R.S.G.B Bulletin

JOURNAL OF THE RADIO SOCIETY OF GREAT BRITAIN

Vol. 32 No. 5 | NOVEMBER, 1956 | Price 2/6 Monthly

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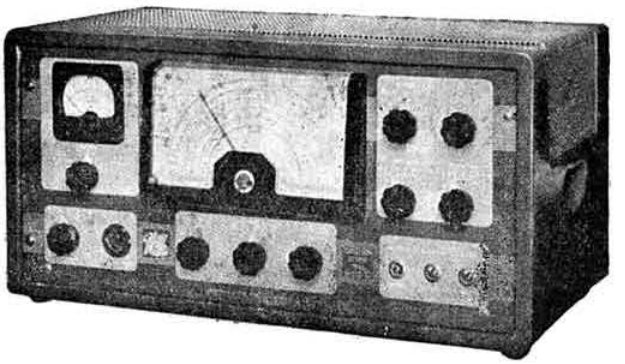

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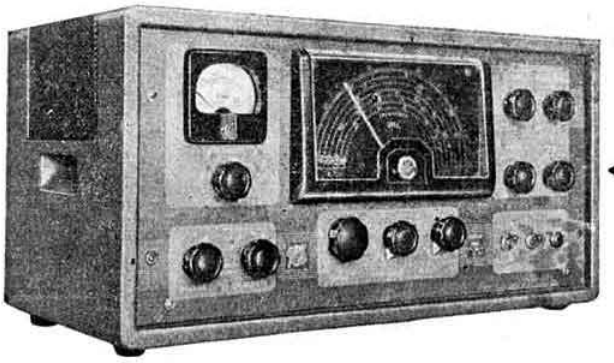

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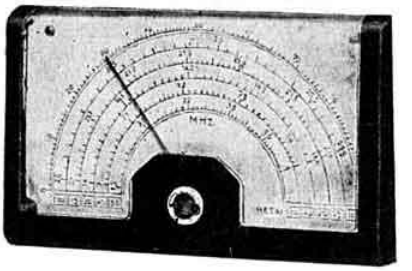

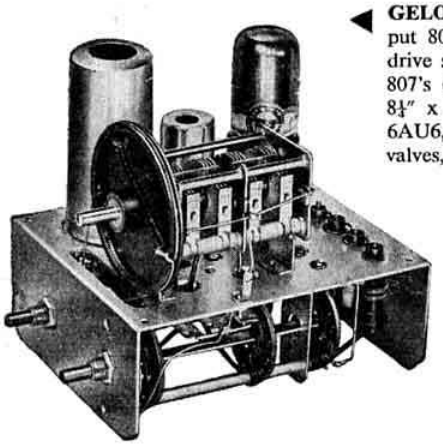

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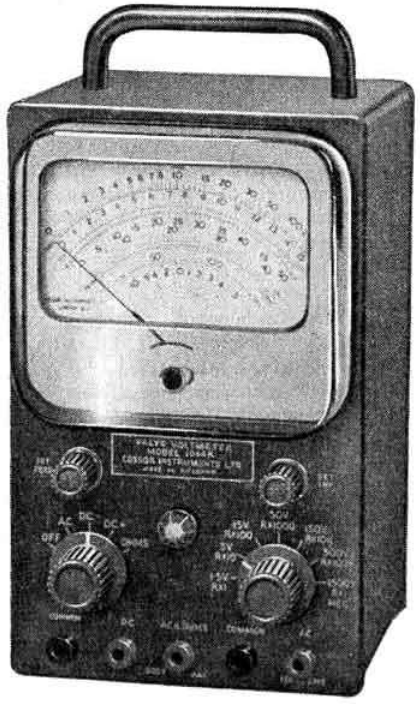

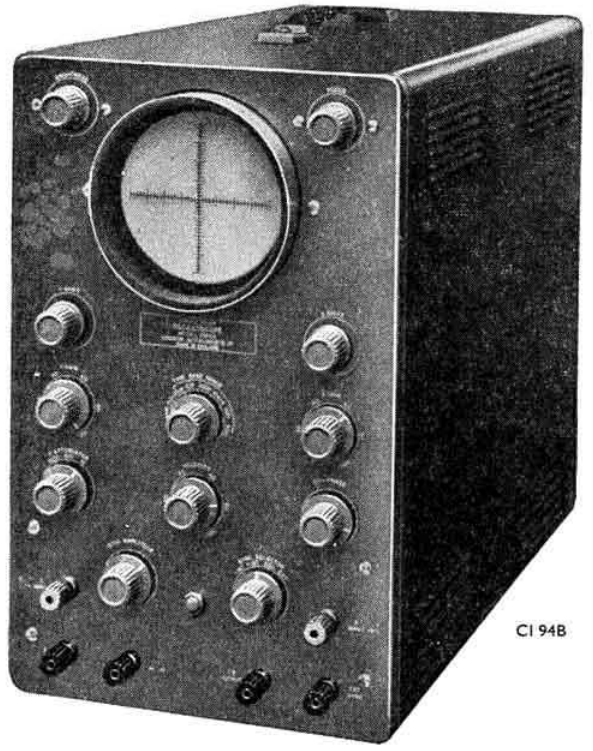

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CONTENTS

Current Comment

We Get a New Band : " Four Metres " at last

EVER since the British amateur lost the five metre band to television seven years ago, thoughts have been turned to the possibility of securing a frequency allocation in the " lower v.h.f.'s." Just how difficult this was likely to be was obvious enough from a study of official frequency charts or simply by keeping one's eyes open to the stub aerials burgeoning on motor vehicles in almost every city and township in the land. The congestion on business radio allocations has indeed been so great that doubly stringent standards of stability and bandwidth have been found necessary.

The amateur movement can therefore count itself fortunate in securing until the end of 1958, *solely as the result of protracted negotiations between the Society and a most sympathetic Post Office,* a new slice of territory around 70 Mc/s.

Now, it is easy enough for anyone to wish that the band had been in exact harmonic relationship with 2 metres; that it was not being denied to amateurs within 50 miles of the Jodrell Bank Observatory (for obvious reasons) and that it could have been wider than a mere 200 kc/s. To say anything of the sort is very much akin to looking into the mouth of the proverbial gift horse. The great thing is that the British Amateur Radio movement has at last secured " Four Metres " in the face of what looked like almost insuperable political and technical obstacles. Getting started on it will be child's play to any v.h.f. man, but many others besides will obviously want to make themselves heard on it as soon as possible. To this end practical articles are published in this issue of the BULLETIN.—J.H.

Transatlantic V.H.F. Contacts

NINE years ago a number of successful transatlantic v.h.f. contacts took place between amateur stations in Europe and America. At that time U.K. amateurs were operating (by special permission) on 50 Mc/s, a band already allocated to U.S. and Canadian stations.

With the opening up of the 70 Mc/s band to U.K. amateurs and many U.S. and Canadian amateurs working regularly on 50 Mc/s, transatlantic cross-band v.h.f. contacts are a distinct possibility.

It is fortuitous that the recent Post Office concession coincides with a period of high sun spot activity. Maximum usable frequencies are expected to rise to at least 70 Mc/s on occasions during the next 12 months.

A.R.R.L and R.S.G.B. Headquarters have already been in correspondence with one another on the subject of cross-band v.h.f. transatlantic contacts. We hope shortly to report that the first has taken place.

Listen to GB2RS for the latest news.—J.C.

Six Bands Next June

THE two major changes proposed by the Contests Committee for National Field Day, 1957, are practical and realistic, and prove once again the Committee's ability to keep itself up-to-date with current trends.

The power limit change from 5 watts to 10 watts input shows an appreciation of the difficulty there has been in the past of keeping down the power to the stipulated level (anyone familiar with squeezing the last ounce out of an 807 knows how difficult it is to squeeze the first ounce !). To the inevitable cry: " Why not make it 25 watts while you are about it? " there is the obvious answer that while 1.8 Mc/s figures in the N.F.D. picture there can be no other maximum than 10 watts, which is the maximum power permitted on Top Band.

Allowing N.F.D. operation on six bands instead of on the customary four is a consequence of the great increase in activity which the 21 and 28 Mc/s bands, new to N.F.D., are now exhibiting. Next June each station will have the opportunity to work on three bands instead of two as in the past.

New technical problems will arise from this extension of the scope of Field Day, not alone on the aerial side (which is the first one which comes to mind) but in respect of receivers as well, remembering that many of the popular war surplus receivers cover neither of the new bands without a converter—and that's something else to design, make, carry, and feed with power.

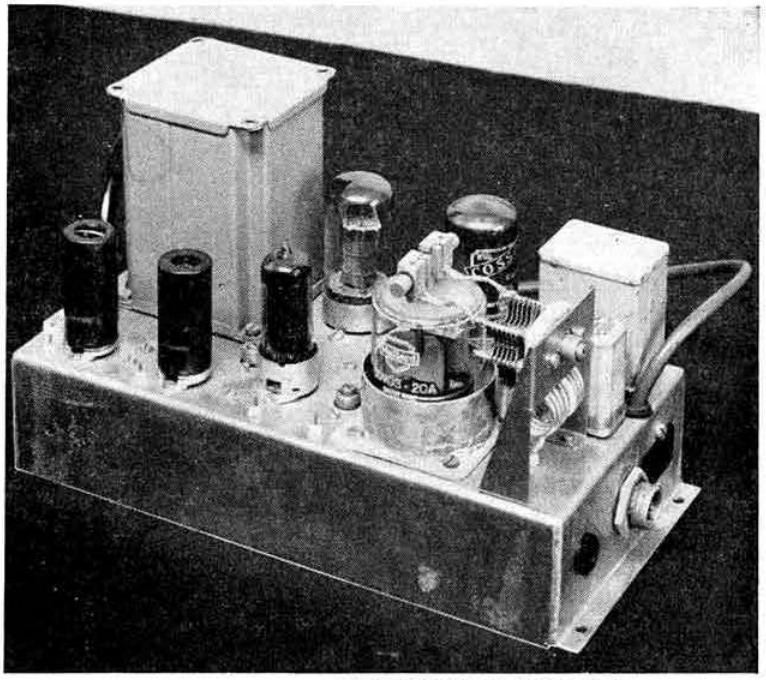
There will be new operating problems, too, and in particular the right selection of the right band at the right moment. Always an important determinant of success on Field Day, this looks like being even more so next year, demanding a certain single-mindedness of purpose in making decisions such as quitting " Eighty " when it is pouring out the points, in order to concentrate on, say, " Fifteen " at a promising moment.

Although N.F.D. may be the same so far as its broad outline is concerned, it offers infinite variety in its detail: next year this will be truer than ever. It well deserves its reputation as the most popular event of the Amateur Radio year.—J.H.

Getting Started on Four Metres

By R. G. SHEARS (G8KW)*

When the news broke that the Post Office had agreed to allow amateurs to operate on frequencies around 70.3 Mc/s, the first action of the Council and Headquarters staff was to seek the assistance of a qualified member who would be willing, at short notice, to prepare an article describing how to get started on this new band. Choice fell on Rowley Shears, G8KW. who has had a wide experience of v.h.f. operation. His article will be read with great interest.



A transmitter for the 4 metre band.

IT is proposed in this article to indicate various simple ways of obtaining results on the new 70.3 Mc/s (4 m) band. Unfortunately the band does not fall in harmonic relationship to other amateur bands in such a way as to enable existing transmitter crystals or v.f.o.'s to be used conveniently.

Transmitter

The transmitter illustrated in the photograph employs a QQV03-20A double tetrode in the p.a. stage driven by a 5763 doubler which is in turn driven by a 6F17 doubler and 6AM6 crystal oscillator-doubler. The anodes and screens of the p.a. are modulated. As eight times crystal multiplication is used a crystal within the range 8,775 kc/s and 8,800 kc/s must be chosen. The multiplication sequence is shown on the circuit diagram (Fig. 1). Other multiplication sequences may be used as indicated in Table 1. In all cases the frequency of the crystal is calculated for 70.3 Mc/s.

Schemes 2 and 4 are appropriate to the circuit in Fig. 1. By using a different crystal oscillator circuit (Fig. 2), Schemes 1 and 3 may be employed. In this case, the valves V2 and V3 may be the same as V3 and V4 in the circuit Fig. 1. With higher frequency crystals, multiplication factors of 2 or 4 may be used.

It will be observed from Fig. 2 that an additional tuned circuit is required in the screen of the crystal oscillator—this is tuned to the crystal fundamental frequency.

A general idea of the transmitter layout may be obtained from the photograph, from which it will be seen that the r.f. section runs along the front with the crystal holder at the left, followed by V1, V2, V3 and V4. On the chassis near each valve is a small feed through used as a test point. By clipping a test meter or 0-5 mA meter between one of these points and chassis (positive to chassis) grid current can be measured. Approximate values are as follows:—

*136 Birchwood Road, Wilmington, Dartford, Kent.

Table 1

Scheme No.	Crystal Frequency (Mc/s)	Multn. Factor	Anode V1 (Mc/s)	Anode V2 (Mc/s)	Anode V3 (Mc/s)	Anode V4 (Mc/s)
1	11,716·6	6	35·15	70·3	70·3	
2	8,787·5	8	17·575	35·15	70·3	70·3
3	7,811·1	9	23·433	70·3	70·3	
4	5,858·3	12	17·575	35·15	70·3	70·3

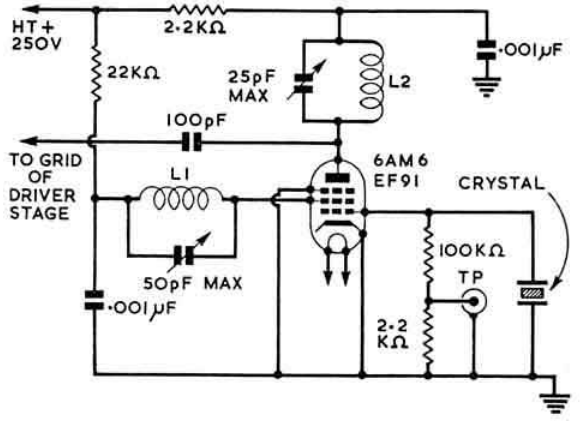


Fig. 2. Alternative crystal oscillator for the transmitter. This will generally give a higher harmonic output than the oscillator circuit in Fig. 1 but requires an extra tuned circuit in the screen of the valve.

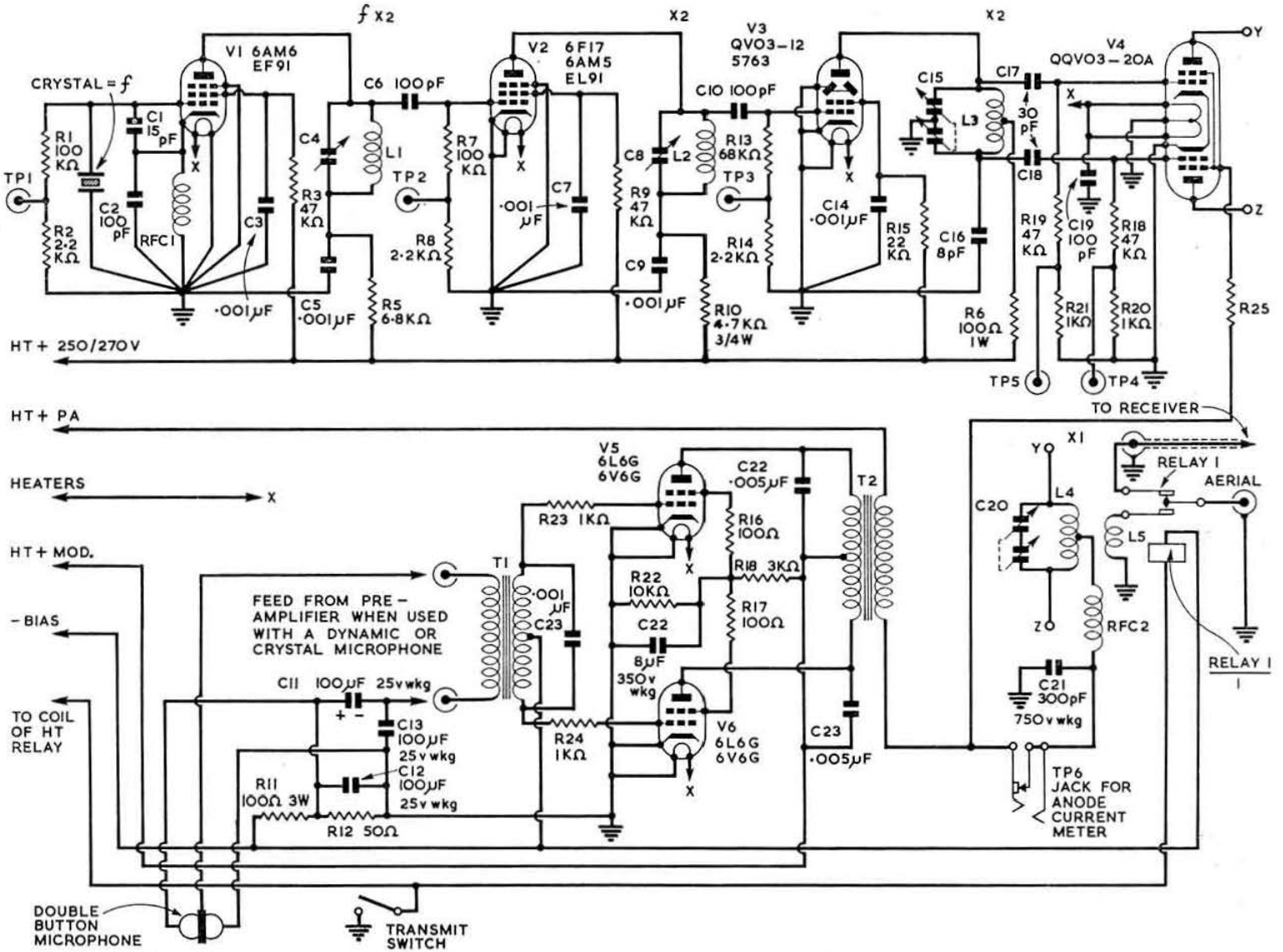


Fig. 1. Circuit diagram of a 4 metre transmitter complete with modulator. The frequency multiplication factors are shown above L1, L2, L3 and L4. TP1-5 are test points (see text). Further details of certain components and inductances are given in Table 4 on page 201

TP1—50-250 microamps (according to crystal activity).
TP2—½-1 mA
TP3—1-2 mA
TP4—2-3 mA
TP5—2-3 mA } should be approximately balanced.

At the rear left of the chassis is the modulation transformer, with V5 and V6 between it and T1. The aerial change-over relay is located between T1 and the p.a. tank circuit.

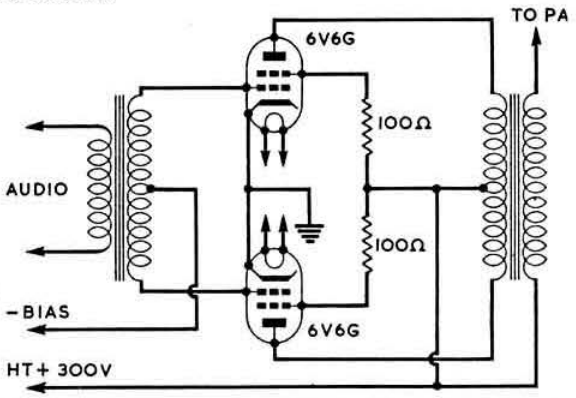


Fig. 3. When an h.t. rail of 300 volts or less is used, the screens can be connected directly to h.t. via 100 ohms screen resistors.

