

3/6

# The **SHORT WAVE LISTENER AND TELEVISION REVIEW**



DEVOTED TO  
**SHORT WAVE RADIO RECEPTION  
AND AMATEUR TELEVISION**

APRIL 1952  
VOLUME 6 • NUMBER 4

**GET YOUR COPY!**

**RADIO HANDBOOK**  
734 PAGES!  
£2.8s.  
plus postage 1/-

**ORDER NOW!**



### SURPLUS RADIO CONVERSION MANUAL IN TWO VOLUMES

This set of reference data has become standard for the most commonly used items of surplus electronic equipment. All conversions have been proven by testing on several units; each yields a useful item of equipment. For list of items covered write us.

21s. 5d. per vol. (Post Free).



### ANTENNA MANUAL

The most practical, comprehensive book on antennas. 300 pages of down-to-earth help on antenna, feed line, radiation and propagation for all frequencies up to 1000 Mc. including FM and TV. Plain language; no need to brush up on math. A necessity for everyone interested in transmission or reception.

27s. 11d. (Post Free).

Published by Editors and Engineers Ltd., Santa Barbara, California, U.S.A. and distributed in the British Isles and Europe by **GAGE & POLLARD**  
55 VICTORIA STREET • LONDON • S.W.1

Abbey 5034

# THE SHORT WAVE LISTENER AND TELEVISION REVIEW

VOLUME 6

APRIL 1952

NUMBER 64

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

Published on the third Thursday in each month by the Short Wave Magazine, Ltd., 55 Victoria Street, London, S.W.1. (ABBy 2384.)

Single copy, 1s. 6d. Annual Subscription (12 issues) 18s. post free.

The British Short Wave League is associated with the *Short Wave Listener & Television Review*. Inclusive BSWL membership 18s. (Half-year 9s.)

All editorial and advertising matter should be addressed to *The Short Wave Listener & Television Review*, 55 Victoria Street, London, S.W.1.

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

## EDITORIAL

## OUTDOORS

As the seasons change, so the focus of the average enthusiast changes in relation to his hobby. With spring near and summer coming, there is the prospect of portable work once more. For many, this means field days on the HF bands; for others, it is VHF listening from some particularly advantageous location; and for a few it may be a lone trip by car, by bicycle or even by "public transport" and then on foot to a quiet spot for a little DX under conditions very different from those at the home location.

Whatever the objective or the gear to be used, everybody who wants to have first-hand experience of all aspects of SWL activity should spend at least one season working under "portable conditions." There is much to be learnt from the simple operation of building up a compact O.V.I with low-consumption battery valves and taking it away on holiday. At the other end of the scale is the portable expert with a "hot" VHF converter, battery receiver, and knock-down beam aerial system, all capable of being transported to a distant mountain-top for a week-end's camping.

Radio in some form or other can be an accompaniment on any holiday, and if it means that "special gear" has to be provided to enable one to keep in touch with what is happening on the short wave bands, so much the better! The point is that there is so much useful experience to be gained from all such activities.

It is something we would recommend all readers to try for themselves—and now is the time to be thinking about it.

## CONTENTS

### MARCH 1952

Editorial	97
Improving the R.1224A Receiver	98
The Top Band	100
Hints on the O-V-1	102
TV as Others See It	104
Have You Heard?	106
BSWL Review (Members Only) facing pp. 112-113	
SWL Stations—No. 44	113
Calls Heard	114
"Pse QSL"	117
The VHF End	118
DX Broadcast	121
Broadcast Station List, Revision 49-10-60-07	
Metres	128

# Improving the R.1224a Receiver

SOME SIMPLE MODIFICATIONS  
By H. J. Hill (BSWL-3950)

THE R.1224A receiver, while not in the top flight of Service communications designs, is nevertheless quite a useful receiver in many ways, and for those unfortunate who lack a mains power supply it is a good-class battery operated unit, capable of surprising performance. The greatest drawback to the R.1224A is probably the fact that it does not, as designed, cover the Ten and Twenty Metre amateur bands, but in spite of this the writer has used it very successfully in conjunction with suitable converters.

The receiver itself is quite straightforward in design, the circuit arrangement being one RF stage, combined oscillator and 1st detector, one IF stage, 2nd detector and LF amplifier—making 5 valves in all, with a very modest HT current drain. Frequency coverage is 1-9 mc, in three switched bands fairly well spread, so that reception is possible on the 1.7 to 7 mc bands inclusive as it stands.

## Tuner Modifications

In external appearance the R.1224A leaves something to be desired, and it was this that first prompted the writer to effect some improvements. The tuning dial is not calibrated, so a start was made here. On the inside of the cabinet lid is pasted the calibration scale, in terms of degrees against frequency in megacycles.

A piece of  $\frac{1}{4}$ -in. Perspex was obtained and from this a 9-in.-diameter semi-circular disc was carefully cut and polished. A semi-circular piece was cut away from the straight edge, at its centre, of diameter large enough to clear the boss of the slow-motion drive fitted to the receiver. Three holes were drilled in this piece to allow for fixing to the panel.

Next, a stiff piece of white card was cut to the same dimensions as the Perspex, and three  $\frac{1}{2}$ -in.-wide radii carefully marked with a pair of compasses, working from the edge of the card towards the centre. Then, reading from the calibration scale on the lid of the receiver cabinet, a protractor was laid on the card and points marked off to correspond with the calibration scale readings. This part of the work calls for care and patience (and possibly the spoiling of several cards) but is really quite simple. The outer radius is made to cover the No. 1 range of the receiver, the centre radius the No. 2 range, and the inner radius the No. 3 range. When the main points have thus been

lined in, the scale may be further sub-divided to any required degree for reading.

After all this, the scale should be plainly inked in (by rubbing Indian ink into the marking, and then wiping off). After cutting out the clearance hole for the boss of the slow-motion mechanism as fitted to the Rx, the new dial is ready for fixing.

## Fixing Dial and Pointer

The existing tuning dial was completely removed from the panel, and the slow-motion drive freed of the dial. A steel knitting needle was cut to the right length to cover the scale and a hole drilled in the boss of the slow-motion drive to retain the needle by making it a force-fit. Here again care is required to get the hole into just the right position.

First, refix the small clamp which fastens the drive to the panel *below* the condenser shaft, and then refit the drive to the shaft. Turn the drive to its full extent clock-wise until the stop is reached. Then, carefully mark the position of the hole to be drilled, so that when finished the pointer will be straight along the bottom edge of the dial, and reading at the "1 mc" mark on Scale No. 3. (The tuning condenser should be fully meshed).

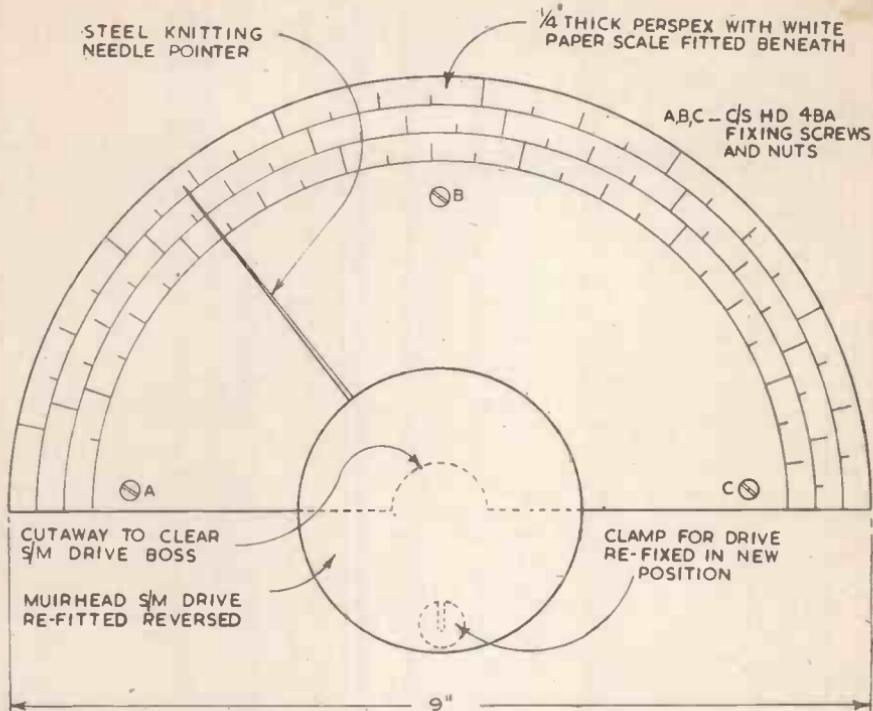
Remove the drive mechanism and carefully drill out the hole at the mark; the needle can then be pressed home, using a little fixative to secure it if it is not a force-fit.

To fit the new dial it will be found necessary to remove the aerial tuning condenser, but this is of no great consequence. Disconnect the leads and remove the condenser from the panel. Lay the new dial assembly squarely in position on the panel and scribe the hole positions for fixing; drill out to 4 BA, fixing with screws and nuts. Secure the dial to the panel, with the white paper scale held firmly in place by the Perspex, and fit the slow-motion drive and pointer.

With the pointer about the middle of the dial, tune in a signal. As the aerial tuning condenser itself has been taken out, it will be necessary to peak up the aerial circuit for maximum response. All that is required is to adjust the trimmer condensers in the coil pack nearest the front panel, using a small screwdriver, until maximum signal strength is given.

Switch to Ranges No. 2 and No. 3 and repeat the procedure on these bands. The job is then complete and will not need touching again unless a different aerial is used—which can be taken care of by using a small external variable condenser in series with the aerial lead.

The nett result of these modifications is a good-sized full vision calibrated tuning dial, which in itself is not only desirable for tuning purposes but also enhances the appearance of the receiver very considerably. Another tip here is to remove the Ae/Earth terminals from



The new scale as constructed by the author.

the front panel and fit them to the back edge of the chassis.

#### Other Possible Modifications

The rather ugly brown knobs on the panel controls can be replaced with good quality black knobs. Attention can also be given to the grid bias battery and leads; the latter were traced and disconnected, and the GB battery fitted on the Rx chassis, close against the left-hand panel brackets, with the leads renewed accordingly.

Next, the output stage was slightly modified. The existing output is marked "Phones" for one socket and "600-ohm Line" at the other; the latter is transformer output, and the former choke-condenser feed, using the transformer primary as the choke.

This part of the circuitry was completely stripped out, and the transformer as fitted removed. The output valve was replaced by a PM22A Pentode and suitable output transformer put in to match a 3-ohm moving coil speaker, using the old "600-ohm Line" jack for L/S connection. The phone output was then re-connected using the same condenser

and choke arrangement, the primary of the new transformer being used as the LF choke.

#### Results

The receiver now has quite a good external appearance; it gives really excellent audio output, on speaker; the tuning is very much improved; and its performance on Eighty and the Top Band is comparable with many mains-operated receivers—but being battery-powered, it has the added advantage of low noise-level.

For those who would like to convert to mains working, a suitable power pack for use with the R.1224A is the P.40, as advertised at about £2. This gives an output of 60 mA at 175 volts; for running the R.1224A, a 1000-ohm 1-watt resistor can very easily be fitted in the HT-plus output lead for voltage dropping. The results obtained under these conditions would surprise many people—excellent quality, and terrific audio output, without any need to press the R.1224A to its limit.

All the modifications suggested here are very simple to carry out and the improvements they bring will well repay any time and trouble spent on them.

# The Top Band

By The Old Timer

IT seems to be high time that someone wrote a short thesis on the merits of the 160-metre band, affectionately known as "Top Band" to all who use it. Its virtues have always been known to the transmitter, but the much larger body of short-wave listeners seem to be slower about discovering them. I have heard it suggested that this may be because a good many enthusiasts do not regard 160 metres as "short waves" at all; and perhaps they are right.

It seems ridiculous, however, to let a technical quibble deprive you of a considerable amount of interest and enjoyment which you are liable to miss thereby. So most of us insist on kidding ourselves, to the extent that we include the Top Band in our repertoire of "short wave" listening.

This band has been in use by amateur transmitters since round about 1920. It has been restricted to relatively few countries of the world, and in this country the amateur has always been limited to 10 watts input—except in a few (*a very few*) special cases. It was in use before the true DX-properties of the shorter waves were known, and it is just as thickly populated to-day as it ever was, even when related to the vastly increased number of amateur licences in existence.

## Top Band Transatlantics, 1922

Yes, even in 1922 there were Transatlantic tests on this band. These formed one of the special cases in which the 10-watt limit was waived, and amateurs on this side who desired to carry out these experiments were allowed powers of 250 and 500 watts—and even, I believe, a kilowatt in one or two instances! The use of this power was restricted to the early hours of the morning. Some Americans were heard over here (entirely on straight receivers, for the superhet had not then been invented!) and some of our stations were heard over there. I think I am right in saying, however, that the first two-way contact across the Atlantic did not take place until 1923—but it was on the Top Band, known then as the 150-200 metre band.

All the other worldwide DX which followed rapidly on the heels of this momentous achievement was carried out on shorter wavelengths—130 metres, 100 metres, 90 metres and so down to 45 and 23 metres. The Top Band was more or less relegated to its old function of local and short-distance work once more, and the DX-seekers burrowed lower and ever lower.

Continuously from 1922 until the present day—except for the break during the war—the band has been the particular playground of those many transmitters who are content to work over relatively short distances with very simple gear. Phone and CW have always been used in about equal proportions; "nets" of local amateurs, Club gatherings, Morse practice transmissions and so on have always favoured this band and undoubtedly will as long as we have the use of it.

There are, however, numerous other users besides the amateurs—which is precisely why the latter are limited to 10 watts. Certain coastal stations in the ship-to-shore service have their spot frequencies; lightships have more recently been given *their* place; trawlers (known to exasperated amateurs as "fish-phone"); beacons and all sorts of "things" such as the Loran transmitters between 1900 and 2000 kc. Notwithstanding all this, there are plenty of clear patches in which the amateurs can sit without harming anyone or being hurt themselves.

## Local Working

As a purely "local" band it has no equal. Signals travel over distances up to 25 miles or so without any dependence on ionospheric conditions, and two stations at that distance apart can work each other more reliably with "ten watts on Top-Band" than by using any amount of power on any other band.

Sunday morning Phone Parties have been a tradition of the band ever since it was first used, and many a short wave listener (including your aged writer!), has received his first introduction to the amateurs by this means.

It is the ideal band for the newly-licensed amateur, because the gear he needs is so simple. And the beauty of it is that immediately he has got his transmitter working, he is on an equal footing with all the others on the band; no one has more than 10 watts, and success or failure rests chiefly with the aerial system employed.

The beginner who can make up a breadboard ten-watter and put up a reasonable piece of wire can therefore compete with the most experienced denizens of this fascinating band.

## DX Working

Transatlantic Tests have been organised for this band on several occasions since the original series in 1922. A series of privately-organised tests met with a good deal of success in the years between 1932 and 1937, and then

in 1938 and 1939 the *Short Wave Magazine* ran a highly successful series in which many G stations made contacts with U.S.A. and Canada. In 1951, and again this year, the *Magazine* returned to the attack; this year has not been so good, but the 1951 Tests were the most successful of any.

Apart from the States and Canada, other DX countries which have been heard and worked on the band are Turkey, Cyprus, Finland, Saudi Arabia, Iraq, Tangier and Ecuador. But the culminating achievement was undoubtedly the successful bridging, last year, of the longest gap of all, when two Welsh stations, GW3ZV and GW3FSP, were heard in New Zealand on numerous occasions. The New Zealand station ZL1AH was also heard over here, but no two-way contacts resulted. There were, however, several contacts between New Zealand and the States, where stations are not by any means limited to 10 watts!

This DX must of course be mentioned in any account of the band, but do not think of the Top Band as the DX-chaser's paradise. It most certainly is not; its chief charm is that it carries the main burden of our "local" traffic and is therefore the friendly, comfortable band that it is. On the Top Band alone can one G station work another without the feeling that heaps of other stations are impatiently queuing up to push one or other of them out of the way.

There is a pleasant feeling of "DX" work about the medium-distance contacts that can be made; from Cornwall to Scotland is quite a long hop for this band, and when, on some rare occasion, it is covered in daylight, the participants at both ends are justifiably pleased about it.

This pleasure can be intensified by voluntarily reducing power even further and going in for "QRP" work. There are several 1-watt stations on the band, some of them with signals not much weaker than the usual 10-watter. To cover two or three hundred miles with one watt, on this band, is an achievement at least on a par with the working of the States or Australia with 150 watts on one of the DX bands, and it is achieved with such an absence of fuss, and with such simple gear, that it has quite a thrill of its own. The listener who logs such a transmission also partakes in the thrill of it.

#### Compact Apparatus

For the flat-dweller or the man in "digs," too, the Top Band is an ideal playground. The necessary gear is so very simple and small that it can be accommodated in any odd corner. A 10-watt transmitter, with built-in power supply, need occupy no more space than a metal cabinet about 12 in. by 10 in. by 8 in.—

smaller than many receivers! Some transmitters, in fact, have been built into receptacles of about a quarter of this size. Some of the 1-watt midgets I have seen could be carried on the palm of one hand.

The desirable qualities of an aerial are simple: it should have as much wire as possible, strung up as high as possible. It may be end-fed or centre-fed; tuned with an earth or a counterpoise; fed as a Hertz if it is as long as half a wavelength (275 ft.); or loaded up with a coil at the bottom if it is too short.

Aerials give one plenty of scope if one has a garden of average length. If one hasn't, then the real DX is more or less ruled out, but the local contacts suffer very little, since short aerials with a lot of vertical wire in them radiate a stronger ground-wave than those designed for DX work. Even a 33-ft. top with a 33-ft down-lead puts a terrific signal out in the "ground-wave" radius—perhaps up to 50 miles—and after dark it may cover the most surprising distances.

In short, this is still a band for the experimenter, although it necessitates only the smallest expense in hard cash on components and gear. There is never a lack of activity except during the usual working hours when very few British stations are active on any band; and there is never a lack of interest in the new things that can be tried out, or the new stations one can work. This applies equally to the listener, whose activities are, of course, a kind of reflection of the transmitting activity on any band.

If you haven't tried the Top Band yet, do so without any further waste of time. You are missing something that you should not neglect.

---

#### JOINING THE LEAGUE?

All SWL's who may only see *Short Wave Listener & Television Review* casually are reminded that by joining the British Short Wave League they can get both *Short Wave Listener AND BSWL Review*. The cost of the annual subscription is 18s. (or 9s. half-year, 4s. 6d. quarterly). This entitles members not only to the 12-page *Review* bound in with *Short Wave Listener & Television Review*, posted direct on publication day each month, but also to all the advantages of League membership: QSL Bureau, QTH Dept., Query Sections and other similar services. The total cost is no more than that of buying single copies of *Short Wave Listener & Television Review* monthly. Send for details, or post your subscription remittance to The Manager, British Short Wave League, 55 Victoria Street, London, S.W.1.

# Hints on the O-V-I

## SOME TIPS AND IDEAS FOR IMPROVED RESULTS

By L. A. Chinnery

OVER the past few years the writer has built many straight sets for the amateur bands. The following are a few of the wrinkles he has picked up, exploited and developed.

