-29692 kc phone and CW, weekends 1200-2359 GMT.
- W5OTF/MM** Capt. J. van Weelderen, c/o Gulf Oil Corp., Marine Dept., Philadelphia, Pa., U.S.A. Reports on 28-29·7 mc phone and CW.
- W5PSK** 1803 Morning Rise Place, Albuquerque, N.Mex., U.S.A. 28-64-28-66 mc CW, phone, weekends, Details of modulation.
- W6EZT** 1050 West 90th Street, Los Angeles, Calif., U.S.A. 29200 kc phone, 0800-1200 GMT.
- W6FSD** Box 34, Dos Palos, California, U.S.A. Reports on 14290 and 28580 kc phone.
- W6GNP** K. Hallett, Rt. 2, Box 1665, San Diego 10, Calif., U.S.A. 28620 kc phone, 1500-1900 GMT.
- W6GPB** 522 Third Street, San Rafael, Calif., U.S.A. 14 and 28 mc phone and CW, 0400-0800 and 1500-2000 GMT. Comparative reports with W6 as to when signals first come through, duration before fade-out and details of any echo.
- W6NYF** 720 San Lorenzo Street, Santa Monica, Calif., U.S.A. 14 mc CW, 28 mc phone.
- W6ZGC** 37 N. Auburn, Sierra Madre, Calif., U.S.A. Reports from Europe on 28 mc phone.
- W7Z1** 1206 N. Nevada Street, Carson City, Nevada, U.S.A. 3·5, 7 and 14 mc CW, 3·5 and 14 mc phone : 0300-0900 GMT.
- W8MNO** 3455 Riverside Drive, Port Huron, Mich., U.S.A. 28·5-28·7 mc phone, at 1200 GMT.
- W8SU** 13545 Ward Avenue, Detroit 27, Mich., U.S.A. 28 mc FM phone, 1315-1800 GMT.
- W8URD** Case Institute of Technology Radio Club, University Circle, Cleveland, Ohio, U.S.A. 3·5, 7, 14 and 28 mc phone and CW, 0001-0600 GMT.
- WOLF** 517 E. Macon Street, Carthage Mo., U.S.A. Reports on 28 mc phone.
- WØNYO** P.O. Box 685, Minneapolis 21, Minn., U.S.A. 29 mc phone and CW, VFO, 1300-1700 GMT.
- YO3RF** str. A. S. Popov 59, etaj 1, Bucharest 2, Roumania. 14 mc CW and 28 mc phone : 1500-1800 GMT, Sundays 0900-1200 GMT. Modulation.
- ZL2AFZ** 48 Nuffield Avenue, Napier, New Zealand. 14000-14100 kc CW, 0400-1000 GMT.
- ZL2AHV** 17 Mallam Street, Karori, Wellington, W.3, New Zealand. Reports on 3·5, 7, 14 and 28 mc CW, and on 3·5 and 28 mc phone.
- ZS6KP** 78 Kruger Avenue, Selwyn, Florida, S. Africa. 28 mc phone, 1500-1900 GMT and weekends.
- 4X4B0** 37 Nordau Street, Haifa, Israel. 14 mc phone, 1600-2200 GMT. Comparative reports with 4X4, and details of modulation.
- 4X4CK** 8 Jehuda Halevy Street, Tel Aviv, Israel. 7 and 14 mc CW, 1700-1900 GMT.

*YOU MUST HAVE THIS*

**THE RADIO HANDBOOK** New Twelfth Edition, 1950

New Material  
 \* \* \*  
 Entirely Different from the 11th Edition  
 \* \* \*  
 Quality Production, well bound in stiff covers  
 \* \* \*  
 An Essential Buy for all interested in Amateur Radio  
 \* \* \*

Comprehensive 300-page radio constructor's Manual, Fully Illustrated with excellent photographs and circuit diagrams. Covering Receivers—Exciters & QRP Transmitters—SSB & FM Equipment—PA Units for all Amateur Bands—Mobile Gear—Speech Amplifiers & Modulators—Power Supply Units—VHF Apparatus—Transmitter Construction—Test Gear—Aerial Design—20 pages on TVI & BCI.

*Immediate delivery on publication*

**Price 27s. 6d. nett**

Any American Radio or Technical Publication Supplied

Ask for our quotation

*Trade Enquiries Invited*



**THE RADIO AMATEUR CALL BOOK**

Current Edition Immediate delivery. Price 16s. post free

**GAGE & POLLARD** *Publishers' Agents*

49 Victoria Street, London, S.W.1 *Abbev 5342*

**STILL AVAILABLE**

For those SWL's who wish to be fully equipped for their explorations on the amateur bands, we can still supply the *DX Operating Manual* (2s. 8d.) and our *Great Circle DX Zone Map* (6s.). For the expenditure of 8s. 8d. you can find out all you want to know about DX listening and the Zone system of DX working. Order on The Circulation Manager, Short Wave Magazine, Ltd., 53 Victoria Street, Westminster, London, S.W.1.

**CHANGE OF ADDRESS**

Correspondents should note that our office address is now 53 Victoria Street, Westminster, London, S.W.1, where we have secured additional accommodation. It is only two doors along from No. 49. and the telephone number remains ABBey 2384.

**AMATEUR BAND LOG BOOK**

A new log book for amateurs is now being offered by Webb's Radio, 14 Soho Street, Oxford Street, London, W.1. It consists of 144 ruled pages with space for a total of 3,600 entries, the column headings being suitable for either SWL or transmitter use. The price is 3s. 4d., with a reduction of 8d. per copy on orders from club secretaries for a minimum of 12 copies for re-sale to club members.

**WARNING NOTICE**

The GPO announces that a new warning notice is being displayed in all post offices reminding people that each family using a set in a house, part of a house, or a flat should have a licence. The authorities describe this approach to the roping-in of backsliders as "A Notice for the Forgetful—and Others!"

**★ "Globe-King" MARVEL IN MINIATURE**  
 (REGD)  
**SHORT-WAVE RADIO KIT**

Probably the smallest one valve Short-Wave Radio receiver in the world using standard parts with Bandspread tuning device. "Magnificent performance" . . . vide testimonials British Isles and Abroad. Built and designed to precision standards, complete kit costs only 49/6d—write today for descriptive catalogue.

**JOHNSONS** (RADIO SPECIALISTS) **MACCLESFIELD** (CHESHIRE) (ENG)

*Obtain the*  
**P.M.G. CERTIFICATE**  
*with the personal assistance of*  
**E.M.I. scientists**—Our special correspondence course for the P.M.G. certificate has helped many successful candidates in the past. Tuition is under the personal supervision of E.M.I. tutors, several of whom hold the transmitting licence. COLLEGE and other CORRESPONDENCE courses are also available.

*Write for FREE BOOKLET detailing courses:*  
**E.M.I. INSTITUTES, Dept. 51**  
**10 Pembridge Square, Notting Hill Gate,**  
**London, W.2 Telephone: BAYswater 5131/2**

# Have you heard?

FEBRUARY, as a month, has been a very interesting example of a phenomenon that I have noticed before. Most people would have described receiving conditions as poor; in fact, most people, taken individually, do so in no uncertain terms. Yet the list of DX compiled from these individuals' letters adds up to something quite formidable.

Why is this? There is no easy answer, unless one can generalise and say that the DX has been coming in for fairly short periods and that no one could have heard it all except a listener glued to his receiver for the entire month without sleep or meals.

After all, it takes a lot of listeners to cover four, or even three bands, on Phone and CW, by day and night, weekdays and week-ends. But between you all, you have made a pretty good job of it.

The 28 mc SLP on February 26 seems to have been pretty poor, although a few KR6's, VS6's and JA's did break through. The 14 mc period on February 22, for the wee sma' receivers only, was much better, and just managed to dodge the terribly bad spell of conditions induced by the notorious sunspot.

The General Calls Heard section reveals quite a good collection of DX during the month, but there is no doubt that conditions really are deteriorating and that you have to dig for it more and more. If we were to be suddenly transplanted back to 1946-47 we should have no difficulty in realising this, for in those days super-DX was just too easy compared with the present time.

## CONTESTS

The Four Band Table for 1950 continues to thrive and to attract new entrants. Please do remember, though, that if you fail to report for three months your name will be removed. And you will *not* be able to reappear with a much-increased score after a long absence, because that is entirely against the spirit of the thing, as it is intended to be a *progressive* table showing the steady growth of your scores. The same applies to the Zones Heard listing.

## THE MARCH CONTEST

I gave hints last month about the rules for

the March Contest. You will find them in full in the accompanying panel, and you will note one or two small deviations from what I said last month, notably that you do *not* have to log both ends of a contact.

As usual, I propose to summarise the DX that has been heard on each band before going on to individual remarks. By reason of the volume of mail and the many points of interest covered in each letter, it is no longer possible to give separate credits and DX lists to everyone who writes, so, if you are not mentioned, rest assured that your letter was appreciated and has been duly noted.

## DX ON TEN

First, 28 mc CW. This has brought in surprisingly little (or else the number of CW listeners is dwindling again). From *Africa* we have FE8AB, several FF8's, OQ5NK and VQ4CRM. From *Central and South America* come FM7WE and XE1NE, and from *Asia* VS6JH and VU2MD. All other CW signals reported are of the bread-and-butter variety.

Now for the much longer list concerning 28 mc Phone. *Africa* shows up with CR5UP, CR7AD and 7AH, lots of FF8's, MS4A, VQ4's, ZD4AB and 4AX, and ZS9F. *South America* gives us CE2CC, 2DY and 3CZ, CP1AM, OA1F, 4AM and 4BR, PJ5KO, VP3MCB, YV4AM and 5AV, and ZP3AW. *Central America* is a strong section on this band, with CM9AC, HH2ES and 2W, HI6EC, HP1LA and 2PK, KZ5CH, TG9AD, TI2EV and 2SA, VP6SD, XE1PY, XF1A, YN4VN and YS3AW. A surprisingly large list, that.

But the most impressive collection of all is this list of 28 mc Phone from the *Far East*: HS1SS, JA2HQ, KG6FM, 6FZ, 6IP, 6SH and KH6VU/KG6, KR6AS, 6CH, 6CK, 6CM and 6CO, PK1UA, 3LC and 3XE, VS6AE, 6AM, 6BC and 6BE, and XZ2EM.

After all that DX the one European representative (but one worth having for the collection) is SV5UN of Rhodes.

Passing now to readers' comments, we have the band summed up by G. J. Rawlinson (Bush Hill Park), who has been listening on

**AMATEUR BAND COMMENTARY** by the *DX Scribe*

### MARCH CONTEST

1. The Contest embraces the March SLP's, which are :

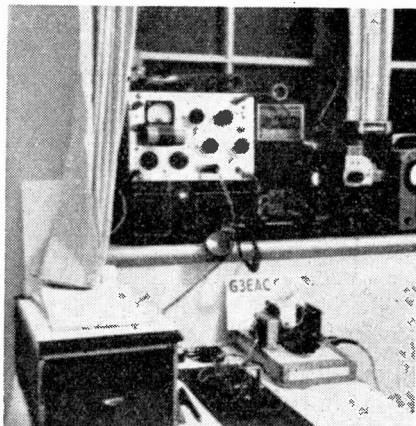
- (a) March 25/26, 2200-0100 GMT
- (b) March 26, 1700-2000 GMT

Only the 14 mc band is to be used, but either Phone or CW will count for points.

2. Refer to the Country List by Prefixes, pp. 108 and 109 in the March 1950 issue. Ignore all countries in that list with a "Points Value" of Zero or 1.
3. Taking the remaining countries, log all contacts between representatives of those countries and stations in the United Kingdom (G, GC, GD, GI, GM, GW). Do not attempt to receive the U.K. station but make sure that you log his callsign as sent by the distant station.
4. Draw up your log as follows : Column 1, Date and Time ; 2, Callsign of DX station ; 3, U.K. station he is calling or working ; 4, DX station's RST (or RS if on Phone) ; 5, Approximate frequency ; 6, "Points Value".
5. Do not necessarily attempt to cover the whole six hours, but choose the periods likely to yield the best DX. The scoring, which will be worked out from your logs, will be on the basis of the *Twelve Best DX stations* logged. Thus the winner may quite possibly be a listener who was only active for two hours out of the six.
6. Address your logs to DX Scribe, *Short Wave Listener*, 53 Victoria Street, London, S.W.1, to reach him not later than first post on April 1. Mark them "March Contest" and keep them entirely separate from your other "Have You Heard" information, Calls Heard and so on.

14 mc since 1935 but has only just started on 28 mc. He says it can be exasperating but it beats 14 hollow—and he has had no short-skip troubles so far. J. R. Woodforde (Liverpool) comments on conditions on February 19, when he heard 31 countries in the morning, and 36 States in the afternoon and evening, although QRM was terrible. He sent some Calls Heard (but unfortunately I couldn't use them as they were all mixed in with his letter !).

J. C. Beal (Wembley) remarks that the band is occasionally very good, but terribly erratic, especially from the Far East. H. M. Graham (Harefield) logged VS6BC for his first Hong



G3EAC, Letchworth, Herts, has to keep it all as compact as possible, for he lives in "digs". Operated on Twenty and Forty, the gear on the window-sill is the Tx (6V6-6L6, with plug-in crystal unit giving six spot frequencies) running 20 watts and feeding a 66-ft. N/S aerial. The Rx is a B2.

Kong station on any band. O. A. Good (Oswestry) says the band wasn't very kind to him, although W7ABB/DU did give him his first DU on 28. MP4BAO came up with O.A.G.'s 500th QSL—he now has 39 Zones and 128 Countries confirmed.

K. M. Parry (Sandwich), home on a week's leave, found the band good but patchy. He heard some Far Eastern stuff and now has a QSL from F9QU/FM8. A. H. Edgar (Newcastle), who has been saying rude things about Ten for some time, has come to the conclusion that he has been listening at the wrong times of day. He likes it now ! R. A. Hawley (Goostrey) found the SLP interesting, and remarkable for the large number of ZB1's and for his first KR6 this year. R. G. Goulding (Wrexham) has found things very bad except for an occasional burst from the Pacific.

A. M. Norden (London, N.W.11) complains that he never hears ZL, KG6 or East Coast VK, although he hears local amateurs working them. Looks as though he might be badly screened, although those three come from widely differing directions. P. H. Strudwick (also N.W.11) mentions an opening on the night of February 2 when, after an absence of W's all day, the Central Americans appeared and lasted until 2200. He has found the Far East and Pacific good round about 1300.