Power Requirements

It is advisable to use two h.t. supplies, one for the r.f. section of the transmitter, the other for the modulator. However, if a power of only 20-25 watts to the p.a. is required, a single supply giving about 300 volts d.c. at 225 mA will be satisfactory. If this is so, a pair of 6V6Gs will provide adequate audio to modulate fully the carrier and it will not be necessary to reduce volts to their screens (Fig. 3). The bias supply required for this condition is −19 volts. If the same supply is used to actuate the relays, care must be taken to see that −19 volts is actually available when the relay coils are energized. The 250 volt h.t. rail required for V1, V2 and V3 may be obtained using a 1500 ohm 10 watt resistor from the 300 volt supply.

The transmitter, using a pair of 6L6G modulator valves, can conveniently be run from two 400 volt d.c. supplies, one giving 125 mA for the modulator and the other 175 mA for the r.f. section. The negative supply required is −24 volts fully loaded with relays.

The P.A. Valve

The h.t. voltage to the p.a. may be increased to 500 volts at 70 Mc/s but under no circumstances should the anode current be allowed to exceed 90 mA fully loaded. It will be noted that a screen by-pass condenser is *not* fitted and that the screen is left "floating". In place of the QQV03-20A, an 832 or 829 could be used with only slight alteration to circuit values. With the two latter valves, a screen by-pass condenser must be fitted —the value 300-500 pF.

For c.w. operation the screen of the p.a. valve may be satisfactorily keyed by including keying relay contacts between R25 and the h.t. rail.

Receiver

The easiest solution to the problem of reception on the 4 metre band is to build or modify a converter and feed the output into an h.f. receiver. Basically there are two types of converter—one uses a crystal controlled oscillator and the other a tunable oscillator. To cover the 70.2-70.4 Mc/s band with the crystal controlled converter, the h.f. receiver is tuned over a selected waveband to give the required coverage. This means that the h.f. receiver must be tuned over 200 kc/s, at the same frequency as the i.f. output of the converter. As French and Russian amateurs have been allocated the band 72.0-72.8 Mc/s, it would be an advantage to build a converter capable of operation over the range 70.2-72.8 Mc/s. With a crystal controlled converter the h.f. receiver would then have to be tuned over a range of 2.6 Mc/s as the tunable i.f.

As the converter and h.f. receiver together become a double conversion superhet, the converter output frequency is called the first intermediate frequency. A suitable choice would be 8.0-10.6 Mc/s or 12.0-14.6 Mc/s but this is often dependent upon the frequency of the crystal available for the converter. Figs. 4A and 4B show the crystal frequency and multiplication requirements for an i.f. of 8.0-10.6 Mc/s and 12.0-14.6 Mc/s

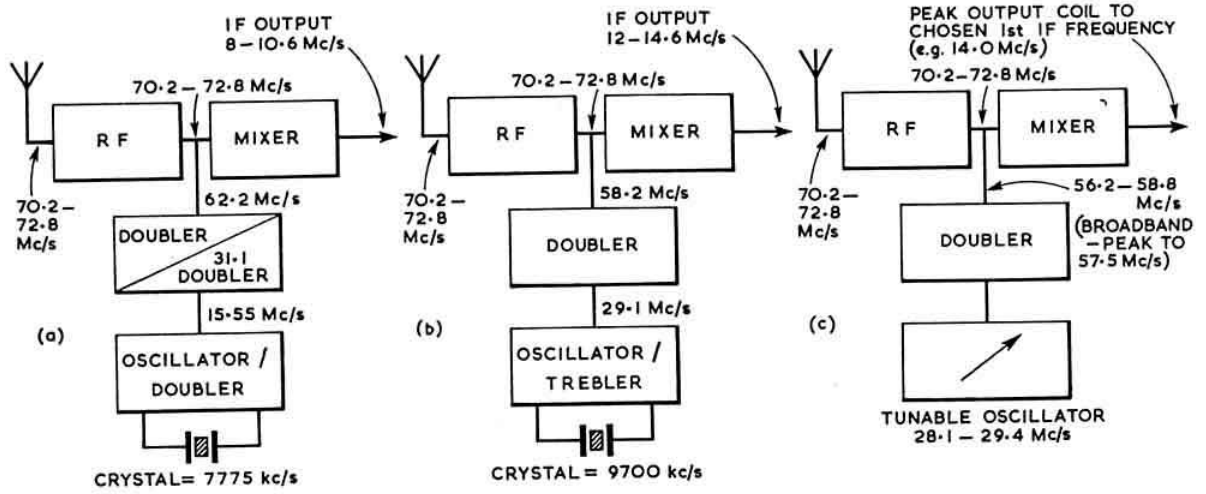


Fig. 4. (a) and (b). Block diagrams of crystal controlled converters with i.f. outputs of 8–10.6 Mc/s and 12–14.6 Mc/s respectively. (c) Block diagram of a converter using a tunable local oscillator with an i.f. output at 14 Mc/s.

respectively. Other multiplication factors or first intermediate frequencies can be used but in order to obviate spurious responses care should be taken to ensure that harmonics do not fall within the pass band of the signal input and of the first i.f. Every precaution must be taken to screen adequately the i.f. stage and wiring in the converter as well as the connection between the converter and the receiver in order to prevent break through of powerful signals in the portion of the h.f. band being tuned. It may also be necessary to fit a tunable rejection trap in the aerial feed in the converter.

The alternative arrangement, using a tunable oscillator, is shown in Fig. 4C. It should be emphasised here that the tunable oscillator must be very stable and virtually without drift. It could be operated on a lower frequency with probably a better chance of good stability but the multiplication factor would, of course, be higher. In the example given, a 9002, half 12AT7 or a 6AK5 will make a stable oscillator providing the usual precautions given in text books are observed. In Table 2 will be found the physical dimensions of inductances which may prove useful as a guide when constructing converters or receivers.

Table 2

Converter Inductance Details

Freq. (Mc/s)	Type of Circuit	Dielectric	No. of Turns	Dia. of Coil	Capacity in parallel with L
70·3	Grid of r.f. pentode	Air spaced	6T 18 S.w.g.	$\frac{13}{32}$"	10 pF max. trimmer
70·3	Grid of r.f. pentode	Bakelite slug tuned	8T close wound 24 S.w.g.	$\frac{3}{8}$"	None
70·3	Anode of r.f. to grid of mixer	Air spaced	5T 18 S.w.g.	$\frac{13}{32}$"	10 pF max. trimmer
70·3	Anode of r.f. to grid of mixer	Bakelite slug tuned	6T close wound 24 S.w.g.	$\frac{3}{8}$"	None
57·4	Anode of mult. coupled by 1 pF to grid of mixer	Bakelite slug tuned	10T close wound 24 S.w.g.	$\frac{3}{8}$"	None
29·1	Anode of mult. to grid of next stage	Bakelite slug tuned	12T close wound 24 S.w.g.	$\frac{3}{8}$"	10 pF
31·1	Anode of doubler	Bakelite slug tuned	12T close wound 24 S.w.g.	$\frac{3}{8}$"	None
28·1	Oscillator	Ceramic	$4\frac{1}{2}$T 18 S.w.g. $\frac{1}{2}$" long	$\frac{3}{8}$"	47 pF+5 pF trimmer and tuning condenser (2 fixed and 1 moving)
15·55	Anode of doubler to grid of next stage	Bakelite slug tuned	18T 26 S.w.g.	$\frac{3}{8}$"	25 pF
14·1	First i.f. output	Bakelite slug tuned	25T 30 S.w.g.	$\frac{3}{8}$"	25 pF
14·6 To 12·0	First i.f. output	Bakelite slug tuned	60T 36 S.w.g.	$\frac{1}{4}$"	50 pF max. variable
10·6 To 8·0	First i.f. output	Bakelite slug tuned	80T 36 S.w.g.	$\frac{1}{4}$"	50 pF max. variable

Aerials

The basic formula for a half wavelength in free space when used above 50 Mc/s is usually expressed as:

$$\text{Length in inches} = \frac{5540}{\text{f (Mc/s)}}$$

In Table 3 dimensions are given which may prove useful when constructing a 4 metre Yagi Array.

Table 3

Driven Element	78	inches
Reflector	82	inches
1st director	74½	inches
2nd director	72½	inches
0·25 wavelength spacing	40	inches
0·2 wavelength spacing	32¼	inches
0·15 wavelength spacing	24	inches

The above figures are calculated for 71 Mc/s.

Conclusion

The 4 metre band should prove very useful for inter-G working while the fact that French and Russian amateurs are also licensed for operation in the 72.0-72.8 Mc/s band offers very interesting possibilities. Furthermore, predictions for the m.u.f. to be as high as 100 Mc/s at times during the sunspot maxima introduces a distinct possibility of DX on 4 metres. It does seem, however, that to achieve a contact with South Africa, North or South America, arrangements must be made for working "cross-band" with 5 or 6 metres. Unfortunately this will mean at least two beams, one for sending, the other for reception. As an added incentive for DX operation on v.h.f. it is worth mentioning that a number of South African stations are keenly watching the 90 Mc/s band for signals from Wrotham and Germany. Who knows what v.h.f. DX the next two years will bring!

Table 4

Component Information for Fig. 1

C4, 8	Air spaced trimmers (10-20pF max.).
C15, 20	Butterfly trimmers (5-10pF max.).
L1	14 turns 24 s.w.g. enam. copper close wound on ½ in. diam. polythene former.
L2	8 turns 22 s.w.g. enam. copper close wound on ½ in. diam. polythene former.
L3	7 turns centre tapped 16 s.w.g. tinned copper, ½ in. inside diam., air spaced, approx. ⅞ in. long.
L4	8 turns centre tapped, 12 or 14 s.w.g. tinned copper, ½ in. inside diam., air spaced, approx. 1 in. long.
L5	Single turn link pushed into centre of L4 (polythene, p.t.f.e. or ceramic bead insulation).
R18, 22	Both 10 watt rating (see text).
R25	10K ohms 5 watts with 400 volts h.t.; 4.7K ohms 5 watts with 300 volts h.t.
RFC1	2.5 mH r.f. choke.
RFC2	90 turns 30 s.w.g. silk covered on ½ in. diam. Keramot former.
T1	Ratio 3:1 c.t. when used with pre-amp; ratio 1:100 c.t. when used with d.b. carbon microphone.
T2	Modulation transformer.
TP1-5	Test points for measuring grid current.

A Converter for the Four Metre Band

Simple Modifications to Surplus Units

By A. H. KOSTER, DR. ING. (G3ECA)*

THE 70 Mc/s band which has just been allocated to British amateurs is comparatively narrow (70.2 to 70.4 Mc/s) and does not coincide with the 72 to 72.8 Mc/s band assigned to French and Russian amateurs. The converter to be described can be arranged to receive signals in the British band only or alternatively to cover both the British and Continental frequencies.

The RF27 unit, readily available on the surplus market, tunes from 65 to 85 Mc/s but the amateur bands occupy such narrow segments of the dial that tuning becomes difficult. It is, however, possible to limit the tuning range by suitable padding and modifications to the three gang condenser. An alternative means which requires less modification presents itself in the RF26 unit and provides a convenient short-cut to getting started on 4 metres. This unit covers a nominal range of 50 to 65 Mc/s but it can be arranged to tune very much higher. Fig. 1a shows the existing arrangement, the suffixes to the resistors and condensers being those used in the GEE Mk. II manual. Fig. 1b shows the insertion of condensers Ca, Cb, and Cc. For the British band the value of these condensers is 2 pF.

To re-align the converter after modification, a grid dip oscillator should be coupled to the oscillator coil L4 and the trimmer C31 adjusted to bring 77.8 Mc/s into the middle of the tuning range to produce an i.f. of 7.5 Mc/s, the design figure of the RF26 unit. The g.d.o. should then be transferred to L2 and C16 adjusted for resonance at 70.3 Mc/s. L1 and C3 are tuned in the same way. The converter will now have a tuning range of about 1 Mc/s.

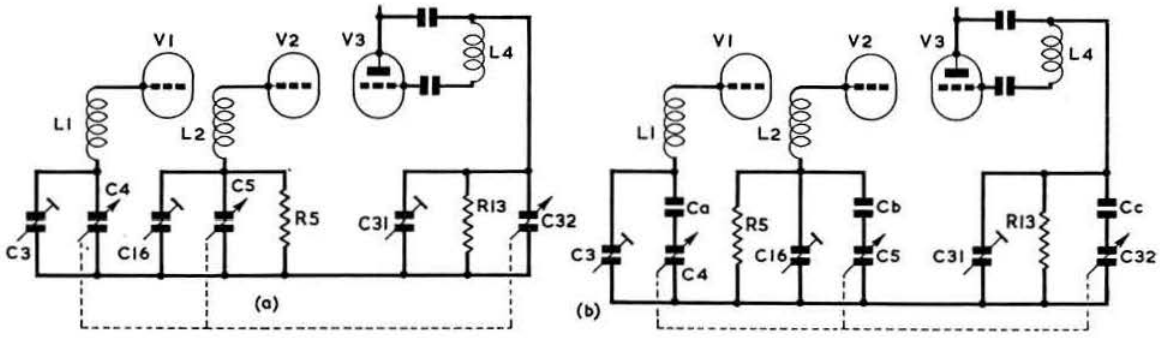


Fig. 1 (a) The unmodified circuit arrangement of the RF26 unit. (b) Insertion of the series condensers.

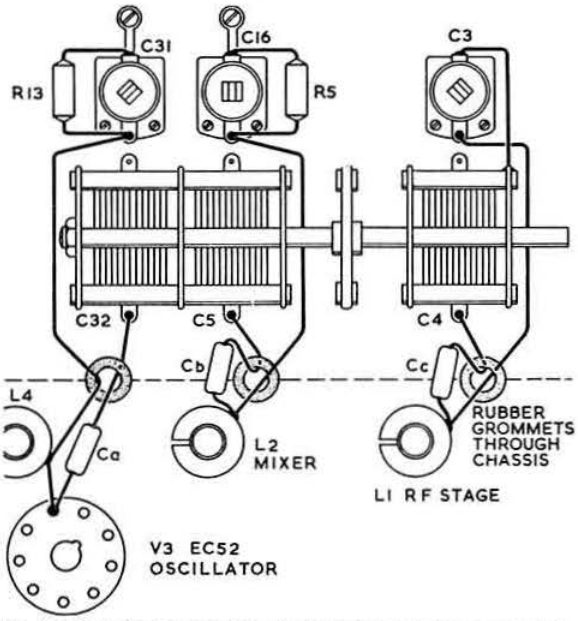


Fig. 2 Schematic representation of the modified tuning arrangement.

If the Continental band is to be covered as well as the British, the additional condensers should be 5pF instead of 2pF.

With both modifications, there is a certain amount of crowding at the high frequency end of the tuning range but is very much less than on an unmodified RF27 unit. This crowding can be eliminated by removing all but two plates from the rotors and stators of the three gang condenser.

Fig. 2 shows diagrammatically where the new condensers are inserted and how the wiring to the trimmers by-passes the tuning condensers.

*195 Woodford Avenue, Ilford, Essex.

Transatlantic Cross-band Contacts

Ed Tilton (W1HDQ), V.h.f. Editor of **QST**, has informed R.S.G.B. Headquarters that American amateurs are anxious to make cross-band 50/28 Mc/s contacts with stations in Europe. W1HDQ, in common with many others, calls CQ on 50 Mc/s and listens for replies on 28 Mc/s.

November is the peak month of the year for the transatlantic m.u.f. and there should be no difficulty in making contact.

A Battery-Operated Transmitter for Two Metres

Simple Design using Standard Components

By W. A. SCARR, M.A. (G2WS)*

MANY of those who recall the early days of portable operation and the thrill of contacts made with fly-weight and fly-power apparatus deprecate the modern trend in outdoor work towards the use of heavier and more complex gear. Portable work loses much of its significance and often much of its enjoyment if it involves the conveyance of a large section of the home station with commercial receivers, banks of accumulators and a lorry-load of poles and accessories into the country.

Twenty years ago when the characteristics of transmission on the 5 metre band were being investigated by a small group of enthusiasts, portable "stations" were often entirely contained in small cases which could be carried by hand to points of vantage. The writer recalls excursions into the Shropshire hills with such apparatus and the excitement of a first contact—perhaps with a similar station on the summit of Snowdon.

Today, apart from the low power and D/F contests, little encouragement is given to this kind of genuine portable work and it has been too readily assumed that it is impossible on our present v.h.f./u.h.f. bands.

The writer has given considerable thought to the design of a two metre crystal controlled transmitter capable of working from an ordinary 120 volt dry battery and a 1½ volt cell. Results have been most encouraging and a description of the transmitter follows.

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The Circuit

Initial tests with miniature battery valves gave poor results when these were employed as doublers and triplers, especially on the higher frequencies and it was not until the 3D6 valve was brought into service that worthwhile results were achieved. This valve, which has a filament rating of 0.22 amp. at 1.4 volts, functions satisfactorily at all the required frequencies provided every care is taken in circuit design and construction.

To obtain good initial drive, a straight crystal oscillator on 8 Mc/s is used with a 3V4 valve, output being increased somewhat by feed-back from the anode circuit. Tripler stages to 24 and 72 Mc/s follow. These employ 3D6s with balanced anode circuits. It is strongly recommended that split-stator condensers be used here as indicated in the circuit diagram (Fig. 1) as any attempt to simplify the circuit will result in serious loss of output. The final stage of the transmitter also utilizes a 3D6 and doubles the frequency to 144 Mc/s. Coupling to the aerial feeder is by a single-turn coil.

Attention is drawn to the Philips trimmers (C5, 9, 14), which balance the anode circuits. It is worthwhile spending time experimenting to find the optimum setting of each trimmer for maximum output. Coil inductances

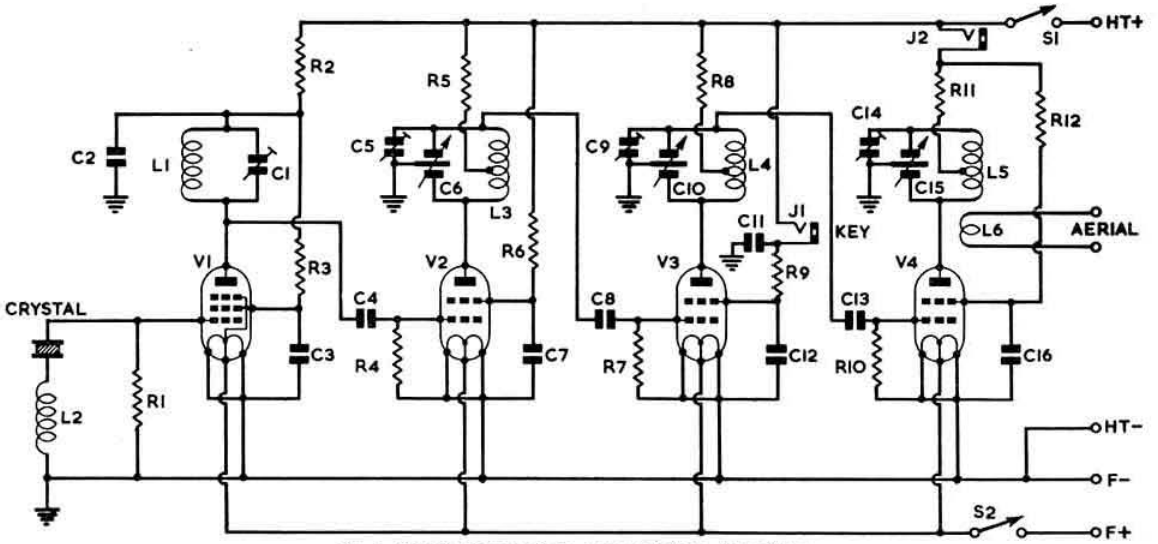


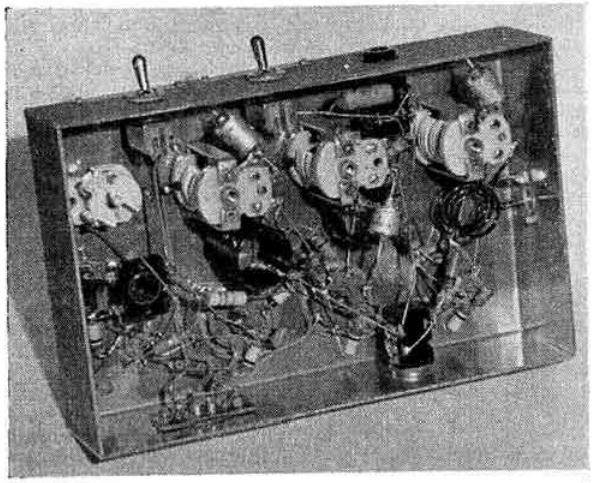
Fig. 1. Circuit diagram of the 2 metre battery transmitter.