When logging signals, a calibrated reaction control is handy, and the use of a slow-motion drive in this position will allow the optimum adjustment for "threshold condition" for the reception of weak phone signals. Another use for a calibrated knob is the reading of signal strengths. The procedure for setting up this rough and comparative S-meter follows:—

Fit a pointer knob and white cardboard scale to the volume control and then tune in a local station whom you consider to be a steady "S9." Now reduce the gain until the signals fulfill your personal idea of, say, "S2." Switch off the Rx and with an ohm-meter, measure the resistance of the control at that setting. (Don't forget to measure from Grid to Ground!) Now mark the scale as "S9." Reduce resistance of the control to obtain a reading of half the original. Calibrate this point as 3 dB over 9. Repeat the process, each step being 3 dB. Now calibrate the control at a point having a resistance of twice the "S9" value. Call this "S8." Doubling again and again will result in S-points of falling value. Now, to read the "S" value of any signal, tune in for maximum signal, adjust gain to your own idea of S2. Comparative signal reports can now be given from the pointer reading.

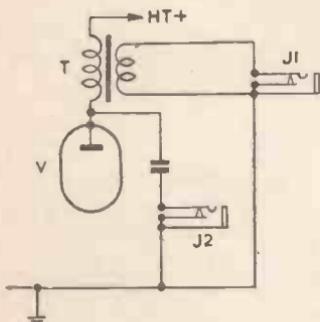


Fig. 1. V is the receiver output stage; T, the output transformer; Jack J1 gives low-impedance output, and J2 high-impedance.

### Output Arrangements

At the audio end of the receiver a low impedance output is useful for LR phones or speakers. Using the circuit of Fig. 1, either high and low outputs can be obtained at will. If two receivers are required to be mixed into one pair of phones, the high-impedance jack can be used to feed in the alternative signal.

For winking out the DX and shedding "toppy" sideband QRM, top and bass cutting controls are handy. Readers are reminded of the various circuits in Fig. 2. No values are applied, best results being obtained by individual experiment.

If hum is prevalent, due perhaps to the use of a single-ended detector, it would be advisable to install a type using a top cap grid. A double-ended 6J5 is made by strapping the screen and suppressor to the anode. Another good idea is the use of a CV6/7193. This has both anode and grid brought out to top caps. The valve is an electrical equivalent of the

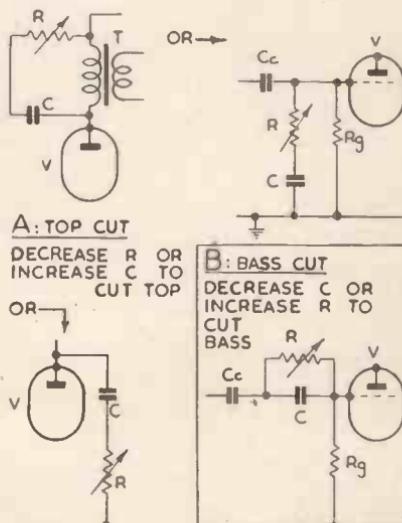


Fig. 2. Methods of Tone Control. V is the audio stage; C, R, are the tone-control components, with R of a high value and C low capacity (see text); Cc is the coupling condenser, Rg the grid leak and T the output transformer.

6J5; the heaters appear on pins 2 and 7, and the cathode on pin 8 in the usual way. Using this valve, very short RF leads can be used, with attendant advantages.

### Other Points

Those wishing to install a frequency checking device in their Rx can use the circuit of Fig. 3. Connecting any crystal or tuned circuit across the points X-X will result in oscillation on the appropriate frequency, with copious harmonics. The best frequency to use is, of course, 100 kc, with a crystal ("100-kc bar") or tuned circuit.

Finally, use plug-in coils, short RF leads and dress all power wiring close to the chassis. Use screened leads for "hot" audio coupling. All earth returns for each stage should be taken to a common point, i.e., a tag on the valve holder mounting. Bring out the outputs to standard jack sockets and use Pye co-ax plugs for bringing in the aerial lead from long wire or dipole.

One of the writer's pet sayings is "Build your gear like a battleship and it will last just

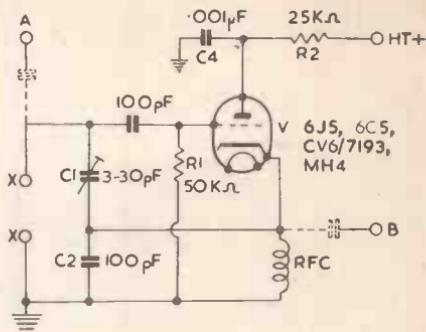


Fig. 3. Frequency checking oscillator for general use. V is any suitable indirectly heated triode; C1, 3-30  $\mu\text{F}$  trimmer for slight frequency adjustment; C2, C3, .0001  $\mu\text{F}$ ; C4, .001  $\mu\text{F}$ ; R1, 50,000-ohm grid leak; R2, 25,000-ohm decoupler; A-B, output; X-X, crystal or tuned circuit.

as long." So get out your tool kit and spares box and drag the receiver on to the bench and start hotting it up!

### MORE ZIP ON TWENTY

With conditions as they are on the HF communication bands, the receiving gear must be as effective as it can be if the DX is to be found. A little RF pre-amplification helps a lot in this respect, and many SWL's will know all about the popular "R9'er" design and how it improves things on the 10-metre band. An interesting practical article in the March issue of *Short Wave Magazine* applies the R9'er principle to Twenty, and enough information is given to enable a very effective RF pre-amplifier unit to be built up. Copies of the March issue of *Short Wave Magazine* may be obtainable at your local bookstall—if not, order direct (price 2s. 8d. post free) from The

Circulation Manager, Short Wave Magazine Ltd., 55 Victoria Street, London, S.W.1.

### FOREIGN SUBSCRIPTIONS

We are asked to remind readers that subscriptions to all foreign technical periodicals—including *QST* and *CQ* and the American radio press generally—can be paid in sterling through Gage & Pollard, Publishers' Agents, 55 Victoria Street, London, S.W.1. When you get your sub. reminder, send them the notice with the sterling equivalent. Lists of American technical journals, covering all trades, industries and professions, with the subscription rates quoted in sterling, can be obtained on application.

**MORSE CODE Training**

COURSES for BEGINNERS and OPERATORS, also a SPECIAL COURSE for passing the G.P.O. Morse Test for securing an AMATEUR'S TRANSMITTING LICENCE.

*Send for the Candler BOOK OF FACTS*

*It gives details of all Courses.*

**THE CANDLER SYSTEM CO.**

(Dept. S.L.) 52b Abingdon Road, Kensington, London, W.8

Candler System Co., Denver, Colorado, U.S.A.

Amateur enthusiasts should send for free catalogue and literature—stamp for postage

THE INCOMPARABLE

### GLOBE-KING

SINGLE VALVE S.W. RECEIVER

- WORLD-WIDE RANGE 11-100 METRES
- CRYSTAL-CLEAR NOISE-FREE RECEPTION
- ELECTRICAL BAND-SPREAD TUNING
- EXTREMELY LOW RUNNING COSTS
- KITS OR READY-BUILT SETS FROM 25/-

Direct from Makers. Home and Overseas Sales

JOHNSONS (RADIO)  
46 FRIAR STREET, WORCESTER

# TV as others see it

## THE FRENCH SYSTEM

By F. L. De Baughn

JULES JACQUES, under-manager at the Renault Car Works in Paris, paid 160,000 francs (a little under £155) for his big-screen television receiver.

He also has a 6-in. screen table model for which he paid 80,000 francs (a little under £78) two years ago.

He gets only three hours television a day, rising to four hours on special occasions. But the Eiffel Tower Radio engineers would tell him, if he complained, that he gets the best transmission in the world—that France is moving ahead of the world in television.

There is only one regular station in operation for M. Jacques; and most of the 100,000 sets in France are concentrated in the Paris region. That is the big difference compared with television in Britain with a fourth big station—Scotland's Kirk O'Shoots—opening this spring.

Kirk O'Shoots will be the most up-to-date television station in the world. But it will not put out transmissions as advanced as the high definition experimental programmes Jules Jacques and other French viewers can see.

The French intend to continue high and low definition transmission side by side for some years and then to complete the change-over to high definition transmission only.

Most other countries transmit television on

a definition of 405 lines. The French are experimenting with 819 lines, 619 and 445. The advantage of high definition transmission is that they produce exceptionally clear pictures, particularly of close-ups, with the tiniest detail faithfully reproduced.

There are the French critics of the policy. They will tell you that the French television chiefs are experimenting with high definition transmission before perfecting the normal low definition technique.

They will point to Britain's way—the provision of television on a national basis on the existing system before serious consideration of a vital technical change.

The French manufacturers prefer the British way. It means that settled plans for mass production can be made for several years ahead.

The high definition transmission is still in the experimental stage in France. M. Jacques will tell you bitterly of the number of hours of TV "blackout" every month when the service fails. There are still many problems to settle.

But high definition means that transmissions are occupying a wider waveband which means that transmissions in colour are easier; with the high definition system the French will have colour television so much earlier.

In fact, French radio officials claim that their television service would be the world's best today but for lack of funds.

Lack of cash has been so marked in recent years that there have been occasions when television programmes were suspended in the later summer—during the holiday season—in order to conserve money for the winter programmes.

## TV TURRET TUNER ADAPTABLE TO UHF SERVICE

A new VHF tuner, offered as a solution to present-day problems, has been introduced by the (American) General Instrument Corporation. Model 48 is a turret tuner, completely different in concept from earlier models offered by this company.

The turret design incorporates manufacturing and design advantages over switch and continuous type tuners. The principal advantage, and one of the main reasons for the selection of this design, is its adaptability to use on the UHF bands.

For those not familiar with turret tuners, a brief description: In turret tuners, the tuned circuits for each channel are mounted on a plastic strip which is in turn snapped in a drum. As the drum is turned, contact is made between a fixed set of contacts and the points

on each successive channel strip. Thus we have the opposite of a *switch* tuner, where the rotor selects the proper circuit. In a turret tuner, the *stator* selects as each channel is rotated past the stator contacts.

The fact that the circuits for each channel are mounted on a separate strip makes it much easier to include strips for UHF operation. Since there is no connection between adjacent channel circuits, there is much less danger of interaction between circuits, and it is relatively simple to include channel strips with almost any centre frequency.

For eventual UHF use, the tuner is provided with a switch which has 13 positions. The alternatives for this 13th position are either to use it as a single UHF channel, or to use it to convert the tuner to an additional 44 mc IF

amplifier which could then be used with a separate UHF tuner.

Another advantage of the turret design is that it is easier to optimise the circuits of each channel for noise and gain. This advantage has been used to the fullest extent in the Model 48 where the now-famous "cascode" circuit is used. This circuit, originally developed by Wallman, has not been used extensively in production designs because there were no valves that could take full advantage of it. Now, however, new dual triodes, the 6BQ7, and 6BK7 have been developed especially for the Cascode circuit. Essentially, the Cascode uses two triodes, the input unit operating as a conventional grounded cathode stage and the output unit as a grounded grid amplifier, with the plate of the input triode feeding the cathode of the output triode.

Because of the careful design and use of the Cascode circuit, the Model 48 can be built in a low-noise version with a noise figure which

varies from 5 to 8 dB, over the 12 TV American channels. Another version, built with the aerial matched within 50 per cent. co-efficient of reflection, has a 6 to 9 dB noise figure range over these 12 channels. Such figures are quite low and are desirable for operation in fringe areas.

Another new feature available in the G.I. Model 48 is a remote cut-off characteristic for the 6BQ7 valve. The cut-off approaches very closely the ideal square law characteristic, which eliminates cross-modulation between adjacent channels. Although this feature is not very important at the present time in markets outside the U.S. it is extremely useful there where a viewer is often trying to pick up a weak signal, in the presence of a strong signal on an adjacent or nearby channel. For tuners with the remote cut-off characteristic, the AGC voltage for cut-off is about 14 volts. This means that an AGC amplifier is necessary in the set.

## MULTICORE OPEN NEW FACTORY

### WORLD'S LARGEST BUILT SPECIALLY FOR CORED SOLDER PRODUCTION

As from February 25 the head offices of Multicore Solders, Ltd., manufacturers of Ersin and Arax Multicore Solders, will be moved to the company's new factory at Maylands Avenue, Hemel Hempstead, Herts. The offices at Mellier House, Albemarle Street, are being retained only as London West-End Executive Offices.

The new factory, built by the Government Development Corporation, is claimed to be the world's largest specially built for the manufacture of cored solder. It will be officially opened by the Mayor of the new town of Hemel Hempstead in a few months' time, when the transfer of plant from the Multicore factory at Slough is completed.

Owing to the rapid expansion of home and export sales of Ersin Multicore Solder the location of Multicore production has moved three times in 12 years and the new works is 11 times the size of the original works at Walthamstow. The new premises incorporate many novel features both in building technique and plant. The roof is of barrel-vault construction which uses the minimum amount of steel and was cast in position before the walls were erected. The office block is heated by the B.I.C.C. Panalec method whereby electric heating elements are buried in the floors and

walls and electricity is used only at the night off-peak periods.

Owing to the high monetary value of the metals used in the manufacture of Ersin Multicore Solder an intricate burglar alarm system has been installed which is connected by a private G.P.O. telephone line to the police station three miles away. The G.P.O. have also provided a private line to Multicore's London West-End Offices as well as three exchange lines (Boxmoor 3636).

Staff from the Slough works, London offices and workers from London boroughs associated with the new town are shortly moving into new houses and flats built by the Development Corporation.

"We believe," said Richard Arbib, Multicore's Managing Director, "that our new factory will enable us greatly to expand our export sales, particularly to U.S.A., where for a long time imports of Ersin Multicore Solder were limited solely by our production capacity. The new plant which we will be installing during the next few months will make it possible for us to introduce many interesting developments in cored solder production, thus ensuring that Britain maintains the world lead she has held for so long."

# HAVE YOU HEARD?

**O**N the whole, we have a better month to report. The general opinion of listeners is that Twenty has been very much more interesting than of late, although Ten has practically deserted us for foreign climes. Whatever the individual opinions may be, though, we can count ourselves lucky to have such interesting listening at this very poor stage of the sunspot cycle.

In the 1930's I well remember that for a year or two round the "trough" we simply resigned ourselves to the fact that there was no DX, and we settled down to listen to the locals. Nowadays, thanks to better receivers (and also, in no small measure, to the great improvement in transmitters and transmitting aerials) we still have DX of some sort, even when conditions are at their worst.

Listeners who have joined the merry throng during this very dull period will be amazed, not to say delighted, when conditions really start to improve. It may not happen this year, or even next, but when they do—well, we shall climb and climb for five years or so, until everyone thinks the bands are going to burst!

And so to your own review of your own DX. As usual, all stations mentioned may be assumed to be on phone unless "CW" is stated in connection with them. We will deal with the highest frequencies first.

#### TEN-METRE CONDITIONS

Even that Ten-Metre specialist J. W. Cave (Parkstone) says "From the condition of the band it seems as if it is at last entering upon its period of total blackout." And he then proceeds to submit a list of Calls Heard—for Twenty! Other readers, strangely enough, have extracted a few new pieces from the band. M. S. Gotch (Saffron Walden) managed to find CR6AJ. S. Smith (Kenilworth) says the band was wide open on February 16, on which day he logged 20 countries. The only new one was YO3RF.

R. A. Hawley (Goostrey) says that on one occasion the TA's were S9 plus on an otherwise dead band, and he logged W2MAK/MM in the Mediterranean. K. Parvin (Thornton Heath) says "The worst month I have ever known." He only heard signals on the band twice—on February 16 and 17. W. J. Amphlett (Smethwick) reports for the first time, but says that apart from the TA's he has heard nothing outside Africa. (The Africans include CR6AJ, VQ2DT and ZD4AF).

D. S. Kendall (Potters Bar) heard TA3AA, SA2TU and VQ4AQ but not much else. D. L. McLean (Yeovil) mentions EL9A and ZD4AF, and notes that the only activity seems to take place on Saturday afternoons and Sunday mornings.

Sundry other readers just make disparaging remarks about Ten and mention the odd station logged, but their notes are not informative enough to claim any more of our space. So there, again, is a picture of a very sick band.

#### THE DX ON TWENTY

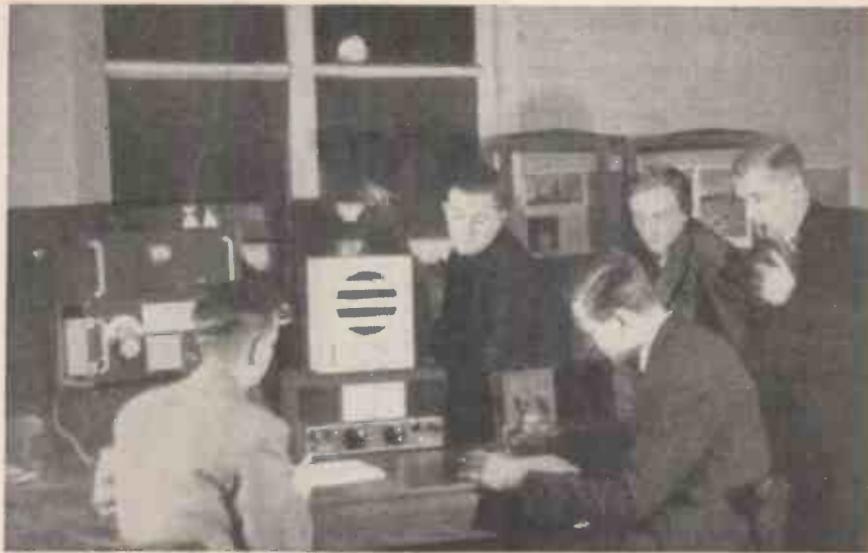
Now we come to quite a different story, with many listeners adding to their country lists and producing DX of the most exotic type. A. H. Trigell (Lymington) mentions two of the better ones—ZD9AA, who is now on phone with 500 watts, and VP5BP, a Canadian expedition to the Cayman Islands.

Nearly everyone has been logging ZS2MI; so to save a lot of wearisome repetition I will not mention him again except to make it clear, right now, that he is in Zone 39. As D. S. Kendall says, "Isn't it amazing that after so many years with no activity at all from Zone 39, it now bursts forth with Phone from ZS2MI, FB8BB, FR7ZA and VQ8AL... Let's hope the same happens to Zones 18, 19 and 23!" D. S. K's best on the band were EL9A, FF8DA, FB8BB, FR7ZA, ZP7AW and ZS7C, plus a lot of lesser lights. On CW he logged KZ5GF, VS7NG, YV5AK and ZS2MI.

M. S. Gotch collected ZS7C for a new one, and found VP6SD very consistent. S. Smith acquired a new one with YI3BZL, who is also mentioned by many readers for the consistency prize. C. J. Rourke (Belfast) added KV4AQ, YI3BZL and 9S4BE; he also says "ZS1TGE was logged for a doubtful new one on 20." But who on earth is he? (For answer see further on.)

R. J. Riding (Wednesfield) found the band wide open for W's and VE's but not much else except Africa. He quotes ZS7C as the outstanding signal from that direction. He also logged KL7ADR at 1255 GMT. G. Curtis (Harrow) stuck to CW and quotes EL3R, KG4AF, KG6ABW, LUØDDH, TA3QZ, MP4BBD, two VS6's and VK9DB as his best.