M. S. Gotch (Saffron Walden) has the distinction of being the only reader to mention CP1AM on phone. Lots of people want Bolivia, too ! D. S. Kendall (Potters Bar) catches me on the hop by saying that ZS6PE

FOUR-BAND DX (STARTING JANUARY 1, 1950)						
Listener	28 mc	14 mc	7 mc	3-5 mc	Total Countries	Total Score ★
	(1)	(2)	(3)	(4)	(5)	
R. S. Stott (Upminster) .. .. .	100	145	81	32	157	358
J.C. Beal (N. Wembley) .. .. .	78	119	60	23	142	279
D. W. Waddell (Hitchin) .. .. .	77	112	62	22	134	273
W. J. C. Pinnell (Sidcup) .. .. .	80	109	51	22	127	262
N. S. Beckett (Lowestoft) .. .. .	56	99	64	22	111	241
R. A. Hawley (Goostrey) .. .. .	74	91	40	17	112	222
E. J. Logan (Hertford) .. .. .	100	77	18	18	112 (P)	213
L. Singletary (Bicester) .. .. .	61	91	40	19	111	211
A. Bannister (Manchester) .. .. .	79	88	24	17	112 (P)	208
M. G. Whitaker (Halifax) .. .. .	68	84	32	18	115	202
F. K. Earp (London, S.W.11) .. .. .	68	88	26	16	116 (P)	198
P. H. Strudwick (London, N.3) .. .. .	73	88	12	13	115 (P)	186
D. W. Bruce (Eltham) .. .. .	67	74	27	14	90	182
M. S. Gotch (Saffron Walden) .. .. .	87	59	13	14	113 (P)	173
A. M. Norden (London, N.W.11) .. .. .	67	73	16	17	101 (P)	173
E. J. Parish (Watford) .. .. .	68	75	10	17	106 (P)	170
W. Eyre (Whaley Bridge) .. .. .	56	69	27	17	100	169
L. Tombs (Swindon) .. .. .	56	64	23	15	93 (P)	158
J. M. Graham (Glasgow) .. .. .	55	53	28	17	84 (P)	153
J. P. Warren (Croydon) .. .. .	54	78	8	10	96 (P)	150
H. M. Graham (Harefield) .. .. .	43	71	17	12	93 (P)	143
K. Smeeton (Barnton) .. .. .	28	70	29	11	84	138
R. A. Fowler (Marlow) .. .. .	46	56	22	13	87	137
L. Corder (Hadleigh) .. .. .	42	63	8	15	86 (P)	128
E. Cafley (Great Yarmouth) .. .. .	58	60	3	6	85 (P)	127
D. Shallcross (Derby) .. .. .	59	46	12	9	83	126
C. D. Zangerl (Dornbirn, Austria) .. .. .	21	101	1	1	124 (P)	124
T. W. Jones (Birmingham) .. .. .	30	55	26	12	74	123
T. Spencer (Slimbridge) .. .. .	54	47	7	11	81 (P)	119
D. E. Tomkinson (Brighton) .. .. .	44	42	13	15	75 (P)	114
B. Hummerstone (Harrow) .. .. .	39	48	9	15	81	111
P. Bysh (London, N.8) .. .. .	34	44	18	13	64	109
R. J. Line (Birmingham) .. .. .	46	26	19	14	73 (P)	105
A. L. Higgins (Aberkenfig) .. .. .	22	48	15	15	65	100
D. G. Martin (Cheltenham) .. .. .	27	38	14	9	56 (P)	88
E. A. Parkinson (Leeds) .. .. .	39	34	5	8	57 (P)	86
C. A. Naylor (Farnworth) .. .. .	45	27	7	7	57 (P)	86
F. A. Herridge (London, S.W.12) .. .. .	12	29	33	12	50 (CW)	86
G. Murray (Newcastle) .. .. .	33	27	11	13	54 (P)	84
N. Roberts (Launceston) .. .. .	3	49	4	8	49 (P)	64
R. T. Gabriel (Derby) .. .. .	22	23	9	8	40	62
A. O. Frearson (Birmingham) .. .. .	24	26	9	2	45	61
G. Musk (Blackpool) .. .. .	9	36	6	8	46 (P)	59
A. W. Robertson (Cranford) .. .. .	26	25	4	3	45	58
A. G. Scott (Liverpool) .. .. .	5	23	22	2	35	52
D. E. Hayes (Hoddesdon) .. .. .	25	13	3	4	28 (P)	45
D. K. Cocking (Farnborough) .. .. .	10	18	9	2	27 (P)	39
O. R. F. Mason (Prittlewell) .. .. .	2	14	1	3	16 (P)	20

★ Sum of figures in Cols. 1, 2, 3 and 4.



was a new one heard during the ARRL Contest. I can only assume, from the call sign, and from D.S.K.'s enthusiasm over this, that the station is on Prince Edward Island, which counts along with Marion Island as a separate country from ZS. If so, nice work for D.S.K. !

#### TWENTY-METRE DX

Support for CW on this band is rather stronger, and some very nice DX has been logged by followers of the key-punchers.

Of course the list from *Asia* is nothing like so impressive as the ten-metre list, but here it is—14 mc CW : AP5B, CR10AA, FN8AD, KR6CR, PK2ZZ, 3LC and 3OO, VS1BX and 1DL, VS7NX, XZ2FK and YI3DYN. *Africa* yielded CR4AC, 4AE and 5AM, FB8AA, FD3RG, VQ8AD, ZD2FAR, ZS3Q, ZS7C and ZS9D. *Oceania* gave us four good ones—FK8AC, KX6BA, VK1RD and VK9JC. *South America* was there with CE7AK, PJ5RE and 5TR, and VP8AK.

The remarkable thing is that no Central Americans were considered worthy of mention. Yet on 14 mc *Phone* they show up with a very long list which includes CO7RQ, FM7WE, HH2ES and 2X, HP1BR, 1CM, 1GL, 1PS and ITS, HR1KV and 2RF, KG4AK, TG9IF, 9IU and 9RB, VP1AA, VP5AK and 5AR, VP7NK and 7NU, XE1FT, XF1A, YN1OC, 4CB and 5AV, YS1MS, 1RR and 2AG, and YV4AN. The answer must be that Central Americans just don't use CW !

Phone from *Asia* included AR8BC, JA2BL, PK1SA, VS6BS, VS7SV and YI2BJ ; from *South America* there were HC1KW and 4MZ, OA4AI, VP3HAG, 3MCB and 4TJ, and ZP6AC. Finally, *Africa* gave us CR5UP and 6AI, EA8RK and 9AI, FF8's, VQ3AA and 5AI, and ZS8A.

D. L. McLean (Yeovil) is among the many who have heard FM7WE, who appears to be genuinely on Martinique in spite of the funny call. He is obviously the answer to last month's query about "FN7WE". H. M. Graham heard a nice one in the shape of CR10AL on Timor, calling "CQ Europe." O. A. Good mentions PY8GL, in the Amazonas district of Brazil, and VS6BE, who gave him his first phone from Hong Kong. A. H. Edgar says AC3WR is genuine, according to the Americans (though that does not necessarily make it so) and he also heard CR4, FP8 and FY8 for new ones, all on CW.

D. W. Waddell (Hitchin) asks whether ZD2FAR is genuine. He is, but I'm not so sure about YU3FMG. P. H. Strudwick says that Cyprus has been in the limelight, with MD7AC and 7HV, and adds that VK's are sometimes quite plentiful, mixed up with ZS's in the late afternoon and early evening. M. S. Gotch has heard YI2JB ; you will remember that last month we commented on EP3L, who

said he hoped to be YI2JB soon. He has been operating on phone in the CW part of the band. M. Shortland (Sunderland) logged VQ8AD calling VQ9ON, who is said to be on 14100 CW. He also heard that this mysterious FK88AA claims to be in the "French Zone of Vienna" ! Finally, after saying that he wants an XE for his fortieth Zone, M.S. asks who XF1A might be. The joke's on him for XF1A is the special Contest Call used by XE1A during these ARRL affrays.

T. G. Spencer (Slimbridge) says the band seems to be either devoid of DX or else swamped with South Americans, everything else being weak and watery. This points to the fact that he listens too late for the interesting period, which tends to be round about dusk. M. J. Marlow (Guildford) sends yet another rumour that CR5UP is finally packing up ; he heard him telling W6ZTY on February 6 that he was leaving "next day"—but we have heard him again since then ! M.J.M. was another case of a reader who mixed his Calls Heard up with his letter ; please read those rules and send in a separate list which looks just like those published, as far as layout is concerned, otherwise, I assure you, you haven't a hope !

#### FORTY METRES

Quite a bit of fun is still possible on the 7 mc band, although most listeners find it tries their patience beyond the limit of endurance. Those who stick it out are generally exhausted but happy. D. W. Bruce (Eltham) was up at 0400 one morning and logged CM2GV, CO2RX, KP4KF, VE7GC, VE8NZ, VP7NN and W7HVB (Montana) without a trace of any QRM. J. C. Beal mentions JA3AF (589 at 2200) and also CM6LI, CR7AD, KL7ACU, KZ5PA, OX3BR and VP6CDI—all CW. K. Smeeton (Barnton) comments on the terrific CW signals from TA3FAS, and the loads of UB5's between 2200 and 2300.

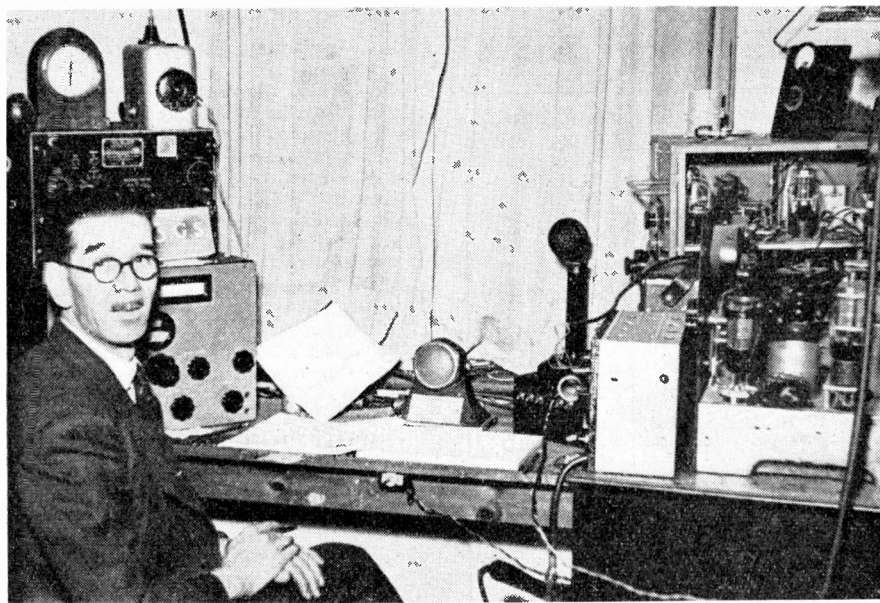
A. Bannister (Manchester) heard VP6SD on Phone ; N. S. Beckett (Lowestoft) singles out HZ1KE, KZ5DA, PY2AJ, TA3FAS and VP6CDI. The list from R. S. Stott (Upminster) includes CO2RX, CX1VG, FE8AB, KH6IJ, KV4AA, LU7CW, TA3FAS, TF5TP, VP7NN and XF1A.

A. H. Edgar was happy to hear CO8NK, HC1FE, HL2AB, KR6DR, MD7WD and VS6DT, and D. W. Waddell logged KP4KF, MD7WE, SV1VS/MM, SVØMH, TA3FAS, YU3FMG and ZD2FAR. Finally, C. J. Goddard (Coventry) lists HZ1KE, TA3FAS, UA4KEA and VP6CDI (all CW) and CT3AC, EA6CU and FA8ZZ (Phone).

#### DX ON EIGHTY

The 3.5 mc band is losing its followers again, although DX is still plentiful between mid-





An impression of GC3GS, Jersey, Channel Islands, who works only on Forty and Eighty. Transmitters are a B2 and 145 VFO-6V6-6V6-807, and receivers a CR100 and Collins 46159.

of 4 Continents, 16 Countries and about 65 Counties on 1.7 mc; but such a feat would represent several hundreds of hours' listening.

#### GENERAL PATTERN

We welcome a very old-stager among SWL's—Eric Trebilcock, of Williamstown, Victoria, Australia. He rockets straight to the top of the Zones Heard table with his score of 40 and 212, and also sends in a list for the Four Band Table; unfortunately his score on the 3.5 mc band is *zero*, so he doesn't qualify until he has heard a local VK on the band!

Last month I talked about the "regulars"—stations heard consistently by particular listeners. This month P. H. Strudwick gives, as his list, FA9WU, EK1AD, PY6CO and ZS1BY (all 14 mc) and HZ1AB, SV0WI, ZB1AJX and W5AXI/MM (all 28 mc). J. P. Warren (South Croydon) awards the honours to HZ1AB, TA3GVU, UB5BV, VE1EI and YO7WL (all 28 mc). A. Bannister goes in the other direction and comments on the *absence* of signals from CX, ET, HA, PZ, TG and VP2, and suggests that the Chinese stations are now off the air, which is probably correct.

F. W. Hardstone (London, S.W.16) heard TA3GVU say that he has had 20 different callsigns and been in five different districts. He has been licensed for thirty years and his

first callsign was issued in the Philippines! E. J. Logan (Hertford), who sits at the head of the Phone Only section of "Zones Heard," has received a welcome card from ZS8A, which now gives him 35 Z and 142 C confirmed—all on Phone, of course.

M. G. Whitaker is another keen one whom we are losing to the R.A.F. in March. It has already claimed D. W. Bruce, K. M. Parry and D. S. Kendall. Why do all these keen types go into the R.A.F., I wonder? No one ever seems to mention the Navy or Army. Let us hope they all manage to meet and hold an inquest on DX.

L. M. Singletary, yet another R.A.F. type at Bicester, says the SLP for 0-V-0 and 0-V-1 receivers really hit the jackpot for conditions. He, by the way, is rapidly becoming a Top Band King, as the results of the February Contest show.

D. G. Martin (Cheltenham) says everything has been patchy but showed signs of improving towards the end of the month. He heard word of a ZL on 3.5 mc and dashed up there to find him, but found only a "horrible mess of people calling him." It was on a Sunday morning, which doesn't make things easier.

A. M. Norden asks if I have any news about the release of the 21 mc band. Unfortunately I have not; 'way back in 1947 we thought the American estimate of "January 1950" was

## "ZONES HEARD" LISTING (POST - WAR)

Listener	Zones	Countries
<b>PHONE and CW</b>		
E. Trebilcock (Victoria, Australia) ..	40	212
A. H. Edgar (Newcastle) ..	40	209
O. A. Good (Oswestry) ..	40	206
R. A. Hawley (Goostrey) ..	40	196
D. W. Waddell (Hitchin) ..	40	189
W. J. C. Pinnell (Sidcup) ..	40	189
J. C. Beal (North Wembley) ..	40	170
N. S. Beckett (Lowestoft) ..	39	170
R. A. Fowler (Marlow) ..	39	160
M. Shortland (Sunderland) ..	39	146
L. M. Singletary (Bicester) ..	38	172
F. A. Herridge (London, S.W.12) ..	37	151
K. Smeeton (Barnton) ..	36	149
B. Hummerstone (Harrow) ..	36	121
C. J. Goddard (Coventry) ..	35	123
L. B. Bailey (Stockton on Tees) ..	34	117
<b>PHONE ONLY</b>		
E. J. Logan (Hertford) ..	40	193
R. A. Hawley (Goostrey) ..	38	182
D. S. Kendall (Potters Bar) ..	38	163
F. K. Earp (London, S.W.11) ..	38	161
R. G. Poppi (Beckenham) ..	38	157
M. G. Whitaker (Halifax) ..	38	146
D. L. McLean (Yeovil) ..	37	173
A. Bannister (Manchester) ..	37	169
O. A. Good (Oswestry) ..	37	163
K. Parvin (Thornton Heath) ..	37	162
A. Levi (Belfast) ..	37	153
J. M. Graham (Glasgow) ..	37	147
J. P. Warren (South Croydon) ..	37	139
D. Vincent (Beckenham) ..	37	135
E. J. Parish (Watford) ..	36	162
J. C. Beal (N. Wembley) ..	36	140
M. S. Gotch (Saffron Walden) ..	36	134
R. J. Line (Birmingham) ..	36	133
T. E. Botham (Walsall) ..	36	128
R. G. Goulding (Wrexham) ..	36	116
B. W. Sutton (Liverpool) ..	36	108
D. G. Martin (Cheltenham) ..	35	142
R. A. Fowler (Marlow) ..	35	138
H. M. Graham (Harefield) ..	35	136
A. M. Norden (London, N.W.11) ..	35	134
D. E. Hayes (Hoddesdon) ..	35	105
A. L. Higgins (Aberkenfig) ..	34	121
C. J. Goddard (Coventry) ..	34	108
C. S. Pollington (Chichester) ..	33	127
P. Bysh (London, N.8) ..	33	121
A. O. Frearson (Birmingham) ..	33	107
D. J. Williams (Pontyberem) ..	33	96
D. K. Cocking (Farnborough) ..	32	95
G. Musk (Blackpool) ..	31	105
O. R. F. Mason (Prittlewell) ..	31	79
W. C. Askew (Melton Mowbray) ..	30	105

horribly pessimistic, but it seems to have been the reverse.