C1, 50pF variable (Jackson Bros., Type C804).
C2, 3, 7, 12, 16, 0.001μF.
C4, 8, 13, 50pF.
C5, 9, 14, 8pF concentric trimmers (Philips).
C6, 25+25pF split-stator (Jackson Bros., Type C808).
C10, 15, 10 + 10pF split-stator (Jackson Bros., Type C808).
C11, 0.01μF.
R1, 4, 6, 7, 9, 10, 100K ohms (Erie).
R2, 4,700 ohms (Erie).
R3, 27K ohms (Erie).
R5, 8, 11, 1,000 ohms (Erie).
R12, 47K ohms (Erie).
J1, closed-circuit jack (for key).
J2, closed-circuit jack (for meter).
L1, 38 turns, 36 s.w.g. enam., close-wound on ¼ in. dia. former.
L2, 12 turns, 36 s.w.g. enam., close-wound, immediately adjacent to L1 on same former.
L3, 22 turns, 18 s.w.g. enam., 1 in. dia. self-supporting, close-wound.
L4, 6 turns, 18 s.w.g. enam., ¼ in. dia. self-supporting, close-wound.
L5, 3 turns, 16 s.w.g. enam., ¼ in. dia. self-supporting, turns ¼ in. apart.
L6, 1 turn, 16 s.w.g. enam., ¼ in. dia.
S1, 2, toggle switches (Bulgin).
V1, 3V4 (Brimar).
V2, 3, 4, 3D6 (Brimar).
Valve holders, B7G (McMurdo, P.T.F.E.), B8G (3) (McMurdo, nylon-loaded).
Coaxial cable socket (Belling & Lee).
H.t. battery, large capacity 120 volts (Ever-Ready type W.120).

may be reduced by slightly spacing the turns temporarily to compensate for capacity increase when the trimmers are screwed up. Output may be judged by bulb and loop, using a 6 volt 0.04 amp. bulb for preference.

Construction

The unit is conveniently constructed on a chassis 8½ in. by 5½ in. by 2 in. and the straightforward layout may be seen in the photographs. The l.t. and h.t. switches, together with the keying jack, are mounted on the front of the chassis, while the meter jack (J2) for



A view of the underside of the chassis showing the arrangement of the coils and condensers.

measuring current to the output stage, is fitted at the rear. A miniature 4 pin plug and socket, also at the rear of the chassis, is used for connection to the batteries. Constructors may wish to vary the layout to fit existing cases and dimensions are not critical.

Operation

Coupling between the final tank coil (L5) and the aerial coupling coil (L6) is fairly critical and final adjustment should be made with the aerial system attached, preferably by reference to a field-strength meter placed a few feet from the aerial.

Under normal c.w. operation the total filament consumption is about 0.75 ampere and the anode current about 30 mA. Input to the final valve is in the order of one watt. Supply voltage to the unit may, if desired, be increased to 150 volts, giving an appreciable rise in output.

Although the transmitter was designed for c.w. operation, a simple modulator could be incorporated without adding unduly to the total power consumption.

The arrangement of the components on top of the chassis.

Performance

With v.h.f. equipment the range of signals depends much more on atmospheric and geographical factors and on aerials than it does on radiated power. Distance is therefore no measure of transmitter efficiency. Tests with this miniature transmitter have, however, shown that contacts over reasonable distances are possible under any conditions. With an indoor aerial in use, reports from stations between 30 and 50 miles distant have, from a good location, been consistently S8 and S9 and with the input voltage reduced to 72 volts, giving about 0.25 watt input to the final valve, contact has been maintained comfortably at a range of 25 miles. Taken to an open and elevated site, the transmitter would undoubtedly be capable of much greater ranges under average conditions.

Work is now going forward on a receiver of similar dimensions. Together, it is hoped that the units will comprise a small, truly portable v.h.f. "station" easily carried by hand and available for immediate point-to-point communication with simple aerial systems or alternatively for longer range work from vantage points inaccessible except on foot.

Radar Development

DEALING with Britain's part in the invention of Radar, Mr. G. A. Marriott, newly-elected President of the British Institution of Radio Engineers, said, in his Presidential Address on October 31, 1956, "It is not sufficiently widely known that when America entered the war samples of the first radar transmitting valves, together with a colour film of the production processes, were sent from this country to the U.S.A. to enable America to provide Radar for her own use.

"History shows that in invention the race between countries is almost always won by a short head only. Great Britain can rightly claim to have been 'there or thereabouts' in every race in radio development, and often first in some of the more important races. But the going is getting more difficult and the pace does not slacken. It is vital to this country that we keep our position as leaders in science".

Mr. Marriott is Manager of the Valve and Electronics Department of the General Electric Co., Ltd., and a director of the M.O. Valve Co., Ltd. He is currently Chairman of the B.R.V.M.A. and Vice-Chairman of the R.I.C.

Were They First?

BETWEEN 14.30 G.M.T. and 15.07 G.M.T. on November 3, 1956, G3HTC and G3JTQ/M made what is believed to be the first mobile QSO on 4 metres. Both stations used "Business Radio" sets (input 30 watts) and both transmitters and receivers were crystal controlled.

G3HTC used an indoor Band II aerial while G3JTQ/M used a roof-mounted quarter-wave whip. Good two-way contact was maintained for 3 to 4 miles in built-up areas around Twickenham, Middlesex.

TWO METRES AND DOWN

Two Metres Wide Open — New V.H.F. Allocation Announced

By F. G. LAMBETH (G2AIW)*

ALTHOUGH the v.h.f./u.h.f. year has not been in any way spectacular (and certainly the overall conditions have rarely been up to those of 1955) the last few weeks have shown that the possibilities of major openings always exist. In retrospect it seems clear that things are rarely as bad as they seem, and that activity, which had fallen off as a result of poor conditions, has been slow to recover, with the result the bands have sometimes been "wide open" with very few stations to take advantage of the situation. Lately however, there have been times when 2m sounded more like 10m in the peak days, with signals from stations as far apart as Bordeaux, Dublin and West German cities all over the band. Good signals were also coming in from Northern Ireland. This inevitably brings up the question of international co-operation, which has become even more important in the last year or so but somehow does not seem so good as it might be. From the purely amateur operating point of view there is little to be desired, as is evidenced by the excellent reports and news received from abroad. However, there still seems to be a lack of coordination which, it is hoped, will be remedied in time. A start has been made in this direction by the issue of the Region I I.A.R.U. v.h.f. rules for contests in 1957. These were agreed at Stresa, and although not binding on member societies so far as their own events are concerned they are nevertheless uniform for Region I I.A.R.U. contests. Incidentally, the 1957 European V.H.F. DX Contest is to be organized by R.S.G.B. under the I.A.R.U. Rules.

During the weekend of October 12, 13, 14, conditions for 2m propagation were exceptionally good, some stations describing the state of the band as "like 40 before the war."

Station Reports—Two Metres

B.R.S. members have reported in strength this month, but some of them seem to have missed the best periods. Thus **'6327** (Earlsfield) lists only locals with the exception of F8XY. **'16075** (Shirley, Southampton), however, has a very impressive list, and calls the period "a treat." The October 13 period was the most notable, some overseas signals (for example, ON4BZ) being the strongest ever.

B.R.S.18572 (Mitcham) found conditions above average on October 7, 10 and 11. **'20133** (Melton Mowbray) also had a good month but *still* no Continentals—the QTH must really be poor that way. He now has three countries (G, GW and GC) confirmed with nine countries and 17 counties heard.

B.R.S.20134 (Lymington) logged 55 stations in six countries and 19 counties on October 14. The greatest thrill was to hear his first ever PAs. **'21136** (Ruislip), a new member, has sent a list which we publish although it contains some locals. The converter is 6J6/6AK5 into a BC342N. Apart from October 13-14 conditions were poor.

On October 12 **G5MA** (Bookham) worked GI8DV/P, who was operating portable from a site 1,000ft a.s.l. on Benevenagh, about 10 miles north of Limavady, Co. Londonderry. G5MA was 569 and GI8DV/P 449. This they believe to be the first G/Co. Londonderry QSO. '5MA has also been heard by GM3EGW (Dunfermline) and this is one of the few occasions this year when a southern station has been so logged. '5MA is running a sked with G3ALC (Rutland) and at present it is 100 per cent at a distance of 95 miles.

G3FKO (Bristol) being on the wrong side of a ridge missed the chance of working the Continentals, with the exception of DJ1DC (Solingen). '3FKO, using three watts (6AK5s in push-pull) was only able to muster an RS43 report. **G2CIW** (Cambridge) also had a good time during the openings but was unlucky only to hear EI2W and GI3GXP (better luck next time).

G3FIH (Bath) reports jubilantly that the West Country has at last had a full share in a Continental opening. As a result '3FIH worked stations in seven countries in 24 hours with a new country (DJ1DC) and a new county —Cumberland (G3BW). The fun started fairly early on the evening of October 13 when the northern Gs started coming through, followed by French stations and later DJ1DC. EI2W was S9 the whole evening, although it was not possible to make contact, as '2W was apparently "after the Continentals." The last contact of the day was F8XT (Chillac, near Bordeaux) who reported '3FIH's signals S9 + 20 db. The following day the French stations were still very strong. Many PA stations were called, but without luck. ON4BZ was worked however. By the evening the Continentals were going down, but the northern stations were as strong as ever and many new ones (never heard before) were worked. EI9C (Dublin) also provided a new contact.

G3KSR (Southampton) who has been out portable with G3BHS in South Hampshire most weekends since mid-August has had a total of 85 contacts during these periods. They attended the Mobile Rally at Stony Cross, making contact with the control station from a point west of Wareham, Dorset, using a "globular" aerial which came in for much comment at the Rally. During the October 14 opening they were working at Farley Mount 555ft a.s.l. and 27 QSOs were made in 6 hours with France, Holland, Belgium, Ireland and the Channel Islands at S9+. It was noticed that propagation was equally good in all directions—a very unusual thing. **G4IB** (Pembury) whilst mobile near Uckfield on October 14 worked G3JWQ (Ripley, Derby), GC3EBK, F8ME, and G3FCQ. The transmitter has an input of *one* watt to a 12AT7, the aerial being a simple dipole 9in. above the car roof. Many other stations were heard.

G3JGJ (Plympton) reminds us that the South West stations were well in on the opening. G3AUS (Torquay) was such a powerful signal all down the Bay of Biscay that for a time he overloaded F8XT's converter. '3JGJ, using n.b.f.m., has worked several stations on 2m using the simplest type of modulator with a crystal diode. On

*21 Bridge Way, Whitton, Twickenham, Middlesex.

Saturday, October 13, **G3AUS** (Torquay) worked LX1SI (Luxemburg) more or less out of the blue!

G2CZS (Chelmsford) worked four new ones during the opening and GC3EBK. GC2FZC was also very strong but no QSO resulted, some Continentals were heard but no GI or GW stations. **G5MR** (Hythe, Kent) finds that activity does not appear to be keeping pace with conditions. On September 22 he had an excellent QSO with G5BD (Mablethorpe) in almost the worst direction. At that time, however, only one other station, a semi-local, could be heard. On October 13-14 however, the Continentals were excellent signals and a very enjoyable phone contact was had with F3NJ (F8NH at his country home 30 km. south of Blois) at S9 both ways. In addition to F8XT, F9RN (Cognac) was coming in well, but not raised. Turning the beam east resulted in a QSO with DJ1DC. The most noticeable feature of Sunday was the way in which Midland and Northern Gs peaked at about 16.00 G.M.T. Outstanding among several such QSOs was a "first" with G3IWJ (Liverpool).

G5BM (Highnam) sends a very happy report. Before the magnificent period on October 14 only four stations had been worked but "I think I can say this was one of the best openings so far experienced." The first F stations ever were worked and the signals of the two GC stations were S9+—truly as strong as locals. ON4BZ was heard 569 calling CQ East! **G3EMU** (Canterbury) will be quite satisfied if no more QSOs are made this year, the last few weeks having been so enjoyable. He thanks G stations who replied to his calls when the Continentals were coming in. On September 14 at one time stations in Cardiff, London and Belgium were worked without moving the beam at all. '3EMU had the first QSO with a Dutch newcomer PA0ROK.

On 2m **G5BD** worked many DLs in the recent opening as well as F3XY at 350 miles. During October he was mobile in 21 counties and had QSOs from six of them, G6NB from Torquay and G3FAN from Oxford being outstanding.

G3HBW (Bushey Heath) says that on October 14 the whole band was at times full of S9 signals and that the most notable ones (which were at times wiping out 300 to 600 kc/s of the band!) were ON4BZ, GC3EBK, '2FZC, G3FGT, '5YV, and last and also strongest, G5BD. The best QSOs during the period were with EI2W, GI3GXP, G3AGA, '2FO, and F8LO.

G8LN (Plumstead) has managed to work GC3EBK and also at last G3EMU. No luck with GC2FZC however—the queue was too long! Curiously on October 14, *no* Continentals were heard at '8LN. An interesting point is that the peak conditions began after the barometer began to fall, as it had been falling steadily but slowly since October 12. '8LN reports that G2JF (Ashford, Kent) has improved his output and was putting S9 signals into London. G3IEX has been providing regular QSOs for '8LN. **G3ANB** (Brightlingsea) hopes he is now TVI proof but is going gently meanwhile.

G5YV (Morley, Leeds) says that October 13-14 brought many Continental QSOs to Leeds, including 11 French, 3 Dutch and 4 Belgian. In spite of strong winds October 21 provided another good session with contacts to DL, F, PA0 and ON. The DLs were strongest. **G2XV** (Cambridge) reports that G5KW and others could be heard working European stations one after the other —none of them was audible in Cambridge—and supposes the duct did not extend that far north. It seems to have been a very narrow one, extending however to the far west and Ireland.

G6NB (Brill) says October 14 brought a total of 30 Continentals worked but no luck with EA1CO up to date!

Northern Ireland

GI8DV (Limavady, co. Londonderry, ex-G8DV of Farnham, DL2DV of Fassberg, etc.) reports on his portable/mobile efforts at a location 1,000 ft a.s.l. at the eastern tip of Lough Foyle—by no means ideal for south easterly working. The results (including QSOs to the Home Counties) are nevertheless impressive. The transmitter comprises 12AT7—EL91—QV04/7 (12W) screen modulated by a 6AK5 (crystal microphone) and 6SN7 "gating" circuit. The receiver is a BC455 modified for six volt operation with a c.c. converter mounted on the dynamotor platform. The aerial is a 4-element Yagi with gamma match on a 12 ft sectional pole. GI8DV would like earlier activity on the band as he has often worked from 18.30 to 21.00 G.M.T. with no results. It was only when he started operating from 22.00 that the QSOs came. '8DV intends to work portable in Co. Londonderry and Co. Tyrone for some weeks yet, so please look out for him at the l.f. end (144.06 Mc/s). '8DV had to go there as he could not attract active stations until he did.

Eire

EI2W (Dublin) sends the following notes on the opening: G3GPT reported hearing EI4E on c.w. 579 and on phone RS44/5. G3FAN (I.o.W.) reported hearing EI4E at 17.30 G.M.T. on October 13. Other stations reported hearing EI4E on October 13 in the London area. GC2FZC was a "wipe-out" signal from 23.50 on October 13 to 00.45 on October 14 in Dublin, and was heard working station after station following the CQ call he made at 23.50. He appeared to be tuning "from the top down" as he intimated in his call, and it was 32 minutes after midnight when he got down to 144.14 (EI2W). The opening was remarkable for the number of stations operating in the Kent-Surrey area, on the 300-312 mile mark from Dublin and the *almost complete* lack of stations in the intervening territory.

Channel Islands

GC2FZC (Guernsey) having had the time of his life recently, has sent a list of stations worked. Although '2FZC had to be away most of the Saturday evening and quite a part of Sunday, 63 stations were worked, which will give some idea of the conditions and shows that the activity can be good when a semi-exotic station is on the air! The outstanding QSOs (all phone) were with ON4BZ, DJ1DC, EI2W, PA0NO, G3GPT and '3IWJ. The score is now 7 countries and 32 counties.

Wales

GW3GWA (Wrexham) confirms that on October 14 the Continentals got as far as Wales, when he had QSOs with ON4BZ (S9+ both ways) and ON4HN. The latter was worked at 19.40 G.M.T., but the band was already on the way out then. The first PA0 was heard during this period, but not raised. '3GWA notes that although ON4 and PA0 were thus audible, he couldn't hear any French signals. '3GWA will be on frequently to give those who need Denbighshire an opportunity.

Scotland

GM6WL notes a "slight livening up" at times. On October 10 GI8DV/P was worked by '6WL and '3NG. On October 12, conditions were very good to EI and EI2W was heard working GI8DV/P. '6WL afterwards contacted EI2W who also heard GM3NG. In the early morning of October 13, '3NG and '6WL worked GI3GXP at good strength. There was some QSB. On October 14, GM6KH worked GM2FHH and '3DIQ (Edinburgh) worked EI2W.

Holland

PA0FB (The Hague) has sent a very detailed report on the period October 9-16 as seen from the other side of the North Sea. British stations were worked on October 10 and 11 and during the period up to October 13, G5KW, among others, was worked several times. German stations were also strong. On the evening of October 13 conditions became excellent and the path became extraordinarily good to France (not so much towards England). PA0GER worked F8XT near Bordeaux. All the other Hague stations heard and called '8XT without success. PA0FB worked several French and German stations and later heard F8XT weakly, presumably with the beam on England—he was talking English. October 14 started with a QSO with F8GH (Beauvais) at 12.15. After that from 12.30 onwards PA0FB was at the transmitter until late at night working G after G as well as GC and GW stations. GC3EBK was also heard working F3CA (Paris). PA0GER, 'BL and 'NO also worked '3EBK. '0NO also contacted GC2FZC who was audible for a long time during Sunday evening. ON4BZ reported working GI3GXP (Kilkeel) amongst 73 stations during the period. He also heard EI2W weakly many times but at 22.30 G.M.T. on October 16 in an otherwise dead band EI2W's signal was exceptionally strong! Most of the stations were also worked on October 14 by '0FB; all G and GW stations were between S6 and S9+. The impression was that every 2m station between a line running east-west across Yorkshire and north-south through Torquay was workable; indeed G3AUS in the latter town was strong all day. GW5SA/P in Carmarthenshire worked PA0BL, '0WAR and '0FB. Radio conditions became poorer about 20.30 G.M.T., only one station (in Northampton) being audible. Later on G stations came through again, including G5DW (Somerset). On October 15 no G stations were heard in the evening, but DL6SV in Holstein (near the Danish border) was a good signal. DL3VJ reported that he had QSOs with OZ6LD, LA9T (Moss), LA4VC (Oslo), OZ9EA, LA1KB, OZ6HF and SM6ANR.