D. K. Cocking (Farnborough) mentions the ZL's (0800-0930), KL7ADR (1118) and MI3ZS, VQ4FCA, ZS7C and ZD9AA (1715 to 2000). Some of his Gotaways were a VQ8,



A group at the South Manchester Radio Club, operating G3FVA. At the key is G3EON, with G3FSW entering up the log.

CR6AN, YV3AU, VP5BF and ZS2MI. R. A. Hawley didn't hear much of interest, but says it was nice to find the W's and VE's coming through again at good strengths.

A. Deakin (Stretford) went fishing for new ones and netted FF8, ZS7, ZS2MI, VQ3 and EL. He asks whether 5A is the new call for MD2—it certainly is. The 5A2T series are in Tripoli and the 5A2C series in Cyrenaica. EL9A is apparently one of the KT1 gang from Tangier who has gone down to Roberts Field for a while.

K. Parvin has found it a good month for Africa, and on occasions for Asia, but poor for Oceania and only fair for America. Three new ones were CR5AD, FB8BB and ZD9AA, and three even nicer "gotaways" were CR5AC, FK8AC and YA6UU. K. P. also tells us that SP2KGA is in Danzig; the Free City counted as a separate country before the war, using the prefix YM.

H. D. Woodward (Manchester) asks whether ZB9AA is a phoney one; looks as if he heard the one and only ZD9AA without knowing it! M. S. Noble (Mellar) doesn't share the general enthusiasm and thinks February was the worst month for some time, although VP6FO gave him a new country and he logged VQ4AQ and 4ERR. Others mentioned are TF3AS, two OX's, PY2CK and MF2AA.

W. J. Amphlett collected eight new countries on February 17 and another nine on February

24, the best of them being HRISO, VS1AX, VU2JU and VP7NZ, as well as PK4DA on CW. He sent a list of Calls Heard, but unfortunately not in the form required for publication.

B. R. J. Pooley (Pangbourne) made hay while the sun shone, and his country list went up by six with FB8, FM, ZS2MI, MP4B, FR and ZS7. (MP4BBD, by the way, is in Bahrein.) Gotaways were ZS8MK, FK8AI and an FL, all on CW. B. R. J. P. asks whether VK7 (Tasmania) counts as a country; it did before the war but no longer does in the eyes of the P.T.B.

L. W. Wilkins (Bromley) comments on the consistent signal and superb quality of ZL2BE, heard nearly every morning around 0800. R. Woollard (London, N.17) asks whether anything is known about VS4VK, heard at 1530 on February 14 at R3, S6/7. (No one else seems to have mentioned him.)

It was a good month for J. P. Warren (Croydon), his best being CR5AD and 7AH, FB8BB, FR7ZA, W4CG/KV4, VP5BP and ZS7C. He is also the first in the pile to mention AJ4AB/ST, which was an Eclipse Expedition in the Sudan. He missed ZD9AA and JAØIJ, the latter being a old friend of last season, located on Iwojima.

H. J. Lamb (Southampton) singles out CR6AJ and 6AR, CX4CS, MP4KAC, VS7GR, VU2JU and XZ2SY. Cards have

been received from KG6AAE, KL7AFR, VE8OP, ZB2A and ZC4XP. C. R. Burchell (Walsall) collected the five African Specials (FB8BB, FR7ZA, ZD9AA, ZS2MI and ZS7C) as well as AJ4AB/ST, CR5, FQ8, MP4, YI and ZS1TGE. (The latter is now explained; C. R. B. quotes him as being in Zululand. But whether he will count as a country we don't yet know.)

A. Wilson (Sheffield) says ZD9AA was by far the best station of the month; as a change from all these Africans he also logged HC1FG, HI6EC, HK1FE, four JA's and two TI's on phone, as well as CP5EK, KG6ABW, KR6HB, VK9GW and 9XP on CW. J. Butcher (Blackpool) has just heard his first ZL, and can't make out why that should be when everyone else hears the min bundles of 10! He suggests that H. J. Hill's "ST5AB," last month, was undoubtedly SP5AB.

A. W. G. Boulton (Norwich) weighs in with CR9AF, F9QV/FC, FI8YB, FR7ZA, HS1WR, KR6DT and 6EM, all on CW, and says "A great improvement on January." J. Stubbs (Cleckheaton) is one of our bed-ridden SWL's and uses mainly Ten and Twenty for his listening. Since last August he has logged and reported 94 countries in 30 Zones. Some of the best since February I have been JA2KM (1640), VS7RF, ZC4JB and VS7FG. The most consistent signals were YI3BZL, MP4KAE and MF2AA.

I. S. Davies (London, N.13) has listened only around 0730 and 1900, but has been rewarded with VS2CY, ZD9AA, VQ3's, KL7ADR and 3A2AH. K. M. Parry (Sandwich) found two new countries in FB8BB and VP5BP, also logging CR5AD, 6AM, 6BC and 7BB. He asks whether CR5AD is a different country

### FOUR-BAND DX

(POST WAR)

LISTENER	SCORE	28 MC	14 MC	7 MC	3.5 MC	COUNTRIES
D. W. Bruce (Eltham)	525	166	223	90	46	233
N. C. Smith (Petts Wood)	523	110	226	132	55	232
N. S. Beckett (Lowestoft)	466	102	193	118	53	203
M. G. Whitaker (Halifax)	464	131	181	105	47	195
K. Parvin (Thornton Heath)	424	145	181	57	41	187 (P)
D. S. Kendall (Potters Bar)	410	148	168	57	37	185 (P)
D. L. McLean (Yeovil)	393	157	177	27	32	192 (P)
J. P. Warren (Croydon)	384	120	177	55	32	183 (P)
R. A. Hawley (Goostrey)	378	128	174	52	24	208
K. M. Parry (Sandwich)	337	123	153	32	29	163 (P)
S. Smith (Kenilworth)	329	81	160	60	28	162 (P)
W. Neal (Birmingham)	319	82	156	60	21	168
N. Roberts (Lourenco Marques)	317	74	167	44	32	169 (P)
M. S. Gotch (Saffron Walden)	313	117	131	38	27	158 (P)
I. S. Davies (London, N.13)	311	79	140	58	34	149 (P)
H. M. Graham (Harefield)	297	92	140	37	28	154 (P)
A. L. Higgins (Aberkenfig)	252	79	124	30	19	145
A. O. Frearson (Birmingham)	230	81	101	34	14	129
A. E. Carter (Romford)	224	78	106	17	23	127 (P)
D. K. Cocking (Farnborough)	201	69	100	18	14	116 (P)
W. J. Amphlett (Smethwick)	185	23	91	47	24	108
J. Stubbs (Cleckheaton)	159	42	87	20	10	100
H. J. Drinkwater (Coventry)	85	4	66	17	2	?



A DX card of 17 years ago.

from the old CR5UP, who was on Sao Thome Is.—yes, he is.

N. S. Beckett (Lowestoft) says the only, unusual DX was CR5AA, VS9AT and ZS2MI, though he doubts (and so do all of us) whether the latter can be called "unusual" any longer.

J. R. Paul (Lymington) has been in the throes of moving and has not listened very much, but he has noted the great improvement in W and VE reception. His best during the month have been ZD9AA, ZS3M, HI6EC, VP3HAG and 2LE, HP1LB and VS2CY. He would like to see SLP's back and says that their chief value is that they more or less force listeners to plumb the depths of a band, even if it seems dead. Thereby they find things that they would otherwise miss.

D. L. McLean seems to have done well, with CR5AC, 5AD, 6AN, 6AO, 6AV and 7AH; FR7ZA, JA0IJ, MP4KAC and 4KAD, VS2CY, VP5BP, ZD9AA, ZS2MI and ZS7C. (Just about everything going in that lot!) He also comments on the large number of signals from the Middle East area—MI, 4X, SV, MP4, SU, 5A, AR8, TA, YI and the like. There are an awful lot, when you come to think of it.

#### A FEW FROM OVERSEAS

P. King (Offaly, Eire) breaks a long silence to report that he has found conditions quite good and has logged KL7ADR, VQ2DT and ZS6MD, as well as FF8AG, VE7OJ and

ZS2MI on CW. He suggests that the various instalments of "Pse QSL" should be published as a complete "SWL's Guide," with all the calls in alphabetical order. Unfortunately it often happens that chaps who requested reports nearly a year ago have moved around, or no longer want them, or have been inundated with them and are now fed up with the whole business!

R. Williams (also from Offaly, Eire) also reports. He uses a home-built three-valve battery job and has logged EL9A, LU's and PY's, VE4RO, OX3WX, YV5BW, VP6SD, to mention only a few. He asks for enlightenment on AF4AR and AJ5AB—both American military stations working just outside the amateur bands.

H. Warburton (BAOR) thinks things are definitely looking up, and during one of the ARRL Contest week-ends he logged a fair amount of DX when there was a quiet spell or two. It included lots of ZL's and VK's, CP3CB, YV3AU, HI6EC, JA2OM and VS2CY. His choice piece, however, was VQ6FL (1552 on February 19).

H. J. Hill (Whitley Bay) covered the ARRL Contest for seven hours, but of the 60 stations logged, only 20 were outside Europe. Phones he mentions are YV5AB, TA2EFA, ZS2CR and 6YM, OQ5BG and sundry PY's. He strongly resents American stations handling military traffic on the amateur bands, and suggests that it is time something was done

about it. (I think this takes place with the full sanction of the authorities, so nothing much can be done. If it were outside the amateur bands there would be swift and drastic action!)

I. M. Marshall (Chelmsford) is another new reporter, and one whose experience doesn't go back to the days of easy DX. He encloses a list of Calls Heard (just too late to get on the boat!) which includes HC1FG, HI6EC, KG4AF, VP3HAG and other nice catches.

## HAZ MARATHON 1952

Listener	Zones	Countries
<b>PHONE and CW</b>		
B. R. Davies (Beckenham)	34	121
D. W. Bruce (Eltham)	34	112
A. W. G. Boulton (Norwich)	34	107
N. C. Smith (Petts Wood)	33	126
R. G. Poppi (Beckenham)	32	79
F. H. McClymont (Ayr)	28	65
B. R. J. Pooley (Pangbourne)	26	72
O. H. Black (Leicester)	26	63
D. S. Kendall (Potters Bar)	25	90
R. A. Hawley (Goostrey)	24	69
A. O. Frearson (Birmingham)	14	40
W. Neal (Birmingham)	13	40
<b>PHONE ONLY</b>		
J. P. Warren (Croydon)	31	97
K. Parvin (Thornton Heath)	30	97
I. S. Davies (London, N.13)	29	91
W. J. Amphlett (Smethwick)	28	88
D. L. McLean (Yeovil)	27	88
C. J. Rourke (Belfast)	26	78
D. S. Kendall (Potters Bar)	25	84
H. Warburton (BAOR)	25	68
J. Stubbs (Cleckheaton)	24	64
L. Corder (Hadleigh)	24	59
A. E. Carter (Romford)	22	60
R. A. Hawley (Goostrey)	22	60
L. W. Wilkins (Bromley)	22	59
H. M. Graham (Harefield)	22	57
R. J. Riding (Wednesfield)	22	50
H. D. Woodward (Manchester)	18	62
A. W. Tideswell (Stoke-on-Trent)	18	60
A. Deakin (Stretford)	17	58
D. K. Cocking (Farnborough)	16	39
H. J. Drinkwater (Coventry)	6	20

But he would like to know anything about "VR7CG," who was heard being called by a VQ4. I can only suggest that the latter had mis-read the call-sign; there is said to be a VR7AA on Nauru Island, but even that is doubtful.

Yet another "first" comes from J. A. Crux (Rochdale), who says he has just "discovered" the EF54 and is now busy throwing away sundry battery valves. Using this valve in a 0-V-0, he has heard KL7ADR, MI3's, MP4KAC, OX's, VP6SD, VQ4RF, W7DV and loads of the more easy stuff. (The Calls Heard list, this time, was not in the right form for publication, being embedded in the letter!) J. A. C. adds that if anyone wants Trieste, IIBNU, ICKN and 1CKW are all there.

M. G. Whitaker (Halifax) was amazed to hear the QRO phone from ZD9AA, and remarks on the consistency of YI3BZL. He also remarks that in last month's Commentary we printed "ZS2MI" 40 times! We have cut down on that one this month, but probably ZD9AA is an up-and-coming substitute. Others of interest for M. G. W. were 4U-AJ (Kashmir), FB8BD, HH1VC, KG4AE, KV4AU, UH8KAA and UI8KAA—all on CW.

### FORTY METRES

A surprising amount of phone DX has been logged on Forty this month, in spite of the fact that conditions there have been very disappointing compared with last year. D. S. Kendall submits PY2HC, TA3AA and 5A2TT; M. S. Gotch also collected TA3AA.

K. Parvin found "the usual crop of North Africans," LU's and PY's, in addition to CR4AD, 4AG, 4AJ, ZL4AC and 5A2TT. He adds that CR5AA and 5AD are known to be on the band. Then W. J. Amphlett reports "the odd VP4, KP4, LU and ZS5LZ, ZS6YO and CT3AE"—all on CW.

J. P. Warren collected phones from CR4AG' CO6AX and 8CS, 5A2TT and YV1BE, together with several PY's and the "Zone 33 crowd." C. R. Burchell heard 5A2TT and ZL4AC. I. S. Davies comes in with CR4AG, CT3AE, VQ4AQ and 5A2TT, plus FA, EA9, CN8 and some PY's.

J. L. Hall (Croydon) went flat out for CW and notched up CR7CI, VQ4HJP, 10 ZS's, ZS3K, KL7UM, VE8SM and VE8WC—all between the hours of 0325 and 0440! He says the South Africans were working Europeans, with S8 reports both ways, and he now regards it as a waste of time to look for them at the more orthodox time of 1800-2000.

M. G. Whitaker also went for CW, and heard AP2N, SU1GV, SV1SP, VP8AK and ZC4BL.



Another rare African of pre-war days.

## SOME DX ON EIGHTY

D. S. Kendall logged MF2AA on phone, and M. S. Gotch mentions VP6SD and XE1W. New countries for C. J. Rourke were VE, MF, OE, FA, EA and I. R. J. Riding listened one evening and found KP4CP putting out "an exceptional signal," with VE1QW and W4LIN also coming in well.

K. Parvin bagged the usual North Africans, as well as OY2Z and a couple of Trieste stations. J. P. Warren found it a most unusual month, and logged VP6AL, 6CJ and 6SD within half an hour, together with KP4DU, VE1QW and W5HAJ (Texas)—all phone. His best, though, was ZS6BW on 3800 kc phone, but he is not claiming this one until he knows it was genuine—he can't quite believe it yet!

C. R. Burchell, during the ARRL Contest, picked out KP4CP, VP6AL and 6SD, and VP9GK; he also says he heard G2PU working on OQ5 one morning. I. S. Davies is yet another who logged KP4CP.

N. S. Beckett collected KV4AA and OY2Z (CW) for new countries, and had a QSL from the latter in a few days. J. L. Hall kept watch during the Contest and heard VP6AL, 6CJ and 6SD, and a nice new one—HRIBG.

H. J. Hill heard lots of Europeans (15 countries on phone) but would like to know more about PA9IS and PA9BO, both heard at 2030 on February 20. Finally, new countries

To Radio 56 QBUr sigs have been wkd, brd on MCISat 1345 GMT 1/2 1345U were QSA RFTQRN — QRM — QSB —

XMTR : Messy

AERL : Zeppelin

Rx : "RCA" - 136

QRA : Pierre WILSON.

Rue Delord — TANANARIVE

Madagascar

## Remarks

PSE QSL ES VY 71

QSO N —

on CW for M. G. Whitaker were CN8EN and F9QV/FC.

## TOP BAND NEWS

The Transatlantics are now over, and the season has been very disheartening, compared with last year's effort. Only a few W's and VE's have been heard, and signal-strengths have been poor except for the occasional peak period when, for half an hour or so, some of them have built up to about S5-6. This has usually occurred late—after 0700.

GC2CNC (Jersey) asks me to state that his Top Band signals usually come from a 2-watt transmitter, and that he will be pleased to answer reports from GI and GM listeners on those signals.

N. S. Beckett missed all the Transatlantics, but did log EK1CW and OH3NY. M. G. Whitaker, whose Calls Heard arrived too late for publication, includes in the short list EK1AO, 1CW and 1FM, IIHSC, OH3NY, SM5AC and 5BSB/8, VE's, W's and ZC4XP—a nice mixed bag for the Top Band. He confirms that the I's and SM's are now permitted to use the band.

H. J. Hill says some nice GDX has been logged, but the noise level is still too high for comfort, and even the GD's and GW's have not been such good signals as they were last winter. There is undoubtedly a great variation in Top Band conditions in different parts of

Radio ~~4445~~ 4454 sigs ~~1010~~ hr at 1010 on 93-3 QRK QSB

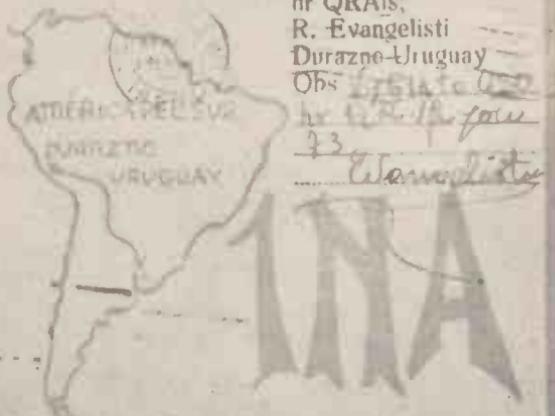
Tx Hartley

Watts input 40

Rx Hartley

1 step

**SU**



DX;SA SB-SC SG-SP-EB-ES-EL EM-EI-EG EF NU-NM AS AC-OZ-FO  
EVER-EF

This was the old prefix for Uruguay when continents were indicated in the prefix, e.g., EF for France and EG for England.

the country; down South it has been excellent for medium DX (up to the ZC4XP variety) even if badly down for Transatlantic stuff.

#### MISCELLANY

Some of the perennial queries have come round again, so let me summarise the replies by stating that SL's are Swedish "Amateur Military stations"; AF's, AJ's and the like are U.S. Military stations; 9B3AA is an avowed pirate operating from Bulgaria; and PIIL and ILC are Dutch Weather Ships in mid-Atlantic.

Individual queries: I. S. Davies would like J. H. Lloyd to state when he heard VP2SE on forty-metre phone; and, in answer to W. Neal, says that there is a ZPIN—in Villa Rica.

N. S. Beckett would like the QTH of VK1WO, heard in December. D. L. McLean would like to know when all the 40-metre DX is heard! He also says that TA2EFA is as good as gold, being operated by ex-W1QZZ, 2EFA, 3EFA, 4CWD and 8PNA—all one person! Also that MD5PM has returned to England.

W. Neal asks if the prefix SVI is now being used for Greece. The answer there is that it always has been, but there have not been many around since SV1RX's days. He also asks for the location of VP8AK; his QSL from two years back gives it as Deception Island, Antarctica.

H. M. Graham (Harefield) comments on the strange effects of changing skip, when a listener can cover both ends of a contact with com-

pletely different results from either of the stations taking part—even when locals are concerned. The characteristics of aerials (vertical or horizontal, quite apart from their respective directions) also enter into it. He comments, too, on the way in which semi-local signals on the HF bands will suddenly give a terrific burst of S9 signals and then go back to their normal level of S6 or so.