L. Garland (Somerset) sent in some nice Calls Heard, but he is another who has fallen by the wayside through not reading the rules, and I couldn't use them. Vertical lists with no name and address; horizontal lists not in alphabetical order; lists mixed up with letters and written on both sides of the paper; they still come in. *Please* read those simple instructions on the first Calls Heard page, just to save yourselves unnecessary bother.

AP2J (Karachi), in a letter dated late February, asks us to say that he has now reached the point where SWL reports have become an embarrassment, as they are costing him over £4 a month in cards and return postage! Very reasonably, AP2J puts it that he likes G SWL reports only when he is heard unable to work this country—then reports are useful; but not otherwise, please.

### QUERIES AND FREAKS

In answer to sundry queries last month—VE8MJ is definitely in Zone 2. The EA7's are *not* in Rio de Oro. One single one cropped up, once upon a time, and we all made the mistake of supposing that his prefix was official, so now everybody's list of prefixes is wrong. EA7 is allotted to Andalusia, Spain; if anyone should show up in Rio de Oro he might be an EA8 or an EA9, but the territory has never been given a prefix. This information comes from EA1BZ and is reliable. He adds that Spanish Guinea stations will use EAØ, not EA8.

EA6 stations are in the Balearics and count as a country. PJ5RE is genuine—QSL *via* W5MMD, Bartlesville, Okla., U.S.A. WØLVE/KP4 is on Vieques Island, but, so far as I know, counts as Puerto Rico. CRIAP has been heard, claiming to be in some part of South Africa. Any further light on him will be welcomed.

SL5BB, queried by many, is a Swedish station using the "SL" prefix allotted to military stations. XFIA, already mentioned, is the same as XE1A. "CR1TAA," queried by one or two, is CR 10 AA (CR *Ten* AA) using one dash for his "zero."

Information on the genuineness, or otherwise of the following is required: OE 13 LL (American accent, working OE3YL and CN8ED), FKS8AA, HP9FS/M, M1D (14 mc Phone), SU1SP, LZISM, YU3FMG and YU3FLE, and ZD6RD.

Definitely in the Chamber of Horrors category, until I find out more about them, are CO2A, MA8AV, MN2AC, MX9FI, Q11DK and UL3EZ. TZ1J sounds almost as bad, but I heard him on 14 mc CW working worldwide DX, and he says his name is Chang; added to

which he was definitely coming from somewhere in Asia. Maybe it's the prefix for Viet-Nam or a new one for China.

**THE FEBRUARY CONTEST**

This, you will remember, was to be decided on the basis of Counties Heard on 1.7 mc during the month of February. We ran two categories—one for Phone Only, and one for Phone and CW. L. M. Singletary (Bicester) is a handsome first in the Phone and CW section and an equal first with M. G. Whitaker (Halifax) in the Phone Only class—a very nice two-way performance.

The accompanying panel shows the winners.

February Top Band Contest			
PHONE AND CW			
	Counties	Countries	
L. M. Singletary (Bicester)	52	10	
W. J. C. Pinnell (Sidcup) . .	46	8	
R. A. Hawley (Goostrey) . .	44	8	
PHONE ONLY			
	Counties	Countries	
M. G. Whitaker (Halifax)	37	8	
L. M. Singletary (Bicester)	37	7	
R. A. Hawley (Goostrey) . .	34	5	
T. G. Spencer (Slimbridge)	34	5	

And an Honourable Mention to R. A. Hawley for appearing in both classes with a high place! By the number of entrants it seems that we shall have to return to the Top Band at fairly frequent intervals.

I have a contest for April up my sleeve, but it is not necessary to let the cat out of the bag until the next issue; suffice it to say that it bears no resemblance to any previous effort.

**SET LISTENING PERIODS**

March 25/26, 2200-0100 GMT, 14 mc CW and Phone.

March 26, 1700-2000 GMT, 14 mc CW and Phone.

April 29, 2200-2300 GMT, 14 mc Phone.

April 30, 1000-1100 GMT, 28 mc Phone.

Note that the March periods coincide with the March Contest. If you wish to send in lists of Calls Heard for the SLP's without entering for the Contest, do not cover more than two hours' total time—preferably a slice of one hour from each of the two sessions.

Deadline for the next issue is first post on April 4, which gives you a little more time to collect your thoughts. But please note that we want the March Contest logs and claims by April 1.

Address everything, as usual, to DX Scribe, *Short Wave Listener*, 53 Victoria Street, London, S.W.1. Until next month, Good Hunting and 73.

DX QTH's	
EA6IM	Box 324, Palma, Majorca.
EA8HS	Box 16, Teneriffe, Canary Is.
EA8RK	Box 215, Teneriffe, Canary Is.
EK1SA	Box 57, British Post Office, Tangier.
HC7KD	Box 340, Quito, Ecuador.
HS1SS	King, c/o American Embassy, Bangkok, Siam.
MP4BAO	Box 333, Awali, Bahrein Island, Persian Gulf.
MD2AM	} APO 231, c/o PM, N.Y.C.
MD2MD	
PK3MR	Box 222, Soerabaya, Java.
ST2AM	R.A.F. Khartoum, Sudan, MEAF, MEF 4.
ST2SP	Posts and Tels. Dept., Malakal, Upper Nile, Sudan.
TI2SA	Box 1266, San Jose, Costa Rica.
VP6RJ	Box 92, Barbados, B.W.I.
VP9G	J. W. Gady, Box 404, Hamilton, Bermuda.
VS1BO	Cpl. J. B. Smith, c/o SHO Signals, RAF Changi, Singapore.
VS6BE	Box 541, Hong Kong.
VU2BK	HQ Eastern Command, Karachi.
YS2AG	Box 146, Santa Ana, Salvador.
ZC6DZ	} c/o American Consulate, Jerusalem, Palestine.
ZC6JM	
ZD1KO	Sierra Leone Signal Squadron, Freetown.
ZD4AC	Box 933, Accra, Gold Coast.
ZE3JF	Box 596, Salisbury, Southern Rhodesia.

★ ★

**BC LICENCE FIGURES**

The G.P.O. announces that as at the end of January, 1950, there were 12,209,700 BC receiving licences current in Great Britain and Northern Ireland, including no less than 285,500 TV permits—or 45,800 TV licences sold during January. When taking out a TV licence, which costs £2, you are entitled to a rebate calculated at the rate of 1s. 8d. a month on the unexpired portion of your old 20s. sound licence. The TV permit covers the reception of sound broadcasting.

★ ★

**NEW MULLARD RECEIVER**

This is an "export only" notice, in that Mullard's new MAS231, on show at the British Industries Fair, is not yet available on the home market. It is a particularly interesting receiver, however, for it is a double superhet with full spreading of eight short wave bands. For the overseas listener, therefore, tuning is as easy on these bands as it is on the medium wave-range at home on a set of the ordinary type.

# CALLS HEARD

## SET LISTENING PERIODS

### 28 mc Phone

Feb. 26, 0900-1000 GMT

L. M. Singletary, R.A.F. Bicester, Oxon.

FF8PG, PY7QT, TA3GVU, YO3RI, ZB1AH, 1AJ, 1AJX, 1AK, 1AU, 1FK, ZD4AB, 4AC, 4AU. (Rx: 0-V-1.)

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

KR6CH, MD2AF, OQ5AO, PY7QT, TA3GVU, W2VZE/MM, YO3RI, ZB1AB, 1AH, 1AJ, 1AK, 1AU, 1FK, ZD4AC, 4AU, ZS6LW, 9F. (Rx: AR-88 and S.504.)

M. W. R. Halls, 19 Compass Road, Leicester.

FF8PG, JA2HQ, PY7QT, TA3GVU, VK5AS, VQ2WP, VU2GJ, ZB1AH, 1AJ, 1AU, 1FK, ZD2LMF, 4AC, ZL2ADT, 3DS, 3FG, ZS6LW. (Rx: RF24 into 5v Superhet.)

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

FF8PG, KR6CH, 6CN, MD2AF, MP4BAO, OQ5HL, 5LL, PY7QT, TA3GVU, VS6AM, VU2GJ, W2VZE/MM, 3K1F/MM, ZB1H, 1AK, ZD2LMF, 4AB, 4AU, ZE1JE, ZL3AP, 3DS, 4CN, ZS21W, 6LW. (Rx: V55R with Converter.)

A. M. Norden (London, N.W.11.).

FF3CN, 8PG, MD2AF, MP4BAO, OQ5AB, 5AO, 5HL, PY7QC, TA3GVU, VU2GJ, W2VZE/MM, 3K1F/MM, YO3RI, ZB1H, ZD4AB, 4AC, 4AU, ZS6LW, 6PT. (Rx: R208 with extra I.F.)

P. H. Stredwick, 159 Hampstead Way, N.W.11.

FF8FP, JA2HQ, KR6CN, MP4BAO, OQ5AO, PA0XE, TA3GVU, W2VZB/MM, 3K1F/MM, ZD4AC, 4AU, ZL2AJ, 3DS, ZS1CJ, 6CN, 6LW. (Rx: S.640.)

R. A. Fowler, 1 Dedmere Road, Marlow, Bucks.

JA2HQ, MP4BAO, PY7QT, TA3GVU, VK2EW, 3KX, 5ZR, ZD4AC, 4AU, ZL3AP, 3DS, 3FH ZS1FN, 2PP. (Rx: S.640.)

Please note the following simple rules for sending in lists of Calls Heard :

28 and 14 mc : No Europeans.  
No USA except W6 & W7  
No VE except VES, 6 7 & 8.  
7 mc : No Europeans.

Arrange logs in the form given here, with (a) prefixes in alphabetical order, but not repeated ; (b) numbers in numerical order and repeated as part of the call-sign ; (c) call-signs in alphabetical order. For example :—  
VK2GW, 3CP, 4UL, VP1AA, 6CDY, VQ3HJP, 4EJT, W6ENV, 7VY. Please underline each prefix, keep each list to one band, and, in short, make your lists exactly like those below, except that the more space you leave, the better.

G. J. Rawlinson, 70 Edenbridge Road, Bush Hill Park, Middx.

AP2N, CR5UP, FF8FP, HH2X, OQ5CK, ST2KR, TF3SF, TI2SA, VE7ZM, VQ2JO, W7FTV, 7PY, ZD4AU, ZS6BB, 6IR, 6JA. (Rx: R.103A.)

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

TA3GVU, YO3RI, ZB1AJ, 1AU, ZD4AC, 4AU, ZL3DS, 3LG. (Rx: 1-V-1 Mains.)

E. A. Parkinson, 8 Hawthorn Drive, Rodley, Leeds.

TA3GVU, YO3RI, ZD2LMF, 4AC, ZL3AP, 3DS, ZS6LW, 6PT. (Rx: S.504.)

R. G. Goulding, 10 Earle Street, Wrexham, Denbighshire.

JA2HQ, 5AA, KR6CH, 6PK, MP4BAO, MT2AF, PY7QT, TA3GVU, W2VZE/MM, YO3RI, ZD4AU, ZL3AP, 3DS, 3FG, ZS6LW. (Rx: Home-built Double Superhet plus RF26C.)

F. W. Hardstone, 43 Shrubbery Road, Streatham, London, S.W.16.

KR6CH, 6CN, 6GB, MI3SC, MP4BAB, 4BAO, PK4DA, TA3GVU, VK2KW, 3DN, 3HO, 3RV, 5PN, 6JW, 6TB, VU2DJ, W3K1F/MM, YO3RI, ZD2LNF, 4AB, 4AC, 4AH, 4AU, ZL1KG,

2ADT, 2AP, 3DL, 3DS, 3JB, 4AO 4CN. (Rx: Modified RF24 into S40a.)

R. R. Spice, Sunnybank, Jevington, Sussex.

AP2G, KR6CM, MP4BAO, MD2AF, TA3GVU, VK3XQ, 3DN, 3NP, 5ZR, VU2GJ, W2VZE/MM, W3K1F/MM, ZB1H, ZD4AU, ZE1JE, ZL3DS, 4AO, 4CN. (Rx: BC348P with Converter.)

### 14 mc

Feb. 22, 1900-2000 GMT  
(for 0-V-1 and 0-V-0 only)

F. H. Bliss, 12 Elmsleigh Avenue, Kenton, Harrow.

AR8BA, 8BC, CR6AI, MD7HB, PY7VA, ZS1GG, 4X4AV, 4ES. (Rx: 0-V-0.)

F. K. Earp, 33 Lavender Terrace, S.W.11.

PHONE: CN8ED, 8EI, 8ET, FA3CF, 9WU, FF8AH, PY1AAS, 4RK, 7DO, 7ES, YV5AB, ZD1SS, ZS1GG, 6JR, 6MZ, 3V8AD, 4X4ES. (Rx: 0-V-1.)

L. M. Singletary, R.A.F. Bicester, Oxon.

PHONE: AR8BA, CN8ET, EA8AR, FA8PX, KP4GI, OQ5DZ, PY6CC, 7VA, VQ4SC, ZS1BV, 1GG, 3F, 4X4AV, 4BL.

CW: CN8BK, CR6AQ, KP4CC, MD7GW, MI3UU, OQ5BQ, 5DR, SV1VS/MM, UA6KEA, VK7KB, VP5AR, VQ2GW, 3BNU, 4BB, ZB2J, ZD4AM, ZE2JJ, 2KN, ZL1BY, ZS1FR, 1JM, 2AW, 2EC, 5IO, 5KF, 6DW, 6RD, 6VR, 6WS, 4X4AC. (Rx: 0-V-1.)

R. W. Finch, 36 Bathurst Road, Ilford, Essex.

PHONE: CN8EO, 8MI, VQ4ERR. (Rx: 0-V-1 Mains.)

J. St. Leger, c/o 35 Trelawney Road, Camborne, Cornwall.

CW: OQ5BQ, 5DR, PY1CD, VO1AM, 2Z, VQ2AC, 2GW, 3BNU, YO3RF, ZB2J, ZD4AM, ZE2KN, ZS510, 6RY, 6VR. (Rx: Battery 0-V-1.)

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

PHONE: CN8ET.