DJ1XX (Osnabruck) also worked OZ stations. PA0FB finally notes that PA signals in Belgium were the strongest ever, his report from ON4LN (Malines) was "stronger than locals"!

G6LI's Annual Review

G6LI (Grimsby) says it is time to review the work of the whole year rather than to report on the activity of the month, as October 11 marked the entry into its third year of a daily standing schedule with PE1PL. During that time the signals from the other side have never yet failed to be readable. G6LI has failed a few times in the past but it is expected that a new aerial system now in use will minimize future failures. In July a new pair of stacked slots with four reflectors was put up. As supplied by the makers, the rods are not very solidly fixed together. However, if they are argon-welded after receipt they make a fine job.

During the early part of the season a rebuilt converter was put together to the design of PE1PL incorporating a cascode 6BZ7, followed by a 6AK5 r.f. amplifier and another triode-connected as a mixer. Noise figure obtained was 4.6 db. The performance is truly striking.

In spite of these changes, most will admit 1956 in common with its weather has been bad for v.h.f. DX. The weekend of October 14 produced a marked change when a route opened southwards all day to Paris and beyond. TV engineers reported interference patterns from Continentals. No great DX was heard but on the evening of that day the band suddenly opened to the whole of England, Scotland, Ireland and the Channel Islands.

The Four Metre Band

The 4 metre band (70.2 to 70.4 Mc/s) is a most welcome addition to the British amateur's v.h.f. allocations. It is in a part of the spectrum where very interesting results may be achieved, particularly in the way of DX, with every possibility of the m.u.f. going much higher. The band also promises to be of considerable interest for mobile use. G5KW and G8KW had their first 4 metre contact on November 2. Since then, G8KW has worked G3BTC (Welwyn) and G3BFP (cross-band to 160 metres). G8KW has had a QSO with G3JQN (cross-band to 2 metres). G2HCG has a skeleton slot array for the new frequency.

Care must be taken when using overtone oscillator circuits to ensure that the final frequency is actually within the band.

French amateurs have been using their 72 to 72.8 Mc/s band for some years with excellent results. The record distance stands at the moment at just under 1000 miles (from the Oise Department to Algeria). As there is a great deal of activity in France, cross-band contacts are obviously possible.

Reports on 4 metre activity should reach G2AIW by November 20 for use in the December issue of the BULLETIN.

Exceptionally strong signals were received from the London area and the south coast after nightfall. Oddly, Continentals became inaudible in the north. This phase was marked by the decline of barometric pressure and the restoration of normal conditions by October 15. Stations in GC were in great demand but, it is feared, only responded to calls on telephony, thus missing a lot of c.w. working from stations in the north who called them.

There is abundant evidence that a large number of 2m stations, thought to have left the band, are still, in reality, active over a very small part of the day after 11 p.m. It is felt that it is time these stations ceased to hide their heads in the sand and followed the example of long-wave users who have modernized their transmitters to work during television hours. They are not accepting the challenge of Amateur Radio. The direct outcome of this attitude is inactivity. It is also a little mysterious. Most working folk are thinking about rest after 2300. Perhaps only Saturday night is "two metre night." G6LI says: "I have put the question—how about the answer? A long time ago I asked the Society to urge daytime activity. My call was passed over. The membership is perhaps too touchy! Read *QST*, dear ostrich, and find out that U.S. amateurs work 2m the clock round with good effect. Who holds the world records? Just ask yourself that one. I noted in the October BULLETIN that G2XV thinks 70cm could be made a first-class communications band. How much I agree with him, but why is he so keen to populate another v.h.f. band when 144 will do the job quite well. What we older members of the Society ought to try and do is thin out the longer-wave activity to get 144 Mc/s filled with some keen, fresh types—the kind who like the daylight and thousands of free kilocycles."

Seventy Centimetre News

G5YV reports a good contact on September 13-14 with F8LO (near Paris). G3HBW (Bushey) was also an amazing signal, being 30-40 db over S9 and about 10-20 db stronger than his 2m signal! On October 21 70 cm conditions did not seem to be in line with 2m, the only

signal heard being G3IOO. **G3HBW** also reports his contact with '5YV and says conditions were then at their peak. '3HBW heard PA0WAR during this period, and worked G5BD (589), '5LL (449), '3KHA (559), '3HAZ (549), '2FNW, '2BVW and '3JHM.

G2CIW (Cambridge) heard 12 stations on October 14 but only worked G3HAZ (Birmingham). Even so the band was then quite dead compared with 2m, which sounded like 40m in pre-war days. '2CIW is active on 433.95 Mc/s and looking for QSOs.

G3KHA (Bristol) worked G2CIW and '3HBW and heard G3KEQ. **B.R.S.18572** (Mitcham) was very thrilled to hear G2XV (Cambridge) on 70 cm whilst in QSO with G5DT. This is believed to be the first 70 cm report from a B.R.S. member.

G6NB (Brill) has recently worked F8GH, '8LO, PA0WAR, G2OI and '5BD and says conditions have been very good but activity poor. **G2XV** would like skeds with active stations in Staffordshire or Derbyshire. Several interesting contacts were made during the opening but nothing spectacular.

Five-way QSOs are now running with **GM6KH**, '3NG, '3GUO, '3INK, '6WL with '6ZV cross band. '6ZV has a new outdoor aerial (20-element stack) and hopes to have send-receive arrangements completed before long.

EI2W (Dublin) has a 6 element Yagi at 65ft on top of his tower at Foxrock. This will be in use until next spring, when the 32 element aerial will be erected at the mountain QTH. EI2W will be on 434.7 Mc/s during the winter and will be listening for London or other signals from 21.00 to 21.30 each evening. From 22.00 to 22.20 the beam will be *east* exclusively for the Liverpool/Manchester area.

G5BD (Mablethorpe) is on 70 cm with a QQV03/20A tripler. Despite "local only" type of gear 6 counties have already been worked. The aerial comprises four 4 element Yagis at 50ft.

Twenty-three Centimetres

G5CD (London, N.W.11) has been making tests with G3HBW over a 7-mile path using a "reflex" aerial (August BULLETIN) on 1297.55 Mc/s. The aerial was fed by balanced 120 ohm feeder (Duradio 29). For anyone who cannot get this feeder, Duradio No. 11 (screened) becomes 29 if the screening is removed. The aerial is 18 in. square. When compared with a 6 turn helical beam fed by 125 ohm coax feeder the "reflex" shows an improvement of about 6 db. The helical beam has a forward gain of 13 db (less 3 db, as '3HBW was receiving on a horizontally polarized array). This gives 13−3+6= 16 db which agrees with G6CJ's figures. The "reflex" is very easy to make and requires no "fiddling".

G3HBW took his 23 cm converter over to G5DT (Wallington) having arranged to listen for G3GDR, '5CD and his own transmitter. Unfortunately '5CD could not be heard, but '3GDR at 27 miles was received on c.w. (549), '3HBW at 22 miles was S7 phone. The efficiency of a c.c. converter was again demonstrated, as the signals were found without any trouble whatsoever. The frequencies being known, the main receiver was merely tuned to the correct i.f. and there they were! The path from '3HBW to '5DT is a poor one going through (or round) nearly two miles of dense trees. No ill-effect has ever been noticed, even when the trees were wet, on signals from G5DT.

* * *

Please send reports for the December issue by November 20 latest. Good hunting meanwhile.

Worked and Heard on Two

B.R.S.16075 (Shirley, Southampton) September 19-October 19.
Heard: EI2W, F8XT, 9EA/P, G2MN/P, 2BRR, 2CIW, 2DSP, 2FJR, 2HCJ/P, 3DA, 3WA, 3WW, 3CGQ, 3EGG, 3FGT, 3GPT, 3HBW, 3HXS, 3IIT, 3IWJ, 3IOO, 3JGJ, 3JHM, 3JWQ, 3KEQ, 3LIM, 5BD, 5DW, 6SN/P, 8DA, 8MW, 8VZ, GC2FZC, 3EBK, GW3GWA, 5BI, 8UH, 8SU, ON4BZ.

B.R.S.18572 (Mitcham) October 13-14.
Heard: DJ1DC, EI2W, F3NJ, 3XY, 8GH, 8MW, G2ADZ, 2ANS, 2CIW, 2DDI, 2FJR, 2FNW, 2HCJ/P, 2HOP, 3AUS, 3EHO, 3EPW, 3FAN, 3FGT, 3FFV, 3GPT, 3HHY, 3IEX, 3IIT, 3IOO, 3IWJ, 3JWQ, 3JZG, 3KEF, 3KHA, 3KUH, 3KSP/P, 3LHA, 5BM, 5DW, 5SK, 5YV, 6SN, 6SN/P, GC2FZC, 3EBK, GW8UH, PA0BL, PA0NO, 0WA.

B.R.S.20133 (Melton Mowbray) September 18-October 18.
Heard: G2FNW, 2HCJ/P, 2HOP, 3CGQ, 3DVK, 3FFV, 3FGT, 3FZL, 3GFD, 3GPT, 3GSO, 3HTY, 3IWJ, 3JWU/A, 3JWQ, 3KUH, 4JJ/A, 4MK, 5AU, 5BD, 5ML, 5YV, 6NB, 8CZ, GW3GWA.

B.R.S.21034 (Lymington) October 14.
Heard: F8NW, G2AHP, 2DCI, 2DVD, 2FJR, 2HGR, 2NY, 3AGA, 3AUS, 3CLW, 3DF, 3EGG, 3EPW, 3FCQ, 3FIH, 3FZL, 3GHO, 3HBW, 3HHD, 3HHY, 3HWS, 3HXS, 3IWJ, 3JQN, 3JR, 3JWQ, 3KEF, 3KEQ, 3KUH, 5BD, 5BM, 5KQ, 5KW, 5MA, 5MR, 5YV, 6AG, 6NB, 6OX, 6QT, 8LN, GC2FZC, 3EBK, GW8UH, ON4BZ, PA0BL, 0NO.

B.R.S.21136 (Ruislip), October.
Heard: G2UJ, 2AHL, 2AJS, 2HDZ, 3BFP/A, 3BYY, 3GHI, 3GDR, 3FZL, 3HBW, 3HWJ, 3JQN, 3JR, 3KEQ/P, 3KQR, 3LIM, 5DS, 5MA, 6AG, 6NF, ON4BZ.

EI2W (Dublin) October 13-14.
Worked: F3JN, 3XY, G2ADZ, 2DVD, 2HCJ/P, 3ABA, 3FAN, 3FZL, 3GPT, 3GON, 3HBW, 3KEQ, 3LIM, 5DW, 5KW, 5MA, 6NB, 8KW, GC2FZC, GM3DIQ. *Heard:* DJ1BC, F3NJ, 3XY, LX1SI.

G2CIW (Cambridge) September 20-October 19.
Worked: G2ADZ, 2BRR, 2FO, 3BOC, 3DMU, 3GPT, 3HHD, 3IRA, 3JWQ, 3KEF, 3KFD, 3KHA, 5BM, GC2FZC, PA0FB. *Heard:* EI2W, F3LQ, 3NJ, 8GH, 8ME, G2HGR, 2NY, 3FIH, 3FMI, 3GFD, 5BD, 5LL, 6LI, GC3EBK, GW3GWA, 8SU, ON4BZ, PA0BL.

G2CZS (Chelmsford) September 20-October 21.
Worked: G2AIO, 3CKQ, 3EPW, 3FVK, 3GFD, 3HA, 3KSR/P, 6SN, GC3EBK, PA0FB. *Heard:* DJ1DC, DL1LB, F3JN, 3LQ, GC2FZC, ON4HN, PA0BL, 0NO, 0SK.

G3EMU (Canterbury)
Worked: DJ1DC, F3AL, 3JN, 8GH, G2JF, 2AIW, 2FMJ, 2FZL, 2HOP, 3CGQ, 3HBW, 3INU, 3KEQ/P, 3LIM, 5BD/M, 5KG, 5MR, 5YV, 8LN, GW8UH, ON4IE, 4HN, 4UD, PA0BL, 0FD, 0GER, 0NO, 0ROK, 0WAR. *Heard:* F3LQ, 3XY, 8LO, G2YB, 2FNW, 2HCG, 3AUS, 3COJ, 3FCQ, 3HXS, 4AJ, 5UM, 6OX, 8MW.

G3FIH (Bath) October 10-14.
Worked: DJ1DC, EI9C, F3NJ, 3XY, 8GH, 8NS, 8XT, 9DI, G2ADZ, 2CIW, 2DVD, 3AYT, 3BW, 3CCH, 3CKQ, 3DA, 3DVK, 3EPW, 3FCQ, 3FFV, 3FGT, 3FKO, 3FMI, 3HWS, 3JQN, 3JUG, 3JWQ, 3JZG, 3KEF, 3KHA, 3KPT, 3KUH, 3LAY, 3LHA, 4PS, 5KG, 5MA, 5OB, 6QT, GC2FZC, ON4BZ. *Heard:* EI2W, F3CA, 3JN, 3LP, 3LQ, 8EB, 8NS, 8OB, G2BRR, 2EMU, 2FNW, 2UJ, 2YB, 3AUS, 3FAN, 3GHO, 3GPT, 3HHY, 3IER, 3IWJ, 3YH, 3LIM, 5BM, 5DW, 5ML, 5YV, 6AG, 6OX, 8MW, GC3EBK, GW5BI, 8UH, ON4HS, PA0BL, 0NO, PE1PL.

G3HBW (Bushey) October 8-15.
Worked: EI2W, F8LO, G2ADZ, 2BVW, 2FNW, 2FO, 2HCJ/P, 3AGA, 3BOC, 3DOV, 3DVK, 3EMU, 3ENY, 3EPW, 3HA, 3HAZ, 3HBE, 3HWS, 3IEX, 3IOO, 3IWJ, 3JGJ, 3JWQ, 3KEF, 3KHA, 3LAY, 3LHA, 3NT, 5BD, 5LL, 5VN/A, 5YV, 6CI, GI3GXP.

G3KHA (Bristol 4).
Worked: DL1LB, F8XT, G2FNW, 3GPT, 5UM, GC2FZC, 3EBK, PA0FB. *Heard:* DJ1DC, EI2W, F3LQ, 8GH, G5BD/M, 5BD, GI3GXP, GW5SA/P, ON4BZ, 4HN.

G4IB (Pembury, Kent) October 14.
Worked: F8ME, G3FCQ, 3JWQ, GC3EBK. *Heard:* F9OE, G2AHP, 2AHL/P, 3AUS, 3JI, 3GGQ, 3GHD, 4AK, 4FB, 5KW, 6SN, PA0BL, 0FC, 0NO.

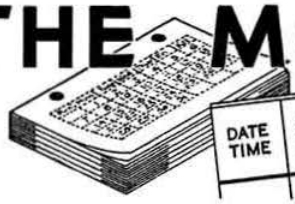
G5MA (Great Bookham, Surrey) October 3-19.
Worked: EI2W, 9C, F3JN, 3NS, 8NS, 9AJ, G2CIW, 2FNW, 2FO, 2HGR, 2XV, 3AGA, 3ALC, 3AST, 3BOC, 3FGT, 3FIH, 3GPT, 3HBE, 3IRW, 3IWJ, 3JGY/P (Hereford), 3JWQ, 3KUH, 3LHA, GC2FZC, GI3GXP, 8DV/P (Co. Londonderry), GW3GWA, 5BI.

G5MR (Hythe, Kent) September 14-October 14.
Worked: DJ1DC, F3CA, 3JN, 3NJ, 8GH, 8ME, 8XT, 9AJ, 9EA/P, 9QE, G2FMJ, 2JF, 2YB, 3AUS, 3DOR, 3EMU, 3GHO, 3ION, 3IWJ, 3IWQ, 5BD, 6OX, 6SN, 8RK, GC2FZC, ON4BZ. *Heard:* F3AL, 3XY, 8EB, 8FA, 8LO, 8NS, 8NW, 8OB, 9DI, 9DQ, 9FB, 9RN, G2ABD, 2AHP, 2AIW, 2CIW, 2HCG, 2RD, 2XV, 3COJ, 3DKF, 3ENY, 3FAN, 3FCO, 3FGT, 3FIH, 3FZL, 3HHD, 3HRH, 3HXS, 3IIT, 3IRW, 3JZG, 3KEF, 3LIM, 3WW, 5KG, 5KW, 5ML, 5NF, 5YV, 6AG, 6NB, 8KW, 8MW, GC3EBK, ON4HN.

F8XT (Chillac) reported by G3JGJ.
Worked: G2JF, 2WI, 3ADZ, 3AUS, 3CGO, 3DKF, 3FIH, 3FZL, 3JGJ, 3KFD, 3KHH, 5KW, PA0GER, 0IKS. *Heard:* G3FAN, 6NB, PA0FB, 0WAR.

Due to pressure on available space a number of lists of calls heard and worked have been held over.

THE MONTH ON THE AIR



By S. A. HERBERT (G3ATU)*

ONCE again our story is concerned mainly with the three high-frequency bands, where things have been happening in a manner reminiscent of ten years ago. Soon DX conditions will be as good or probably better than ever they were during the last peak, but we shall have to face problems this time that did not exist then. First of all, more and more stations will use the bands as conditions improve and even with 21 Mc/s in full use, QRM will really be with us. However, that after all is a minor matter and is to be expected. What seems to your commentator to be the real danger is the seemingly increasing number of intruders in what are supposed to be exclusively amateur frequencies. If we can only persuade the jammers, noise generators, teletypes and all the other misguided broadcasters to clear off and leave us in peace then at least we can settle down and fight things out among ourselves! But enough of that for the nonce: on with the month's mail.

Ten Metres

Although ten has had its ups and downs, for most of the time it has been very much up. The weekend of the VK/ZL c.w. contest in particular struck a patch of super conditions. Things were quieter for the phone session and the *CQ* World Wide telephony contest also suffered inasmuch as the Ws were far from being at their usual strength. The c.w. section is still to be run as these notes are written, but when it takes place, things should once more be back to normal.

G3AIM (Speke, Liverpool), who writes for the first time, has renewed his interest in DX after a period of experimental work. In a short visit to ten, he worked CR6AI, VS2CR, VK9DB and sundry W, JA and VK on c.w. **G3IFB** (Harrow) used c.w. and his G5RV-type transmitter with a dipole to work ZL1AH, VK9XK (12.30), VS6CT (14.00), W5, '6, '7 and K0GST/VE8 (Resolution Is.), who was calling CQ on phone. A solid A1-A3 QSO resulted. Finally, Frank celebrated the receipt of his W.A.C. certificate by working VU2MD! **G2BVN** (Romford) talked to VP5ML (ex-K2SRN), newly active from Grand Turk Is., who asks for his QSLs to be sent via W2OFV.