This last phenomenon has often been put down to reflection from stray meteorites, and is, in fact, called the "rocket effect" by some.

O. E. Schremer (Ramat-Gan, Israel) makes some interesting comments. His query about AJ4AB has already been answered. He says that conditions on Twenty have not been as good as they were in December, and adds that listeners out there in 4X-land use Forty a lot, although DX is very difficult because of European QRM. He bears a lot from HZ1TA, usually operated by Ahmed, HZ1HZ, or by Hassan, HZ0TA.

#### MONITOR BANDS

We have not received enough support for the late-lamented Set Listening Periods to justify reinstating them just yet. But the tentative suggestion about "Monitor Bands" has intrigued a lot of people, so we propose to go ahead with that right away.

The scheme is this: Each month we will name a "Monitor Band," some dates, and a time-period of about two hours. Those who are

interested are asked to cover that band, at that time, on as many of the days as they conveniently can. Their Calls Heard list should then be clearly marked "Monitor Band" and should contain *not more than* 40 of the best stations heard under the conditions stated. We shall give the phone and CW listeners equal opportunities, and we shall flog the popular and unpopular bands equally.

So as to restrict the listening to such an extent that all the "monitors" cover roughly the same dates, we shall state certain days of the week—probably one or two. So it will amount to a number of SLP's, but with rather more "spread" and greater opportunities for everyone to have a go.

Here is the first one. Monitor Band for April is Forty Metres; Saturdays and Sundays from 2200-2300 GMT, Phone Only.

(For the purposes of listening, "April" means the period between reading this and sending in your next report but one—that is to say, March 22 to April 20.)

Deadline for the next issue is first post on March 26, and please note that the following one will be most regrettably early, on account of the Calendar—first post on April 23.

Everything should be addressed, as usual, to DX Scribe, *Short Wave Listener and Television Review*, 55 Victoria Street, London, S.W.1. So, until next month, 73, Good Hunting and plenty of new DX.



# SWL Stations

## NO. 44

THIS time we show the layout owned by Frank Bliss—and operated from 12 Elmsleigh Avenue, Kenton, Harrow, Middlesex—who has been an active SWL since 1947. Moreover, F. H. B. has passed his R.A.E. (1950 sitting) but has only recently begun to take his Morse seriously, in anticipation of a G3-plus-3 call in due course.

The station main receiver is a BC-348M, with a Class-D wavemeter for frequency

checking—so he is already well equipped on the receiving side. The aerial in use at the moment is a 68-ft. end-coupled, running East-West, on which the BC-348 gives good general coverage results. F. H. B. does a fair amount of QSL'ing, which, he says "has produced a nice collection of QSL cards, a few of which can be seen in the photograph."

At the present time, F. H. B. is doing his National Service with the Royal Air Force; though it has considerably curtailed his SWL activities, he is all the keener to get on the air during his leave periods. He says that even when he gets his ticket he will continue with the purely SWL side of his operations, as receiving activity is so interesting for its own sake.

Well, we wish F. H. B. all the luck and look forward to seeing his new G3 call in print before very long.

# CALLS HEARD

## GENERAL

### 14 mc

A. E. Carter, 86 The Drive, Collier Row, Romford, Essex.

**PHONE:** CO7AA, LU6ES, MI3RH, OQ5AV, VE8RH, VK5ED, 6RU, VP6JB, 6SD, 7NZ, VQ4AC, 4RF, VSTFG, 7GR, 7WA, VU2CN, 2JP, ZXZKN, YV5AB, ZE2JK, 2KZ, ZL2BE, ZS2BC, 6BW, 6FN. (Rx: R208.)

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

**PHONE:** CR6AR, FF8DA, KL7AFR, KP4CO, OQ5AV, 5BG, OX3MW, SU1AS, VK2WT, 2YI, 4XG, VP6FO, 6JB, 6SD, YV1BL, ZD4BF, ZE2JK, 2JQ, 2KZ, 4JP, ZL2GX, 2WS, ZS1C, 6FN, 6XB. (Rx: McMichael 484.)

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

**PHONE:** AJ4AB/ST, CR7AR, EL9A, HC1FG, KL7AFR, MP4KAF, OQ5CA, VE8MC, VK6FL, VQ2HN, 3BM, 8AL, VS1AX, 7IC, W6NIG, XU1CU, XZ2SY, Y13BZL, ZD4AX, 6RD, 9AA, ZE2KZ, ZS2MI, 3M, 7C. (Rx: 1-V-2.)

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

**PHONE:** AJ4AB/ST, CO6PA, CR5AA, 6AG, 6AJ, 6BC, 7AH, 7BB, 7FP, 7IT, EL9A, F3WV/FF8, FB8BB, FFCN, 8DA, FQ8AK, FR7ZA, HZ1TA, JA2OM, MP4KAC, 4KAF, SU1AS, VP6FO, VQ3BM, Y13BZL, YV5AB, ZD4AX, 4BF, 9AA, ZS2MI, 7C.

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

**PHONE:** AP2N, CR5AD, 6AM, 6BC, 7BB, CX3BL, EL9A, FB8BB, FF8DA, HC1FG, HK1FI, HZ1AB, 1TA, KG4AF, KL7AFR, KV4AS, SU1AS, IHG, VE8RH, 8SC, VO6V, VP5BP, VQ3BM, VS1AX, 2CY, Y13BZL, YS1MS, ZC4DT, ZS2MI. (Rx: BC 348.)

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

CE3AI, 7AA, 7AQ, JA2BC, 2LK, 5RK, 7PG, 8OT, KB6AO, KG6AA, 6ABW, KH6CC/KG6, KH6AEX, 6MN, KR6DR, 6EO, 6HH, LU3DBX, 4DMG, 4DW, 5AR, 8FP, 9DZ, PY1AQ, JAU, 2LM, 4KL, 7QG/PY1, VK2KS, 2NS, 3GE, 4NC, 5CE, 5EB, 5MG, 6LG, 9HI, 9DB, VR2CG, VS2CY, W6NIG, 7AQO, 9EWB, 0AIX, 0OEV, ZLIAH, IHA, 2BE, 4GU.

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

28 mc: No Europeans.

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

7 mc: No Europeans.

3-5 mc: No Europeans.

1-7 mc: Nothing under 200 miles.

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

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

**CW:** FB8BB, 8ZZ, FF8AJ, FM7WF, FQ8AE, FR7ZA, KG6BW, KP4QR, KV4AQ, KZ5CG, MP4BDD, OQ5CP, PJ5RE, VE7AEU, VK2ID, VP4LZ, VSTNG, VU2CS, W6BAX, ZD2GA, ZE5JA, ZL2FI, ZS2MI, 3P, 6YZ.

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

CR6BC, CT2AMG, 3AA, EA8AW, MI3DW, 3LK, 3MA, 3ZX, 3RH, MP4KAC, OQ5DL, ST2AB, TA2EFA, 3AA, VO4LL, VP4NI, 9AW, VQ4AA, 4AC, 4RF, VSTBR, 7GR, 7WA, ZS1BV, 2MI, 3E, 5BZ, 6CY, 6ME. (Rx: R1155/A.)

J. Butcher, 27 Westfield Road, Southshore, Blackpool, Lancs.

**PHONE:** KL7YZ, MP4KAC, OX3BC, 3WX, TF3MB, 5TP, VP6FO, VSTRF, W6SHW, 7AJ5, 7DV, 7GUK, ZL2BE, ZS2BJ, 6BW, 6OY, 4X4AT.

**CW:** VE8SM, ZS2BC. (Rx: 1-V-1.)

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

**CW:** CR5AC, DU1IMB, EL2R, FB8BB, 8ZZ, FI8YB, HS1WR, JA2KW, KG4AF, 6SI, KR6HH, MP4FBD, UA9KCC, VE8MM, VS2CR, 2CY, 6BU, 6CG, 7GQ, VU2CP, 2CS, 2EJ, 2NB, ZS2MI.

**PHONE:** KR6GP, FB8AL, MP4KAC, 4KAF, VP7NZ, VQ8AL, VS1AD, 7FG, 7RF, VU2JU. (Rx: S640.)

R. J. Riding, Trewatha, Fibbersley, Wednesfield, Staffs.

**PHONE:** JA2GU, 2OM, KL7ADR, KP4DU, 4HF, MI3LK, 3RH, OA6A, OX3FP, VK2QR, VP6FO, 6SD, 9G, VQ4AT, 4RF, YV5AB, ZL2WS, 3JD, 4FO, ZS6AJ, 6BW. (Rx: 13v. Super plus Q Sev.)

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

**PHONE:** MP4KAC, OQ5BG, TA2EFA, 3AA, TF3AS, 5TP, VP2ER, W6YXG, 7DV, YA3MJ, ZS1BK, 6SG, 6OY, 6Z. (Rx: R107.)

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

**PHONE:** CR5AD, 6AJ, 6BC, F3WV/FF8, FB8BB, JA2GU, 2OM, ST2AB, TI3CHV, VE8RR, VP3HAG, VQ3CH, VS1AD, 1AX, 2BS, 7BR, 7GR, 7RF, 7WA, XZ2KN, ZD4BF, 9AA, ZS2MI, 7C. (Rx: 504.)

A. H. Trigell, Lymington, Hants, CO6NF, 8MP, CR6AJ, HR1SO, KR6EO, LU6PZ, 6DD, OX3BD, VP5BP, 9VV, ZE4JK, ZD4BF, 9AA, ZL2BE, 2JX, 4FR, ZS2M, 2MI, 6BY, 6OY, 6Q.

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

**PHONE:** JA2MB, KL7ADR, MP4KAC, OX3MW, SP9KAA, SV0WP, TA3AA, VP6SD, VS1AA, VU2AK, YJ3BZL, 3GBZ, ZS1BV, 6BW, 6OP, 6OZ, SA2ZC, 2TH. (Rx: CR100/4.)

J. W. Cave, 12 Hilda Road, Parkstone, Dorset.

**PHONE:** HZ1TA, KH6OR, MP4KAC, SUIAS, UG6AB, VS1AX, VU2JU, YI3BZL, YN1AA, ZS2MI. (Rx: R.10.)

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

**PHONE:** CO6NF, EL9A, FF8WV, HC1FG, HI6EC, HP1LB, KP4CO, OQ5BG, T16TA, VO6A, VP2LE, 6HAG, 4TI, 5BP, 6FO, 9AW, VQ4AC, VS2CY, 7GR, YI3BZL, YV3AU, ZD4BF, 9AA, ZE2KZ, ZL2BE, ZS3M. (Rx: S.640.)

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

**PHONE:** AR8BB, BC, PO, EA6AR, 9AX, EL9A, FR8ZZ, KP4CO, MP4KAC, SUIAS, TA2EFA, 3AA, TF3AS, 5TP, VP6FO, VQ4FCA, W7HIA, ØEIO, ØYXO, YI3BZL, YV3AU, ZS1JU, 2AB, 2B, 4ZL, 6Q, 6SG, 6BW, 4X4DR, SA2CA, 2TQ. (Rx: 1155.)

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

**PHONE:** CR6AG, 6AN, 6BC, KL7ADR, LP4HF, LU5HB, TI2CHV, VE4R0, 7BO, VU2WT, 4CC, VP6FO, VQ3BM, 3CH, 5CK, VS2CY, 7FG, VU2FH, YV5AB, ZD9AA, ZL2BE, 2WS, 3JD, ZS2MI, 7C. (Rx: B.36.)

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

**PHONE:** AR8BC, MI3DW, 3US, MP4KAC, OX3WX, SUIAS, UA4AGS, VE8RH, KVI2YI 3HW, 4CC, VO1R, 6H, 6V, VP5AK, 6FO, 6SD, VQ4BU, 4CA, YI3BZL, YV3AU, ZL2BE, 2GX, 2JB, 2WS, 3JD, ZS1BV, 2BJ, 6FN, 7C. (Rx: N.C.173.)

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

**PHONE:** CR6AN, HC1FG, HZ1AB, ITA, OQ5BI, TI2CHV/TI3, VESDI, SBL, 7HF, 8OT, 8RH, 8RO, VQ4ERR, 4FCFA, VS2CY, 7GR, 7RF, ZD4AX, 4BF, 9AA, ZS1V, 4F, 6UX, 7C, 3AAH. (Rx: S.750.)

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

**PHONE:** CR5AD, 6BC, 7AH, FB8BB, FR7ZA, KL7ADR, 7AFR, W4CG/KV4, MP4KAC, 4KAF, AJ4AB/ST, VP5BP, 6SD, 9F, VQ2WS, 3BM, VS1AD, 1AX, 2CY, 6BO, VU2JU, YI3BZL, ZD4AX, 4BF, ZS2MI, 7C. (Rx: R.103/R.24.)

H. J. Lamb, 222 Honeysuckle Road, Southampton, Hants.

**PHONE:** AG2AF, CR6AJ, 6AR, CX4CS, EL9A, K5AIR, MP4KAC, OQ5ER, OX3MW, SP2KGA, TA2EFA, VK3AKA, VP6FO, 6SD, VQ4EC, 4RF, VSTBR, 7GR, VU2JU, XZ2SY, YI3BZL, ZE2KZ, ZC4JB, ZS1BV, 1MP, 1SW, 2BC, 2BJ, 2MI, 6BW, 6DW, 6OY, 6Q, (Rx: R.62.)

H. Warburton, Munster Lager, B.A.O.R.8.

**PHONE:** AP3N, CO2VW, CP3CB, CR5AA, 6BC, 7IT, EL9A, HH2X, HI6EC, HK1FE, JA2OM, KL7AGV, KP4CO, KV4AU, MP4KAF, OQ5AV, UG6KAA, VE7VO, VP6FO, 9HH, VQ2BL, 3BM, 4AL, 6FL, VS2CY, TWA, VU2CN, W6YX, 7AVC, XZ2SY, YI3BZL, YV3AU, ZD4BF, ZE2KZ, ZL1TO, 2QK, 4FO, ZS5MW/MM, ZS7C. (Rx: P.C.R.2.)

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

**CW:** AR8BC, 8PO, EA9AS, JA2KM, KP4HF, 4KE, MI3ZX, OQ5BG, SRU, OX3AD, SUØWO, VE8RH, VK6MK, VO2R, 6H, 6L, 6V, VP9HH, VS1AX, 7FG, 7RF, VU2JU, YV3AU, 5BB, ZC4JB, ZS2MT, 6Q. (Rx: 8 valve Super.)

O. E. Schremer, BSWL 4142, 8 Talpiot Street, Gefen, Ramat-Gan, Israel.

**PHONE:** AJ4AB, HZ1TA, MI3BH, TA3AA, MP4KAC, 4KAD, VQ5AU, VS6BH, ZE2JQ, 2KZ, 5A2TH.

**CW:** EAØAC, MI3LK, 3NA, VU2EJ, YI3BZL, 8W4AF, 9B3AA. (Rx: 6-valve Super.)

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

**PHONE:** CR5AC, 5AD, 6AN, 6AO, 6AV, 7AH, EL9A, E3WV/FF8, FF8DA, FRIZA, JAØIJ, KL7ADR, 7AFR, KZ5AA, MP4KAC, 4KAD, VE8RH, 8SC, VP5BP, VS2CY, YI3BZL, W4CG/KV4, ZD4AB, 4BF, 9AA, ZS2MI, 7C, 3A2AH. (Rx: SX28 and AR88LF.)

M. A. Noble, Sunnyside, Moor End Road, Mellor, Cheshire.

**PHONE:** CN8EQ, CX3WX, TF3AS, VP6FO, VQ4AQ, 4ERR. (Rx: Hamlander.)

L. H. Andrews, 107 Meadoway, Hayes, Kent.

**PHONE:** AR8RI, MI3DW, 3LK, VL3HW, VS1AX, 7EP, YI3BZL, ZS2MI, 6BW, 4X4AT. (Rx: S.740.)

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

EA8AW, 9AI, 9AS, EL9A, F3WV/FF8, HZ1TA, KL7ADR, MI3AB, 3LV, 3RH, 3RR, 3US, OX3BD, 3WX, TA2EFA, 3AA, VE8RH, VO6VB, VP6SD, VQ3AV, 4AA, 4AC, 4RF, VS7GR, 7WA, WØHX, ØLVG, YI3BZL, ZE1JX, 2KZ, ZS1BV, 1BV, 2MI, 6BW, 6DW, 6OY, 6OW, 6TE, 7C, 3V8AN, 8BA. (Rx: H.M.V. Broadcast (5 valves).)

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

AR8BB, CN8FN, EA8AW, EA9UP, HI8WF, HZ1TA, OX3BD, 3WX, PY1AHU, 2CK, 4RJ, 6QN, 8MQ, VK3AMT, 3HW, YV3AU, 5EN, ZB1AJX, ZL2BE, ZS2JB, 6DW, 3A2AM, 5A2TH. (Rx: AR-88 and S.504.)

D. B. Spencer, 22 Townsend Road, Minehead, Somerset.

**PHONE:** KH6CT, KL7ADR, KT1LU, IPU, OX3BC, 3FP, 3MW, 3WX, TF3MB, 3SF, 3SV, 5TP, VE4RO, 4TI, 8RO, 8SC, VK2QR, VO6B, W6NIG, 7GUI, 3A2AH, SA2TH, 2TN, 2TP, 4X4AT. (Rx: R.107.)

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

**PHONE:** AR8BB, CE3CZ, CORMP, EL9A, HC1FG, KV4AQ, MI3RH, MP4KAC, OQ5AV, 5CQ, VK2AGW, 4RT, VP6AL, 9AW, VQ2GW, 4RF, W7DL, YI3BZL, YS1MN, YV5BV, ZE2JK, S1TGE, 6XB, 4X4AT. (Rx: S.740.)

D. K. Cocking, Farnborough, Kent.

**PHONE:** KL7ADR, LU2BS, MI3ZS, PY2CK, 7DE, VP6SSD, VQ4FCA, ZD9AA, ZL2BE, 2GX, ZS5FN, 6PW, 7C. (Rx: S.640.)

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

**CW:** CR7AH, CX1FY, FN8AD, FO8AE, JA2KW, KG6ABI, MP4BBD, UA9DP, UI8KAA, VK7DW, 9DB, VP7NU, VS6BA, 7ES, 7RA, 7XG, VU2RA, ZD6HN, ZS3P. (Rx: S.750.)

## 28 mc

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

**PHONE:** CN8CS, 8EQ, EA8AW, EL9A, FA3JY, LU5DL, MI3ZX, OQ5CA, TA2EFA, W2MAK/MM, ZD4AF, ZE1JE, 3JT, 5A2TH. (Rx: SX28 and AR88LF.)

A. E. Carter, 86 The Drive, Collier Row, Romford.

**PHONE:** MI3LK, 3NA, TA2EFA, VQ2DT, W2MAK/MM, 2ZBA/MM, 5RGO/MM, ZD4AF, ZS1AX, 6NX, 6OW, 6TE, 6WW, 4X4CW. (Rx: R.208.)

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

**PHONE:** CN8CS, 8EQ, MI3LK, 3ZX, OQ5VD, PY7TY, TA2EFA, 3AA, VQ2DT, 4AQ, W2MAK/MM, 5RGO/MM, ZE1JE, 3JD, 4X4CW, 5A2TH, 2TN, 2TU. (Rx: S.740.)