CW: HZ1HZ, KP4CC, MI3UU, PY8MC, VQ3BNU, ZB2J, ZE2KN. (Rx: 0-V-0.)

P. H. Strudwick, 159 Hampstead Way, Golders Green, N.W.11.  
**PHONE:** AR8AB, CN8ET, CO2SG, CR6AI, EA8HR, FA9WU, MD7HV, OQ5TY, PY4AG, 7VA, VQ2AG, ZS1BV, 1GG, 2AF, 3M, 4X4AB, AV. (Rx: 0-V-1.)

M. G. Whitaker, Stile-House, Shelf, near Halifax, Yorkshire.

**PHONE:** AR8BA, CN8ET, CR5UP, FA8PX, FA9WU, G3BUU, G6WT, MD2AN, 7HV, VE1NF, VQ2JD, 3AA, 4SC, 5AI, ZB1AB, ZC6DH, ZE3JJ, ZS1BB, 1BV, 1GG, 1HD, 1JZ, 3F, 3V8AD, 4X4ES.

**CW:** PY1CD. (Rx: 0-V-1.)

## 1.7 mc

Feb. 25, 2200-2300 GMT

M. G. Whitaker, Stile-House, Shelf, near Halifax.

**PHONE:** G2ABR, 2ACV, 2CGR, 2DKH, 2DWA, 2FFY, 2KO/A, 3AAT, 3BRV/A, 3DAR, 3EGF, 3EIT, 3EKC, 3EKT, 3FZN, 4KZ, 4JH, 8OK, GC2BMU, GM3DZB, GW3CDH.

**CW:** G2AGO, 2AWH, 2NK, 3DRL, 3EGN, 3EKG, 3ENI, 3EPK, 3FZW, 3NT, 4DU, 5RO, 5UM, 5XD, GM3FXM. (Rx: Battery 0-V-1.)

M. J. Hitchman, Cotterill, Mere Road, Wigston, Leics.

**PHONE:** G2ACV, 3HAB, 2HOP, 2PX, 3EKT, 3EMU, 3IW, 4LV, GM3DZB, 4MF, GW3CDH.

**CW:** G2DRK, 2FTL, 2HK, 2JF, 3DRL, SEG3, 3EPK, 3FNL, 3FUW, 4BB, 5UM, 5XD, GC2BMU, GM2HIK, 3ATV, 3FXM, GW3EFZ. (Rx: R.107.)

P. H. Strudwick, 159 Hampstead Way, N.W.11.

**PHONE:** G2ACV, 2AZW, 2BAR, 2BRH, 2FFY, 3DIV, 3EIW, 3EKT, 3HR, 4LB, 5LF, 6DU, 8OK, GC2BMU, GM3DZB, GW3CDH. (Rx: S.640.)

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

**PHONE:** G2ASS, 2ABR, 2ACV, 2BOI, 2FFY, 2KO/A, 2PX, 3ACQ, 3DWA, 3EGF, 3EKT, 3HR, 4JH, 4LV, 6GU, 8OK, GC2BMU, GM3DZB, GW3CDH.

**CW:** G2ACV, 2AKU, 3FUW, 3NT, 5PO, GM3FXM, GW3ETZ. (Rx: AR88 and S.504.)

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

**PHONE:** G2ABR, 2ACV, 2AZW, 2DRK, 3BRH, 3BCM, 3DDF, 3DSW, 3EGF, 3EKT, 4BY, 4JH, 4LV, GM3DZB, GW3CDH.

**CW:** G2ACV, 2KZ, 2NU, 3BEX, 3DRL, 3DXI, 3EGX, 3EPK, 3FNL, 3FTY, 3FUW, 3FZW, 3GMI, 3GRF, 3NT, 4LX, 5UM, 5UQ, 8QD, GC2BMU, GM2HIK, 3ATV, 3FXM, GW3EFZ. (Rx: R1224A.)

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

**PHONE:** G2ABR, 2ACV, 2DKH, 2FFY, 2KO, 3ACQ, 3DWA, 3EGF, 3HR, 4BY, 4JH, 4KZ, 4LV, 8OK, GC2BMU, GM3DZB, GW3CDH. (Rx: Vidor 6 valve Superhet.)

J. Bagshaw, 6 Tavistock Road, Callington, Cornwall.

**PHONE:** G2ABR, 2ACV, 2BOI, 2CUI, 2FFY, 2KO/A, 3EGF, 3EKT, 8OK, GM3DZB, GW2BG. (Rx: Sx24.)

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

**G2ABR, 2ACU, 2AOK/A, 2AWH, 2BOI, 2DHO, 2DKH, 2FFY, 2FSY, 2HOP, 3ACQ, 3BUQ, 3EA, 3EGS, 3EJJ, 3EKT, 3EMU, 3HR, 3HO, 3TP, 3WJ, 4JH, 4KZ, 4LV, 5GX, GC2BMU, GI3CFJ, GM3DZB, 3WO, GW3CDH. (Rx: R1084.)**

E. J. Logan, Linten Cottage, Fanshawe Street, Bengoe, Hertford.

**PHONE:** G2ABR, 2AWH, 2AZW, 2FRH, 2PX, 3BGU, 3BTC, 3DSW, 3EBA, 3ECN, 3EHB, 3EIT, 3EKT, 3EMU, 4GA, 4LV, 5LF, 8OK, GC2BMU, GM3DZB, GW3CDH. (Rx: BC-342J.)

L. B. Dalby, Green Lane, Lea, Gainsborough.

**PHONE:** G2AAS, 2ABR, 2ACV, 2AWH, 2BQC, 2DKH, 2DWA, 2FFY, 2KO/A, 2PX, 3ACQ, 3ARD, 3DRR, 3EEL, 3EMU, 3ETF, 3FCY, 4JH, 4KZ, 8OK, GC2BMU, GM3DZB, GW3CDH. (Rx: Battery 1-V-2.)

## GENERAL

### 3.5 mc

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

**CT3AB, EK1AO, FM8AD, HC1JB, 1PK, KV4AA, VP4TAQ, VP5BF (Caicos Is.), W5CKY, 6ZAT, ØATA, ØDWD, XF1A, ZL1BY, 1CI, 1HM, 1MB, 2ACV, 2US, 3GU, 3JT, 3LL, 3NE, 3NH, 3OZ, 4FP, 4IE.**

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

**PHONE:** PYSN, VE1KR, W2TTN.

**CW:** AR8FR, FA8BM, KP4FB, LU3OD, OX3GB, VK4TU, 2L2AF. (Rx: S.640.)

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

**PHONE:** VE1BK, 1DA, 1ED, 1FU, 1LM, 1MJ, WIATE, 1BDI, 1EMF, 1FXQ, 1ICP, 1KO, 1KYG, 1MFV, 1NQ, 1QU, 1ZE, 4EGS, 4IWA, 8UKS. (Rx: AR88LF and Sx28.)

## 7 mc

J. C. Beal, 24 Woodfield Avenue, North Wembley, Middlesex.

**PHONE:** CN8AJ, IS1BYB.

**CW:** CM6LI, CN8BI, CR7AD, EA6AF, 8AL, 9BB, EK1AO, JA3AF, KL7ACU, KZ5PA, MD7AN, 7DC, OX3BR, PY2AJ, TA3FAS, TF5TP, UA9KWA, VE1AAB, 3OP, 8BR, VP6CUI, W5NTT, 7FS, 7LEK, 7LJM, 7VY, 8DQC, 9CKU, ØGDH, ZL3KJ, 3NH, 4X4DF. (Rx: BC224-B.)

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

**CW:** CN8MZ, CO8NK, CT3AV, EK1FA, HC1FE, HL2AB, KR6DR, MD7WD, PY2ADA, TA3FAS, UA3CI, 4CC, UB5DAR, VK3DK, VS6DT, W1NJM, 1XAL, 2CJX, 3LOE. (Rx: S.640.)

## 14 mc

K. Everest, 44 Salcombe Drive, Chadwell Heath, Essex.

**PHONE:** AK2CO, 2HS, 2PI, CE1AR, 1BE, CN8AI, 8AU, 8GT, 8MU, 8NI, CO8MP, CR5UP, CX1CG, 1QE, FA3JY, 8WH, 9WU, FF5DA, HK1DZ, KP4JA, LUIJB, 4BW, 9MU, MD7WE, MF2AA, OY3IGQ, PY1AR, 1BH, 1FT, 1KZ, 4LV, 4KJ, 4ZS, 7RJ, 7VA, TI2HP, 2MS, 2OE, VA3AM, VO1DX, VP1OA, 2SP, 3AG, 4TO, 7NU, 9KK, VQ4AQ, 4VL, YN4CB, YV5AB, ZC6JM, ZDIS, 4X4BJ, 4BL. (Rx: R.107.)

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

**PHONE:** AK2CL, 2MF, 2PI, CO2DZ, 8MP, CN8BK, 8BV, 8MP, 8MU, 8OE, EK1AD, 1AJ, 1MD, 1SM, FA3JY, 8CF, 9HS, 9WC, 9WD, 9WU, FT4AB, OX3BD, TA3GVU, W5HFO, 6ZS, XF1A, YO3AG, 7RX, ZC6JM, ZS6DW. (Rx: R1084 and R1116.)

P. H. Strudwick, 159 Hampstead Way, London, N.W.3.

**PHONE:** AR8AB, CO8GH, CR5UP, 6AI, CF2AE, EA8HR, 8TM, HC4M2, HIGEC, HZ1KE, MD7AC, 7HV, OQ5TY, S1F5SG, VO6VB, VP4CJ, 4TB, 9KK, VQ2AG, 5AI, VU2DH, VV4AA, 5AB, ZS3M, 8A, 3V8AA, AP. (Rx: S.640.)

B. L. Stedman, Gun Green, Hawthurst, Kent.

PHONE: CE3AE, CO7RQ, CR5UP, CT2AB, EA8RK, HP1PV, HR2RF, KP4AJ, SVØUN, TI2OA, 2TG, UN1BA, VE7VO, 8MI, VK4UL, VO1AG, VP5L, 7NU, 9K1J, V57SV, W7USK, ZLIADG, 3V8AT. (Rx: B.2 Modified.)

O. A. Good, 1 Western Drive, Oswestry, Shropshire.

PHONE: CR5UP, HH2MF, H18WF, JA2BL, KG4AK, KL7ZM, OQ4AI, PY8GL, TG9RV, VE8AW, 8MC, VK7AZ, VP5RS, 7NU, VQ3AA, VS2BS, 6BE, 7SV, YN4CB, YS1MS, ZS3M.

CW: CE7AK, CR7AD, 7AF, FB8AA, FD3RG, FN8AD, KX6BA, PJ5RE, UAØAA, UJ8KAA, VK1RD, VS6AX, 6BL, XZ2FK, ZS9D. (Rx: S.640.)

M. S. Gotch, Eastacre, Chaters Hill, Saffron Walden, Essex.

PHONE: MD7WD, JA2BL, PK1SA, V57SV, YI2JB, ZDIKO. (Rx: 2.EF54 preselector with Ham-bander.)

R. G. Poppi, 274 Kent House Road, Beckenham, Kent.

PHONE: CE3AR, 3CS, CR5UP, 6AJ, EP3L, FF8MH, HR2RF, JA5AL, KL7UM, KG6FAA, 6USA, KR6CH, KZ5DM, 5WJ, OY3IGO, ST2AM, TG9RB, UN1AD, 5AI, VK6TJ, VP3HAG, 3MCB, 5AR, 7NU, VQ3AA, 5AI, VS1DZ, 2BS, 6BE, 7SV, VU2CQ, YN1OC, 4CB, YS1AA, ZP5AC. (Rx: S.640.)

A. Bannister, 58 Demesne Road, Manchester, 16.

PHONE: CE1AR, 2CC, CR5UP, CT3AR, CX1CG, EA9AI, HC2OA, HP1CM, 1JR, JA2BL, TI2OA, VP3HAG, 3MCB, 4TB, 5AR, 7NR, 9KK, VQ2RE, 5AI, VS2BD, 7SV, VU2DH, XE1HC, 2FC, 2IY, YN4CB, YS2AG, ZDISS, ZP6AC. (Rx: BC1147A.)

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

PHONE: CN8AI, 8BA, 8BG, 8BM, 8BV, 8EI, 8EO, 8ET, CO2SG, 8MT, CR5UP, CT3AD, CX1VD, EA8AE, EK1AD, 1AR, 1DI, 1HB, 1MD, 1SA, EP3L, FA3DS, 3GZ, 3PY, 3VE, 8PX, 9ML, IS1BV, KP4AZ, LU4BH, MD2HN, PY1EH, 2CK, 5DH, 6CO, 7DO, 7QG, 7WL, SVØUN, TI2TG, VE5VH, 7GQ, VK2PJ, 3HW, VP9F, ZC6UNJ, ZL2JB, 3V8AT, 8BB, 4X4BL. (Rx: McMicheal Battery model No. 484.)

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

PHONE: CR5UP, EL2A, 5A, FF8AH, 8DA, FM7WE, HR2RF, OQ5CA, 5CF, 5DZ, 5ED, TI2OA, 2OE, VE8MI, 8OX, VP3HAG,

3MCB, 7NK, 7NU, VQ2WP, 4AQ, 4ERR, 4VL, XE1VA, XF1A, YN4CB, YS1RR, ZC6JM, ZDIKO. (Rx: AR88LF and Sx28.)

E. J. Logan, Linten Cottage, Fanshawe Street, Bengoe, Hertford.

PHONE: AR8BC, CO8MT, CR5UP, CX2CO, EA8RK, FA9WU, FF8DA, HK3ME, HR2RF, HZ1KE, IS1RPA, KP4AZ, KZ5AO, LU4CN, MI3GH, JA2BL, OQ5CF, OY3IGO, PY2JE, ST2FR, TG9IE, 9IU, VK41E, VP3HAG, 4TB, 5AR, VQ2WP, 4ERR, VU2DH, YK1AE, YV5A, ZB1BD, ZC6UNJ, ZDIKO, ZS5H. (Rx: BC342J.)

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

PHONE: AR8BA, CE1BE, CO6MO, CR6AI, 10AL, EA8RK, FA8JO, HP1RD, KL7ZM, PY8AJ, TI2JJ, 2OEC, VE8MB, 8OS, VP4TB, 7NU, 9KK, W7HTB (22.35), YN4CB, ZC6JG, 6JM, ZE2KJ, ZL2JB, ZS1BV, 6BW, 3V8BB, 4X4AV. (Rx: 1-V-1, Mains.)

K. Smeeton, 36 Runcorn Road, Barnton, near Northwich, Cheshire.

PHONE: CE3AE, 3CC, CR6AI, FF8FP, HP1CM, 1DL, HR2RF, KL7ZM, VE8AW, 8OX, VP3HAG, 5AK, 5AR, 9NU, V57GR, 7SV, YS1AG, ZDIKO, ZS8A.

CW: EA6AF, 8FC, 9AI, KP4GT, OQ5BO, TF3AB, 3ZM, 5TP, UC2KAB, YU3FMA, ZE1KN. (Rx: Ham-bander and 1155A.)

## 28 mc

P. H. Strudwick, 159 Hampstead Way, London, N.W.3.

PHONE: AP2G, 2N, CE2DY, 3CZ, CR5UP, HC1OY, 2HC, HH2W, JA2HQ, KR6CN, KZ5DH, MD7HY, OA4BR, OQ5AB, 5AC, 5AO, 5CO, PJ5KO, PK1UA, 3RM, ST2AM, VK6LM, 6GA, YS6AM, VU2GJ, XE1PY, XZ2KN, KZK (Rx: S.640.)