B.R.S.20317 (Bromley) finds his converter working well—indeed it has gathered him 89 countries on ten since mid-September. Recent phone catches include CR7IT, CR9AH, CT3AN, HI6EC, FQ8AF, KL7BEW (20.00), OA4, VK9DB, VP9BO, VS6BE (on s.s.b.), XE1GE, ZS7C and, at last, HR1JZ. On c.w. KH6AFS (20.00), KL7s (18.30), OQ5RU, PJ2CA, ST2NG, UL7KAA and XW8AB (14.30) were logged. **B.R.S. 20135** (Newport, I.o.W.) noticed the variety of DX available during the morning, before the band is taken over by the masses of loud Ws and VEs and gathered in phones ZL2GG, '2MU, KA2KK, VS6CY, 4S7WE, '7YL, CR7DS, EL12H, HR1CB and a variety of VKs. **B.R.S. 20106** (Petts Wood) found things not quite so good at the month end, with short skip appearing on the band, but he heard a variety of DX, with SV0WE (Rhodes), VP4TS, '7NS, FM7WQ, TF, ZD3, TI, VE4, VE5 and VE7 on phone and TF3KA, KL7 (21.00), KH6 (21.00), JA1, '3, '5, XW8AB and ZD6JL on A1. **B.R.S.6327** (London, S.W.18) sends his first report for any band below 144 Mc/s! He found v.h.f. activity at a low level and tuned ten briefly, the result being CX3CS, HC1EX, 5A1TO, W1BMZ/MM, KP4, VQ2 and some Us added to the log.

G3ATU was impressed by happenings on occasional evenings, when the band below 28500 kc/s was full of strong VE5, '6 and '7, with little else to be heard. VP8BT's phone was just readable one day at 18.45 G.M.T. (28160)—he was working CX—but he soon faded out. TG9MB, VP2GC (Grenada), HH2W, DU1AP (14.30), SV0WD (Crete) are active on phone. Chasers after W.A.S. may care to look for W7ACD (Idaho), W7NXA (Mont.), W7VVC (Idaho), W6VOZ/7 (Ariz.), W7JJQ (Idaho), W7VZS (Nevada) and W7MRN (Nev.) on phone with '7MRN on c.w. also. **G3JUV** (Newcastle-on-Tyne) remarks that KL7AYA (Doris), active on ten and fifteen is believed to be another pirate.

Fifteen Metres

Fifteen carries a tremendous amount of traffic these days and is always worth attention. A certain amount of short skip is usually there and of course "Those Things" continue to lurch unsteadily up and down the band, but the DX is there through it all and fascinating some of it is. Rumour has it that certain keen chasers simply dare not leave the band in case W6ITH pops up from yet another rare spot while they are elsewhere!

G3AAE (Barnet) remarks on the excellent h.f. openings, even beyond the predicted times. He had an S9 plus QSO with ZL4HE at 03.00 G.M.T., which shows what *can* happen. QSOs were made on A3 with VE6PP, '8ML, KL7s and VR2BZ—all 07.30 to 10.00, while two rare ones worked later were KX6ZB (12.05) and VP1HA (01.15). On A1, John talked to 3A2BH, KH6PM (09.20), 4S7EM and VK9XK (14.30). He hears that Stan Ward, who was VP8BT, is now VP8BU; the call '8BT now belongs to an operator named Ossie in Argentina Is., Grahamland. JZ0ACK is on 21 Mc/s phone, using a beam made by strapping co-ax to bamboo poles. Anyone sending an s.a.e. to VK1RW (Cocos-Keeling Is.), should use Singapore postage stamps—although Australian ones would probably be honoured. Finally, John nominates the HH gang for his award—for *not* QSL'ing!

G2JB (Waltham, Lincs.) got his first KM6 in 25 years on the air when KM6AX was hooked at 19.20 G.M.T. The call belongs to the Midway Island A.R.C. **G3AIM** had fun on c.w. and worked XW8AB, VK9DB, CR7BS and 4S7, then changed to A3 for BV1US, KR6RB and VK1GU (Canberra). Phone highlights for **B.R.S. 20317** were DU6IV, TG9AZ, PZ1AC, VS4BD (a new one) and Antarctic dwellers VP8BP, 'BT, 'BU, 'BY, with MP4BBL, OY7ML, LX1AS and ZA1A (Hmm!) on the key. **B.R.S.20135** lists VS4NW, YN1HF, ZD8SC, VP4KL, ZD4BL, VP8BP, '8BT, VK and ZL on phone, while **B.R.S.20249** (Sutton), armed with a new receiver—an

*Roker House, St. George's Terrace, Roker, Sunderland.

Eddystone 840A—added BV1US on A3 for a new one. On A3, **B.R.S.20106** mentions VP4TE, '4TL, '5AO, VR2BZ (07.20), VP2DC (17.15), VU2BK (17.00), K5HMG/VE8, KR6QV (16.40), while on c.w., Norman lists UA1KAE, 3W8AA (08.00), XW8AB (17.00), FB8BX, FY7YC, KH6WW (20.00), ZL4MK (20.15), plus JA, VE5, ZD2, ET3, UA9 et al.

Twenty Metres

After a spell of listening to far-away places on the two h.f. bands, twenty seems to many of us to be behaving more and more like forty metres, yet it remains the happy hunting ground of most of the world's DX chasers and is now holding more DX than for a long time past, even though the DX may be somewhere underneath a T2 local or someone happily relaying his favourite broadcasting station. **G3GSZ** (Castle Eden, Durham), was understandably pleased at landing four interesting c.w. catches in ZD9AE (19.40), W4EMF/KS4 (Swan Is., 20.20), VK9TW (15.35) and ZS3AC, who was also delighted, as G3GSZ was his first G. VK9TW said he was in Papua, which raises complications. This QSO was made in October, but the '9TW call was previously in use from Nauru, so its looks as if some who worked him will have to wait for his card to find out where he was at the time! Stan lists as "those who wouldn't listen" HI8WL, KR6SC, FK8AO (19.50), FE8AE (20.30), ZS7C and FG7XC (20.00) and says "Oh, for a beam", but his ground plane seems to be doing all right.

G3AAE's time was taken up with c.w. QSOs with DU7SV (23.10), PZ1AN, '1AP, UA1KAE, XE1MB (07.50), BV1US, VP8BW (21.50) and VR2AA (07.50), a goodly selection. **G3AIM** also found himself among the rare ones and had replies from items such as FB8ZZ, FK8AO, FO8AB (17.00-14088), 3W8AA, VP8BK (South Georgia, 19.45, 14018), UA0KQB (Zone 18), FL8AB, ZD9AE, VK9DB, '9XK, PX1AA and, thanks to VS1GZ, a three-way QSO with VK1RW. *Trés formidable* c.w.!

B.R.S.20317 heard the intriguing ZQ7A giving forth on c.w. at 20.12 on 14013 (at which time FK8AH, JA and UA0 were also good signals) and he wonders if it could be W6ITH on from some remote rocklet? (The point that strikes your commentator is that, whoever is at the back of it, this is one of those calls that shrieks "phoney," but everyone calls just the same. After all, you never know!). Back to more normal things, Bill collected VK1RW for a new one, plus CR4AH, F9SC/FC, FL8AB (20.00), I5RAM (21.00), LU7XP (Tierra del Fuego), UH8BA, UL7CB, 'KAA, 'KBA and VPs '8BK and '8BW, all on A1. **B.R.S.20135** logged AP2U, TG9WW, CR6AU, HX1AB, UN1AB and UR2KAA on phone. Using the same medium, **B.R.S.20106** unearthed XE3AF, VK5AB, HR1SO, VP1HA (02.15) and no less than four TGs—TG9MQ, '9MB, '9TU and '7CB (06.50-07.00). On c.w., Norman dug out VK1RW, LU8ZB, '9ZA, FP8AP,

Frequency Predictions for December, 1956

PREPARED BY J. DOUGLAS KAY (G3AAE)

It will be noted that, commencing this month, a further column is included in the prediction tables. This shows the time of the theoretically highest value of maximum usable frequency on each circuit for which predictions are quoted. Besides giving an indication of the trend on each circuit the new information may also prove of interest to those readers who wish to listen for transmissions from those countries where operation in the 50 Mc/s band is still permissible. As actual maximum usable frequencies are tending to be higher than the predicted figures, some interesting results may be observed, despite the fact that the highest value of m.u.f. predicted on any circuit for December is 52 Mc/s at 1200 G.M.T. on the Rugby-Baghdad circuit.

BAND	NORTH AMERICA	CENTRAL AMERICA	SOUTH AMERICA	SOUTH AFRICA	NEAR EAST	MIDDLE EAST	FAR EAST	AUSTRALIA
M.U.F.	42 Mc/s 1600	46 Mc/s 1400	43 Mc/s 1130	39 Mc/s 1600	48 Mc/s 1100	47 Mc/s 1000	46 Mc/s 1030	37 Mc/s 0830
28 Mc/s	1200—1900	1100—2100	0930—2100	0800—1900	0700—1700	0700—1530	0700—1500	0730—1500
21 Mc/s	1030—2100	1000—2300	0830—2230	0600—2200	0600—1900	0600—1730	0600—1600	0630—1600 1900—2200
14 Mc/s	1000—0600	0800—0300	0700—0400	0600—0000	0500—2300	0600—1830	0530—1730	0600—1730
7 Mc/s	2000—0800	2200—0400	2200—0400	2200—0200	2000—0200	1800—0000	2000—0000	0700—0900 1500—2030
3.5 Mc/s	2200—0600	0200	0000—0400	0000	2300	2000	2300	0800

These predictions are based on information provided by the Engineer-in-Chief of the Post Office. All times are G.M.T.

FY7YG, FL8AB, ZA1AB, '1KAA, JA0CA (20.50) and ZLs '4CK and '4GA during the evening Pacific opening around 20.00. The FW4DZ mentioned last month was on c.w. and not phone. W6CG was heard to call ZD1FG, who seems to be active in spasms. All of which leaves **G3ATU** rather up in the air. He thought he'd worked some good saleable material, but it's all been done already! Suffice it to say, then, that VK1RW seems a methodical chap. He was dispensing numbers during the VK/ZL contest and giving his name and QTH and as he insisted on getting the same details from everyone he worked, business tended to be somewhat slow. FG7XD, FB8BP (Box 1310, Tananarive) and rarer Europeans such as IS1TDW, EA6AW and OY4GA are active on c.w. as is a type signing A8RC (Gao, French Soudan). CE8BS was worked one night—providentially, at the key was CE3ZO/G6ZO. QSLs to '8BS should go via W6DOK.

Forty Metres

Things being as they are, forty continues to be largely ignored, though contests bring a temporary increase in activity and show that DX is there for most of the time. The VK/ZL contest for instance saw VK4FJ and VK9XK both working Europe and it seems a sure bet that the c.w. part of the world-wide affray will bring a heavy load of real DX traffic on to the band. Then comes **VS1GV,** who writes in *The Malayan Radio Amateur*—"The band is open to nearly every West European country from about 21.30-24.00 G.M.T." If someone would market a DX-pass filter plus S9 local-blocker, what a good band it would be.

G3HKL (Hayes) is one believer in the band who has worked DX such as FM7WD, PY7VDJ and W6MOJ and heard CM2PX, '3JE, W0SOP and a VE7, all in the early morning. He worked 3A2BH, who said QSLs should go via HB9KB and wonders if he is ok, in view of the note from G3AMM in the September *M.O.T.A.* Yes, he is perfectly good—the paragraph concerned should indicate, we imagine, that 3A2BF and 3A2BE are the only *resident* 3A2s, though several foreigners hold 3A2 calls (G6LX has one, for instance). **B.R.S.20317** searched the c.w. end between 20.00 and 00.00 and came upon OA3EE, PZ1AP, XE3AH (23.30), YI2DX, '2RM, K5AHX (Texas), 4X4, UL7 and UA0s 'AG and 'KSB, while his friend **B.R.S.20206** heard KH6AYG (07.10).**B.R.S.20106** succeeded in pulling through XE1KD (07.00), EA9EF, '9BJ, W5SL, '5NIY, '6DFY, '6MOO, K0CXW (20.20), UA9 and UI8. **B.R.S.20249** actually heard 4X4DK's phone—S7 at 01.00.

Eighty Metres

Eighty is, of course, primarily a band for local work, but DX possibilities remain during darkness. VK signals should presumably be creeping through again—remember VK5KO around 19.00 G.M.T. some years ago?—but it should be easier to work ZL in the early hours, when the local competition is a little less fierce. Amongst the available DX, **B.R.S.20106** overheard VE2JB, KN4JKK and 9S4BK, while **B.R.S.20317** heard VE1JD, '3DFN, W3CUL, '3HEC, '4FPC, ZC4CA, IT1AGA, OY1R, UA1, UB, UO and 9S4BU, all on c.w. **G2DHV** (Lewisham) was given the special call-sign DJ0AA while on holiday in Germany and he visited DL1OY, '1JM and PA0PUY, though at the latter, he had to be content to accept PA0-SWL status! No reciprocity yet.

One Sixty Metres News

G/ZL Tests. **G6CJ's** news of this year's series shows that some nine Gs were on regularly during the period, with ZL1AH, '3RB and '4GA at the DX end. Support would have been better, but *Break-in,* the N.Z.A.R.T. journal, with details of the tests was late in appearing. Conditions were inferior to previous years, with higher noise-level and weaker signals—a condition to be expected, with improving h.f. situation—and no QSOs were made. However, ZL1AH and '3RB were identified on two or three occasions, while ZL1AH heard G6GM and G8NF; ZL3RB also heard '6GM. Dud considers it not worth-while repeating the tests until the sunspot numbers fall in a few years, but he suggests looking on 50 Mc/s in November, for 28/50 Mc/s QSOs. Africa should be possible and Dud was going to try with ZL1AH, but VK/ZL have lost the 50 Mc/s band now—television has arrived!

Nearer home we have **G3KSU** (45, Langton Avenue, Chelmsford), who is prepared to operate from Ipswich any week-end, "but," he says, "sufficient support is required." **B.R.S.20317** checked the band one evening and heard DL2UY and HB9T, both around 19.00 G.M.T. **DL2ZO/G3KMQ** (R.A.F. Butzweilerhof) is keen on making cross-band QSOs with his transmitter on 7 Mc/s. He recently had a long chat with UO5FC (Cila, a YL) who shows interest in getting going on one-sixty.

News From Overseas

B.E.R.S.195 sends another of his interesting reviews on Pacific happenings. He heard VK9TW from Nauru, but thinks he did use the call from Papua also. He was heard on October 5 working W, but giving no QTH. Eric has given up 7 Mc/s—his ears can't stand the current broadcasting racket—and he uses 14 Mc/s, mostly c.w., though he did log phone from VK1IJ (Macquarie) and JZ0ADM, who says he is ex-MP4QAH (QSL via G2MI). Active rarities (to us in the U.K.!) are FK8AO, ZK1BS, VR2AA, '2BA, '2BZ, VR3B, VP8BW (Deception Is.), KJ6BP, VQ8AB, 'AD, 'AG, all heard recently, though Eric was probably more pleased to log LX1DW and DL9CI/LX! Arrival of four QSL "firsts"—MP4QAL, CE0AD, VS4BA and YA1AM give him 229 countries confirmed—good going for anyone.

G3ISV (Middlesbrough) sends details of a "DX week-end" which the Sioux Falls A.R.C. of South Dakota will hold on December 8-10, from 01.00-06.00 G.M.T., using 28050, 21050, 21320 and 14085 kc/s, tuning 10 kc/s each side, and on December 13 from 01.00-14.00 G.M.T. on 14085 kc/s. Active stations will be W0s 'BLZ, 'PHR, 'RRN, 'SMV, 'ZRA, 'HON and Novices in their 21 Mc/s portion. G3ISV worked RAEM, who passes regards to G2MI.

More excellent dope from the one-man *DX Bulletin* of **W6YY** (La Canada, Cal.) relates that FB8YY is now on from Adelie Land. ZC3AC was on during October, but apparently the pile-up scared him off (usually on 14080, T8). PJ2ME started up from Sint Maarten on 14 Mc/s c.w.; ZD1FG listens on 14005 kc/s, regardless of where he operates on the band. W6YY received the first WAZL Certificate awarded to a W and was surprised to find it was the first one issued outside VK/ZL. Nice work.

In the August *M.O.T.A.* the G call held by Ray Edginton (ZC4GF) should have been shown as G3AGF. **G3AEF** himself is active from Formby, Liverpool.

* * *

So ends another month and an eventful one, too. With conditions still improving, the usual "good hunting" to one and all. Reports please to arrive by November 22. Here's wishing King Sol an even spottier face, 73.

Annual Report of the Council

THE Report which follows deals with the work of the Society during the year ended June 30, 1956, and covers major activities only.

* * *

Membership

The hope expressed a year ago that the membership curve would soon begin to show an upward trend has been almost realized. The nett loss over the year was 57 compared with a loss of 1,576 during the previous year and losses of 1,455 in 1954, 435 in 1953, 509 in 1952, 889 in 1951, 1,015 in 1950 and 401 in 1949.

Every effort has been made to arrest the decline in membership by inviting newly-licensed United Kingdom amateurs and active overseas amateurs to join the Society. Non-licensed enthusiasts have also been canvassed. A fair degree of success has attended these efforts but very much more must be done if the financial position of the Society is to be built up to a satisfactory figure. The Council looks to all members to help it in the task of restoring the numerical strength of the Society to the level achieved shortly after the war.

As at June 30, 1956, the total membership was 8,102 compared with 8,159 a year earlier.

The following table compares the number of members in each grade over the past two years:—

Corporate Members	1955	1956	Gain or Loss
Licensed	5,046	5,141	+95
Not Licensed ..	2,849	2,714	−135
Associates	264	247	− 17
	8,159	8,102	− 57

Once again an analysis has been made to ascertain the number of Corporate Members who are licensed to operate an Amateur Radio station. This shows that 63.4 per cent are licensed amateurs, 33.6 per cent do not hold a licence and 3 per cent are Associates. The percentages last year were 62, 35 and 3 respectively.

Details of the analysis follow:—

Corporate Members (Licensed)		
Country	3,324	
London	1,139	
Overseas	678	
		5,141
Corporate Members (Unlicensed)		
Country	1,817	
London	719	
Overseas	178	
		2,714
Associates		
Country, London and Overseas		247
		8,102

As at June 30, 1956, 7,402 United Kingdom Amateur Radio licences were in force, compared with 7,384 in 1955, 7,624 in 1954, and 7,718 in 1953.

As at June 30, 1956, 60 per cent of all U.K. licence holders were members of the Society, a figure which compares favourably with the A.R.R.L. figure of a little under 40 per cent.

During the year the Council elected 710 Corporate Members and 88 Associates while 55 Associates were transferred to the Corporate grade.

R.S.G.B. Bulletin

Publication of the Society's Journal—in company with numerous other periodicals—was seriously affected as the result of a dispute in the printing industry which began during the early weeks of 1956. Even when the dispute had been settled, publication schedules were badly disrupted for a further period. The Council much regrets the inconvenience caused to members by the late publication of the Society's Journal.

As a consequence of the dispute two issues had to be cut down drastically in size with the result that Volume 31 ran to only 544 pages compared with the 600 pages that comprised Volume 30.

The technical standard of the R.S.G.B. BULLETIN was again well maintained with contributions covering a wide range of subjects.

The Technical Committee sponsored a modern design of communications receiver under the title of "The Britannia."

The demand for short constructional articles has been partially met but many more articles of this type are wanted.

The Norman Keith Adams Prize for the most original paper published during the year was awarded to Mr. G. A. Bird, G4ZU, author of "The Minibeam." Mr. A. L. Mynett, B.Sc., G3HBW, author of "Transmission Line Tuned Circuits," was awarded the Bevan Swift Memorial Prize for the most meritorious article published during the year. The newly-donated Louis Varney Cup was awarded to Mr. R. H. Hammans, G2IG, author of "Diagnosis of TVI," judged to be the most meritorious paper published on Amateur Radio interference.