R. A. Hawley, Torview, Brookfield Crescent, Goostrey, Cheshire. 4X4BB, 5A2TH, CN8FQ, MI3ZX, SVØWX, TA2EFA, 3AA, W2MAK/MM, ZB1BZ, ZE3JD. (Rx: S.504 and AR88.)

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

**PHONE:** CE2CC, 2CZ, CN8AN, 8CS, 8EQ, LU7DCQ, MI3ZX, VQ4AQ, ZE1JE, ZS5BZ, 5G, 4X4CW, 5A2TH, 2TU. (Rx: S.504.)

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

**PHONE:** LU8BF, MD2AM, PY7QY, TA2EFA, 3AA, VQ4AQ, W2MAK/MM, W5RTO/MM, YO3RF, ZB1AG, SA2CH, SA2TH, SA2TU. (Rx: CR100/4.)

M. S. Gotch, Bridgett's Widdington, Saffron Walden, Essex.

**PHONE:** CR6AJ, HC2OA, LUDICE, PY2AC, 4LY, 4PQ, VP6JB, 6RJ, VQ2DT, ZS1KK, 1HY, 1T, 6OT, 6XP, 4X4CW, 5A2TH. **Rx:** Converter 13-valve Super and Q-ser.)

### 7 mc

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

**PHONE:** PY1TT, 7AA, YU2CE. (**Rx:** McMichael 484.)

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

**PHONE:** CNBBJ, 8CS, CR4AG, 4AJ, CT3AK, EA9AP, 9AT, 9BB, FA3DS, 3GA, 8BE, 8BG, 8CC, 8CF, 8JO, 8ZZ, PY1WK, 2AVA, 2AZS, 4DJ, 7ABW, 7EC, 8MA, 8RG, VQ4AQ, 5A2TT. (**Rx:** B.36.)

V. L. Hall, 2 Coombe Court, Croydon, Surrey.

**CW:** CR7GI, HE9LAA, KH6GG, VE8SM, 8WC, VP8AP, VQ4AQ, 4HJP, ZS1CX, IKF, 1MQ, 3K, 4CD, 5BF, 5SCB, 5ND, 6AFN, 6AHP, 6JW, 6UO. (**Rx:** R107/R208.)

O. E. Schremer, 8 Talpioth Street, Gefen, Ramat-Gan, Israel.

**PHONE:** HZITA, 0TA, SP9KKA, VQ4AQ.

**CW:** VQ4AQ. (**Rx:** 6-valve Super.)

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

**CW:** KP4KD, KV4AQ, KZ5RM, LU0DDH, OX3GL, PXIA, SU1GY, TA3AA, T12TG, UH8KAA, VK3CP, VQ3BM, 4AQ, 4AR, 4CM, 4HJP, W6NKR, ØHEL, ZL1DX, 2ADS, 3JQ, 3OX, 3PJ, 4GA, ZS1LF, 1LN, 6CH, 6YT. (**Rx:** S.750.)

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

**PHONE:** EA9AR, 9BC, FA8BE, 8CF, PY4AGZ, 7EC, 3V8AS, 5A2TT. (**Rx:** S.740.)

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

**PHONE:** CN8AI, 8AQ, 8BL, 8CK, 8CS, 8MI, CR4AD, 4AG, 4AJ, CT3AC, EA9AR, 9AT, 9BC, FA8BE, 8BG, 8CC, 8CF, 8JO, 8EV, 8LH, 8SQ, 9OW, 9UP, LU2HAH, 3DI, 3DY, PY1QF, 2RC, 7BN, 8MQ, 8NA, ZL4AC, 5A2TT. (**Rx:** S.504.)

### 3.5 mc

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

**PHONE:** WIATE, 2BFU, 2SAI, 2YMB, 3BES, 4ESK, 4IYC, 4KVY, 4NC, 4NTZ, 4SEL, 4SIB, 8J1L, 8LIO, 8MIS, 8MNQ, 8NGO, 9EWG, 9MVZ. (**Rx:** McMichael 484.)

J. L. Hall, 2 Coombe Court, Croydon Surrey.

**PHONE:** CN8BQ, 8CS, 8FN, EA2CR, FA3GA, 8BE, 8BG, 9UP, HR1BG, IIYAK/Trieste, KP4AZ, 4CN, 4CP, 4DV, 4ES, 4LQ/KP4, VP6AL, 6CJ, 6SD.

**CW:** CN8EX, 8FN, 8MZ, FA8RJ, KP4PW, 4RE, DY2Z, W5SKB, 6ZAT, WP4RE, ZD4AB, ZL3JT. (**Rx:** R107/R208.)

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

**PHONE:** KA4F, 9FAE, W1TOP, 4NC, 8LIO. (**Rx:** SX.28 and AR88 LF.)

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

**PHONE:** FA3DS, 3GA, 8BE, 8BG, 8SQ, 9RZ, 9UP, 9WD, KP4CP, VE2GQ, WIATE, 4IYC, 4IQY, 4KWF, 4NTZ, 8RKA, 8UKS, 9EWC. (**Rx:** B.36.)

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

**PHONE:** IIYAK (Trieste), K2USA, KP4CP, VP6SD, VQ4RF, W4CPG, 5ZAB.

**CW:** CT2BO, FKS8AA, UA2AC, UQ2AN, VO4A, WN3RSR, ZB1BJ, ZL3JT. (**Rx:** S.750.)

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

**PHONE:** K4WCC, VE1CN, 1VQ, 2GL, VO4F, IWIW, 1CRW, IJLW, ILN, 1ODW, 1RDV, 1STD, 1WJ, 2IKH, 2ICE, 3IJE, 4KWF, 4RHB, 8UKS. (**Rx:** S.740.)

L. H. Andrews, 107 Meadoway, Hayes, Kent.

**PHONE:** WIBXU, 1BLL, 1DIW, 2BLP, 2SHC, 2ZIL, 3PLV, 4CXI, 4NC, 4OTC, ØFYG. (**Rx:** S.740.)

### 1.7 mc

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

**CW:** EK1CW, 1FM, DH3NY, OK1AEH, 1MP, IOCD, 3AL. (**Rx:** S.750.)

H. J. Hill, 292 Whitley Road, Whitley Bay.

**PHONE:** G3GWE, 3FEW, 3DPZ, 3DUP, 3AFT, 3HBB, 3FBX, 3ERM, 3FWV, 4AY, 5TZ, 5YN, GD3UB, GW3KY. (**Rx:** R107.)

### NEW AND INTERESTING

A great many readers have written expressly to congratulate us on the March issue of *Short Wave Magazine*, in its enlarged size and new appearance. Containing seven main articles as well as the usual features like "DX Commentary" and "VHF Bands"—still by far the most authoritative of their kind appearing in print to-day—there is much to interest and enthuse the SWL. The cover price of the new *Short Wave Magazine*, is 2s. 6d. (by post 2s. 8d.) or 30s. for a year of twelve issues. Order at your bookstall or direct from The Circulation Manager, *Short Wave Magazine*, Ltd., 55 Victoria Street, London, S.W.1.

### THE LATEST "CALL BOOK"

The Winter 1951-52 issue of the *Radio Amateur Call Book*, is now available, running to over 400 pages and listing all known amateur stations throughout the world by country, callsign, name and address. The G listing (British Section) totals nearly 20 pages and includes all G calls appearing in the "New QTH" feature in our *Short Wave Magazine* up to and including the November 1951 issue. The price of the *Radio Amateur Call Book*, the world's only comprehensive directory to amateur stations, is 2ls. post free, of Gage & Pollard, Publishers' Agents, 55 Victoria Street, London, S.W.1.

**BSWL membership gives you a 44-page issue every month**

# 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.

- CX1KB** Afran *Fuqués* 422, *Artigas, Uruguay*. Phone: 7004 kc, 1000-1400 GMT; 14100 kc, 1700-1900 GMT; 21090 kc, 1900-2100 GMT; 28120 kc, 1400-1700 GMT; also 50 mc.
- DL1FQ** *Ehmshornerstr. 100, Itzehoe, Hamburg, Germany*. 3-5 and 14 mc phone and CW, Sundays, 0800-1500 GMT.
- DL3MX** *Herderstr. 76, Oberhausen, Germany*. Reports on 3-5 and 7 mc CW, 1700-2359 GMT.
- DL6WD** *Lindenstr. 113, Bad Salzschlirf, Germany*. 14 mc phone, 1300-1900 GMT. Modulation.
- DL7CY** *Brettnacherstr. 20/1, Berlin-Zehlendorf, Germany*. 3509, 3565, 7000, 7004, and 7050 kc phone and CW, 0445-0530 and 1600-1900 GMT.
- DL9TT** *Weinstr. 7/b, Esslingen/N., Mettingen, Germany*. 3-5, 7, 14 and 28 mc phone and CW.
- EAØAD** *Box 2, San Carlos, Fernando Poo Island, Spanish Guinea*. 7041-1 and 14082-2 kc CW, 1900-2359 GMT.
- F8WS** *R. Armand, Remouerac, Vosges, France*. 7 and 14 mc phone and CW, 0600-0900 and 1200-1900 GMT. Speech quality and modulation.
- G2BP** *73 Skinner Street, Chatham, Kent*. 7013, 7020, 7055, 14026, 14040 and 14110 kc CW, evenings and weekends. DX or Europe.
- G3AFT** *Radio Society, Grafton School, Eburne Road, London, N.T.* 1-7 mc phone and CW, Monday, Wednesday and Friday 1930-2200 GMT.
- G3AQB** *W. Stephenson, Post Office, Belford, Northumberland*. 14020-14040 kc CW, 1400-1600 and 1900-2200 GMT.
- G3EKL** *R. Webb, 14 M.Q., Norton Barracks, Worcester*. 1-7 mc CW and phone. Reports over 20 miles.
- G3GKA** *62 Eastern Way, Grange Estate, Letchworth, Herts*. 1-9 mc phone, 1900 GMT. Over 50 miles.
- G3GYT** *70 Penny Lane, Liverpool*, 18. 1-7 mc phone, weekends. Speech quality and modulation.
- G3HIIH** *67 Meadow Lane, West Derby, Liverpool*, 12. 1-7, 7, 14 mc CW, 1-7 mc phone; 1800 GMT, Saturdays 1500 GMT. Quality and modulation.
- G3HKD** *309 Aylsham Road, Norwich, Norfolk*. 14028 kc CW. Stations heard calling G3HKD.
- G3HVE** *78 Malthouse Meadows, Liphook, Hants*. 7010, 7050, 14020 and 14100 kc CW, 1830-1930 and 2230-2330 GMT, Sundays 0900-1400 GMT.
- G3HZJ** *4 Meadowbrook Road, Dorking, Surrey*. 1860-1930 kc CW, 2030-2300 GMT. Over 75 miles.
- G3HZM** *17 Cross Street, Bradford, Manchester*, 11. 1-7 mc CW, 1900 GMT and weekends. Period reports over 50 miles N and E, 100 miles S.
- G3HZW** *12 St. Mildred's Road, Ramsgate, Kent*. 3-5 and 7 mc CW, weekends. Comparative reports.
- G3III** *8 Monks Road, Banstead, Surrey*. 3506 and 7012 kc, and 14 mc CW, QRP, Sundays 0900-2000 GMT. Reports over 100 miles.
- G3IRR** *39 Strafford Avenue, Barkingside, Ilford, Essex*. 1-8, 3-5 and 7 mc CW, 1800-2000 and 2300-2359 GMT. Any keying clicks.
- G8JC** *4 Kennels Road, Station Road, Farnhill Heath, Worcester*. 1-7 mc CW and phone. Critical reports over 20 miles. Details Wx.

- G8UO** *13 Chandos Street, Keighley, Yorkshire*. 7 and 14 mc CW, evenings and weekends: 1-7 mc phone and CW, 2200 GMT and Sunday mornings.
- HB9MU** *Chauderon 32, Lausanne, Switzerland*. 7, 14 and 28 mc CW, 0600-1000 and 1600-2100 GMT. Comparative reports from British Empire.
- HK1CA** *P.O. Box 716, Barranquilla, Colombia*. 14, 28 and 50 mc phone, 0100-0400 GMT.
- I1VS** *c/o S.A.I.C.I., Torviscosa, Udine, Italy*. 14 and 28 mc phone; 1200-1300, 1700-1900 GMT.
- JA2CK** *c/o F.E.A.R.L., A.P.O. 500, c/o P.M., San Francisco, Calif., U.S.A.* 14-2-14-3 and 28-5-29-7 mc phone, 2100-0200 GMT.
- KG6AAE** *c/o 1205 Lewis Street, Laramie, Wyoming, U.S.A.* Reports on 14 mc phone and CW.
- KZ5FL** *Box 124, Balboa, Panama Canal Zone*. 28 mc KZ5ML } phone, 1400-2200 GMT. Modulation.
- LU8FAO** *P.O. Box 303, Rosario City, Sante Fe, Argentina*. 14085 kc CW and 14200 kc phone.
- OK2BDV** *Ratibus 80, Near Vsetin, Czechoslovakia*. 14 and 28 mc CW and phone, 1500-1800 GMT. Stability, speech quality and modulation.
- OZ3SB** *Bargunsvej 2, Tonder, Denmark*. 3-5, 7 and 14 mc phone; 1600-1700, 2200-2300 GMT.
- PJ5RE** *G. J. Heerlinga, Dakota Airport, Aruba, Neth. Antilles*. 14 mc phone and CW, 1130-1300 and 1930-2330 GMT.
- PY2AUC** *P.O. Box 764, Campinas, S. Paulo, Brazil*. VFO-controlled 28350 kc phone, 1300-2200 GMT. Comparative reports and modulation details.
- PY4PO** *P.O. Box 314, Belo Horizonte, Brazil*. 14 and 28 mc phone, 2100-0100 GMT and weekends.
- PY6DPA** *Prata de Itapuá 1, Salvador, Bahia, Brazil*. 7, 14, 21 and 28 mc phone and CW, 0001-0200, 0800-1000, 2100-2359 GMT.
- SM5DW** *Gotgatan 10, Sundbyberg, Sweden*. 7020 kc CW, VFO, 1800-2359 GMT.
- VE1HZ** *A. D. Stocker, Port La Tour, Shelburne Co., N.S., Canada*. 14 mc phone and CW, 1200-0100 GMT.
- VE3ABP** *W. Wells, Albion Falls, c/o Mt. Hamilton P.O., Ont., Canada*. 3-5, 4, 7, 14, 28 mc CW and phone, weekends. Especially 7 mc CW.
- VS6CG** *13 Yik Yam Street, Ground Floor, Hong Kong*. 7, 14 and 28 mc CW, 0600-1600 GMT. Stations heard calling VS6CG.
- W1DYU** *E. H. Adler, Center Street, Raynham, Mass., U.S.A.* Reports on 14 mc phone and CW.
- W1HXC** *L. Beecher, Beecher Falls, Vermont, U.S.A.* 7000-7050 kc CW, 0100-0300 GMT.
- W1MJR** *W. L. Thurston, Greenville Jct., Maine, U.S.A.* Reports on 3-5, 7, 14 and 28 mc phone and CW.
- W2PNB** *P.O. Box 458, Southampton, L.I., N.Y., U.S.A.* 3-5-4 mc phone and CW, 0400-1700 GMT.
- W2TQW** *546 Armond Street, Uniondale L.I., N.Y., U.S.A.* 14213, 14240, 14270 kc phone, weekends.
- W3MAC** *L. J. Papp, RFD 1, Easton, Pa., U.S.A.* Reports on 14 and 28 mc phone.
- W4RMU** *90 Magnolia Avenue, Oceanway, Fla., U.S.A.* 7295 and 14100 kc CW, 1215-1615 GMT.
- W6ALQ** *P.O. Box 95, Morro Bay, Calif., U.S.A.* 14 mc CW, 0100-0400 and 1400-1700 GMT.
- W6GWQ** *724 Brighton Avenue, Modesto, Calif., U.S.A.* 7, 14 and 28 mc phone and CW, 0200-0600 and 1500-1700 GMT.
- ZD6JL** *Box 89, Zomba, Nyasaland*. 14076, 14176 and 14380 kc phone and CW, 1600-2200 GMT.
- ZEJJD** *120 Salisbury Street, Salisbury, S. Rhodesia*. 14140 and 28280 kc phone; Saturday 1200-1400 GMT, Sunday 0900-1200 GMT. Quality and stability.
- ZK2AB** *C. P. Slaven, Treasury, Alofi, Niue Island, via New Zealand*. 3-5, 7, 14 and 28 mc phone and CW, 0520-0920 GMT.
- ZSILIN** *27 Kings Road, Brooklyn, Cape, S. Africa*. 14088 kc CW, 14365-4 kc phone; 1600-2300 GMT.
- ZS6ABK** *D. Creighton, Provincial Wshops, Bedfordview, Johannesburg, S. Africa*. 14 mc phone, 1700-2100 GMT.
- 4X4JC** *4 Nachlat-Benjamin Street, Tel-Aviv, Israel*. 1910, 3501-3600 and 7001-7050 kc CW, 2130-2230 GMT, Fridays 2200-0500 GMT. Stability.

# THE VHF END

by A. A. MAWSE

**Some Notes on Receiver Design—  
Improved Conditions and More Activity—  
Further Station Reports Requested—  
Calls Heard and The Tables**

FEBRUARY is not usually one of the best months for VHF working, and certainly not one of those months in which one normally welcomes an extra day. However, February 1952 put up a very good performance, and so we will not begrudge it its 29 days. The second half of the month was undoubtedly the better half, and although no record-making DX was reported, and although activity was not always as great as most of us would have liked, yet there was plenty of interest, and it was good to hear signals coming through from more distant parts of the country and to know that there was still interest in the band even in those parts. In addition a few continentals were logged, F8AA and ON4BZ being notable.

This spell of unexpectedly good conditions coincided with an anticyclone over the country. A considerable amount of fog was also reported during the same period, and showed once again that such weather is a worthy pointer to good VHF conditions. It would be a mistake however to deduce from this that there is anything like a 100 per cent. reliable connection between either fog and VHF DX, or anticyclones and VHF DX. The connecting links are complicated (like most other meteorological matters) and a knowledge of barometric readings, or ground weather phenomena is far from sufficient to enable a confident forecast of VHF conditions to be made. The information really required is the changes in temperature and humidity in a vertical plane and since the disappearance of the "Air-met" service such information has been inaccessible to the radio amateur.

#### Receiver Circuits

During the past few years there has been a steady progress in 2-metre converter design. With cosmic noise at a very low level on this band advantage has been taken of the greatly improved valves which have become available

and noise factors have been reduced to extremely low values. Grounded grids, cascodes, push-pull 6J6's, etc., have become more or less accepted as the desirable circuits, and anyone using a pentode RF stage is generally considered as lagging well behind the van of progress. Such circuits are, though, still in use and often with undeniable success. Further, we are frequently told by those who have changed from such an RF circuit to one of the "better" types that the improvement in performance is negligible. The question is, therefore, what improvement should we expect when a change is made from, say, a 6AK5 RF stage, pentode connected, to a push-pull 6J6? The improvement is mainly a matter of signal-to-noise ratio and not one of over-all amplification. The extent of the improvement is not likely to exceed 5 or 6 dB if the original 6AK5 circuit was well adjusted. Such a gain is not exactly terrific, and it does mean that the new circuit will have to be well designed and adjusted if any worthwhile improvement is to be noticed. A letter from ON4BZ to G2XC gives support to this. ON4BZ has been making some tests with a cascode RF circuit. For best performance with this type of circuit the input requires to be detuned from resonance. The adjustment for best noise factor is almost impossible without the aid of a noise generator. He quotes some figures obtained. Tuning the input on noise, i.e. for peak performance as judged by ear, the tuning of the input was found to resonate at 145 mc for 145-mc reception. The noise factor was then checked and found to be 6.25 dB. A noise generator was then brought into service to tune the stage for best results judged on a signal-noise basis. This was obtained with the input tuned to 142 mc, and the noise factor was then only 3.4 dB. This serves well to illustrate how easy it is not to obtain the expected improvement if one is ignorant of noise-generator technique, or lacking the equipment to carry out the adjustments.