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

PHONE: CR5UP, CX4CS, FE3CN, 8FP, HZ1AB, KG6FM, 6FZ, LU3DH, 5DJY, MI3SC, MP4BAB, PK1UA, OQ5CA, SV5UN, VS6BE, VU2GJ, W2NLK/MM, 2VZE/MM, 2WVWL/MM, 3NKS/MM, 3OZA/MM, 5AXI/MM, 5OCN/MM, 6DYT/MM, 9ITY/MM, ØPVK/MM, XZ2KN, YK1AC, ZE2JA, ZS9F. (Rx: AR-88 and S.504.)

T. G. Spencer, Cherry Tree Cottage, Slimbridge, Gloucester.

PHONE: CE3CZ, CX4CS, FF8FP, HK2IR, MD7HV,

MP4BAO, KH6VU/KG6, KR6CK, KZ5EH, PZ1QM, VP5AR, W6OCN, KZ5EH, PZ1QM, VP5AR, W5OCN/MM, 1OHA/MM, 2ZPA/MM, 3KJF/MM, 6YYT/MM, ØPUK/MM.

G. Murray, 6 Agricola Road, Newcastle-on-Tyne, 4.

PHONE: HZ1AB, KP4EG, MD2MD, MT2BF, TA3FAS, UB5BV, VQ2WP, W6SHW, 6UVU, 7KWX, ZC1AK, ZD4AX, ZS2CI, 6PR, 6SG, 6TE, 3V8AP, 4X4CZ. (Rx: 3x EF50 Converter to 1224A.)

M. G. Whitaker, Stile House, Shelf, nr. Halifax, Yorkshire.

PHONE: MD2AB, 2AF, MP4BAO, MT2E, OQ5CL, 5CO, 5LA, TA3GVU, VK2KF, VQ2VP, W2VZD/MM, 3KJF/MM, YØ3RI, ZB1AB, 1AH, 1AJ, 1AK, 1AU, 1FK, 1H, ZD2LMF, 4AB, 4AU, ZE1JE, ZS5CB, 6LW, 6PT.

CW: FE8AB, FF9JK, UA3CU, 3DL, 3V8AJ. (Rx: Ham-bander.)

A. O. Frearson, 66 Wheelwright Road, Erdington, Birmingham, 24.

PHONE: CN8EE, CO7RQ, CR5UP, KP4JM, M13SC, MP4BAB, 4BAO, OQ5AO, ST2KR, VP6SD, VQ4AC, ZS6LF, 6SG, 6XT. (Rx: S.640.)

R. G. Goulding, 10 Earle Street, Wrexham, Denbighshire.

PHONE: CX4CS, JA5AA, 2HQ, KG6USA, 6FM, 6FZ, KR6CH, 6PK, MP4BAO, ST2AM, VK3AGX, 4KS, VS6BC, 6BE, 6BM, 9AH, ZL3AP, 3DS, 3FG. (Rx: Home-built Double Superhet plus RF26 Converter.)

D. E. Hayes, 18 St. Cuthberts Road, Hoddesdon, Herts.

PHONE: CE4CC, KR6JL, M13SC, MP4BAB, OQ5LL, PK3WH, SVØWF, UB5VV, ZD4AU, ZE2KH, ZL3JM. (Rx: Modified RF26 to R1116.)

K. M. Parry, 6 St. Bart's Road, Sandwich, Kent.

PHONE: AP2N, CE3CZ, FF3CN, 8AH, H16EC, HZ1AB, KG6FM, 6GS, KP4AV, 4DU, KZ5AK, MP4BAB, 4BAO, PK1UA, 3MR, 3XE, PZ1D, 1QM, ST2KR, VS6BC, 7PW, 9AH, VU2BU, 2GB, 2YL, ZD4AH, ZE2KH, 3JD, ZS9F. (Rx: Modified RF24 into Ultra U434.)

J. P. Warren, 14 Francis Road, West Croydon, Surrey.

PHONE: CE2CC, CR5UP, FF3CN, HC1OY, H16EC, HK4BF, HZ1AB, KG6FZ, KR6AS, 6CO, MD7HV, MP4BAB, 4BAO, OQ5CA, SV5UN, TI2JL, VK5EM, VP4TO, VQ2WP, VS6AM, 9AH, YK1AC, ZE2JD, ZL3DS, ZS6LW. (Rx: R.208.)



---



---

# SWL Stations NO. 31

---



---



HERE we see the SWL station operated by R. B. Swift at 70 Penny Lane, Liverpool, 18—another of our readers in that part of the world to appear in this feature.

As shown in the photograph, the main receiver is an Eddystone S.640, above which is the home-constructed S-meter; the other receiver is a home-brewed 0-V-1 using 6J7-6V6. Aerials at present in operation are a 66-ft. Windom, NE/SW, a dipole for Forty, and a folded dipole with 300 ohm matched feeder for the 28 mc band.

R.B.S. will have his own ticket if he succeeds on May 10 next, and in anticipation of that happy event has provided himself with various items of equipment which will be useful when he comes on the air. These are a field strength meter, modulation monitor and an absorption

wavemeter. He is fortunate in being a close collaborator of G2BTJ, active on all bands from Ten to Forty, and R.B.S. ranks as regular 2nd. operator of that station. It is without doubt of the greatest value and importance to most SWL's aspiring to a ticket to have the ready assistance of an amateur already licensed. While it is possible for anyone who takes an intelligent interest in the literature of Amateur Radio to become in due course a capable transmitting operator, the progress of the "lone wolf" is naturally slower than that of the beginner able to call on experienced advice and assistance.

Well, May 10 is not far off now, and we hope that R.B.S. and all our many other readers who are taking the R.A.E. will emerge with distinction, in due course to appear on the air as G3-plus-3's.

---

*Read the Short Wave Listener regularly—it will keep you in touch*

---

# THE VHF IF END

by A. A. MAWSE

## New DX on Seventy Centimetres— Discussing Conditions— Individual Station Reports— Calls Heard and "The Best Ten"

THE auroral session on February 19 did not appear to have any noticeable effects on Two Metres, but it is certain that had the old 5-metre band still been available for amateur use some excellent DX would have been possible. This was borne out by the rumbling background noise noticeable on the Sutton Coldfield TV signal as received in the South of England that evening. On the somewhat lower frequency of the Alexandra Palace transmissions some outstanding DX was recorded, as readers will doubtless know. The vision was badly mutilated by a female voice believed to emanate from Leningrad, and the sound suffered interference from a male voice and music from somewhere in Scandinavia. Characteristic of this reception was a roughness of quality, peculiar to aurora conditions, and perhaps worth noting is the fact that fading appeared to occur simultaneously on both the interfering signals.

For the information of any newcomers to VHF who may not have experienced this phenomenon it is believed that the unusual propagation is due to reflection from an auroral ionised "curtain." Consequently, greatest effect is obtained by aiming beams in a northerly direction and not by beaming in the direction of the desired station. The effect of this reflecting curtain is mainly noticeable in the lower VHF range, but instances of aurora DX have been recorded in the 144 mc band, and it is always worth having a search around when it is known that an aurora is occurring.

Outstanding example of aurora DX on the 5-metre band was probably that of the afternoon of August 8, 1948. Amongst other achievements of that notable Sunday was the reception of GM2DAU (Cupar) by P. J. Towgood in Bournemouth at 402 miles. Similar DX is not impossible on 2 metres, although suitable conditions will be somewhat rarer. The last two weeks of March are often a period of ionospheric and magnetic disturbances and the consistent listener may well

be presented with a first-rate piece of DX. But, in your own interests, read the comments in this column last month on the confirming of DX reception.

### Conditions Generally

In general, conditions for two-metre DX seem to have been very poor, and reception of any signal from beyond 100 miles a rarity. Even in the fine weather spells there was only a slight improvement. Lack of activity was probably partly responsible, but usually the DX that was audible was not particularly strong, and this in spite of the high gain arrays in use at almost all stations. A few paths up to 100 miles or so appear to be regularly open, but the range of the average station is more like 60 to 70 miles for consistent work. This being an assessed average figure, there will, of course, be many with ranges much less.

February 15 is quoted by several correspondents as being a good evening. The reception of excellent signals in the London area from GW3EJM in Cardiff was the outstanding event on that date. February 22 was also fair, with G2ATK (Birmingham) and G8KL (Wolverhampton) heard in the South of England. G3AHT and GS2ADZ in the Oswestry area have also provided good signals on a few evenings.

### The Best Ten

A little competition is often a good thing, and with due acknowledgments to G2XC of the *Short Wave Magazine* for the idea, it is suggested that you send in each month a list of the *ten best DX calls heard* on Two during the month covered by your report. Any particular call may be counted once each day on which it is heard, days counting as 0600 to 0600 GMT. Give a reasonable amount of detail (so that a check could be made, if desired) and also the distance in miles. Find the total miles and then if sufficient entries are received a monthly winner can be proclaimed.

### Aerials

From time to time a reader writes to say he has built the beam described in the September, 1949, *Short Wave Listener*—but that he has altered the spacing, or the number of directors,

or their length. The dimensions of this beam were determined very carefully and as the result of a long period of experiment, and if any of them are altered the operation of the beam is bound to be different, and it is not fair either to condemn or praise the original beam if these sort of changes have been made. In particular, the wide director spacing was found to give a worthwhile improvement and it is urged on all intending constructors that they keep to the figures given. This is not to imply that good beams cannot be made with other dimensions, but if the spacing is changed then element length will also need changing for optimum performance, and front-to-back ratio will be different. So unless you have the necessary apparatus to check up the forward gain and polar diagram of the beam, it is highly desirable to keep strictly to the figures given.

### Station News

R. Bastin (Coventry) reports active again after a long interval. He has a 26 Unit in operation and acknowledges, gratefully, the help given by G3GBO in getting this working. R.B.'s location, 500 ft. a.s.l., is as good as any in his area, but due to local restrictions he cannot erect an outdoor array. A 3-element beam in the shack proved to be no better than a dipole in the roof. The modified Type 26 unit has a 955 as oscillator; plans are being made to add a 6J6 pre-amplifier. So far no real DX has come in, but hopes are high. In addition, 420 mc preparations are under way.

A. W. Blandford (Mitcham) was one of the lucky ones who heard GW3EJM, and thinks much of his success was due to the 6J6 self-neutralised stage he has recently added to his RF27 unit. At Harrow Weald, L. A. Whitmell has found conditions fair and activity on the upgrade. A 6AK5 substituted for the EF54 previously used in the 27 Unit appears to have been an improvement and signals are much louder. The lower input

capacity has enabled him to use a larger grid coil. He has been busy making the 4-element beam mentioned above and even at 4 ft. from the ground finds it superior to his previous aerial.

As usual A. L. Mynett (Wembley) has heard all the DX that has been there. GW3EJM gave him his 26th county. A three-element very wide-spaced Yagi has temporarily replaced his 12-element array, which has been taken down for enlargement. He often hears G2XS when no other signals are on the band.

E. A. Lomax (Bolton, Lancs) has a number of interesting points to make. To start with, during the month he kept a careful check on the G3EHY-GW2ADZ schedule; G3EHY is 160 miles from Bolton, and GW2ADZ just 80 miles. Listening for 22 out of a possible 28 days, G3EHY was readable on 10 days and GW2ADZ on 15, with no signals heard from either stations on four days—all this, of course, during the month of February; best conditions (on this check) were on February 5, 10, 18, 21 and 27. This is a most useful analysis, and shows what good use can be made by SWL's of known regular schedules. As E.A.L. remarks, it is surprising how one gets the "feel" of the thing, and he intends using the G3EHY-GW2ADZ schedule as a means of testing new aeriels. At the moment he is running a G2IQ converter into an AR88, with a folded dipole 38 ft. high and 650 ft. a.s.l.

Our regular Eastbourne correspondent, J. E. Harman, says in effect "not a lot to report, but the regulars come in night after night." With him, they are G2MV and G4HT. Total number of stations heard on Two by J. E. H. is now 78—the number of cards received is only four, because only four reports have been sent out! It seems to us that a large proportion of the other 74 stations heard would have been delighted to get a report from him and to have QSL'd accordingly.

P. J. Towgood (Bournemouth) missed a

## TWO-METRE CALLS HEARD

A. L. Mynett, 29 Sunleigh Road, Alperton, Wembley, Middlesex.  
50 to 75 miles: G2XC, 2XV, 3FAN, 4MW, 8IL, 8SY.  
75 to 100 miles: G2XS, 3ABH, 3CFR, 3ENS, 5UD.  
100 to 150 miles: G2IQ, 3EHY, GE3EJM.  
Over 150 miles: G3AHT, GW2ADZ. (Rx: 6J6 converter, 3 ele. beam.)

L. A. Whitmell, 762 Kenton Lane, Harrow Weald, Middlesex.  
G2AFB, 2ANT, 2BN, 2BMI, 2CUA, 2DD, 2DPD, 2HDY, 2MV, 2YC, 3AEX, 3AZI, 3BLP, 3BOB'

3CO, 3CGO, 3CVO, 3DCC, 3EEI, 3FAB, 3FD, 3GBO, 3QK, 3SM, 4CG, 4CI, 4DC, 4HT, 4RO, 5AS, 5BC, 5DT, 5KH, 5PY, 5OB, 5TP, 5US, 6CB, 6HG, 6LK, 6LO, 6LR, 6NB, 6NF, 6WU, 6YP, 8KZ, 8NB, 8QB, 8OC, 8SK, 8SM, 8TB, 8UB.  
(Rx: RF27 into S640. Antenna 3 and 4 element beam. February 1-28.)

R. L. Bastin, 83 Guphill Avenue, Coventry.

PHONE and CW: G2ATK, 3ABA, 4RK, 5ML, 5SK, 6CI, 8QK.  
(Rx: Modified 26 Unit (EF54, EF54, 955) into BC342-N on 9-7 mc. Aerial: 3 ele. W.S. beam.)

J. E. Harman, 10 Royal Sussex Crescent, Eastbourne, Sussex.  
F8LO, G2BGU, 2CIW, 2MV, 2UJ, 2WJ, 2XS, 3CWW, 3CO, 3FXG, 4HT, 4MW, 5UD, 6CB, 6LL, 6NB, 6WU, 8KZ.

A. E. Wright, 92 Druid Street, Hinckley, Leicestershire.  
G2ATK, 2FWW, 2WJ, 3ABA, 3DRG, 5SK, 6CI, 6NB.

E. A. Lomax, 28 Welbeck Road, Heaton, Bolton, Lancs.  
G3DA, 3AHT, 3EHY, 3ELT, 3ENS, 5CP, 5RW, GW2ADZ.

watch on the evening of the aurora display, but kept a long vigil on February 21. This yielded nothing out of the ordinary, except that G6NB's note seemed to be affected by the fuzziness always evident during aurora manifestations on 58 mc. During the other occasions P. J. T. has been there activity has appeared to be at a low ebb—this is the general complaint, though it is also true to say that a number of stations *do* come on regularly irrespective of conditions.