Monthly commentaries were contributed by Mr. F. G. Lambeth, G2AIW ("*Two Metres and Down*"), and Mr. S. A. Herbert, G3ATU ("*The Month on the Air*"), while Mr. J. D. Kay, G3AAE, continued to provide monthly frequency predictions. Technical commentaries were contributed at regular intervals by Mr. H. F. Knott, G3CU ("*CQ Single Sideband*"), and Mr. M. W. S. Barlow, B.A. (Hons.), G3CVO ("*Amateur Television*"). The Assistant Editor (Mr. J. A. Rouse, G2AHL) conducted the "*Mobile Column*."

The Council takes this opportunity of thanking all contributors and advertisers for their support.

R.S.G.B. News Bulletin Service

After prolonged negotiations the Post Office finally agreed in September, 1955, to allow the Society to operate a weekly News Bulletin Service using the special call-sign GB2RS on a frequency of 3600 kc/s. Initially the Service was radiated from the station of Mr. F. Hicks-Arnold, G6MB, at Walton-on-Thames, Surrey, with Mr. A. O. Milne, G2MI (Bromley, Kent), acting as reserve. The service began at 1000 G.M.T. on September 25, 1955.

As from June 10, 1956, an additional transmission at 12.00 B.S.T./G.M.T. to serve the North of England and Scotland was radiated from the station of Mr. W. R. Metcalfe, G3DQ, at Flamborough Head, Yorks.

When the Service first started the operators received many expressions of appreciation from Members but with the passing of time it became more difficult to decide whether or not it was still being used regularly.

The Council endorses the appeal made frequently through the medium of the News Bulletin that the Service, if it is to prove of real value to members, should

contain topical items of general interest. News items should be sent or telephoned to arrive at Headquarters by not later than 10 a.m. on Thursday mornings.

Science Museum Project

As a result of discussions which took place between representatives of the Society and officials of the Science Museum it was found possible during the summer of 1955 to set up an Amateur Radio Station in the Communications Gallery of the Museum. Visitors to the Museum are afforded an opportunity of seeing the station in operation.

Mr. G. R. M. Garrett, G5CS, Deputy Keeper, Department of Electrical Engineering and Communications, who sponsored the project, is in charge of the station, which uses the call GB2SM.

Licence Matters

During the year the Postmaster-General announced that he would no longer require newly-licensed amateurs to confine their activities to Morse working during the first year of their licence. At the same time he made it clear that there would be no relaxation of the Morse qualification of 12 words per minute required before a licence is granted. The P.M.G. stated that the removal of the Morse restriction for new licences was to be regarded initially as an experiment.

As from March, 1956, the Post Office decided to implement the Atlantic City Frequency Allocation Table in so far as it affected the 7 Mc/s band. From that month amateur operation has been confined to the band 7000-7150 kc/s, the last 50 kc/s being assigned on the basis of no interference to broadcasting.

Radio Amateurs' Examination

Once again the City and Guilds of London Institute and the Post Office set papers for the Radio Amateurs' Examination. A total of 518 candidates—nearly 100 more than in 1955—sat for the City and Guilds examination. Of this number 458 (88.4 per cent) passed and 60 (11.6 per cent) failed.

The Society was again represented on the City and Guilds of London Institute Moderating and Advisory Committees for the Radio Amateurs' Examination by Mr. W. A. Scarr, M.A., G2WS, and the General Secretary. Mr. H. A. M. Clark, B.Sc. (Eng.), G6OT, also served on the Advisory Committee.

Slow Morse Transmissions

Slow Morse Practice Transmissions were radiated daily under the supervision of Mr. C. H. L. Edwards, A.M.I.E.E., G8TL. The many members who assisted in the operation of this valuable service are most warmly thanked.

National Radio Show, Earls Court

For the second time since the war the Society was represented at the National Radio Show, Earls Court. A feature of the Society's stand was a demonstration of Amateur Television.

The Council records its thanks to the Radio Industry Council, and in particular to the Director (Vice-Admiral J. W. S. Dorling, C.B.), for providing the Society with the facilities. The Society's stand was managed in a most efficient manner by Mr. F. F. Ruth (G2BRH).

Amateur Radio Exhibition

It was singularly appropriate that Vice-Admiral Dorling should be invited to open the Ninth Annual Amateur Radio Exhibition held at the Royal Hotel, Woburn Place, London, during the last week in November, 1955.

Once again the Exhibition, the theme of which was Communication Receivers, attracted good, if not record, attendances.

The Council records its thanks to all who helped to make the Exhibition a success, and in particular to Mr. P. A. Thorogood, G4KD, for his valued services as Manager.

London Lecture Meetings

During the period from October, 1955, to March, 1956, lectures were given at the Institution of Electrical Engineers, London. A list of speakers and their subjects follows:—

October 28, 1955. "Amateur Radio in the Antarctic," by Roth Jones, VK3BG (read by A. O. Milne, G2MI).

November 11, 1955. "The G4ZU Three Band Minibeam," by G. A. Bird, G4ZU.

January 27, 1956. Presidential Address. "The Communication Aspects of Single Sideband Transmission," by R. H. Hammans, G2IG.

February 24, 1956. "420 Mc/s Operation," by Members of the London U.H.F. Group.

March 23, 1956, "Principles of Colour Television," by P. S. Carnt, B.Sc. (Eng.), A.M.I.E.E.

"The Antennamatch" Lecture

During the year Mr. F. Hicks-Arnold, G6MB, author of the article "The Antennamatch," which won for him the Norman Keith Adams Prize for 1955, demonstrated "The Antennamatch" at meetings of members held in various parts of the country. Much interest was aroused in the lectures.

S.S.B. Convention

The third Annual Conventionette of the R.S.G.B. Single Sideband Group was held on the last day of the 1955 Amateur Radio Exhibition. Amateurs from Germany and the Netherlands attended to join in discussions on a wide range of subjects of interest to the s.s.b. enthusiast.

V.H.F. Convention

A highly successful V.H.F. Convention, organized jointly by the Society and the London U.H.F. Group, took place in London on May 26, 1956. Dr. R. L. Smith-Rose (Director of Radio Research, D.S.I.R.) was one of the guests of honour.

International Matters

The Society was represented at the second Triennial Conference of Region I I.A.R.U. Societies at Stresa, Italy, during June, 1956, by Messrs. W. A. Scarr, M.A., G2WS, and H. A. M. Clark, B.Sc. (Eng.), M.I.E.E., G6OT. A full report of the Conference appeared in the July and August, 1956 issues of the BULLETIN.

The President (Mr. R. H. Hammans), the General Secretary (Mr. John Clarricoats, O.B.E.), and Mr. A. O. Milne, also attended the Conference as Members of the International Committee. Mr. Milne was re-elected to serve on the Committee as Honorary Secretary to Region I Division.

Prior to the Stresa Conference the Council had the pleasure of meeting the General Manager (Mr. A. L. Budlong) and Assistant General Manager (Mr. John Huntoon) of the A.R.R.L. in London when an opportunity was taken to discuss matters of mutual interest to both organizations.

Headquarters staff have been privileged to meet many visitors from overseas societies.

Technical Committee

Members of the Technical Committee have again given very valuable advice to the Editorial staff on a wide variety of technical matters. Individual members contributed articles to the Society's Journal and loaned items of equipment for display at the Amateur Radio Exhibition.

The Council records its thanks to the Chairman (Mr. H. A. M. Clark, B.Sc. (Eng.), M.I.E.E., G6OT, and all members of the Committee for their assistance.

Contests Committee

The Contests Committee (under the Chairmanship of Mr. W. H. Matthews, G2CD), organized a wide variety of contests. National Field Day and the B.E.R.U. Contests attracted good entries. The former event was won for the third time in four years by the Bristol Group while Messrs. G. J. Dent, VQ4AQ, and J. C. van Wyk, ZS6R, repeated their previous successes by winning the Senior and Junior B.E.R.U. Contests respectively.

The Affiliated Societies' Contest was again won by the Stourbridge and District Amateur Radio Society. Support for D/F Contests was a little less than in recent years but interest in this aspect of Amateur Radio continues among the real enthusiasts. The National Final was won by Mr. T. C. Reynolds, B.R.S.21019 of Rugby.

V.h.f. and u.h.f. workers were catered for by fixed station and field day events. Improved equipment led to enhanced scores and longer distances worked.

The Council records its thanks to all members of the Contests Committee for their help in once again organizing and judging contests. Especial thanks are due to the Honorary Secretary to the Committee (Mr. A. W. W. Timme, G3CWW) whose efforts have been recognized by the award to him of the Founder's Cup for 1956.

Radio Amateur Emergency Network

The organization of the Network, which is sponsored by the Society, was again undertaken by a Committee appointed by the Council.

The first R.A.E.N. Rally took place during the autumn of 1955. Contact was established later with the British Red Cross Society which led up eventually to the Postmaster-General granting authority for the Network to co-operate with the B.R.C.S.

Fortunately no occasion arose during the year which called for the services of the Network but the Council is satisfied that should an emergency occur in the future the organization will meet its obligations efficiently and promptly.

The thanks of the Council are extended to the R.A.E.N. Committee and in particular to the Chairman (Lt.-Col. A. C. Dunn, G2ACD), and Honorary Secretary (Mr. C. L. Fenton, G3ABB), both of whom have performed their duties with great zeal.

Exhibition (Home Constructor's Section) Committee

The Council places on record its thanks to the members of the Exhibition (Home Constructor's Section) Committee for organizing the Society's stand at the National Radio Show, Earls Court, and for organizing the major part of the Society's participation in the Amateur Radio Exhibition. The Chairman of the Committee was Mr. C. H. L. Edwards, A.M.I.E.E., G8TL.

QSL Bureau

Improved operating conditions led to the expected increase in the number of cards passing through the Bureau.

The Council wishes to thank in particular the Sub-Managers who have continued to give excellent service to members. The work of organizing the Bureau was again in the hands of Mr. A. O. Milne, G2MI, who is thanked for his voluntary efforts. Mr. Milne has now held the office of QSL Manager for more than 17 years.

Mobile Rallies

Good support was given to two mobile rallies arranged by Oxford and District Amateur Radio Society and Northampton Short Wave Club. The suggestion to hold a Mobile Rally was first made to Headquarters by Mr. Douglas Walters, G5CV.

Film Library

The Council is grateful to Mr. L. S. Gillham for continuing his voluntary services as Honorary Film Curator. Mr. Gillham has been responsible for despatching and checking all Society films and for repairing them when reported damaged.

For reasons of economy the Council did not authorize the preparation of any new films during the year under review.

Recorded Lectures

The Council records its thanks to Mr. E. S. G. Fish, G2CHZ, who has again assumed responsibility for the Society's Recorded Lecture Library. Several new recorded lectures were added to the Library during the year.

The Recorded Lecture Library service is much appreciated, especially by groups remote from main centres of activity.

Meetings

Official Regional Meetings were held in Belfast (October 1, 1955), Glasgow (October 15, 1955), Edinburgh (October 16, 1955) and Leicester (May 27, 1956).

County functions were held in Dorset, Gloucestershire and Lincolnshire, while numerous town groups arranged functions of various kinds.

The Council records its thanks to Regional, County, District, Town and Area Representatives for their continued support.

Affiliated Societies

During the year affiliation was granted to 15 Societies and Clubs. The total number of Societies in affiliation as at June 30, 1956, was 119.

The activities of Affiliated Societies were reported upon in the Society's Journal.

During the year the Council decided to reduce the fee paid by affiliated societies to 5s. per annum when evidence is produced to show that 75 per cent of the members of a particular society are also members of R.S.G.B.

Publications

The 1956 edition of the *R.S.G.B. Amateur Radio Call Book* was published in time for copies to be available for sale at the Amateur Radio Exhibition in November, 1955. The Council records its thanks to Mr. J. P. P. Tyndall, G2QI, and Mrs. Tyndall, and to Mr. R. S. Briggs, G2FLG, for their help in producing this edition.

Work commenced during the year on the preparation of an *Awards and Certificates* booklet.

For reasons of economy the Council decided in March, 1956, not to proceed with the preparation of a new edition of an *Amateur Radio Handbook* but a few months later it was agreed to give further consideration to the matter.

Society Tie and Blazer Badge

A new design of Society tie was introduced during the early part of the year. This was followed by a blazer badge to a design suggested by Mr. R. L. Varney, A.M.I.E.E., G5RV.

Council Attendances

The following is a list of attendances by Members of the Council for the period covered by this Report:—

Name		Possible Attendances	Actual Attendances
Allen, W. H.		11	7
Bartlett, H. A.		12	9
Cooper, L.	(a)	6	4
Edwards, C. H. L.		12	11
Ellis, K. E. S.	(b)	5	5
Findlay, D. A.		12	11
Hammans, R. H.		12	12
Hicks-Arnold, F.		11	11
Hum, J. H.		12	10
Lane, R. G.		12	10
Matthews, W. H.		12	10
Metcalfe, W. R.		12	10
Milne, A. O.		12	11
Mitchell, H. W.		12	4
Newnham, L. E.		11	11
Scarr, W. A.		12	11
Taylor, J.	(c)	6	6
Varney, R. L.	(d)	1	1

(a) Retired December, 1955; (b) elected February, 1956, (c) elected January, 1956, (d) resigned July, 1955.

Messrs. W. H. Allen, F. Hicks-Arnold and L. E. Newnham were re-elected to the Council on February 1, 1956.

Headquarters

The continued shortage of staff at Headquarters has meant an abnormally heavy load during the year. This has been aggravated by the inevitable routine work in the years following the change of subscription rate, and the turn round in junior staff. Nevertheless the business of the Society has been maintaind by the untiring efforts of the permanent staff both inside and outside office hours.

The Council express their gratitude to all staff at the conclusion of another year's service.

R. H. HAMMANS,

President.

For and on behalf of Council.

LONDON MEETINGS

The following programme of meetings at the Institution of Electrical Engineers, Savoy Place, Victoria Embankment, London, W.C.2, has been arranged.

November 30, 1956: "1250 Mc/s OPERATION." Discussion opened by Members of the London U.H.F. Group.

December 14, 1956: Annual General Meeting and Presentation of Trophies. (To be held in the Lecture Theatre of E.L.M.A. in same building as I.E.E.)

January 25, 1957: Presidential Address followed by Lecture and Demonstration of MINIATURE AERIALS by F. Charman, B.E.M. (G6CJ).

March 1, 1957: "MODERN AMATEUR COMMUNICATION RECEIVER DESIGN," by R. G. Lane (G2BYA).

March 29, 1957: "MOBILE OPERATION." Discussion opened by F. W. Crabtree (G3BK) and R. G. Shears (G8KW).

Els in the United Kingdom

THE Post Office has advised the Society that for the purposes of obtaining a U.K. Amateur (Sound) Licence, citizens of the Irish Republic are regarded as British subjects.

Eleven Feet Long!

RECENTLY Leslie Hill, G8KS (Orpington, Kent), heard of a case of TVI which he suspected might be due to transmissions from his station. Making an appointment, he called one evening during TV hours, leaving a local amateur at home to modulate the transmitter. Sure enough signals from G8KS were breaking through. But while watching the picture something prompted him to move a reading lamp which was standing on top of the receiver. All traces of TVI immediately disappeared.

The lead to the lamp was just 11 feet long!

Interference by Amateurs with Sound and Television Reception

New Policy to be Introduced

FOR many years the Society has endeavoured to persuade the Post Office to amend its policy in regard to interference to television reception due to "blocking."

After lengthy negotiations the Post Office has now agreed that if an amateur is otherwise transmitting within the terms of his licence, but causes interference to sound or television reception on a satisfactory receiving installation **and** it can be demonstrated that a reasonable remedy, such as the fitting of a simple filter, is available to the owner of the receiver, then the amateur will be allowed to continue operating after an interval of one month from the time at which the cure is explained and demonstrated to the complainant by the Post Office.

The onus would normally be on the complainant to pay for the remedy, but this would not of course preclude an amicable settlement whereby the amateur provides a filter, as not infrequently happens now.

This new policy will be applied to all cases of interference to sound and television reception where the amateur's transmissions are found to be within the terms of his licence, and will cover, in particular, i.f. and image break-through, as well as blocking. The number of cases where there is no reasonable remedy is likely to be very small and these will be dealt with on their individual merits.

The Post Office has informed B.R.E.M.A. that the revised arrangements will be introduced from a suitable current date.

The Load on The Cupwinner

OR HOW TO ERECT A 32 FOOT TOWER

1

MANY members who read the recent article about "The Cupwinner" 813 transmitter may have wondered what type of aerial it feeds into at the station of Mr. G. G. Gibbs (G3AAZ) in Hertfordshire. The answer is a 3-element rotary for 10 metres; and the accompanying illustrations show stages in the erection of the tower which was purchased after the decision had been made to invest in a beam.

The tower, supplied by Francis & Lewis of Cheltenham, is of galvanized steel and cost just over £30, complete with a steel driving tube to go up the centre to turn the beam, and rotator mountings as well. It arrived broken down into the various components that make up its two 16-foot sections. The rest of the story is told by the accompanying pictures:

1. The mast members are unpacked and laid down in the garage for further attention. Also visible are the 600 ohm feeders of the long wire aerial which was to be scrapped when the beam was up. The car belongs to a neighbouring amateur who has a handpicked registration number!

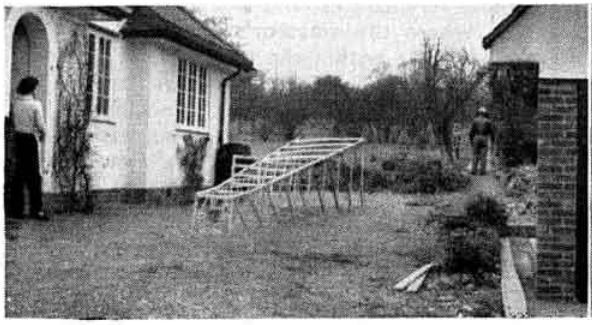
2. Long members are for the sides of the mast. The short ones (right) are the diagonals. In the foreground is the square angle-iron base from which the whole structure springs. The second operator is Hugh Gibbs, aged 6.

3. The mast is completed in the garage and is then carried outside for eventual manhandling to its site at the top of the garden.

4. The mast at the site, butting against the concrete plinth previously prepared. Grouted into the concrete are four long hook-bolts. The mast is positioned so that each corner of it will drop over a bolt when it is lifted. When it is up a corner-plate clamps each corner down to its bolts so that the whole thing is immovable.