ON4BX advises that the Cascode should be avoided unless there are means of adjusting it properly. Instead he suggests that the grounded-grid circuit should be favoured as peak tuning does correspond to best signal-noise conditions. Summing up, therefore, it is not sufficient to just wire-up a circuit with some

fine-sounding technical name. It is essential to adjust it properly, and the second part of the job may be more difficult than the first!

### News from the Listeners

R. L. Bastin (Coventry), rising from hibernation, has pulled his G2IQ converter to pieces and reassembled it. He feels it is a little quieter than before and believes this may be due to more correct neutralising. Some DX has been coming in, and on February 27 he was receiving quite a number of London signals around 2100 GMT. All reception so far this year has been on an indoor dipole, as the outdoor beams were blown down in early January. He has been co-operating with G5ML in constructing a 12-element stack for use at that station. It is fed in two separate stacks of 6 by 500-ohm line in parallel and then by 300-ohm line. G5ML would appreciate reports from the east, and from any direction from distances over 25 miles. R. L. B. looks forward to the day when A. H. Edgar starts to radiate some RF from up north, as he could do with an extra county! He suggests we send A. H. E. a medal for his keenness! Finally, R. L. B. gives the following as active in the Midlands: G3BCG, G3GHO, G3HAZ, G3IAI, G5ML, G6XY, G6YU, G8HK and G8IK. Your A. A. M. seems to have heard one or two others as well.

J. Jones (Clapton) found February 2 a good night with the southern counties well represented. G8OU, with his Canadian accent, is heard a lot. J. J. is unfortunately in a poor location in that he is in a flat and surrounded by blocks of flats. However, April 5 will see him living in a house which should be an

improvement, even although it is supplied with DC mains. W. C. Askew (Melton Mowbray) reports increased activity in his county, both G2XS and G3EGE having broken the prevailing silence. Rutland is still unrepresented on the two-metre map, and W. C. A. wonders how we can persuade G2FNW, who is only just outside that county, to go /P inside it.

L. A. Whitmill (Harrow Weald) found conditions at the end of February very fine indeed. G3WW (Cambs.) and G8IL (Wilts.) were both very solid signals with him. A number of new callsigns were heard. Even QRM was experienced at times. A crystal-controlled converter is under construction, and the S640 has been hotted-up. A. W. Blandford (Mitcham) also has been pleased with conditions, particularly since February 20. Stations from Portsmouth and the Isle of Wight were strong on that date and on the 25th he logged signals from the south-west, the Midlands and Monmouth. He has reached the 21st rung of the 1952 Counties ladder.

P. J. Towgood (Bournemouth) has not been able to listen very much during February due to pressure of business. He suspects, however, that there may have been a good evening or two, as a local TV enthusiast has been obtaining some good pictures. A local station, G3HVO, has been heard calling CQ several times. (This station is in Dorset, by the way). February 23 was a good night with P. J. T. with good paths to the Midlands and London. The previous night was also reasonably good. Among the new stations on the band, G3HXS (Long Marston, Herts.) is very consistent. G3EUQ is in Southampton and has been

### VHF CALLS HEARD

**L. A. Whitmill, 762 Kenton Lane, Harrow Weald, Middlesex.**  
G2AHP, 2AIW, 2AVR, 2BN, 2CUA, 2DL, 2DTO, 2FTS, 2HCG, 2HDZ, 2KF, 2LW, 2MV, 2TP, 2WI, 2WS, 2YC, 3BK, 3BLP, 3BNC, 3BVB, 3CNF, 3CWW, 3DIV, 3DUP, 3EFP, 3EHY, 3ENI, 3FD, 3FQZ, 3FSG, 3GBO, 3GDR, 3GHI, 3GHO, 3GO, 3HAB, 3HBN, 3HZK, 3SM, 3WW, 4HQ, 4HT, 5DT, 5QB, 5TP, 6GR, 6JP, 6NB, 6QH, 6TA, 6WU, 6YP, 8DV/A, 8HY, 8IL, 8OU, 8SK, 8SY, 8TB, GW2ADZ. (Rx: 6J6-RF27-S640. 5-element Yagi, 28-ft. high. January 29-February 25.)

**R. L. Bastin, 152 Avon Street, Coventry, Warwickshire.**  
Phone and CW: 0-50 miles; G2ATK, 2BFT, 2BVW, 2FNW, 2FWW, 2HCG, 3ABA, 3BGG, 3DJQ, 3DUP, 3FTG, 3FUW, 3GHI, 3HAZ, 3IAI, 3VM, 5ML, 5RW, 5SK, 5VY, 6XY, 6YU, 8SY. (Rx: 6J6 Converter into Commander, 4-element Yagi, 650 ft. a.s.l. January 22-February 22.)

50-100 miles: G3EDD, 3WW,

4HT, 6NB.  
Over 100 miles: G2BN, 2DTO, 2HDZ, 3BLP, 3EHY, 3FZL, 3GHI, 3HAB, 5DS, 5VY. (Rx: G2IQ Ctrv., 6J6-6J6-955 × 955 broad band tuned-SEO into BC342-N 8-10 mc. Folded dipole in roof space, 29-ft. high. Location 200 ft. a.s.l. NGR 42/359803. January 20-February 25.)

**W. C. Askew, 2 Burrough Road, Somerby, Melton Mowbray, Leics.**  
G2ATK, 2BFT, 2BN, 2DTO, 2FJR, 2FNW, 2FQP, 2FZU, 2HCG, 2HOP, 2UQ, 2XS, 3ABA, 3BK, 3BLP, 3CHY, 3DJQ, 3DUP, 3EDD, 3EEL, 3EGE, 3FGT, 3FUW, 3GHI, 3HAZ, 3IAI, 3VM, 5ML, 5RW, 5SK, 5VY, 6XY, 6YU, 8SY. (Rx: 6J6 Converter into Commander, 4-element Yagi, 650 ft. a.s.l. January 22-February 22.)

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

Phone and CW: 50-100 miles: G3FD, 3FIH, 3HBW, 3HXS, 4HT, 6NB, 8OU.  
100-150 miles: G3ABA, 3BK, 3DUP, 4MW, 5ML. (Rx: 6J6 RF6J6 mixer/2x6C4 Osc., into 9 mc xtal controlled converter, into 1-6 mc IF/AF amp. Aerial: 4-el. cfs. Yagi, 22 ft. high, fed by co-ax. All heard February 2-23.)

**H. J. Balsam, 38 Wantage Road, Didcot, Berks.**  
Phone: G2BN, 2BUJ, 2DTO, 2FNW, 2FZU, 2HCG, 2HDZ, 2MQ, 2TP, 2UQ, 3AVO/A, 3BK, 3BLP, 3BNC, 3CCP, 3DUP, 3EGE, 3EHY, 3FSD, 3GDR, 3GHI, 3GYQ, 3HAZ, 3WW, 4AP, 4GR, 4HT, 4SA, 5DT, 5HB, 5TP, 6KB, 6NB, 6TA, 6XW, 6YP, 8DM, 8DV/A, 8OU, 8VZ. (Rx: 12AT7 RF/Mix. 12AT7 C.C. Osc. into Commander. Aerial 4 over 4. 28-ft. high. January 31-February 24.)

heard by P. J. T. doing some modulation tests. These tests made P. J. T. realise what a difference microphone and amplifier characteristics can make to the readability of phone signals, and he wonders how many of those under-modulated mumbles which are heard on the band would become readable if the response of the audio amplifiers was adjusted.

H. J. Balsam (Didcot) reports conditions "a little better" towards the end of the month, and gives February 21 as his best evening—at any rate it gained H. J. B. a new county in G4GR of Newport, Mon.

A. L. Higgins (Aberkenfig) asks for details of a converter using CV66, EF54 and EC52. His present converter is not too successful in his rather hilly location. His full QTH, in case anyone can help, is 64 St. Brides Road, Aberkenfig, nr. Bridgend, Glam.

GC2CNC is once more active on 145.13 mc and for those interested in a new county or county he can usually be found on the band at 1930 for at least a few minutes. He is also preparing gear for 435.39 mc.

### In Conclusion

Your A. A. M. is very grateful to all for the welcome increase in the size of the mail this month. There is still room, however, for lots more letters. It is believed that there are many who read this feature month by month and who listen on Two or Seventycems, but never send along a report. The maintenance of *The VHF End* is dependent on the reports and comments of readers, so once again we ask any readers who are active listeners on the VHF bands, and who are not already correspondents, to send in an account of their activities with

### ALL-WAVE MAINS SUPPRESSOR

Radio listeners whose reception is marred by interference from nearby domestic and industrial electrical apparatus will be especially interested to learn of the development by E.M.I. Sales & Service, Ltd., of a new All-Wave Mains Suppressor.

This new suppressor was designed after an exhaustive study of the complex nature of all forms of mains-borne interference, and provides a far greater degree of suppression than hitherto attained by units of this type.

It is equally effective at all frequencies from 150 kc to 30 mc (*i.e.*, between 10 and 2000 metres) and is suitable for use with any radio receiver or electrical appliance operating on 100-250 volts AC or DC and drawing up to 5 amps of current.

The suppressor is housed in a neat moulded case, styled to permit simple fixing to a skirting board. For easy connection between the

### TWO-METRE COUNTIES HEARD IN 1952

#### Starting Figure, 10

A. W. Blandford	...	...	...	...	21
P. J. Towgood	...	...	...	...	18
H. J. Balsam	...	...	...	...	18
W. C. Askew	...	...	...	...	17
L. A. Whitmill	...	...	...	...	17
R. L. Bastin	...	...	...	...	10

NOTE: Only counties heard since January 1, 1952, may be claimed for this table.

### ALL-TIME

#### Starting Figure, 10

P. J. Towgood (Bournemouth)	...	50	(341)
E. A. Lomas (Bolton)	...	42	
R. L. Bastin (Coventry)	...	38	(190)
L. A. Whitmill (Harrow Weald)	...	36	(394)
H. J. Balsam (Didcot)	...	36	(167)
A. W. Blandford (Mitcham)	...	35	(391)
W. C. Askew (Melton Mowbray)	...	34	(112)
J. R. Paul (Lymington)	...	20	
P. Finn (Iver)	...	17	
A. H. Edgar (Newcastle-on-Tyne)	...	11	

NOTE: The figures in brackets give total number of different stations heard.

notes on their gear. The address is, as usual A. A. Mawse, *Short Wave Listener & Television Review*, 55 Victoria Street, London, S.W.1. Latest date for next month's letters is March 27.

receiver or appliance and the supply point, a mains plug and socket are fitted.

Stocks are now available from the Dealers' Service Development Division of E.M.I. Sales & Service, Ltd., at the extremely competitive price of 49s. 6d.



### AUSTRALIAN JUBILEE RELAY

From the January 1952 issue of the Australian *Amateur Radio*, we get it that VK9XK, Papua, with 27,440 points was the winner from a field of 35 VK's in the Jubilee Relay Contest held last October. ZL3IA, Akaroa, with 22,592 points, led the ZL entry of six stations. While the small number of logs put in must have been a disappointment to the organisers, as is now usual in contests of every kind a great many more operators took part than there were entries sent.

## WORLD WIDE RECEPTION OF SHORT WAVE PROGRAMMES

**DX broadcast**

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

**T**HE news of the passing of H.M. King George VI and of the accession of Queen Elizabeth II to the throne was voiced from far and wide over the world's short wave broadcasting systems.

Of the Commonwealth countries, Australia was first heard over VLQ9, Brisbane, 9,660 kc, paying a tribute to our late monarch at 1310 on February 6. The same day, VQ7LO, Nairobi, Kenya, 4,855 kc, gave subdued music at 1730, and at 1800 it rebroadcast from London the sad news read by John Snagge. Tributes to the dead king were heard from Canada over CKCS, 15,320 kc, at 1850, and at 1900 a muffled peal of bells from the capital itself was broadcast in the BBC General Overseas Service over GVY, 11,955 kc.

The next day, at 0745, ZL2, Wellington, New Zealand, 9,540 kc, was audible with a programme of soft orchestral music; on February 8, at 1315, in the Queensland State News over VLQ9, 9,660 kc, we heard of the Proclamation of Queen Elizabeth II in Brisbane that day. Later, on February 8, at 1700, we were agreeably surprised to log ETAA, Radio Addis Ababa, The Voice of Ethiopia, on 15,055 kc, with a programme in English specially dedicated to the memory of H.M. King George VI from "Ethiopia, friend and ally of Great Britain." After the playing of "Abide With Me," we heard a short News telling that the Quirinal had directed the despatch of a telegram of sympathy to the British Royal Family; details were also given of the accession ceremonies in London. After the playing of Handel's Largo, the broadcast was repeated in French and Arabic, and ETAA closed with Amharic announcements at 1725.

ZOY, Accra, Gold Coast, 4,915 kc, after a News in English at 1745, concluded with the playing of "God Save The Queen" at 1800.

In Sweden Calling DX'ers No. 207, at 0715 on February 9, the reader said: "DX Friends in the British Isles! We express our deepest sympathy on the recent passing of H.M. King George VI."

The same day, Salisbury, Southern Rhodesia, 3,320 kc, after giving pianoforte music from 1942, closed with "God Save The Queen" at 2000.

Two memorial services received special mention later in the week. On the day of the royal funeral, Radio Omdurman, 9,730 kc, was logged at 1745 with a description of the religious service held at 6.30 a.m. that morning in the grounds of the Palace in Khartoum, and attended by H.E. The Governor and Lady Howe—"one of the most moving ceremonies the Sudan has ever experienced." The muffled bell of the Cathedral tolled, and fifty-six rounds were fired; in the tranquility of the Palace lawns, however, where the only perceptible movement came from the doves in the bordering trees, the altar had as a perfect background the pale blue sky of early morning. The band of the 1st Battalion South Lancashire Regiment played Chopin's Funeral March, the Governor read the lesson, the Bishop in the Sudan gave a short address, and the entire assembly sang the 23rd Psalm and the hymn: "For All The Saints." Finally, "Last Post" and "Reveille" preceded the singing of the National Anthem and Blessing.

ETAA, Addis Ababa, 15,055 kc, was again on the air with an English broadcast at 1800 on February 16. At 1805, the announcer said: "Now you will hear the local News"; this included details of the special memorial service held the previous day at 10 a.m. local time and attended by His Imperial Majesty Haile Selassie.

Finally, at 0745 on February 17, VL89, 9,580 kc, gave an actuality broadcast of the memorial service held on the Parliament House steps, Melbourne, as a tribute to the late king, and attended by the Lieut.-Governor of the State of Victoria and Lady Brookes. The concluding words of the commentator are worthy of note: "We in Australia have been remembering the death of a great and good king!"

Russell Henderson, Swiss DX Editor, sends us details of the monthly DX programme

which is on the air for the United Kingdom and Ireland every first Tuesday of the month at 1905 on 9,655 kc and 6,055 kc. In the February broadcast, listeners were transported by radio to Schwarzenburg, the home of their 100 kW transmitters. The Swiss amateur Kurt Wydler, HB9DS, gave hints on the construction of an adjustable mast, and Werner Guggisberg, a Swiss short-wave Service Engineer, gave a brief report on types of magnetic recorders. Each month there is a prize for the overseas amateur who transmits; whilst the SWS recorder is in the shack of the Swiss amateur selected for that month, the latter puts out a CQ. The first man to make the QSO gets a Swiss flag as prize and sends a greeting from his own shack through the transmitter at Schwarzenburg. For the listener there is a special SWL corner giving a full coverage of broadcast stations heard in Switzerland during the previous month. Keep tuned to Switzerland for details of the big Swiss Shortwave Service's DX Programme Contest, scheduled for the beginning of April, 1952.

#### Australasia

F. R. Baigel (Terenure, Dublin) listens most days to Radio Australia over VLB9, 9,580 kc, between 1400 and 1615; E. Kirby (Leeds 7) has noted "In Quires and Places Where They

Sing" at 1515 and an English News at 1530. On February 18, at 0805 over ZL2, 9,540 kc, we heard an entertaining talk entitled: "What goes on behind the walls of a New Zealand newspaper office."

Though not strictly Australasian, we have another reference to South Georgia by B. Burke (Sandymount, Dublin). Of this Antarctic station he writes: "South Georgia, Falklands Islands, has an English programme from 1630 to 1700 on Sundays only; no frequency is announced but it is about 17,790 kc."

#### Africa

Johannesburg, on 11,937 kc, has been logged by R. T. Blackmore (Exeter) between 1830 and 1930; on February 9 at 1930 we heard Eddi Hoffmeyer giving an impression of the recent Springbok Rugby Tour in the United Kingdom and Ireland. J. Lippold (Cricklewood, N.W.2) on a recent Sunday logged Johannesburg's sponsored programme on 4,945 kc between 1830 and 1900.

Dr. J. Kyle (Portstewart, N. Ireland) has logged an Angola station on 4,830 kc; previously he had identified it by its direction: "Radio Clube de Benguela"—now it closes at 2000 after giving the call: "Radio Clube de Sul"—yet Benguela is not the southernmost radio station of this Portuguese colony. Both

#### TABULATED SCHEDULES

##### I. Canadian Broadcasting Corporation

**Canadian Broadcasting Corporation.**  
English. (For Great Britain.)

Daily: 1700-1730, 1845-1900. CKNC, 17,820 kc; CKCS, 15,320 kc.  
Saturday and Sunday. 2230-2300. CKNC, 17,820 kc; CKCS, 15,320 kc.  
Monday to Friday. 2230-2305. CHOL, 11,720 kc; CKLO, 9,630 kc.  
(For Australia and New Zealand.)  
Sunday and Wednesday. 0840-0950. CKLO, 9,630 kc; CKNA, 5,970 kc.  
(For North West Territories.)  
Mondays. 0415-0505. CKLO, 9,630 kc. CKOB, 6,090 kc.

##### II. Radio Australia

2000-2155.	VLC9, 9,580 kc.
2000-2300.	VLA11, 11,710 kc.
2000-2315 (Saturdays).	VLA11, 11,710 kc.
0742-0815.	VLA11, 11,760 kc.
0742-0845.	VLB9, 9,580 kc.
1400-1500.	VLC15, 15,320 kc.
1400-1615.	VLB, 9,580 kc.
DX'ers Calling!	Sundays: 0530, 0745, 1402.
Listeners' Choice.	Mondays: 0815.

##### III. Radio Ankara, Turkey

For Far East: 1230-1315. TAV, 17,830 kc.  
For British Isles: 2100-2145. TAP, 9,465 kc.; TAS, 7,285 kc.  
For North America: 2315-2400. TAT, 9,515 kc.