G. E. Magrow (Dawlish) found the evening of February 16 outstandingly good. G. E. M. is getting a receiver ready for 430 mc—he has plenty of local Tx talent available in the shape of G2BMZ, G3AVF and G5BY, all active on 70 cm—and hopes to be able to report some results during the present month. Well, there is much to be said for activity on 430 mc, and we very much hope that the results reported in this issue will enthrall other SWL's to have a crack at a band which, though difficult, should yield astonishing results under the right conditions.

#### Anticipation

Before many weeks are passed a definite improvement in propagation characteristics can be expected. As most readers will know, DX reception at distances of 100 to 300 miles or so is due to the existence of suitable temperature and moisture gradients in the troposphere. These are always more effective at high temperatures than low, since the maximum quantity of water vapour the air can hold increases rapidly as temperature is raised. This makes possible much greater contrasts of humidity and gives rise to reflection and refraction of a sufficient intensity to produce a return to earth of signals radiated at small angles above horizontal. So, as the warmer weather approaches, the chances of DX improve and your conductor anticipates some long lists of DX calls heard before long.

In the meantime keep at it, and remember, poor conditions sometimes serve best for testing a receiver, and those who have been hearing 100 miles or more in the last few months may confidently look forward to some real excitement very soon.

#### Seventy-Centimetre DX

Just as these notes were being written news arrived of 119-mile reception of 420 mc signals between G5BY (Bolt Tail) and G3EJL (Southampton). Signals were heard both ways, but an actual two-way contact was not made on 70 cm. G5BY received G3EJL at 1620 on March 5, R5 and S5 on phone and RST 569x on CW, and worked him cross-band (145 and 420 mc). Then G5BY changed his Tx to 70 cm, and was heard by G3EJL RST56/79x, but unfortunately the

832A tripler at the latter station chose *that* minute to succumb, and no substitute was readily available! However, this is an excellent achievement, and was presumably due to tropospheric propagation. There was a thick fog at Bolt Tail, and two-metre conditions were also good at the time.

#### In Conclusion

Thanks to all those who have sent in reports this month, and we hope that the expected improvement in conditions will mean big logs for you. Next month's mail should be addressed, as usual, to A. A. Mawse, *Short Wave Listener*, 53 Victoria Street, London, S.W.1, to reach us by April 6, latest—and it would help if correspondents would use our special Calls Heard report forms, a supply of which will be sent on request.



#### BRITISH INITIATIVE IN SCIENTIFIC DISCOVERY

The story of British scientific achievement and the way that achievement has influenced the life and work of every one of us, is to be told during the Festival of Britain in 1951. In planning the scientific displays, the Festival authorities have recognised the three main ways in which science has contributed to contemporary civilisation and each of these is emphasised in the three different exhibitions where scientific and technological progress will be illustrated.

First, on the South Bank of the River Thames in London, the practical consequences of pure science will be illustrated by many themes against a background of the living, working world in Britain to-day.

At the Science Exhibition in South Kensington the emphasis will be on the revolutions in human thought which have resulted from man's scientific curiosity concerning the ultimate nature of matter, and finally at the Exhibition of Industrial Power in the Kelvin Hall, Glasgow, scientific knowledge and techniques will be illustrated in their promotion of industrial and engineering progress.

But the most ambitious of the three will be the exhibition on the South Bank in London because of the great variety of the illustrations of the way science has influenced our modern civilisation. The visitor will be made to realise how much of this accumulation of scientific knowledge has accrued directly from the adventurousness, in both mind and body, of our own people.

Our British skill and zest for exploration has prompted the development of all forms of transportation and of the vitally important science of navigation. The distances of the Commonwealth and Empire have, in turn, given repeated impulses to the development of long-distance communication by cable and radio as well as to the study of the maintenance of health under climatic conditions different from our own. The visitor will come away profoundly convinced that British initiative in exploration and scientific discovery is by no means a matter of the past and that we are continuing to breed among our people those ranging adventurous minds who start things on their own rather than follow in the wake of others.



#### PANEL MARKING TRANSFERS

Those interested in obtaining transfers for marking (crackle finish) metal panels might like to know that a set of such transfers, suitable for all types of Amateur Radio equipment, is being prepared by H. Norvall & Sons, Ltd., 5 Torrens Street, City Road, London, E.C.1

# SHORT WAVE BROADCAST STATIONS

Revision 62-73-129-6 and 11-49-19-58 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 the 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	Wave-length	Callsign	Location
4781	62-75	YVLA	Valencia.
4780	62-76		Singapore.
4777	62-80	HJGB	Bucaramanga.
4765	62-96	HC4FA	Portoviejo.
4752	63-13	YVMA	Maracaibo.
4725	63-49	HC5B	Punta, Ecuador.
4721	63-53	HC1VT	Ambato, Ecuador.
4712	63-66	HC2ET	Guayaquil.
4651	64-50	HC2AK	Guayaquil.
4373	68-60		Johannesburg.
4370	68-65		Tananarive.
4170	71-94	TGOA	Guatemala City.
4020	74-63	HC11M	Ibarra, Ecuador.
3935	76-24	HC5EH	Cuenca, Ecuador.
3923	76-46		Mecca.
3914	76-65	ZQP	Lusaka, N. Rhodesia.
3800	78-95	ZEB	Bulawayo, S. Rhodesia.
3790	79-16	JOAK	Tokio, Japan.
3775	79-47		Jodphur.
3658	82-01	ZEB	Salisbury, S. Rhodesia.
3620	82-87	YVVG	Maracay.
3530	84-99	YVKT	Caracas.
3515	85-35	YVQG	Barcelona.
3505	85-59	YVXX	Caracas.
3498	85-76	CR7IC	Beira, Mozambique.
3495	85-84	VUD2	Delhi.
3490	85-96	CR7AB	Lourenco Marques.
		YVRA	Caracas.
3480	86-21	YVLE	Puerto Cabello.
		ZOI	Kingston, Jamaica.
3475	86-33	JO9H	Tokio, Japan.
3460	86-71	YVLD	Valencia.
3450	86-97	YVQI	Barcelona.
			Johannesburg.
3440	87-21	YVMC	Maracaibo.
			Stanley, Fatkland Is.
3430	87-60	YVLI	Maracay.
3420	87-72	YVOE	Merida.
3410	87-98	YVMK	Cabimas.
			Noumea, N. Caledonia.
3400	88-24	YVKP	Caracas.
3380	88-76	YVQN	Puerto La Cruz.
3370	89-02	YVMI	Maracaibo.
3365	89-18	ZEA	Salisbury, S. Rhodesia.
3360	89-29	YVOC	San Cristobal.
3340	89-82	YVMU	Carora.
3335	89-96		Hyderabad, India.
3325	90-23	YVQL	El Tigre.
3320	90-31		Salisbury, S. Rhodesia.
3310	90-63	YVOG	Trujillo, Venezuela.
3228	92-95	HDZ	Riobamba, Ecuador.
2820	106-8		Garroet, Java.
2510	119-5	HLKA	Seoul, Korea.
2315	129-6	PIC2	Willemsstad.
26100	11-49	GSK	London.
25750	11-65	GSQ	London.
21750	13-79	GVT	London.
21740	13-80	KCBA	Los Angeles.
21730	13-81	WNRX	New York.
21710	13-82	GVS	London.
21690	13-83	WLWL1	Cincinnati.
21680	13-84	VLC10	Shepparton.
21675	13-84	GVR	London.
21670	13-84	LLP	Oslo.
21650	13-86	WLWS1	Cincinnati.
21640	13-86	GRZ	London.
21610	13-88	WNR	New York.
21600	13-89	CKRP	Sackville, Canada.
21590	13-90	WGEA	Schenectady.
21570	13-91	WCBC	New York.
21550	13-92	GST	London.
21540	13-93	VLB5	Shepparton.

Frequency	Wave-length	Callsign	Location
21530	13-93	GSJ	London.
21520	13-94	HER8	Berne.
21510	13-95	VUD5	Delhi.
21500	13-95	WOOW	New York.
21480	13-96		Hilversum.
21470	13-97	GSH	London.
21460	13-98	KNBA	Los Angeles.
21002	14-28		Brazzaville.
19345	15-51	PLF5	Indonesia.
18388	16-31	FZS	Saigon.
18160	16-53	WNRI	New York.
17892	16-77	HCJB	Quito, Ecuador
17850	16-81	PRL9	Rio de Janeiro.
			Paris.
17845	16-81		Brussels.
17840	16-82	VUD5	Delhi.
		VUD10	Delhi.
		VLC6	Shepparton.
			Athlone, Eire.
17838	16-82		Moscow.
		VUD7	Delhi.
		VUD3	Delhi.
		WLWS1	Cincinnati.
		WCBX	New York.
		LLN	Oslo.
17825	16-83		Sackville, Canada.
17820	16-84	CKNC	Sackville, Canada.
17810	16-84	GSV	Helsingfors.
17800	16-85	OIX5	Cincinnati.
		WLWK	Honolulu.
		KRHO	London.
17790	16-86	GSG	London.
17784	16-87	HER7	Berne.
17780	16-87	VUD10	Delhi.
		VUD11	Delhi.
		WNBI	New York.
		PHI	Hilversum.
17775	16-88		San Francisco.
17770	16-88	KCBF	Schenectady.
17765	16-89	WGEX	Delhi.
17760	16-89	VUD3	Delhi.
		VUD11	San Francisco.
		KWID	Manila III.
			Boston.
		WRUX	Boston.
		WRUW	Moscow.
			Colombo, Ceylon.
17730	16-92		London.
17715	16-93	GRA	London.
17700	16-95	GVP	London.
17630	17-02	PLD6	Jakarta.
15640	19-18	ZAA	Tirana, Albania.
15625	19-20		Madrid.
15600	19-23		Brazzaville.
15440	19-43	RW98	Moscow.
15435	19-44	GWE	London.
15405	19-48	PZC	Paramaribo.
15390	19-49	RW99	Moscow.
15370	19-52		Moscow.
15366	19-52	ZYC9	Rio de Janeiro
15350	19-54	VUD9	Delhi.
		WRUA	Boston.
		WRUL	Boston.
		WLWR1	Cincinnati.
			Luxembourg.
			Paris.
15345	19-55		Athens, Greece.
15340	19-56	RW102	Moscow.
15335	19-56		Dacca, Pakistan.
15330	19-57	WGEO	Schenectady.
		WLWR2	Cincinnati.
			Manila II.
15325	19-58	OQ2RC	Leopoldville.

## WORLD WIDE RECEPTION OF SHORT WAVE PROGRAMMES

**DX** *broadcast*

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

Our letter-verification from Radio Tahiti took just 11 weeks to reach us from Papeete. This town is the capital of the island of Tahiti, described on the postmark as "Pearl of the Pacific" and the largest in the Society Islands archipelago. Our correspondent, Mon. G. Carisey, chief of FZP8, Radio-Tahiti on 12080 kc, which is administered by the French, informs us that their broadcasts commenced on July 4 last with a daily transmission extending from 0415 to 0500 and intended primarily for reception in French Oceania. However, the present scheme is entirely experimental, and it is hoped in the very near future to extend the hours of transmission, and to use different frequencies for the purpose of broadcasting to France, the United States, New Zealand and Australia. As the present power is only 600 watts, it is anticipated that this will be increased also. M. Carisey welcomes suggestions for the improvement of the service generally; letters should be addressed: *Le Chef du Service de L'Information, Radio Tahiti, Papeete, Tahiti, Etablissements Francais de L'Oceanie.*

Radio New Zealand has been heard again—this time at 0700 by B. Allen (Chorley, Lancs) who gives three frequencies: 9540 kc, 11780 kc and 15280 kc. We came across ZL3, 11780 kc at 0700 on February 15 with the greeting: "Ladies and Gentlemen, you are tuned to Radio New Zealand"; a reading of New Zealand cricket results followed.

In Australia, VLB2, 9650 kc, has been S9 plus at 2020 during its transmission to the British Isles, according to P. E. Woolmer (Grantham); and J. Brooker (Crawley, Sussex) heard the ABC Home Service programme over VLG6, 15230 kc with the feature "Start the Day Right" at 2115. The Rev. S. W. Bowen (Llanllechid, nr. Bangor) has received Radio Australia's verification card for VLC11 and quotes from their letter, which reads: "You will be interested to know that we have been successful in tracing your relations in this country," which demonstrates that there is a human side to short-wave radio. J. C. Catch (South Shields) heard VLH4,

11880 kc testing between 1945 and 2000 on January 19, and it opened its regular broadcast of the Inter-State programme at 2001. J. Brooker also logged this one at the same time.

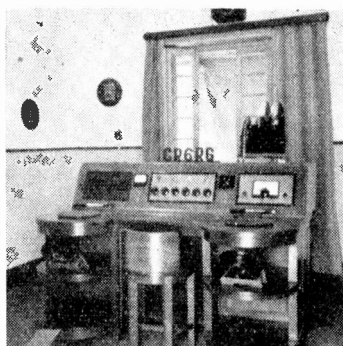
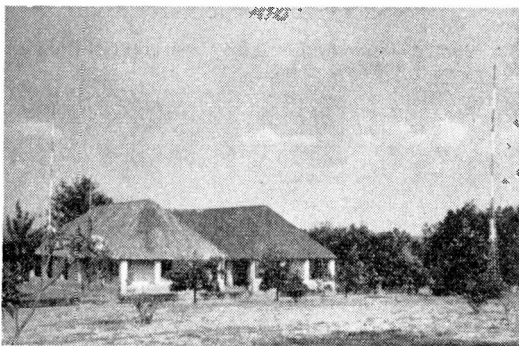
**North America**

Not many of our readers hear broadcasts from the land of the icy mountains, Greenland, but R. V. Aldridge (Amersham, Bucks) spotted their short-wave station at 2200 with News in Eskimo, and closing down abruptly at 2245 after a single gong stroke. This station is OXI, located at Godthaab and employing a power of 1 kW on 5942 kc.

R. Iball (Langold, nr. Worksop) again logged VED, 8265 kc with the direction: "VED, Edmonton, serving NWT and Yukon, Royal Canadian Signals" at 0500; J. Holden (York) says that its signals are rather weak around 0530. R. Iball heard CBLX, 15090 kc with an insurance advertisement at 1255, and P. Fry (Chandlers Ford, Hants) has lately received a verification card from CBNX, Newfoundland, which uses 5970 kc. J. C. Catch wonders if this can still be regarded as a separate country. (*No!—Ed'tor.*) He has logged KCBI, Los Angeles, 11770 kc at 0100 with a News and Sports Review until 0115. C. P. Turner (Crewe) informs us that his son, who is in the British Army, recently heard one of his own requests played at 2030—this in an Armed Forces Radio Service broadcast. C.P.T. has received the AFRS schedule in return for his report on WBOS, Boston, on 15210 kc.

Many of our readers ask about the "Of, By and For Radio Amateurs" broadcast given each Sunday at 1915 in the 13, 16, 19, 25, 31, 41 and 49-metre bands. The programmes are prepared in co-operation with the American Radio Relay League and are conducted by Bill Leonard (W2SKE). Henry T. Miller (W2AIS) provides the script, Larry Weintraub (W2ECL) is the studio engineer, and Gene Kern (W2BAK), Assistant Chief of the English section of *The Voice of America*, is in charge of the series. You will hear news of amateur

ALL TIMES GIVEN IN THIS ARTICLE ARE GMT EXCEPT WHERE STATED



If you hear CR6RG, Radio Diamang, Angola, this is where the signal originates.

activities, technical advice, DX news, and radio propagation predictions for the amateur bands.