2

3



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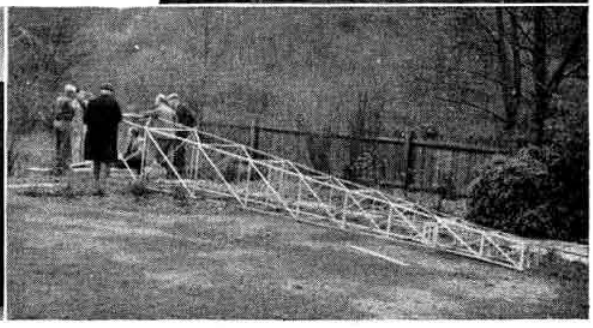

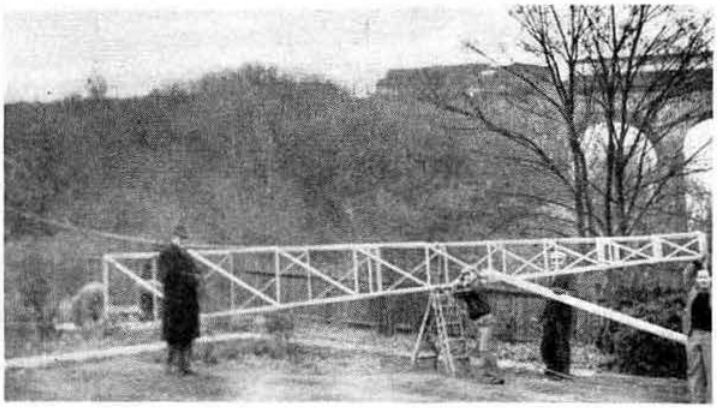

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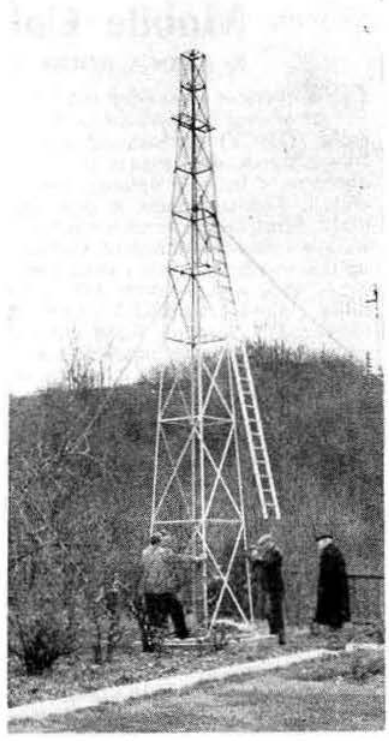


6

5. First stage in the raising process. Willing hands hoist the mast on to a small step ladder. An aluminium ladder is lashed more than half way up, secured with steel cable bands. Four men push on it to raise the mast, while the hawser stretching away to the left is hauled by a block and tackle secured to a convenient tree. Thus the mast is both pushed and pulled during the erecting process.

6. Phew, up at last! The aluminium ladder and hawser are still attached. Now it is safe to climb up and release them for by *now* the four corner-plates have been clamped across the base right-angles and screwed on to the grouted-in hook-bolts.

7. Just *how* safe is demonstrated by G3AAZ and G3CVW who stand on the top platform (no doubt adequately insured), while two helpers clamber to a lower level. Geraldine (aged 10) has the coffee ready.

8. Justifiable smiles of satisfaction from local helpers and hams (G3CVW second from left, G5UM third, G3AAZ sixth).

POSTSCRIPT.—The foregoing description represents how this particular operation was tackled in what seemed to be the most convenient way at G3AAZ. Different sites would no doubt dictate the use of different methods —J.H.

7

8

Mobile Column

By JOHN A. ROUSE (G2AHL)*

ONE operator who does not believe that mobile activity should be confined to the summer is Mr. B. Wormold (G3JCT) of Bishopthorpe, York. G3JCT, who travels a great deal, says in the course of a letter to Headquarters, "In my opinion the mobile season never ends". This is a point of view with which we agree entirely. More and more enthusiasts are realizing that mobile work is a year-round hobby. Certainly those who do give it up this winter will miss a great deal of fun; with 21 and 28 Mc/s wide open, mobile DX is now a practical possibility. G2ACT worked VK3AZY and VK5AB on September 24, receiving RS58 reports from both stations, using only 15 watts input and a 12ft whip. Altogether G2ACT has worked 32 countries on 14, 21 and 28 Mc/s while mobile.

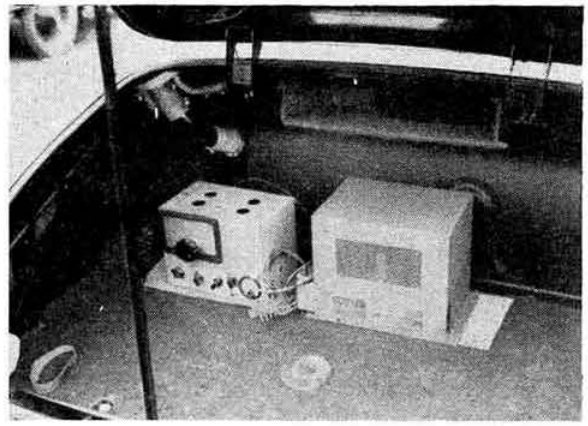
American mobiles are frequently heard putting excellent signals across the Atlantic on 28 Mc/s and there seems to be no reason why the same cannot be done from Great Britain. G2AHL worked W3QYF for his first mobile contact on that band while on holiday in Cornwall. But no other reports have yet been received from U.K. 28 Mc/s operators.

Winter time operation does, of course, raise its own particular problems, not least the extra strain on batteries due to headlights, windscreen wipers and heaters. With the additional current demanded by even a modest mobile installation, the total drain may be greater than the charging rate. Remembering that capacity drops considerably in cold weather, a careful watch should be kept on the state of the battery. In some cases, it may be desirable to increase the charging rate to allow for the greater use.

Winter is also a time when more care must be taken in driving on treacherous roads. The radio gear should certainly be organized in such a way as to create no additional hazard, and should never be operated to the detriment of one's driving. Ideally, there should be an operator and a driver but circumstances sometimes prevent such an arrangement. Of one thing we must be certain; no matter what the season, Amateur Radio must never be a contributory cause in any accident, however minor.

Mobile Rallies

Despite dull, chilly weather the two mobile rallies held on September 16, 1956, were well attended. The event organised by the Bournemouth Amateur Radio Society at Stoney Cross Aerodrome near Southampton attracted mobile enthusiasts from far and wide, G5PP making the longest trip of the day from Coventry. G2FIX and G3IRA were both motorcycle mobile while G2CDN's completely American equipped mobile station in his Morris Countryman was the centre of great attention. G3JXA even had a 1-in. oscilloscope as part of his gear! A particularly interesting item was G4AP'S all-transistor rig.



The transmitter and power supply for G8ML/M is carried in the boot of the car as shown in this picture.

Altogether 21 mobiles attended this rally, of whom 14 operated on Top Band, five on 2m and two on 80m. The majority were "talked in" by the control stations—G2HIF, G3GYK and G3KYU. Thirteen other licensed amateurs were also there, including OD5BN, home on leave.

On the same day the West Kent Amateur Radio Society held a rally at the Sports Ground, Tonbridge. More than 100 people attended, nearly 60 licensed amateurs signing the register. As at Stoney Cross, the weather did little to encourage the success of the event. Nevertheless even a last minute change from the more or less private parking area to one which the public had access to could not mar a most enjoyable event. Undoubtedly, G3FIB's 2 metre portable aerial consisting of three pairs of folded dipoles dominated the scene and aroused great interest. A single section version of the same aerial used for mobile work is shown in one of the photographs. Aerials for Top Band and 80 metres were the most common, varying from G8TL's window mounted "lazy man's" mobile aerial to the now familiar loaded whips, with and without capacity hats.

Although ZC1s are obviously still very popular, more and more enthusiasts are building their own miniature gear. Several excellent examples were to be seen, including an unusually neat little rig looking diminutive on the parcels tray of a Consul.

At the Mobile Rally held as part of the Lincolnshire Hamfest at Spilsby on September 23, G3BG used a 3.5 Mc/s Command transmitter with one 1625 in the p.a., anode and screen modulated by a pair of 6L6s, all mounted in the boot of his

R.S.G.B. Headquarters Staff.

Some of those who attended the Bournemouth Amateur Radio Society's Mobile Rally at Stoney Cross Aerodrome on September 16, 1956.

car. Results with this equipment are excellent. G5BD used a "Hamobile" for 2 metre operation. According to two of the operators present, contacts of up to 100 miles are now commonplace on Top Band.

Fuller reports of the Spilsby meeting and a Region 11 meeting at Prestatyn which was attended by many mobile operators appear elsewhere in this issue of the BULLETIN.

G3GGT, 3GGK, 6MN and 3WW are among those featured in this picture taken by G3BK at the Lincolnshire Mobile Rally held at Spilsby last month. In the background is G3BK's caravan and Hillman Husky. The Hillman is equipped for mobile operation.

Out and About

Top Band enthusiast G8ML (Cheltenham), who attended the Southampton Mobile Rally, in a letter to G2AHL says he "didn't have a dull moment" en route. Best contacts during the journey were with G2IK (Bristol) and G3ERF (Stow-on-the-Wold). He has had a report from G3GBH to the effect that his phone signals were RS55 in Scarborough while mobile in Cheltenham. The aerial in use is a centre loaded 8ft whip mounted on the rear bumper of a Velox. The transmitter mounted in the boot (see picture) runs 10 watts input. An

G3FIB/M's 2 metre "halo" aerial aroused considerable interest at the West Kent Radio Society's Mobile Rally at Tonbridge on September 16. It consists of a pair folded dipoles fed with 300 ohm ribbon and was designed by G2HGR.

(R.S.G.B. Bulletin Photo

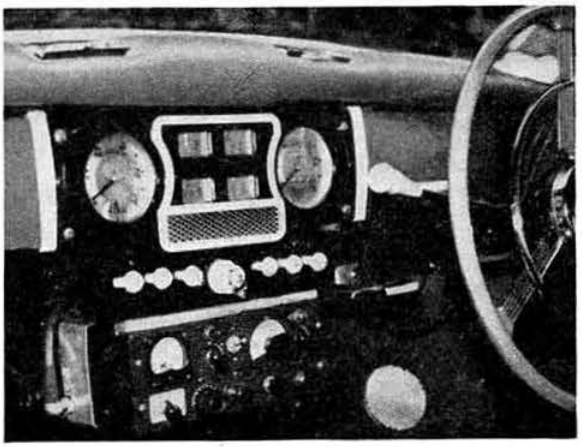
R103 is used for reception. Stations in Ireland and Wales have been worked.

G3ELZ (Grimsby) worked GI3IOS (Kilkeel) on Top Band while on holiday in Wales—a distance of about 170 miles.

G5CP (Chesterfield) had 58 mobile contacts on 80 metres during his holiday in Wales. Stations worked were as far apart as Devon, Yorkshire, London, the Midlands, Northern and Southern Ireland and the Channel Islands.

OH5NW uses a mobile transmitter comprising a 6J6 crystal oscillator/doubler and a 2E26 p.a. with pi-network tank circuit running 18 watts input only. Choke modulation is provided by a carbon microphone into a 6J6 speech amplifier driving a 1625. Operation is on 21 and 28 Mc/s only. A modified BC603 is used for reception while the aerial is an 8ft whip mounted on the rear bumper of a Chevrolet. On his first day as a mobile, OH5NW worked 4X4DR, 4X4BD, ZS6AJV, ZS6AMN and CR9AL while actually on the move.

G2ACT, whose DX exploits have already been mentioned, is now using a transmitter consisting of a 6AC7 c.o. and a QV04/7 p.a. stage running 15 watts, modulated by a 6L6 in class A. The p.a. uses a pi-network with which a good match can be obtained with



G3WW/M's miniature "Countryman" mobile transmitter-receiver, another below-the-dash rig.

the various whips used. G2ACT has a new 60 watt rig under construction using a 6AG7 crystal oscillator and 807 p.a. modulated by a pair of 6L6s in class AB1.

G3WW recently built a version of "The Countryman" primarily for Top Band phone. The height of the cabinet is much smaller than in the original. H.t. for the receiver is derived from the vibrator pack and stabilized with a VR150/30. Results have been excellent.

G3JCT uses a New Zealand ZC1 on 3.5 Mc/s from Mondays to Fridays, 8-9 a.m., 1-2 p.m., and 5-6 p.m. and is always glad of contacts. One of his best QSOs was with G2CDN/M at a distance of 200 miles. Although both were on the move at the time signals were fully readable at S6-8. Other QSOs have been made with stations in many parts of the British Isles while travelling around the West Riding of Yorkshire.

Current Literature

Two articles of considerable interest to those wishing to use converters with their ordinary car radios have recently appeared in American journals. "Something

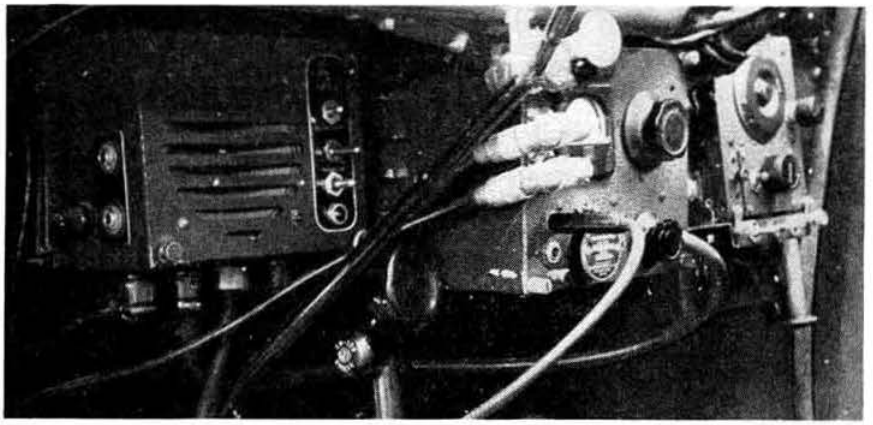
New in High Frequency Mobile Converters" (*QST*, September 1956) describes a converter covering all bands from 3.5 to 28 Mc/s using valves designed so that all power requirements—heater, anode and screen—may be supplied by a 12 volt car battery. The types used are the 12AF6 r.f. pentode and the 12AG6 heptode.

A somewhat similar article—"Phooey on Transistors"—appeared in *CQ Magazine* for October 1956. The converter described uses a single 12AT7 for 3.5 or 7 Mc/s coverage. Circuits are given for both positive and negative earthed 6 and 12 volt batteries. The writer says that somewhat better results can be obtained by using a 6AJ5 in the mixer stage and a 6AF4 as the oscillator.

The new edition of the *CQ Mobile Handbook* contains 72 pages more than the original *Radio Amateur's Mobile Handbook* and a considerable amount of new information including designs for 2 metres. It is essentially practical in its approach to the many facets of amateur mobile work. A new 20 watt mobile transmitter described is built around a Labgear wideband coupler unit. Copies of *CQ Mobile Handbook* may be obtained from R.S.G.B. Headquarters price 24s.

* * *

Letters and reports for the next *Mobile Column* should be sent to R.S.G.B. Headquarters as soon as possible. Meanwhile, happy mobiling—whatever the weather or time of year!



This picture shows the equipment mounted below the dash in G2ACT/M's car and used for mobile DX work. From left to right, the control box, transmitter and Command receiver with "Simplicity Converter" (R.S.G.B. BULLETIN, May, 1955) below.

"Point to Point Telecommunications"

THIS new publication of Marconi's Wireless Telegraph Co. Ltd., is intended to deal with the more practical aspects of communication and in particular with point-to-point fixed services communications.

Volume 1, Number 1, dated October 1956, contains articles on Linear-amplifier Transmitters; Radio Relay Systems and the C.C.I.F.; and V.H.F. Communication by Ionospheric Scatter, the latter being a reprint of an article by A. W. Cole, A.M.I.E.E., which appeared in the June 1956 issue of *Electronic Engineering*.

Point to Point Telecommunication can be obtained from Marconi's Communications Division, price 2/6.

Forthcoming Mobile Rallies

* * *

June 1957 Bournemouth Amateur Radio Society

G3APJ in Olympic Team

LIEUT.-CDR. S. A. Potter, R.N. (G3APJ, ex-ZB1AW) has been chosen to represent Great Britain in the Olympic Games Yachting Events at Melbourne. He will be sailing the International Star Class Yacht *Starlight III*.

This is the second time Lieut.-Cdr. Potter has taken part in the Olympic Games—he represented Great Britain in the same class at Helsinki in 1952.

DX Television Predictions for December 1956

Prepared by J. Douglas Kay (G3AAE)

REPORTS of good reception of the B.B.C. Television sound transmissions on 41.5 Mc/s have already been received from Gold Coast, Gambia and Bahrein Island; and there is no doubt that good reception is being obtained in numerous other overseas locations.

For the first time during the present sunspot cycle the trans-Atlantic M.U.F.s are above 40 Mc/s so that there is the possibility of the B.B.C. transmissions being receivable in the United States. The figures given in the table are calculated on the Rugby-New York circuit, but the more southerly east coast States can expect to receive the signals over a longer period. The predictions for Florida, for example, can be taken as the mean of those given for New York and Bermuda. Thus they can expect to be able to start receiving a signal on 41.5 Mc/s about one hour before it becomes audible in New York.

The B.B.C. and N.B.C. are conducting experiments to try to exchange programmes by direct pick-up. These experiments have, at the time of writing, been unsuccessful. If North American members do receive these transmissions they are requested to forward full details to Headquarters by airmail.

Bermuda	1300-1730	Tel Aviv	0800-1500
New York	1500-1700	Bombay	0800-1400
Barbados	1200-1600	Colombo	0800-1400
Trinidad	1200-1700	Karachi	0800-1300
Rio	0930-1300	Singapore	0830-1300
Cyprus	0800-1430	Cairo	0800-1430
Aden	0730-1500	Accra	0900-1600
Baghdad	0800-1430	Dakar	1000-1600
Bahrein	0700-1400	Nairobi	0800-1430

G.M.T. throughout

The Social Side

Lincolnshire Hamfest and Mobile Rally

THIS event held on Sunday, September 23rd, 1956, at the George Hotel, Spilsby, was voted a great success by the 70 persons who attended. No less than 16 mobile stations were present from places as far distant as Cambridge, Derby, Mansfield, March, Nottingham, and Worksop. G2ABK made contact with the mobiles as they left their home towns, after which they were taken over by G8GI/M working from the rally site.

During a short business meeting, attended by R.S.G.B. members, G3CCH was nominated C.R. for Lincolnshire for the next two-year period, after which G3ELZ spoke about R.A.E.N. High tea and a junk sale followed.

Much time was spent examining the mobile equipment in use, the "Winkie Box"—a masterpiece of miniature construction by G3DXI of Skegness—coming in for much favourable comment. This piece of equipment consists of a 9 valve transmitter-receiver for Top Band and 3.5 Mc/s, all neatly housed in a cabinet measuring 8in. x 5in. x 5in.

Later in the evening a number of members visited the home of G2ABK from where contacts were made with some of the mobile operators on their return journeys.

As the result of advance publicity given to the event by the local press a number of interested visitors attended during the day.

Prestatyn Hamfest and Mobile Rally

THERE was an attendance of 50 at the Region 11 meeting held at the Nant Hall Hotel, Prestatyn, on September 30, 1956. Those present included G3DDO/M, G3IPZ/M, G3JNX/M, G5CP/M, G6DN/M, GW2CCU/M, GW2FVZ/M, GW3CF/M, GW3FPF/M, G3AO, G3IR, G3HZ, G2AKR, G3AEF, GW3FJI, GW3HGL and GW3JGA.

The accent was on Top Band mobile operation and the control station, GW3FJI/A, "talked-in" nine mobiles who also took part in field strength and modulation tests. The tests were measured and recorded by GW3JGA and handicaps were made for power input and whip length. The winner was GW3CF/M (Prestatyn) with G3DDO/M and G3IPZ/M, both of Poynton, Cheshire, tieing for second place. The strongest signal without handicap was that of G5CP/M. GW3FPF/M (Rhyl) worked GI3IOS (Kilkeel) on the way to the meeting at a distance of about 120 miles.

After tea, the Regional Representative, F. G. Southworth (GW2CCU), thanked the organizers for arranging the meeting and expressed the hope that it would prove to be the first of a new series of regular gatherings in the region.