##### IV. Radioemisoras LA CRUZ DEL SUR, Bolivia

CP38, 9,505 kc.	
Monday to Saturday:	1100-1230, 1430-1745.
Tuesday, Thursday and Saturday:	2330-0215.
Sunday:	1200-1400, 1600-2000.

R. Abrahams (Hounslow, Middlesex) and J. Kyle have heard Radio Clube de Angola (with this direction) on 11,865 kc up to 2230 when the station closes with the playing of A Portuguese. R. A. lately received their verification card for test transmissions from "Radio Clube de Angola, Luanda"; no schedule is given, but he maintains that their first transmission is from 1900 to 2030 daily. E. Lund (Morecambe, Lancs) found CRSSB, Radio Clube de Sao Tomé, on 17,678 kc, opening up with a moderate signal at 1200 on February 10—an hour later its signals were fading; we found it tolerably good at 1230 on the following Sunday. Dr. Kyle noted CQM4, Bissau, 5,838 kc, with a musical programme at 2145, the closure being made fifteen minutes later.

Brazzaville, 11,972 kc., gives an English News at 2100 according to E. Kirby; R. Abrahams recommends their regular 1815 Sunday programme entitled: "Africa Today"—a magazine feature about the dark continent. E. Lund has logged Radio Addis Ababa, The Voice of Ethiopia, 15,055 kc, with its English broadcast and also at 1730 with native music played on reed-like instruments. M. Milne (Cranwell, Lincs) offers Cairo on 9,715 kc with a fairly regular English programme at 1900—a News and fifteen minutes of "American Dixieland Jazz."

R. H. Gealy (Harold Hill, Essex) heard King Farouk speak in Arabic, and on another occasion our correspondent followed the microphone through the Cairo markets. P. A. Jackson (Bexley, Kent) heard this station closing down at 2202 on February 9; two days later it opened up at 1900 with a studio clock striking nine.

On February 16, Algiers, 9,570 kc, was a powerful signal at 1000 with an interval signal consisting of a bell carillon preceding a recording of a military ceremony held on the previous day. R. T. Blackmore found EA9AA, Radio Africa, Tangier, 7,125 kc, at 2300, by means of its identification: "Aqui Radio Africa, Tanger"; R. P. Welch-Bartram (Aylesbury, Bucks) has been able to get good reception from Radio Tetuan, 6,067 kc, when conditions have otherwise been unfavourable for the more powerful stations around that frequency; he logged EA9AH, which is in Spanish Morocco, after 2100.

#### Asia

J. C. Catch (South Shields) notes that Japan is resuming its Overseas service, though no one appears to have heard these broadcasts so far. However, J. C. C. has logged JKI, Nazaki, 4,910 kc, at 2100, with the Japanese Home Service programme at 2100. P. A. Jackson finds Radio Peking, China, a good signal at 0900 on 15,060 kc, though he observes that the frequency reading appears to vary

from time to time. J. Lippold has observed Radio France-Asie, Saigon, 9,750 kc, with accordion music at 1505 and closing at 1530 with the playing of the Marseillaise.

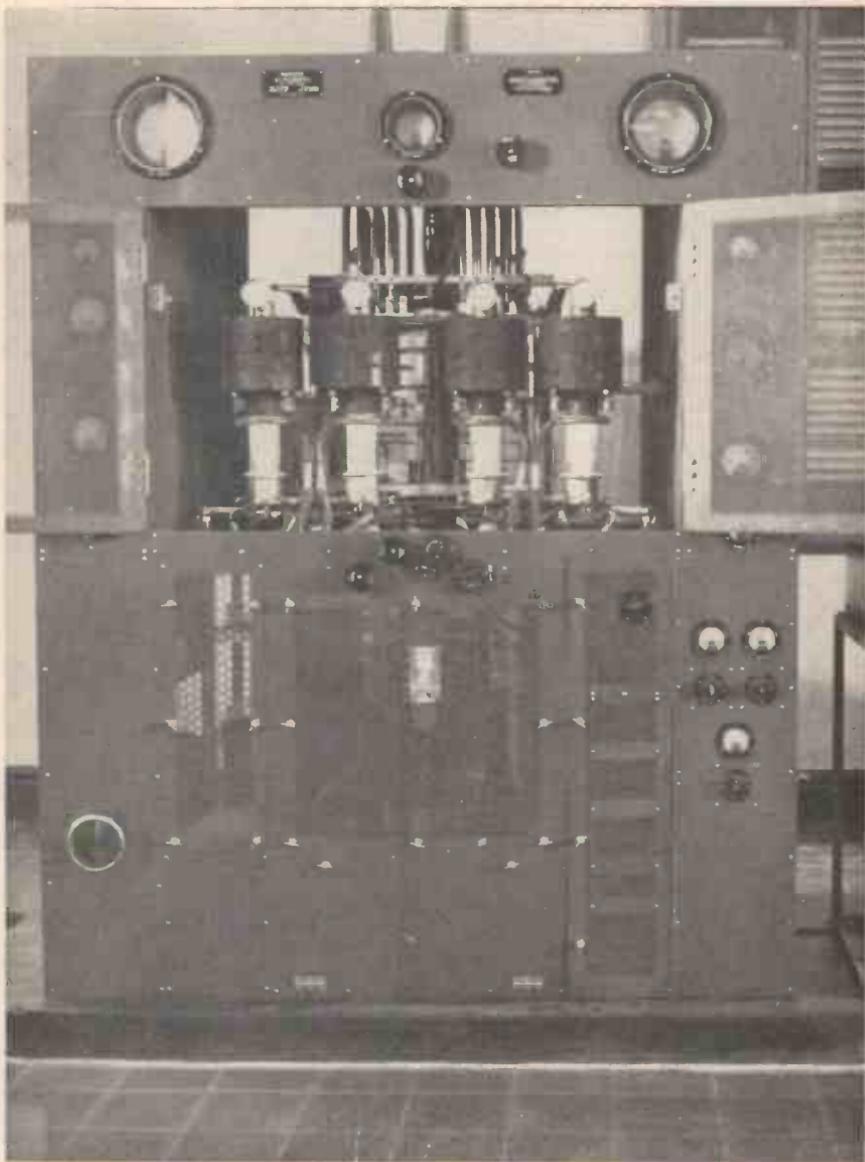
In the Philippines, DZB2, 3,320 kc, appears to have been heard by Dr. Kyle at 1700 on January 23; he heard mention of the 31- and 49-metre bands (with an American accent!) but he did not get the complete identification. The Rev. S. W. Bowen (Falmouth) mentions that the well-known feature: "Bringing Christ To The Nations" is broadcast by the following Philippine stations: DYBU and DYRC, Cebu City; DXAW, Davao; DZPI, DZRM and DZMB, Manila—all medium-wave transmitters. The Voice of America broadcasts from Manila are heard by R. T. Blackmore; he listens to News in English at 1415 over 11,890 kc.

We logged DZH3, Radio Philippines, 9,500 kc, which closed down with a National Anthem at 1500 on February 9 after giving announcements in English for Station DZPI (pronounced Dee-Zee-Pee-I).

R. Finlay (Witheridge, Devon) has listened to Djakarta, Indonesia, from 1430 to 1445, when he heard Chopin's Serenade and the Warsaw Concerto (excerpt); the announcement gave the frequencies as 15,150 kc and 11,770 kc. J. C. Catch heard YDC, 15,150 kc, at 1600, with clock chimes and call: "This is the Voice of Indonesia"; and YDF, 6,046 kc, with popular English musical recordings at 2315. J. Kyle logged Radio Goa, 9,610 kc, at 1530-1600 (Sunday), with its religious feature, and Rangoon, 4,770 kc, at 1500, with the call: "This is the Burma Broadcasting Service," followed by a News in English. J. Stephen (Methil, Fife) listened to the External Service of All-India Radio over 15,300 kc at 1410 on February 2 when he heard an interesting talk on kite flying. At 2000 on February 8, J. Lippold listened to a recorded commentary given by Leslie Smith in Madras on the second day's play in the final Test Match over VUD7, 7,155 kc; he also logged VUC2, Calcutta, 4,880 kc, giving an English News at 1530.

E. Lund says that AIR is operating two new frequencies (announced) for their 1900-2015 broadcast; these are 59,90 kc and 7,240 kc. R. Abrahams tells us that Radio Pakistan is giving nightly test transmissions (2015-2100) to the United Kingdom over 7,010 kc and 6,035 kc, and P. A. Jackson says that 7,010 kc is much the better channel.

F. R. Baigel has been pleased with the programmes of the Commercial Service of Radio Ceylon on 11,975 kc, on the air daily until 1645 (1715 on Thursdays). This station was logged by us at 1100-1200 on February 16 when running commentaries were given of the



Example of the output stage of a medium power short wave broadcast transmitter

Commonwealth v. M.C.C. cricket match and the doubles match between Mottram and Paish and Sedgman and Clark in the Asian Lawn Tennis Championships then being held in Colombo. K. F. J. Jenkins (Knowle,

Bristol) has been logging TAT, Radio Ankara, 9,515 kc, nightly at 2315 with a most powerful signal; he also hears it on about 33 metres! J. Stephen mentions Israel, 9,010 kc, with an English News at 2145, and F. R. Baigel heard

this one with a talk about the Hebrew University in Jerusalem.

#### North and Central America

Dr. Kyle has logged Godthaab, Greenland, with popular music—Balalaika, Jezebel, etc.—at 2310 and closing at 2345 on 7,094 kc. Angmagssalik, also in Greenland, on 7,570 kc, was heard with a talk at 1435 and closed down at 1445.

CKCS, 15,320 kc, recently gave R. T. Blackmore an interesting talk at 1710 entitled: "Painting in Canada"; and CKNC, 17,820 kc, at 1515, gave F. R. Baigel a News designed for Canadian troops in Europe. R. Abrahams likes "The Maple Leaf Hour" given on Saturdays between 1305 and 1405 over CKLX, 15,090 kc, and CKNC, 17,820 kc. R. H. Gealy enjoys the AFRS broadcast over WRUL1, 15,290 kc, heard between 1800 and 2245; we logged one of the western Pacific coast stations, KWID1, 9,570 kc, with a News at dictation speed at 0940.

Dr. Kyle provides the Central American items. PJC1, Julianza Zender, Curacao, 5,017 kc, has a News in Dutch at 2315. In Honduras, HRA, La Voz de Lempira, 5,925 kc, has been logged at midnight on numerous occasions, and HROW, Radio Montserrat, 6,675 kc, was noted with a clear direction at 0300. In El Salvador, Radio Mil Cincuenta, 6,265 kc, gives popular music after midnight, and the Panamanian station Radio Programas Continental, 5,995 kc, is logged most nights around 2300.

#### South America

Dr. Kyle has logged the comparatively new OAX4T, Radio Nacional, Peru, 9,562 kc, with a News in Spanish at 0001; Radio Nacional, Paraguay, 6,274 kc, announced as such after a News at 2345, and Surinam on 5,752 kc was heard with a religious service at 2300. P. A. Jackson has logged Radio El Espectador, Montevideo, Uruguay, 11,835 kc, at 2200, opening its Spanish News with English and French announcements including the words: "Hullo Folks!" In Venezuela, YVKM, Caracas, 5,030 kc, was heard by J. Lippold at 2315 giving its direction: "Radio Continente"; YVRA, Radio Monagas, Maturin, 3,493 kc, was heard with Latin-American music at 2330 by J. C. Catch. R. P. Welch-Bartram tells us that HCJB's new specially designed "curtain" antennas, supported by ten towers, will augment the Gospel radio signal at least twenty times, giving listeners the effect of one million watts of radio energy.

The new station should commence operations about the middle of this year. R. P. W.-B. says that apart from the main body of English programmes, there is a one-hour English release on Sundays from 1930 to 2030 on

17,890 kc, 15,115 kc and 12,455 kc.

In Argentina, LRT, 11,842 kc, has been logged by J. C. Catch with call: "Radio Independencia" at 2330; R. Abrahams has heard this station with music and announcements at least one hour earlier.

R. H. Gealy possesses a diploma nominating him to the Fellowship of Servicio Radiosonico Internacional Argentina. B. Burke would like to know the times for the Argentine broadcasts to the United Kingdom; they are: 1800-1900 (LRS, 11,880 kc); 1900-2045 (LRU, 15,290 kc). For the United States, LRA, 17,720 kc, is used from 2230 to 0130.

Brazil offers PRN9, 9,290 kc—identification: "Difusora do Departamento Federal de Segurança Pública" (R. T. Blackmore); ZYK3, 9,565 kc, which gives "Brazil Calling" in a particularly friendly atmosphere on Sundays at 2030 (J. Lippold). J. C. Catch gives: ZYS8, Manaos, 4,808 kc, relaying Radio Jornal de Commercio at 2300—its quite frequent call is: "Difusora Amazonas, Manaos." ZYY9, Radio Timbira, 4,976 kc, is heard with fair signals after 2100, also ZYM8, Sao Luiz, 4,786 kc, which suffers considerably from QRM.

#### Europe

F. R. Baigel writes to ask if there are at present any short wave broadcasts from the Republic of Ireland. He lives within 66 miles of Athlone, yet is unable to hear anything from Ireland on the channels of 17,840 kc, 15,120 kc, 11,740-kc and 9,595 kc, which are allocated to them.

Our experience is precisely the same as that of F. R. B.; certainly we have not heard Ireland on short waves during the past year, though there are some who claim to have heard them within recent months. Their original schedules on short waves included a News both at 1830-1850 and at 2210-2230.

F. R. Baigel has logged YUC, Belgrade, Yugoslavia, 9,507 kc, with an English News at 1900 and a French one at 1915. We have a letter signed by Vukovich George from 6, Mose Pijade, Belgrade 2; he writes: "The aim of our stations is to let people know what present-day Yugoslavia is, its viewpoint on the events, its development, the customs of its inhabitants, its music and folklore and all facts leading to a better understanding with other countries, and to a sharing of mutual ideals. I would welcome reports that you may care to make, particularly regarding signal strength." B. Burke heard Radio Tirana, Albania, 7,855 kc, with a strong signal for its English News at 2115 nightly. J. Stephen says that Radio Sofia, Bulgaria, using 6,070 kc, has had a News followed by a talk on Marshal Tito at 2115. He also listened to an outline of

Spanish History from Madrid at 2030 on a frequency of 9360 kc. J. S. further mentions the United Nations Station in Geneva, Switzerland, on 6,672 kc; there is a regular programme of News in English at 1830; Rome has an English News and an Italian lesson the entire programme commencing at 1900 and heard on 9,570 kc. J. Lippold now hears the Voice of Greece over Radio Athens at excellent strength on 7,300 kc during their English broadcast given from 1930 to 1945.

Radio Nederland, Hilversum, on 6,025 kc, has been heard at 1045 with a most interesting feature in the "Window on Holland" series.

Interviews with the Burgomaster of the Hague, with the Mayor of Sydney and with a Pakistan official, have all recently been presented to the listening world. After the playing of musical numbers, there is a programme parade and the News headlines in English. F. R. Baigel also listens to this "Happy Station's" Sunday morning broadcast, and B. Burke says that Radio Nederland's English programme, including News at 1600-1645 daily, is a good signal over PCJ, 9,590 kc. K. F. J. Jenkins informs us that PGD, 6,025 kc, has increased its power to 40 kW (from 5 kW); he hears general features on life in the Netherlands and "Music Gazette" after the daily News at 2000.

K. F. J. has received a schedule for the new transmitter at Horby in Sweden; one English broadcast is as follows: 2000-2030 over 6,095 kc. On the schedule there is a

request for reports on reception of this transmission; all letters should be sent to: Radio Sweden (Sveriges Radio), Stockholm 7, Sweden. J. C. Catch observes: "Reception on 6,095 kc for the English transmission at 2000 has been poor." K. F. J. Jenkins has further been listening to Radio Norway at 1330 over LKV, 15,170 kc. At the close of their "Letterbox" record programme they mention that they welcome reports on the transmission; letters should be sent to: Radio Norway, Oslo. K. F. J. J. also hears a similar programme from 1930 to 2030, but with weaker signals, over LLG, 9,610 kc. R. Finlay listens to Helsinki, Finland, over OIX2, Pori, 9,555 kc, with the News in English daily at 1215; they were also using OIX4, 15,190 kc.

Radio Switzerland brings up the rear with comments by J. Stephen, who hears them over HER2, 6,055 kc, with a Swiss World Youth Radio Magazine at 1920. At 1910 on February 6 over HEU3, 9,665 kc, we heard Marshal of the Royal Air Force Lord Dowding, the week's Guest of Honour, describing his skiing experiences in Switzerland over a number of years—he disclosed that he would be 70 in April. It was a most entertaining interview!

Your comments on short wave radio broadcasting are always welcome! Write to: R. H. Greenland, *Short Wave Listener & Television Review*, 55 Victoria Street, London, S.W.1, so that your letters arrive not later than April 15. Thank you!

#### LATEST BRIMAR TELEUTUBE NEWS

Standard Telephones & Cables, Ltd., manufacturers of Brimar Teletubes, and the first to introduce Rectangular Cathode Ray Tubes into this country, announced the first of this series, the Brimar C148M Rectangular Teletube, in full production, and now commercially available for the first time. It is estimated that the C17BM, the 17-in. version of this Tube, will be ready by the middle of the year.

It is not generally realised that the Rectangular Tubes, being so much shorter in length than the round variety, will have a marked effect on TV cabinet design in the future, and in particular will enable the television set designer to effect a substantial reduction in the depth of the cabinet. A typical comparison is given below:

C12B	12 in. Round Tube	Length 19½ in.
C12D	12 in. Round Tube	Length 19½ in.
C14BM	14 in. Rectangular Tube	Length 16½ in.
C17BM	17 in. Rectangular Tube	Length 19½ in.

It will be observed that the 17-in. Rectangular Tube can be fitted into a cabinet of the same size as the 12-in. Round Tube, and that a

14-in. Rectangular Tube will go into a cabinet 3 in. less in depth.

The high grade aluminising of Brimar Teletubes is already a main sales feature, and set makers in particular will be interested in these large tubes which will fit into cabinets of smaller size.

#### DX AERIAL SYSTEM

If you want to know more about the Ground Plane Aerial—what it is and how to build such a system for 7, 14 and 28 mc—get a copy of the March issue of *Short Wave Magazine*, price 2s. 8d. post free. The Circulation Manager, *Short Wave Magazine*, Ltd., 55 Victoria Street, London, S.W.1.

#### PHOTOGRAPHS

We are always glad to see photographs of general radio interest, for publication either in this periodical or in our *Short Wave Magazine*. Prints, which should be clear and sharp with a note describing the subject, are used as opportunity offers and paid for immediately on appearance.

### GIFT SCHEME

You may have an overseas contact to whom you would like to make an acceptable present. The answer is a year's subscription to *Short Wave Magazine*, which costs you 30s. and guarantees him a copy of one of the world's leading radio-periodicals regularly for twelve months, by direct mail. Order on The Circulation Manager, Short Wave Magazine, Ltd., 55 Victoria Street, London, S.W.1.

### DON'T FORGET

That we can still supply the *DX Zone Map* (6s. post free, new edition) and the *Principles of Short Wave Reception* (1s. 8d. post free) which are worth the attention of every SWL who wants to keep abreast of the times. The *Zone Map* gives you all the essential information on DX listening and is a handsome addition to the shack wall. The *Principles* provide in handy form the data for the design and construction of simple receivers.