#### Africa

We are pleased to report on our verification from Radio Addis-Ababa in the form of a letter from Amde Mikael Dessalegn, Director-General of the Press and Information Department of the Imperial Ethiopian Government. He writes: "We should highly appreciate your Reception Reports as often as you could conveniently let us have." It is stated that "broadcasting is made on the 19, 31 and 49-metre bands," but we believe only ETA on 9620 kc to be in regular service; incidentally, the religious service in English on Sundays extends from 1445 to 1615—on weekdays the English broadcast is from 1520 to 1600.

J. C. Catch and A. E. Nichols (North Shields) have each logged EA9AA, 7060 kc around 2035 with the announcement: "Aqui Radio Africa, Tangier," so we should no longer be uncertain about its precise location. A.E.N. also heard the Voice of America, Tangier, on 15240 kc with a musical programme and English announcements at 1715; the present schedule of this station is: Daily, 15240 kc, 1600-2000; and 7220 kc, 2000-2230, with News in English at 2215. By the way, A. L. Higgins (Aberkenfig, nr. Bridgend) comments on the excellent S9 transmissions from EA9AA. R. Iball finds CSX2, Azores, 4845 kc, good around 2330, and at midnight a series of six double Westminster-type chimes are given before the station closes down.

J. Holden hears CR4AA, Praia, Cape Verde Islands, on 5960 kc each night; R. V. Aldridge gives the full schedule as 2100-2200, with identification: "Radio Clube do Cabo Verde," and occasionally: "Emissora CR4AA." J.H. also identified CR6RG, Dondo, 8242 kc

with recordings of music between 1830 and 1930. J. C. Catch gives us CR6RL, Sao Paulo de Loanda, 9470 kc, heard between 2030 and 2100, at which time it closes with the Portuguese Anthem; he says that he has also logged Radio Clube de Mozambique with a four-chime identification signal on 15190 kc as early as 1800 and closing at 2000. They were probably testing on this new channel as they have been on 11770 kc between 0400 and 1600 and requesting reports which should be sent to: P.O. Box 594, Lourenco Marques, Portuguese East Africa. We logged FIA6, Douala, French Cameroons, unexpectedly at 1945 on January 30 with French songs on 9148 kc. In the Suez Canal Zone, FBS, Fayid, is reported to be testing on 7220 kc, 0700-0730, and occasionally 0800-0830.

E. Strangeway and P. Inman (Cottingham, E. Yorks), find short wave listening a godsend during their protracted stay as patients in hospital; we wish them both a speedy recovery. They have logged SUX, Cairo, 7860 kc with its Arabic programme during the evenings. D. O. French (Norwich) heard faint signals on 9655 kc around 0700 recently and wonders if it could be Radio Nigeria. On February 16 at 0605 we heard a rebroadcast of News in English from London and at 0615 a religious service on this same frequency—the station closed down at 0715; now we are awaiting a reply from Lagos, Nigeria's capital.

We are pleased to welcome I. D. McDermid, G3ANV (Bristol, 8) to this section; he listened to South Africans between 1755 and 1915 and heard Johannesburg 3 and 4, 4895 kc and 4800 kc; Capetown, 5882 kc; and Pietermaritzburg, 4878 kc. J. C. Catch heard an interesting programme entitled "Calling All Farmers" in English on 4895 kc at 1730 on January 25, and on February 12 over 4800 kc we noted an English religious service

concluding with Stainer's Sevenfold Amen at 1829. V3USE, 15070 kc, has been heard by J. Holden almost daily around 1600, and he asks if they verify; we have not received our card from them yet!

I. D. McDermid noted ZOY, Accra, Gold Coast, 4915 kc just before it closed, at 1755 recently. A. L. Higgins quotes FZI, 21002 kc as a reliable signal—also OTM2, 9380 kc (S9) and OTC2, 9767 kc (S9 plus 25 dB) in the evenings; B. Allen mentions the English programmes from OTC2 at 1930-2030 and 0200-0400 each day.

### Asia

R. T. Blackmore (Exeter) has received letter verification from Teheran, Persia, for EPB, 15100 kc, but this one has now been replaced by EQC on 9700 kc (actually 9660 kc). D. O. French logged it with dance music on 9660 kc until 2030; and C. P. Turner says they have News in English at 2000 and close down at 2030 with a clock striking midnight. C.P.T. has heard from the Turkish Press Department, Ankara—the English service is: Daily, 1945-2000; Thursday, 2130-2200; and Sunday, 2130-2200 (Mail Bag). P. E. Woolmer is a regular listener to this last-named feature—a most popular one with British short wave enthusiasts; listen to TAP, 9465 kc, with preparatory signature tune (on oboe) entitled "Roses Round the Tomb." (!)

Another Persian broadcaster is located at Khoramabad and operates on 6845 kc on Sundays and Wednesdays, 1630-1730; and on Mondays, Tuesdays, Thursdays and Saturdays, 1330-1430. Kol-Israel is well heard on 9000 kc with English News at 2030 according to J. Brooker, and Radio Lebanon's English News at 1500 on 8036 kc has been found by A. L. Higgins. Baghdad II on 7062 kc was heard by us, with a

### TABULATED SCHEDULES

#### I. The Imperial Government of Iran, Department of Press and Propaganda, Teheran, Iran.

Daily:	1430:	Arabic	6500 kc.
	1445:	Turkish	6500 kc.
	1500:	Caucasian	6500 kc.
	1830:	Russian	9900 kc.
	1930:	French	6500 kc.
	2000:	English	9660 kc.
Extras:	1840-1900:	Classical music	9660 kc.
	1908-1930:	Dance music	9660 kc.
	1938-2000:	Operatic music	9660 kc.

#### II. Radio Nigeria, Posts and Telegraphs Department, Lagos, Nigeria.

Present Schedule:	Daily:	0600-0715:	6035 kc.	300 watts.
			7255 kc.	1 kW.
		1100-2200:	9655 kc.	300 watts.
			7255 kc.	1 kW.
Future Schedule:	Daily:	0600-0715, 1100-2200:	7255 kc.	1 kW.
		0600-0715, 1100-1800:	9655 kc.	300 watts.
		1800-2200:	4990 kc.	300 watts.
	Sundays:	Continuous from 0600 until 2200.		

#### III. Radio Vaticano, Vatican City.

##### English Transmissions.

Daily:	1500:	News:	15095 kc, 11740 kc, 9643 kc.
	1815:	Sunday:	Roma Sacra.
		Tuesday:	Weekly News.
		Thursday:	Words of the Holy Father.
		Friday:	Sacred Heart Programme.
		Saturday:	Liturgical Talk.
			9643 kc, 7280 kc, 5968 kc.
Tuesdays:	1530:	Weekly News Summary for India and South Africa.	11740 kc.
Sundays:	1015:	Homily on the Gospel, followed by Mass	11740 kc, 9655 kc, 5968 kc.

#### IV. British Far Eastern Broadcasting Service, Singapore.

Daily:	Programme Summary at 0915.		
	0915-1530:	1535-1630:	15300 kc.
	0915-1630:	11880 kc,	6175 kc.
	1130-1630:	9690 kc.	

#### V. Radio Scutari, Albania, 8220 kc.

0600-0700, 1230-1400, 1630-2000

#### VI. Radio Australia, Melbourne.

##### Broadcasts to British Isles

I.	0700-0815:	VLA4, 11850 kc, VLB2, 9650 kc.
	0700-0745:	VLC10, 21680 kc. VLC10 is not in use on Saturday.
II	1400-1500:	VLB4, 11850 kc, VLG6, 15320 kc.
	1400-1445:	VLA6, 15200 kc.
III,	2000-2130:	VLA4, 11850 kc, VLB2, 9650 kc.
	2000-2155:	VLC9, 17840 kc.
IV	2145-2315:	VLA6, 15220 kc, VLB11, 15160 kc.
	2200-2315:	VLG6, 15230 kc.

clock striking the hour at 1900, and closing at 2000; it is supposed to have a transmission in Kurdish at 1530 and one in English, 1615-1700.

Moving east, we have India; from here, C. Young (Coldingham, Berwickshire) heard



All-India Radio's News in English clearly at 1530 on February 5 over VUD2, Delhi, 7290 kc. A. L. Higgins has, like us, heard Pakistan's English News over the new channel of 9665 kc (APK2) at 1515 (S9), and this same News, which is broadcast in the Pakistan Home Service, is also available at even greater strength over another new frequency of 11546 kc (S9 plus 18 dB) according to R. Iball.

The new Radio Indonesia is reported by several of our readers, and can anyone oblige J. Holden with their latest address, please? D. O. French says the correct frequency is 11785 kc at 1600, whilst B. Allen gives 7270 kc, 11000 kc and 15150 kc from 1100 to 1200 in addition. R. V. Aldridge heard an English programme from 1500 to 1600 recently over YDF, 6045 kc; and J. C. Catch noted YDF2, 11783 kc with a Dutch programme at 1830 and closing with Indonesian Anthem at 1900. Twice recently we have logged YDQ3, Makassar, Celebes, 11084 kc around 1435 with dance music; at 1500 a studio clock struck eleven and the announcer said: "Gooden nacht en wel te resten."

#### Central America and West Indies

**Nicaragua.**—YNOW, Managua, 6850 kc, logged at 2300 with Spanish songs; at 2315, chimes and call: "La Voz de America Centrale." YNBH, Managua, 6550 kc, logged at 2320 with commentary on a sporting event; slogan is: "Radio Panamerica, Managua." YNCNM Ecos de America, Managua, 6719 kc, logged with call at 0030. YNWW, Granada, 8150 kc, logged at 0132 with electric organ music. Call: "Radio Sport" was preceded and followed by chimes at 0130 (J. C. Catch).

**Salvador.**—YSUA, 6250 kc, heard at 0430 with an interesting show entitled "Cabaret du Anglais." Call given before the close at 0500 was: "Yay-Essay-Oo y Yay-Essay-Oo-Ah" (YSU and YSUA) (R. Iball).

This one was observed on a new frequency of 6265 kc by J. C. Catch at 0001 on February 13; the slogan: "Radio Mil Cincuenta" was also heard. YSCP, 6300 kc gives tango music around 2345, but identification is very difficult (J. C. Catch).

**Honduras.**—HRP1, San Pedro Sula, 6351 kc, heard with call: "El Eco de Honduras, HRP1" at 0100; full schedule is: 1000-1315, 2300-0330 (R. V. Aldridge). HRD2, La Ceiba, 6235 kc (checked); heard at 0100 with doleful songs commencing with a chorus: "Out of This World." Station call: "La Voz de Atlantida" given at 0114 with mention of short and medium-wave frequencies (J. C. Catch).

**Guatemala.**—TGWA, 9760 kc, heard at 0415 with direction: "TGWA, La Voz de Guatemala." (R. Iball). TGLA, Refalulou, 6295 kc, identified by call: "La Voz de Centro America" at 0145 (R. V. Aldridge).

**Mexico.**—XEFT, La Voz de Vera Cruz, 9546 kc, heard with popular English music at 2345 and followed at 0001 with a relay of "The Voice of America" Spanish Newscast (J. C. Catch).

**Panama.**—HOLA, Colon, 9505 kc, logged with sponsored programme of dance music at 2300 (R. V. Aldridge). J. C. Catch says they have a new series of chimes, but the call is still: "Radio Atlantico."

**Haiti.**—4VRW, Port-au-Prince, 10135 kc, logged on its old frequency with a programme of classical music, and French announcements with three chimes at 2330 on January 13 (R. T. Blackmore).

**Dominican Republic.**—H12T, 9727 kc, heard by M. Milne (South Woodford, E.18) as early as 1945 with Latin-American music and direction: "Transmite La Voz Dominicana en Santo Domingo, capital de la Republica Dominicana." H12L, 9525 kc, logged now and again from 2145 onwards with frequent mention of "Poste Commercial" and occasional direction: "La Voz del Tropic en la Republica Dominicana" (D. O. French).

**Trinidad.**—VP4RD, 9625 kc was audible at 2100 on February 10, relaying the B.B.C. Overseas Service (P. Fry).

**Cuba.**—COBC, 9360 kc, heard with slogan: "Radio Progreso" at 2330. COBQ, 9236 kc; call: "La Voz de Cuba" given at 2315. COBZ, 9025 kc gives its slogan: "Radio Salas" at 2345. (R. T. Blackmore).

#### Step Press

A verification has just arrived for us from the Director of Posts and Telegraphs, Lagos, Nigeria. Radio Nigeria operates experimentally on 6035 kc and 9655 kc with 300 watts power (transmitters are standard Air Ministry Type T1509), and on 7255 kc with 1 kW power (transmitter is an R.C.A. 4331 Set). Programmes are arranged by the Public Relations Officer, and the BBC General Overseas Service is generally relayed except for announcements and in the evenings when there are local broadcasts. Further services using 300 watts each in the 42-metre band will be opened at Enugu, Ibadan, and Kaduna (in the interior provinces) later this year.

We wish all our readers "Happy Listening" during the coming month—and please remember to send your reports to: R. H. Greenland, *The Short Wave Listener*, 53 Victoria Street, London, S.W.1, to reach this office not later than April 16.

## SMALL ADVERTISEMENTS

**CHARGES : Readers', 2d. per word, minimum charge 3s. Box Nos. 1s. 6d. extra. Trade, 6d. per word, minimum charge 7s. All advertisements must be of radio interest only. Add 25% extra for Bold Face (heavy type) announcements. Copy date for next issue, April 10, addressed Advertisement Manager, *Short Wave Listener*, 53 Victoria Street, London, S.W.1.**

**HAMBANDER** communication Rx as brand new and perfect. Best offer over £10 secures. Cpl. Nuttall, Sigs. HQ 3, Group, R.A.F., Mildenhall.

**BRAND** new and unused R.1116, £8; Canadian 58 Walkie Talkie complete with 'phones, microphone, aerials, power pack, etc., £7/10/-; BC.348 converted AC Mains, speaker, power pack, £17. All are in new condition and perfect with manuals and carriage paid. Exchanges considered. Enlon, Pendref, Bangor Street, Caernarvon, N. Wales. Phone 35.

**QSL CARDS AND LOG BOOKS, APPROVED G.P.O. SAMPLES FREE. ATKINSON BROS., PRINTERS, ELLAND, YORKS.**

**SALE** or exchange. 130 issues *R.S.G.B. Bulletin* 1935-1948. Buyer collects. Kershaw, 29 Pottery Road, Warley, Birmingham 32.

**WANTED.**—Eddystone S640, good condition, with or without speaker.—A. Jackson, 20 Premier Road, Humbledon, Sunderland, Co. Durham.

**S640** with S-meter, Cat. 688, speaker and 'phones. Perfect condition, £24. Alker Bank House, Thornhill, Wigan.

**WANTED.**—1,000 kc Crystal for BC-221 frequency meter. Write, J. C. Catch, 19 The Broadway, South Shields, Co. Durham.

## OPPORTUNITIES IN RADIO



Get this **FREE** Book!

"ENGINEERING OPPORTUNITIES" reveals how you can become technically qualified at home for a highly paid key appointment in the vast Radio and Television Industry. In 176 pages of intensely interesting matter it includes full details of our up-to-the-minute home-study courses in all branches of **RADIO AND TELEVISION**, A.M. Brit.-I.R.F., A.M.I.E.E., City and Guilds, Special Television, Servicing, Sound-film Protection, Short Wave, High Frequency and General Wireless courses.