### SUGAR SHIPS TO HAVE PYE R/T EQUIPMENT

Rees Mace Marine, Ltd., the marine radio division of the Pye group, announce that three of the Tate & Lyle sugar vessels, bringing sugar from the West Indies, are to be fitted with Pye PTC115 radio telephone sets, which will operate on the G.P.O. Thames radio scheme.

The ships are the *Sugar Producer*, *Sugar Transporter*, and *Sugar Refiner*. These ships are managed by R. S. Dalgleish, Ltd., of Newcastle-on-Tyne for Silvertown Services, Ltd., eight of whose tugs, operating on the Thames, are already installed with the Pye radio telephone equipment.

S.S. *Sugar Transporter* is at present in Jamaica and will be fitted when she arrives in the Thames in about a month's time. The other two ships will be fitted as they come into the Thames again.

### TO CLUB SECRETARIES

The Honorary Secretaries of all Radio Clubs are reminded that notes on activity, and notices for events forward, are welcomed for publication in the "Month with the Clubs" feature in our *Short Wave Magazine*. The closing date for the next issue is April 16 for the May Magazine, due out on May 9. Club notes should be addressed "Club Secretary," *Short Wave Magazine*, 55 Victoria Street, London, S.W.1.

### NEON VOLTAGE INDICATORS

Philips Electrical, Ltd., have re-introduced two Neon Voltage Indicators, for use in testing low and medium mains installations.

The popular pencil type, Cat. No. Q.5000, is priced at 5s. each, list, and can be used on AC or DC mains voltages between 110 and 500. It is housed in a black insulating pencil-shaped case, with a pocket clip.

The Voltage and Polarity Indicator, Cat. No. Q.5005, is a much larger type suitable for 80/750 volt AC and 100/750 volt DC, and for indicating polarity on DC. It has two black "Philite" moulded insulated test prods, fitted with collars to prevent accidental hand contact with the metal probes, joined by a 39 in. length of tough rubber-covered cable. One prod houses a Type 4017 Indicator Lamp, which can be replaced. List price is 30s. Supplies of both types are available immediately.

### COUNTRY PREFIX LIST

Readers are reminded that we still have available a few copies of the *Country List by Prefixes*, printed on stiff card for wear-and-tear use at the operating position. The List is alphabetical by prefixes, and costs but 6d. post free. Order on The Circulation Manager, Short Wave Magazine, Ltd., 55 Victoria Street, London, S.W.1.

### HOW TO FIND THE DX

For years, our *DX Operating Manual* has been a steady seller among those who want to know how to listen and when to listen for the DX. We frequently receive enquiries from readers who would like to graduate as SWL's. The *DX Operating Manual* (2s. 8d. post free) will tell them how.

### FOR VHF LISTENERS

The March issue of *Short Wave Magazine*, contains two useful, practical articles which will be of particular interest to readers active on Two Metres, or contemplating building gear for that band in preparation for the new season. One describes the construction of a Cascode converter, and the other a 3-element rotatable beam system, applicable either to transmission or reception. You may find a copy of the March 1952 *Short Wave Magazine* at your bookstall. If not, order direct from The Circulation Manager, Short Wave Magazine, Ltd., 55 Victoria Street, London, S.W.1. (Price 2s. 8d., post free.)

# SHORT WAVE BROADCAST STATIONS

Revision 49·10 to 60·07 Metres

## Giving Frequency, Wavelength, Callsign and Location

These lists appear each month, covering the 11-128 metre section of the wave band within which all short wave broadcasting services of the world operate. For economy of space, this band is dealt with in eight sections, a list of active stations in one of these being given in full every month. Such 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	Frequency	Wave-length	Callsign	Location
6110	49·10	GSL	London.	6030	49·75	OLR2B	Prague.
		CP2	La Paz, Bolivia..	6025	49·79	PGD	Hilversum, Holland.
6107	49·12	HJFK	Pereira, Colombia.			HROW	Tegucigalpa, Honduras.
6105	49·14	ZYN6	Fortaleza, Brazil.			ELB2	Monrovia, Liberia.
			Munich.	6022	49·82	FZI	Brazzaville.
6104	49·15	WLKS	Kurie, Japan.	6020	49·83	WRCA2	New York.
6100	49·18	WRCA1	New York.			XEUW	Vera Cruz, Mexico.
		YUA	Belgrade.				Munich.
		TGOA	Guatemala City.				Kiev, Ukraine.
			Moscow.	6018	49·85	RV15	Khabarovsk, USSR.
6095	49·22	ZYB7	Peking, China.			HJCX	Bogota, Colombia.
			Sao Paulo, Brazil.	6017	49·86	ZE4	Salisbury, S. Rhodesia.
6090	49·26	VLI6	Prague.	6015	49·88	PRA8	Recife, Brazil.
		CKOB	Sydney, N.S.W.	6010	49·92	JKK	Tokio, Japan.
		CBFW	Sackville, N.B.			GRB	London.
		GWM	Vercheres, Quebec.			CJCX	Sydney, Nova Scotia.
		LXA	London.			OLR2A	Prague.
		OAX4G	Luxembourg.			VUD3	Delhi, India.
		BED29	Lima, Peru.			VUC2	Calcutta.
			Taipeh, Formosa.			XEO1	Mexico City.
			Tabriz, Persia.			OAX4Q	Lima, Peru.
			Moscow.			CE6O1	Antofagasta, Chile.
6089	49·27		Paris.				Rome.
6085	49·30	ZYK2	Recife, Brazil.	6006	49·95	CNR3	Moscow.
		IBU4	Milan, Italy.			COCO	Rabat, Morocco.
		VUM2	Madras, India.	6005	49·96	CFCX	Havana, Cuba.
			Tangier.	6004	49·97		Montreal, Quebec.
6080	49·34	LRY1	Buenos Aires.	6000	50·00	HJKD	Damascus, Syria.
		ZL7	Wellington, N.Z.			TAN	Bogota, Columbia.
		WLWO1	Cincinnati, Ohio.			RNE	Ankara, Turkey.
			Munich.	5998	50·02	DZH4	Moscow.
6075	49·38	APL2	Lahore, Pakistan.	5995	50·04	PRK5	Manilla, P.I.
		KGE12	San Francisco.	5990	50·08		Belo Horizonte, Brazil.
		CXA3	frontevideo.	5988	50·10	HJC1B	Andorra la Vieja.
6070	49·42	GRR	Colombo, Ceylon.	5986	50·12	LRS1	Quito, Ecuador.
		GFRX	London.	5982	50·15	APL2	Buenos Aires.
6065	49·46	SBO	Toronto, Ontario.	5980	50·17	ZFY	Lahore, Pakistan.
		LRS1	Stockholm, Sweden.			YSWW	Georgetown, B. Guiana.
		VU7MC	Buenos Aires.				Santa Ana, Salvador.
6063	49·48	HC2FO	Ashkavani, India.				Rome.
6060	49·50	WABC3	Guayaquil, Ecuador.	5979	50·18	HVJ5	Moscow.
		GSX	New York.	5976	50·21		Shanghai, China.
		KRCA1	London.	5970	50·25	HI4T	Djedda, Saudi Arabia.
		CKRZ	San Francisco.			CBNX	Trujillo, D.R.
		HORT	Sackville, N.B.				St. Johns, Newfoundland.
			Panama City.				Moscow.
			Moscow.	4969	50·26		Vatican City.
6055	49·55	HER2	Berne.	5957	50·37		Moscow.
		HJEX	Cal, Columbia.	5955	50·38	OAX4S	Lima, Peru.
		CXA14	Colonia, Uruguay.	5952	50·41	TGNA	Guatemala City.
6050	49·59	GSA	London.	5040	50·51	4V2S	Port-au-Prince, Haiti.
		EA9AH	Tetuan, Morocco.	5922	50·66	RV15	Khabarovsk, USSR.
6045	49·63	HO5O	Panama City.	5920	50·68	HRA	Moscow.
			Moscow.	5898	50·87	CR4AA	Tegucigalpa, Honduras.
6043	49·63	HIIN	Trujillo, D.R.	5883	50·99	OAX4Z	Praia, Cape Verde Is.
6040	49·67	WLWO7	Cincinnati, Ohio.	5875	51·06	ZRK	Lima, Peru.
		WRUL3	Boston, Mass.	5871	51·10	HRN	Cape Town.
		KCBR2	Los Angeles.	5855	51·24	TIGPH	Tegucigalpa, Honduras.
		ZM2AP	Apia, Samoa.	5839	51·37	CP15	San Jose, Costa Rica.
		CE6O4	Antofagasta.	5780	51·90	CQM4	La Paz, Bolivia.
			Tangier.	5758	52·10	PZH5	Bissau, Port. Guinea.
			Moscow.	5470	54·84	AFN	Moscow.
6038	49·69	COBF	Havana, Cuba.	5080	59·06		Paramaribo, Surinam.
6035	49·71	GWS	London.	5060	59·29	YDJ	Frankfurt.
		CXA30	Montevideo.	5047	59·44	YVKD	Caracas, Venezuela.
			Karachi, Pakistan.	5040	59·52	YVKM	Caracas.
			Noumea, N. Caledonia.	5020	59·76	YVKO	Carcas.
			Monte Carlo,	5010	59·88	PJC2	Willemstad, Curacao.
6032	49·73	XEKW	Morelia, Mexico.	4995	60·07	ZYY20	Porto Velho, Brazil.
6030	49·75	DZH6	Manila, P.I.	4994	60·07	YVMO	Barquisimeto, Venezuela.
			Stuttgart, Germany.				
			Moscow.				

## 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 4th, addressed Advertisement Manager, *Short Wave Listener*, 55 Victoria Street, London, S.W.1.

**SHORT WAVE LISTENER** 1950-1951, 5/- each year. *R.S.G.B. Handbook* 1948 10/-, *Short Wave Magazine* 1948-49, 7/6 each year. Post free. Admiralty Wavemeter, 2 valve, 50/- Offers.—68 Middle Park Road, Birmingham 29.

8 WATT modulator, p/p output, £7. 20 watt Tx 807, stabilised, on Standard Rack, £8. Switched 4-stage Tx, 40-20-10 metres, as new, £12. Offers?—G2ASL, 68 Middle Park Road, Birmingham 29.

**R.107** in good condition with S-meter, phones, L.S. and official handbook, £10 carr. paid. Also 30 *Short Wave Magazines* and 25 *Short Wave Listeners* 1949-1951. Clean. Offers?—Pryde, 2 Scientes Gardens, Edinburgh.

**AR88** as new. Guaranteed perfect and immaculate condition. Little used. Hand-book. £80 or nearest offer?—Box 057.

**A**MATEUR enthusiasts, short wave or television, send for free lists components, meters, valves, speakers, etc. The Radio Equipment Company (SW. Dept.), Castor Road, Brixton, Devon.

**R.1116A** fitted bandspread, HT Unit. Accumulator, S-meter, headset, speaker, in black Eddystone cabinet, £7. Exchange R.107, R.1155. 4 Prefab Main Avenue, Bracebridge Heath, Lincoln.

**I**N R.A.F. 1155N for sale, with power pack. Very good condition. Offers?—R. Thorndike, Messuge Farm, Kenton, Nr. Stowmarket, Suffolk.

**CALLORO** Auto Record Changer, perfect condition, £5. G3BXI, Farlow, 6 The Avenue, Wanstead, E.11. (Tel. WAN. 4681.)

**EDDYSTONE** 750. Perfect condition. Scarcely used. Best offer over £40. Add carriage.—Gilmour, 315 Glasgow Road, Blantyre, Glasgow.

**WANTED**. Marconi Magnetic Detector: D.E. and Multiple Tuners; 101, 106, 107 and 112 Receivers; Fleming valves; Coherers; and other early wireless gear, valves and literature.—Franklin Wingard, Rock Island, Illinois, U.S.A.

**WANTED** at a reasonable price BC348-R107 or similar receiver for "ham" use in good condition. —Please answer to SM3APK, Radhusgatan 24, Östersund, Sweden.

**WANTED**. Circuit diagram and any data on AVT-15 RCA lightweight aircraft Tx.—Please write GI3ECQ Crumlin, Co. Antrim, N.I.

## **CLYDESDALE** *Ex - Services Electronic Equipment*

### **R.1155 RECEIVER AC MAINS**

Receiver R.1155 with 7 valves, 5 wavebands, 18-75 Mc/s (17-40 m); 7-5-3 Mc/s (40-100 m); 1,500-600 kc/s (200-500 m); 500-200 kc/s (600-1,500 m); 200-75 kc/s (1,500-4,000 m). S.M. Drive B.F.O., etc., etc. Dim:—16½ x 9 x 9 ins.

**POWER OUTPUT PACK**, with 2 valves, 8 ins. L.S., etc., etc., dim. 14 x 14 x 7 ins. Complete with linking cable and circuits.

Clydesdale's Price only £21/0/0 Carriage paid

### **W.S.18 RECEIVER SECTION**

Superhet Chassis, range 6-9 Mc/s. (50-33-3 metres) with 4 valves 3/ARP-12, etc., etc., on 8½ x 5½ x 1 ins. Chassis, front panel 9½ x 5½ ins.

Clydesdale's Price only 32/6 each Carriage paid

Circuit 2/3.

Also available with partly stripped (M.O.S.) Tx-section, no valves or meter, in metal carrying case. Dim:—11 x 10 x 17 ins.

Clydesdale's Price only 42/6 each Carriage paid

### **NEW LIST No. 8**

Giving details and illustrations of ex-service items and cancelling all previous lists and supplements.

NOW READY—PRICE 1/6. Price credited on first purchase of 10/-, or over.

Order direct from: Phone: SOUTH 2706/9

**CLYDESDALE Supply Co Ltd**  
2 BRIDGE STREET • GLASGOW, C.5  
Branches in Scotland, England and Northern Ireland

## **H.A.C.**

### **SHORT-WAVE EQUIPMENT**

Noted for over 18 years for...  
Short-Wave Receivers and Kits of Quality.

Improved designs with Denco coils:

**ONE-VALVE KIT, MODEL "CD"** Price 25/-  
**TWO-VALVE KIT, MODEL "ED"** Price 50/-

All kits complete with all components, accessories, and full instructions. Before ordering, call and inspect a demonstration receiver, or send stamped, addressed envelope for descriptive catalogue.

**"H.A.C." SHORT-WAVE PRODUCTS**  
(Dept. SWL), 11 Old Bond Street, London, W.1

## **P M G CERTIFICATE**

*Prepare now for next exam.*

Take our special POSTAL COURSE

Many former students testify that our tuition was invaluable in ensuring their success in previous examinations.

Full details in **FREE BROCHURE** from  
**E.M.I. INSTITUTES, Dept. 51**

Postal Division

43 Grove Park Road, London, W.4  
Phone CHIswick 4417 I.C.7

# Books for immediate Delivery

	Price Post Free		Price Post Free
<b>RADIO HANDBOOK (11th Edition)</b> The standard work on practical and theoretical aspects of all radio communication, both amateur and commercial.	26/2	<b>HINTS AND KINKS</b> Useful collection of technical ideas and practical workshop data, with plenty of diagrams, written up in shortened form. Latest edition of a recommended A.R.R.L. publication.	11/5
<b>RADIO HANDBOOK (12th Edition)</b> Detailed constructional information on a wealth of radio communication equipment: all brand-new equipment, none from prior editions.	25/11	<b>WORLD RADIO HANDBOOK</b> Revised and enlarged to include the Copenhagen Wavelength allocation and giving essential information covering the World's Broadcasting Stations. <i>World Radio Handbook</i> is recommended by such authorities and organisations as UNO, I.R.U. and UNESCO. 1952 Edn.	9/-
<b>RADIO HANDBOOK (13th Edition)</b> The 13th is a large volume of more than 700 pages, covering in 28 chapters the Fundamental Principles; the Generation of RF Energy; Modulation, including FM and SSB; Transmitter Design, Construction and Adjustment; Aerials, in five separate chapters discussing Theory, Construction, Matching and Feeding, Directive Arrays of every type, and VHF and UHF designs; BCI and TVI, to which some 24 pages are devoted. Further information on many other subjects.	49/6	<b>RADIO AMATEUR CALL BOOK</b> is a large volume of 400 pages, published four times a year: Spring, Summer, Autumn and Winter. The callsign lists and addresses are under constant revision and each issue is right up-to-date with hundreds of new callsigns and changes of address. Single copy post free or for any two issues to choice or for a year of four quarterly issues, delivered on publication	21/- 36/- 64/-
<b>ANTENNA MANUAL</b> Design and Construction of Aerials of every kind for Radio Amateurs, Engineers and Technicians. Aerials for all bands, with many tables and diagrams. -300 pages, cloth covers.	27/11	<b>HAMS INTERPRETER</b> This booklet gives lists of selected words and phrases used in Amateur Radio in English, French, Spanish, Italian, German, Swedish, and Finnish. Compiled by OH2SQ.	5/-
<b>A.R.R.L. HANDBOOK</b> The latest Edition of the A.R.R.L.'s standard manual on Amateur Radio, known throughout the world. Revised and brought up to 1952 and, covering Theory, Design, Construction and Practice. An essential buy for every amateur. Orders now being taken for delivery March/April.	30/-	<b>SURPLUS CONVERSION MANUAL</b> Giving much detailed practical information on the adaptation of a wide range of American surplus items. Well illustrated with circuit diagrams, drawings and photographs. In two vols. Vol. I 21/5 Vol. II 21/5	21/5 21/5
<b>POST WAR COMMUNICATION RECEIVER MANUAL</b> Gives essential data on a wide range of modern American ground, air and communications type receivers. Well illustrated.	28/5	<b>WORLD RADIO VALVE HANDBOOK</b> Gives the Radio Engineer and Radio Technician at a glance the correct answer to any practical question concerned with receiving and amplifying valves of any make.	11/10
<b>HOW TO LISTEN TO THE WORLD</b> Containing information suitable for beginners, for it deals with the mechanism of short wave propagation, gives advice on how to use the short wave bands, and explains how to prepare a log-book and how to write up a report, using the appropriate international abbreviations.	1/11	<b>ANTENNA HANDBOOK</b> Latest edition of the A.R.R.L.'s own publication on Aerial Theory and installation. Written to be of practical value to amateurs and engineers engaged on the design of all types of receiving and transmitting aerials.	11/7

## MAGAZINES ONE YEAR

	ONE YEAR
Audio Engineering ... ... ... ...	29/-
Radio and Tele. News ... ... ... ...	36/-
QST ... ... ... ...	36/-
CQ ... ... ... ...	29/-
Radio Electronics ... ... ... ...	33/-
Popular Mechanics... ... ... ...	32/-
Radio Electronic Engineering ... ... ... ...	56/-
Service ... ... ... ...	24/-

## SUBSCRIPTION ONE YEAR

	ONE YEAR
F.M. and Television ... ... ... ...	32/-
Electronics ... ... ... ...	160/-
Popular Science ... ... ... ...	32/-
Proc. I.R.E. ... ... ... ...	152/-
RCA Review ... ... ... ...	20/-
Tele-Tech ... ... ... ...	40/-
Television ... ... ... ...	48/-
Television Engineering ... ... ... ...	32/-

**GAGE & POLLARD, 55 Victoria St., London, S.W.1**

Suppliers of Technical Books and Publications to Schools, Universities, British and Colonial Government Departments.

Telephone : ABBEY 5034