We definitely guarantee  
**"NO PASS—NO FEE"**

If you're earning less than £10 a week this enlightening book is for you. Write for your copy to-day. It will be sent **FREE** and without obligation.

**BRITISH INSTITUTE OF ENGINEERING TECHNOLOGY**

926 Shakespeare House,  
17-19 Stratford Place,  
London, W.1

# BIET

**WANTED.** MATCHING SPEAKER AND MANUAL FOR BC.342N. GOOD CONDITION SPEAKER. MANUAL, ANY CONDITION.—BASTIN, 82 EWPHILL AVENUE, COVENTRY.

**EDDYSTONE** S640, matching speaker, 'phones. Perfect condition, £18/10/- or nearest. Buyer collects.—Hewitt, 15 Cranleigh House, Cranleigh Street, Euston, N.W.1.

**SALE.** *Short Wave Listener*, Vols. I to III, *Radio Constructor*, Vols. I and II, *Short Wave Magazine*, April 1946 to February 1950, 43 issues.—Platt, 12 Denmark Road, Saie, Cheshire.

**EDDYSTONE** S640 with matching speaker and S-Meter. Perfect condition. £30 or near offer. Radiovision V55R £10.—Apply, Cook, 22 Pleasant Place, Canonbury, London, N.1.

**A**merican magazines. Yearly subscriptions. *Radio Electronics*, 35/9, O.S.T., 35/9, *Radio News*, 32/3, *Popular Mechanics*, 32/-, Stamp catalogue.—Hobson, 79 Southbrook Road, Exeter.

**SALE.** 12-valve double superhet, ham bands only. S-Coils for 80, 40, 20 mc. Separate p.p. and speaker. Very effective NL, less cabinet, FB performance. £12 or nearest offer.—G8TS, 80 Byworth Estate, Farnham, Surrey.

### BARNES RAD-ELEC. CO.

12 Pipers Row, Wolverhampton (Central)

Only a few of the following left, don't be too late:—R3132 less valves (R.F. strip, etc.), new, 27/6; R3084 (used), less valves, 22/6; R1355 with valves, used but very good condition, 50/-; B.C.624 with 10 valves for 2 metres, etc., 30/-; R1116 all wave, tested, battery double superhets, 8 valves, for standard batteries, £11 (send 3d. for leaflet); 157v tested high grade H.T. batteries in metal case, 9/6; relays 12/24v, make one at 5 amp and one at 100 m/a, 2/6 only; S130v stabilizers, 11/- pair; 500 micro-amp 2" M.C. meters, 9/6; 3" speakers, 9/6; S.M. dials with escutcheon, 3/6, bargain; multi-radio L.S. transformers, 7/9; Transformers, 16v 5 amp. (230 input), 35/-; junction boxes 40-way, to clear, 3/6; Jones plugs (female) with cover, 1/9; chokes, 200 m/a 5 Hy, 7/6.

## MORSE CODE Training



There are Candler Morse Code Courses for

**BEGINNERS AND OPERATORS**

Send for this Free

**"BOOK OF FACTS"**

It gives full details concerning all Courses.

**THE CANDLER SYSTEM CO.**

(Dept. S.L.) 121 Kingsway, London, W.C.2.  
Candler System Co., Denver, Colorado, U.S.A.

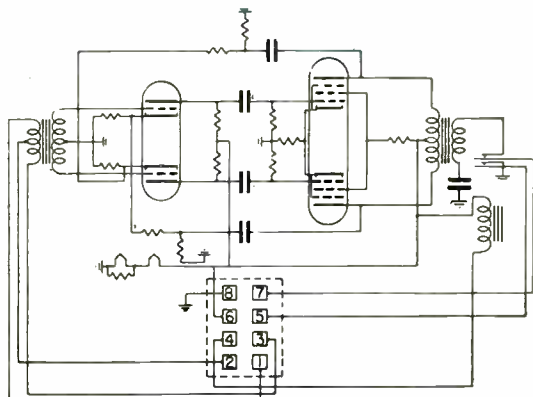
**B.A. SOCKET SPANNERS**

Covering sizes 0-6 B.A. and with double ended wrench. A really good set which will help you with those nuts in awkward corners, price 5/6 complete.

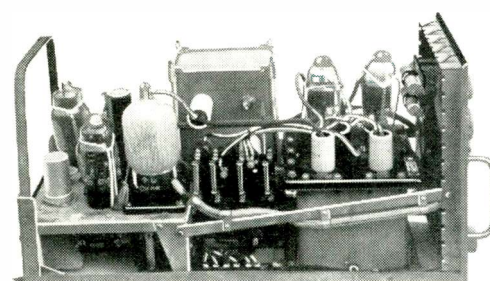
**ELECTROLYTIC CONDENSERS**

8 mfd. 350v.....	1/6
16 mfd. 350v.....	1/11
25 x 25 mfd. 200v.....	3/11
8 mfd. 150v.....	1/3
25 mfd. 25v.....	1/-
25 mfd. 50v.....	1/6
50 mfd. 12v.....	10d.
50 mfd. 50v.....	1/9
10 mfd. 25v.....	10d.
2 mfd. 450v.....	1/-
4 mfd. 450v.....	1/3
8 mfd. 450v.....	1/11
16 mfd. 450v.....	2/8
8 x 8 mfd. 450v.....	3/4
8 x 16 mfd. 450v.....	3/4
16 x 16 mfd. 450v.....	3/9
16 x 8 x 24 mfd.....	4/2
8 mfd. 500v. BR.850 .....	2/6
16 mfd. 500v. BR.1650 .....	3/6

**PRE-AMPLIFIER MODEL K**



The above is the circuit diagram of pre-amplifier model K. You will notice that the circuit includes two double valves, push-pull input, and push-pull output transformers, a relay, a choke, and numerous small resistors and condensers. The whole thing is complete with valves wired up and enclosed in a metal case size approximately 5 1/2 in. x 4 in. x 4 in. You will readily appreciate that this little unit will fit in almost any cabinet, including table models. These units are very well made by a famous American company, originally intended for Forces use, to increase the output of low gain microphones and pick-ups. We have a fair quantity available, all new and unused, the price is 17/6 each and as this is the equivalent of a 4-valve push-pull amplifier, it is of course enormous value. We anticipate a big demand, so please order by return.



Our latest purchase of ex-Government material includes a batch of RADAR Units, type 64. Each unit contains:—  
 2 VR81's, the popular EF50. 1 VT60A, the always useful 807. 1 CV73, the television output valve now in great demand, KT44, Pen 46. 2 CV54's, high voltage rectifier, V960, will rectify 2-5 KV at 60ma. 1 CV85, an enclosed triggered spark gap valve, type V2023. A steel case, size 21" x 8 1/2" x 11 1/2" high, containing a chassis and framework on which are mounted all the valve bases for the above, 8 PYE sockets, 3 high ohmage relays, 6 paper condensers, 1 metal rectifier, 3 potentiometers, 1 ON/OFF toggle switch, 1 .05 mfd. x 3-500v condenser, 1 .5 x .5 x 2-200v condenser, 30 assorted resistors, 1, 1, 2 and 3 watts, taxolin resistor panels, plus various other sundries such as useful clips and mounting brackets, etc. Whichever way you look at this, the value of the goods is terrific.  
**THE PRICE OF THE UNIT** (including valves) is 18/8, plus 5/- carriage, as these units weigh nearly 40 lbs.

**TRANSMITTING AND SPECIAL VALVES**

ALL BRAND NEW IN ORIGINAL CARTONS  
 MOSTLY AMERICAN MAKE

813 .....	47/6	866A .....	10/6
6L6 .....	10/6	6A3 .....	12/6
TZ40 .....	27/6	CV57 .....	30/-
35T .....	25/-	VR150 .....	12/6
5Z3 .....	13/6	6N7.....	6/6
807 .....	7/6	VS68 (STV280/40)	
2A3 .....	9/-	VU508 (CV1508)	
8011 .....	18/6	PT15 (VT104)	
1625 .....	5/-	RK34	
832 .....	16/6	GU21 (CV5)	
		VT25 (DET25)	

Many other types available, including Magnetrons, Klystrons, Thyratrons, etc., etc. Send us your enquiries.



4 Electron House, Windmill Hill, Ruislip Manor, Middlesex

# CLYDESDALE

*Specialists in Ex-Services Radio and Electronic Equipment*

**Brand New in maker's original**

## TRANSMITTING TUNING UNITS

Each having vernier tuning dial; variable capacitors. Tank coil unit on ceramic former; ceramic switch; R.F. chokes, etc. In metal cabinet 17½" x 7½" x 8". Finish black.

TU5B, 1500-3000 kcs.

Clydesdale's **22/6** each Carriage paid  
Price only  
TU6B, 3,000-4,500 kcs. TU7B, 4,500-5,200 kcs. TU8B, 6,200-7,700 kcs.

Clydesdale's **17/6** each Carriage paid  
Price only  
TU26B, 200-500 kcs.

Clydesdale's **10/-** each Carriage paid  
Price only

## Ex-Cdn. Forces. A few only V.R.L. RACK-MOUNTED COMMUNICATIONS RECEIVER

Made by Vancouver Radio Lab. Frequencies 1.5-28 mcs. plus overlap (200-10.7 metres), for 110-115v A.C. mains operation, 230/50v auto trans. supplied, this 19-valve receiver is a double converter, with one R.F. stage, separate local oscillator, B.F.O. and noise limiter, and I.F. of 1.5 mcs., 465 kcs.

Valves: 6K7, R.F. 6L7, 6K8, mixers, 6SJ7 L osc., 2/6K7's, 6L7, 6H6, I.F.'s, 6K7, 2nd det. 6H6, A.V.C. 6J6, B.F.O., 6S5F1st audio, 6K6 audio output, 6G5 tuning ind., 80 rect., VR150/30 stabilizer, 6K6G, 6C8G, 6K7, frequency std.

All controls including B.F.O., separate A.F. and R.F. gain, 2-speed tuning, wavechange, etc., mounted front panel. Receiver mounted lower part of rack, 6" speaker/power unit mounted above, with 10-100-1,000 kcs. sub-standard. Also a complete set of spare valves. Dimensions: Receiver, 17" x 15" x 11½", with 19" rack panel.

Dimensions: Power unit, 17" x 8½" x 7½", with 19" rack panel. Plus angle iron rack, overall dim.: 19" x 24" x 12".

Finish grey crackle with black and chrome control finger plates.

Clydesdale's **£30** Carriage paid  
Price only

## 16-FT. SECTIONAL AERIAL WITH BASE

Comprising 4 lengths tapering from ¾" to ¼", each section sleeved into the other with insulated base.

Clydesdale's **10/6** Carriage paid  
Price only

## EX-Army. WS-18 RECEIVER UNIT

A 4-valve superhet chassis, range 6-9 mcs. (500-33.3 metres). With ARPI2 (VP25), F.C. 2 ARPI2's, L.F. and AR8 (HL23DD), audio loc. osc., 2nd det. and A.V.C., slug-tuned I.F. trans. 465 kcs., etc. The complete receiver mounted on a chassis 8½" x 5" x 1", all controls front panel 9½" x 5½". Unused, good condition.

Power requirements approx.: 3v 0.2A., L.T., 120v 15 ma. H.T., 1.5v bias.

Clydesdale's **17/6** Carriage paid  
Price only

## E.3. Ex-Tank Corps. MORSE KEY

Enclosed type with knee straps, dimensions 5½" x 2" x 2", with lead and jackplug, easily removed from case. Key and plug assembly No.9.

Clydesdale's **2/11** each Post paid  
Price only

## EX-R.A.F. R1155

As a 9-valve communications receiver for 200/250v A.C. mains. 5 Switched bands covering: 18-3 Mc/s (17-100 M), 1,500-75 Kc/s (200-4,000 M).

Receiver unit with 7 valves, S.M. drive, B.F.O., A.V.C., M.V.C., etc., in metal case, 6½" x 9" x 9". Power/output pack with 2 valves, 8" mains energized speaker. Tone control and ON/OFF switch, etc., in metal case 14" x 14" x 8".

Complete with circuits and linking cable.

Clydesdale's **£18/10/-** Carriage paid  
Price only both units

**Brand New, in maker's carton**

## Ex-U.S.A.S.C., CRYSTAL MULTIPLIER, Type MI-19468

A frequency multiplier to cover 2-20 mcs. with 807 and spare (2 valves), 0/10 ma. grid current meter, variable condenser, calibrated micrometer control, etc., external power supply required (no xtals supplied). In metal case 13" x 10" x 6", with Instruction Books.

Clydesdale's **39/6** each Carriage paid  
Price only

## R1481 RACK MTG. V.H.F. R T RECEIVER UNIT

Frequency 65-86 mcs.

A 10-valve superhet, with 4 VR53 (EF39), VR54 (EF34), VR57 (EK32), 2 VR65 (SP61), VR66 (P61), VR67 (6J5G) plus stabilizer VS70 (7475), "S" meter, screened R.F. section, B.F.O., etc., etc., in enclosed chassis, size 19" x 10½" x 11", finish dark grey. Circuit supplied.

Clydesdale's **£4/19/6** Carriage paid  
Price only each

## A.C. MAINS RACK MTG. POWER UNIT, TYPE 3

For R1481 and R1132. Input, 0-200-220-240-250v. Output, 200v 20 ma., 6.3v 3A., 4v 1.5A.

Complete with 0/300v and 0/150 ma. meters, valve rectifier, fully smoothed, enclosed chassis, size 19" x 7" x 11" finished dark grey.

Clydesdale's **£3/19/6** Carriage paid  
Price only each

## SPECIAL OFFER

Receiver and power unit. Clydesdale's **£8/8/-** Carriage paid  
Price only both units

## Brand New in original wood case Ex-Cdn. Army

## SUPPLY UNIT RECTIFIER, for No. 43 Transmitter

Input: 110v A.C. 50/60 c/s. 1/7 K.V.A.

Outputs: 2,100v H.T., 375 ma., 500v H.T., 400 ma., 385v regulated, 450v H.T. line, 275v H.T. line, 415v neg. bias, 250v neg. bias, 150v neg. bias, 80v neg. bias.

The unit consists of 3 complete power supplies, one of which provides various stabilized L.V. supplies. All are fed via double choke, condenser input circuits.

Other components include: Power trans. 2,100 - 500 - 0 - 500 - 2,100v. Power trans. 450-0-450v 13v ct., 6.3v ct., 6.3v. Fil. trans. 2.5v ct. twice, fil. trans. 6.3v (thermal starter). Chokes, 2.15H 375 ma., 15H 450 ma., 2.15H, 110 ma., 20H, 162 ma., plus various H.V. condensers, resistors, etc.

The complete unit mounted in metal case with lid 2' 6" x 1' 6" x 1' finish olive-drab crackle with shock absorbing feet. Wgt. 420 lbs.

Clydesdale's **£16** Carriage paid  
Price only

Order direct from:—

Phone: SOUTH 2706 9

**CLYDESDALE** SUPPLY CO. LTD. • 2 BRIDGE STREET • GLASGOW - G.5

VISIT OUR BRANCHES IN SCOTLAND, ENGLAND AND NORTHERN IRELAND