Trophy Winners

The Slade Radio Society held its Annual Dinner on October 13, 1956. In this picture are, l. to r. (back row), D. G. Spencer, G3LGW, G. Nicholson, G3HKC, J. E. Smith, G3JZF, P. M. Williams, B. W. Smith, G3LGJ and M. D. Fowler, G3GKZ; (seated), C. H. Young, G2AK (President) and G. C. Simmonds (Chairman).

Slade Radio Society Dinner

MORE than 70 members and their ladies attended the Annual Dinner of the Slade Radio Society held at the Roebuck Inn, Erdington, Birmingham, on Saturday, October 13, 1956. The Society, now in its 29th year, was founded by the late Dr. C. H. Harcourt, whose memory is perpetuated by the annual award of the Harcourt Trophy.

The guests at the Dinner included the President of the Midland Amateur Radio Society (Maurice Brett, G3HBE), the President of the Rugby Radio Society (R. Grant), the General Secretary of the R.S.G.B. (John Clarricoats, G6CL), who is also a Vice-President of Slade, and the Honorary Secretary of M.A.R.S. (C. J. Haycock, G3JDJ).

The Chair was taken by the President of Slade (Charles H. Young, G2AK) who had the support of Past President Walter Chilvers, Hon. Secretary Charles Smart, and other Members of the Committee. G. C. Simmonds (Chairman of the Slade Committee) acted as Toast-master.

In the course of a toast to the R.S.G.B., J. A. Walley remarked that the presence each year at the Society's Annual Dinner of the General Secretary provided almost the only link between Slade Radio and the parent body. He emphasised that the R.S.G.B. has done and is doing a

Lincolnshire Hamfest and Mobile Rally held at Spilsby on September 23, 1956.

(Photo: C. F. Bauer, Spilsby)

great deal for radio amateurs, especially in connection with operating facilities. He pointed out that the Amateur Service has a wider range of frequencies at its disposal than any other Service including broadcasting. Local clubs are grateful to R.S.G.B. for organizing contests to which they can lend support. He gave an assurance that Slade will continue to back the R.S.G.B. in all its activities.

The General Secretary in his reply referred to the efforts being made by the Society to obtain permission for amateurs to use a band of frequencies around 70 Mc/s and of the recent decision of the P.M.G. to allow radio amateurs to handle third-party messages in the event of an emergency. He offered congratulations to the Slade Radio Society on its continued progress and on the excellent choice of Officers.

Mr. W. E. Merrill proposed the health of the Visitors to which the President of the Rugby Club replied. Later in the evening magician Jensen Leng provided some first-class entertainment.

M.A.R.S. Annual Dinner

THE Annual Dinner of the Midland Amateur Radio Society, now in its Silver Jubilee Year, was held on Saturday, October 20, 1956, at The Imperial Hotel, Birmingham. Chief guests were the President of the R.S.G.B. (Mr. R. H. Hammans, G2IG) and Mrs. Hammans, the President of Slade Radio (Mr. C. H. Young, G2AK) and Mrs. Young, the President of the Coventry Amateur Radio Society (Mr. Leslie Gardner, G5GR), the President of the Midland Branch of the British Amateur Television Club (Mr. T. Douglas, G3BA) and Mrs. Douglas, the General Secretary of the R.S.G.B. and Mrs. Clarricoats.

The Chair was taken by the President of the Society (Mr. M. E. Brett, G3HBE) who was accompanied by Mrs. Brett and supported by members of the Committee with their ladies.

A toast to M.A.R.S. was proposed by Mr. Hammans who congratulated the Society on its long record of service to Amateur Radio in the Midlands. He expressed the hope that M.A.R.S. would continue its policy of catering for the young enthusiast. "In twenty years time," he said, "the schoolboy experimenters of today will be the leaders of the Amateur Radio movement in this country. It is our duty to give the youngsters all the help we can."

The President of the R.S.G.B. (Mr. R. H. Hammans, G2IG), the President of Slade Radio Society (Mr. C. H. Young, G2AK), the General Secretary of the R.S.G.B. (Mr. J. Clarricoats, G6CL) and the Chairman of the Midland Branch of the British Amateur Television Club (Mr. T. P. Douglas, G3BA) with their ladies, were among those present at the Annual Dinner of the Midland Amateur Radio Society held in Birmingham on October 20, 1956. In this picture the line up is from left to right G6CL, Mrs. G2AK, Mrs. G6CL, G2AK, Mrs. G3HBE, Mr. Maurice Brett, G3HBE (President of M.A.R.S.), G2IG, Mrs. G2IG, G3BA and Mrs. G3BA.

Response came from Mr. Brett who spoke of the high technical level achieved at lecture meetings and of the plans which had been made to interest the younger generation of amateurs.

Past President Barry Bligh, G3HBB, welcomed the Guests and Visitors and N. J. Bond, G3IHX (Hon. Secretary, C.A.R.S.) replied. Tom Douglas, G3BA, offered a toast to the Ladies to which Mrs. Brett replied.

Trophies were presented to Ernest Shackleton, G6SN (G2AK Shield) for enhancing the prestige of the Society; Maurice Brett G3HBE (G6XJ Cup) for the best News Bulletin article published during the year; Tom Douglas, G3BA (Naylor Strong Cup) for the best lecture delivered during the year. The M.A.R.S.-C.A.R.S. Cup was won by M.A.R.S. and presented to Charles Young, G2AK.

The success of the Dinner was due largely to the enthusiasm of the President and Committee to whom all present expressed their thanks.

A picture taken at the Region 11 Meeting held on September 30, 1956, at the Nant Hall Hotel, Prestatyn.

(Photo by G3DDO and GW3JGA

Torquay O.R.M. Poorly Supported

FOUR Members of the Council (H. A. Bartlett, G5QA, A. O. Milne, G2MI, D. A. Findlay, G3BZG, and R. G. Lane, G2BYA) together with the General Secretary were present at the South-Western Official Regional Meeting held at Oswald's Hotel, Babbacombe, Torquay, Devon, on October 7, 1956. Only 17 other members were present at the Business Meeting, which was presided over by Mr. Bartlett in his capacity as Region 9 Representative.

After the visitors had been welcomed by Mr. Bartlett, Past-President and QSL Manager Arthur Milne described the work done by the Society's QSL Bureau. He also referred briefly to the activities of the I.A.R.U. Region I Division of which organisation he is Honorary Secretary. Zonal Representative Bob Lane spoke about Zonal Representation on the Council, after which the General Secretary gave a comprehensive address on a wide range of subjects of general interest. Mr. Clarricoats and other speakers paid warm tribute to the work done by Mr. Bartlett who is retiring from the office of Regional Representative at the end of the year.

Questions dealing with National Field Day, Low Power Contests, Unlicensed Operation, and the attitude of Iron Curtain countries to I.A.R.U. were dealt with by the representatives of the Council.

The meeting was organised by W. H. Baker, G3JD (Torbay T.R.), with assistance from L. G. Mays, G2CWR, of Paignton. The Torbay Amateur Radio Society was represented by its President, Walter Sydenham, B.Sc., G5SY; its Chairman, Frank Wadman, G2GK; and its Honorary Secretary, L. H. Webber, G3GDW. Others present included A. J. Scanes, B.R.S.4948 (Devon C.R.), Roy Poeton, G3CTN (Bristol C.R.), W. J. Green, G3FBA (Somerset C.R.), K. G. O'Brien, B.R.S.18516 (Dorchester T.R.), Arthur Bartlett, G6RB, of Bristol (who like Walter Sydenham had held the office of Region 9 Representative in years gone by) and J. N. Walker, G5JU of Birmingham. The latter was thanked by Mr. Bartlett for bringing to the meeting and demonstrating one of the new Eddystone 888 receivers.

The wives of several members were present at the informal luncheon which preceded the Business Meeting and also at the tea which concluded the proceedings. Tom Smith of Exeter was successful in the raffle for chocolates.

No reason can be advanced for the small attendance at a meeting which had been expected to attract members from all parts of the south-west.

North East Scotland O.R.M.

THIRTY-FIVE members attended the North East Scotland O.R.M. at the Imperial Hotel, Aberdeen, on September 29, 1956. Council was represented by Messrs. Ken Ellis (G5KW) and James Taylor (GM2DBX). Council Member Frank Hicks-Arnold (G6MB) gave his illustrated lecture on the Antennamatch.

The principal subject discussed during the business meeting was the BULLETIN. Although a fair amount of criticism was voiced the majority appeared to be well satisfied.

An excellent dinner in the evening brought the meeting to a successful conclusion.—L.H.

Our aim is to double the membership

County Representatives 1957-8

A LIST of Corporate Members who have been nominated without opposition to serve as County Representatives for the period 1957-8 will appear in the December issue of the BULLETIN.

It will be necessary to conduct a Ballot for the election of a Representative for the South London District. The names of the nominees are set out below:—

W. D. Gilmour (G2VB) of South Norwood.
R. L. Glaisher (G6LX) of Croydon.

Corporate Members resident in the South London District are invited to record their vote in favour of one of the two candidates and to forward it on a *postcard* addressed to the General Secretary, Radio Society of Great Britain, New Ruskin House, Little Russell Street, London, W.C.1, to arrive not later than November 30, 1956.

Prescribed Form of Voting Card

Election of Representatives 1957/8

I ..... being a fully paid-up Corporate Member of the Society wish to record my vote in favour of Mr. .....
as D.R. for South London.
Signed .....
Call-sign or B.R.S. No. .....
Address .....
.....

Region 3 Representatives

MR. W. A. Higgins (G8GF), 28 Kingsley Road, Kingswinford, Staffordshire, has been elected without opposition to the office of Region 3 Representative. Mr. E. Arnold Matthews (G3FZW) has been nominated to serve as Staffordshire C.R. consequent upon Mr. Higgins' election to the office of Regional Representative.

Representation

The following are additions or alterations to the list of Town Representatives published in December, 1955, issue of the BULLETIN:—

Region 2—Co. Durham
West Hartlepool
L. M. Arrowsmith (B.R.S.19480), 51 Alverstone Avenue.
Region 4—Lincolnshire
Stamford & District
F. K. Parker (G3FUR), 64 Tinwell Road, Stamford.

* * *

The London R.R. (Mr. F. G. Lambeth) has agreed that the following London Postal Districts shall be covered by the Town Representative for the Norwood Area (Region 7). S.E.1, 4, 5, 8, 11, 14, 15, 16, 17, 21, 22, 23, 24, and all S.W. Postal Districts except Barnes (S.W.13), Mortlake (S.W.14) and Putney (S.W.15).

The present T.R. is Mr. E. W. Yeomanson (G3IIR).

* * *

Vacancy

Mr. A. W. Butcher (G3KPJ) has resigned as T.R. for Danbury, Essex. Nominations for his successor should be made in the prescribed form and sent to reach the General Secretary by not later than December 31st, 1956.

Affiliated Societies

THE following are additions and alterations to the list of Affiliated Societies published in the October, 1955, issue of the BULLETIN:—

Royal Air Force Debden Amateur Radio Society, G3KRN, c/o Cpl. M. P. Bayley, R.A.F. Transmitter Station, Debden, Nr. Saffron Walden, Essex.

Barnsley & District Amateur Radio Club. Address of the Hon. Secretary is now 19 Warner Road, Barnsley, Yorks.

Tests and Contests

Low Power Field Day, 1956

THE weather for this event was fine and sunny, raining, hailing, thunder and lightning, according to where the competitors parked themselves and it seems probable that weather conditions may have been responsible for reducing the number of entrants. There were, however, seven known portable stations active in addition to those who submitted entries. One of these (G3IHH/P) had intended entering the contest as G3IHH/P until it was found "at the eleventh hour" that the gear was overweight. A check log was submitted nevertheless, as was another from G3HCL.

Conditions are variously reported as "80 metres in fine shape"—"Poor"—"Poor on 80 and hopeless on 40". Once again 3.5 Mc/s provided nearly all of the points which were scored, very few contacts being established on 7 Mc/s and none between portables. The average number of points scored is lower than last year, but the average "S" reports are identical, in total, with last year's reports "out" and 0.1 higher than the reports "in".

It will not come as a surprise that the winner is John Yeend (G3CGD/P) who seems to be making a habit of pulling off this contest. Using the same transmitter and receiver as last year, he made 28 contacts for his 71 points. Foot and mouth disease in the area necessitated a last minute hunt for a new site—quite successfully, it would appear. In second position is T. J. Brooke (GW3GHC/P), a former winner when he operated as G3GHC/P. Using the same rig as in previous years, 27 contacts were made for 57 points. J. St. C. T. Ruddock (G8TS/P) came third, with 24 contacts and 52 points. The transmitter comprised an e.c.o. (DL70) on 3.5 Mc/s (or doubling in the anode) and a DL73 as p.a.; the receiver line up was 1R5 (f.c.), 1T4 (i.f.), 1T4 (regenerative-detector) and 3S4 output. Both were switched for 3.5 and 7 Mc/s.

The three leading stations all used aerials with 132ft tops.

Results of Low Power Field Day

Position	Call-sign	Locality	Weight of Gear	Average 'S' Reports		Points
			lbs. oz.	Out	In	
1	G3CGD/P	S.W. Cheltenham ...	16 1	6·4	5·6	71
2	GW3GHC/P	Llanrumney ...	19 13	6	5·4	57
3	G8TS/P	Farnham, Surrey ...	19 3	5·8	5·7	52
4	G3KLH/P	E. Oxford	19 0	7	5·6	48
5	G3BZM/P	Hampden, Bucks. ...	19 0	6·6	5·7	47
6	G3ASI/P	Ivinghoe, Dunstable	19 11	6·6	5·7	43
7	G3HTI/P	Grimsby	18 8	5·9	5·3	38
8	G3IHX/P	Finham, Coventry...	19 8	6·6	6·2	30
9	G3GDW/P	Newton Abbott ...	19 0	7	5·5	18
10	G8AO/P	Cleadon, S. Shields	18 0	7	7	14

Second 420 Mc/s Contest, 1956

ONCE again, the general pattern of entries, results activity and long range contacts (over 100 miles) was much the same as in previous contests. In fact, the report and results (published last August) of the first contest held earlier this year would serve here except for slight alterations in the final table.

Equipment showed little change as might be expected when the 47 call-signs reported show 12 newcomers and 12 absentees. On the receiving side, entrants mainly favoured a crystal mixer followed by a low-noise amplifier feeding into a communications receiver. Among the transmitters used, the QQV03/20 took pride of place as the output stage with the QQV06/40 second favourite. Stack arrays were most popular with some Yagis and slot arrays. One dual-band corner reflector was reported.

One entrant pointed out he was not able to give consecutive serial numbers as he was working in the European V.H.F. Contest held during the same weekend. The Contests Committee feel it would be unfair to penalise the entrant and have accepted his entry. When circumstances more or less force an entrant to break a rule the Contest Committee are always prepared to receive an explanation from the entrant.

Conditions were described as poor to shocking, but three contacts over 100 miles were reported—G6NB/G3IOO (119 miles), G3KEQ/G3HAZ (110 miles) and G2XV/G2DDD (105 miles).

Leading Stations

G6NB. Transmitter—QQV06/40.
Receiver—Crystal mixer, crystal controlled injection, head amplifier, HRO.
Aerial—32 element stack.

G3KEQ. Transmitter—QQV03/20 tripler, QQV03/20 p.a.
Receiver—G3BKQ type crystal controlled converter, HRO.
Aerial—4 stacked skeleton slots, full wave spaced vertically.

G2XV. Transmitter—QQV06/40.
Receiver—Crystal mixer, crystal controlled injection, cascode head amplifier, SX28.
Aerial—20 driven elements with 20 reflectors.

Results of Second 420 Mc/s Contest, 1956

Psn.	Call-sign	Location	Contacts	Points
1	G6NB	Brill, Bucks.	20	1055
2	G3KEQ	Sanderstead, Surrey	30	788
3	G2XV	Trumpington, Cambs.	17	754
4	G3HBW	Bushey Heath, Herts.	26	603
5	G3IRW	Hoddesdon, Herts.	20	424
6	G2CIW	Stapleford, Cambs.	11	390
7	G5UM	Knebworth, Herts.	13	336
8	G3HAZ	Northfield, Birmingham	8	289
9	G8SK	Waltham Abbey, Essex	16	265
10	G3FD	Southgate, London, N.14	15	260
11	G2WS	Tadworth, Surrey	8	151

It is regretted that there are no check logs to acknowledge.

Other stations reported active during the contest were as follows:—

G2DD, '2RD, '2WJ, '2AIH, '2DDD, '2DUS, '2FNW, '2HDJ, '2HDZ, '3BA/A, '3EGV, '3EJO, '3EYU/A, '3FUL, '3FZL, '3GDR, '3GOZ, '3GTH, '3IOO, '3IRA/P, '3JHM, '3KBS/P, '3KKD/T, '4KD, '4RO, '5DS, '5DT, '5KW, '5ML, '5RD, '6JI, '6LL, '6NF, '6XA, '6YU, '8AL.

Second 144 Mc/s Field Day 1956

VERY few comments were received with entries for this event, but from those competitors who did enclose a report it would seem that the contest was enjoyed despite the lower activity. This is reflected in the generally smaller scores and the fall in the number of logs submitted.

The operators of G3ERD lost four hours at the start owing to the failure of a valve in the converter which undoubtedly cost them a higher place in the table. G4BP

reported that conditions appeared to be poor and suggested that more contacts could be made if operators were prepared to search for weak c.w. signals, while G3BOC/M lamented that there were fewer mobiles in action this time, although the entries in this section show an increase of 100 per cent—a pity this cannot be said of entries in contests generally!

As several competitors raised the question of F8MX—who was also heard to be calling /A and /P—the Committee attempted to obtain a check log but without success. It has therefore been decided to allow points for /P for contacts with this station and all scores have been adjusted where necessary. This is unfortunate, as F8MX was at the other end of the "Best QSO" in many cases.

The winner this time was Harry Boakes (G8SB/P) who used a four stage transmitter with an 832 as final, the receiving side comprising 6J6, 6J6 and 12AT7 oscillator into a PCR3 on 7 Mc/s. The station was operated by G8SB and G3AGS. Second once again was G8UQ/P using substantially the same rig as in the previous event, even to the operators G8UQ and G5US. This time, however, log keeping was undertaken by B.R.S.20286. G8UQ makes the pithy comment: "As always!—great fun."

The mobile section produced two entries, G3BOC/M scoring the most points using the same gear as in the first contest.

It is disappointing to note that entries show a great reduction on those received last May. Those people who are always clamouring for more contests might reflect that there are a number of their brethren who want the extra activity that contests bring without being put to the bother of submitting an entry.

Results of Second 144 Mc/s Field Day

Psn.	Call-sign	Approximate Location	Contacts	Best QSO (Miles)	Points
1	G8SB/P	Buxton	64	250	6600
2	G8UQ/P	Basingstoke	64	180	6248
3	G3JWQ/P	Leek	56	264	6111
4	G3ILI/P	Woldingham	57	205	5908
5	G3ERD/P	Derby	58	248	5886
*	G3KEQ/P	Guildford	—	—	5734
6	G5PP/P	Coventry	63	207	5350
7	G3ION/P	Shaftesbury	44	206	5185
8	GW3GWA/P	Wrexham	43	178	4982
9	G5ML/P	Evesham	60	124	4934
10	G8KW/P	Croydon	61	175	4770
11	G2HCJ/P	Crewe	42	178	4636
12	G3XC/P	Watlington	47	158	4610
*	G3CGQ/P	Luton	—	—	4261
13	G8QY/P	Birmingham	46	120	4140
14	G2DSW/P	Southampton	36	165	3850
15	G3MA/P	Gloucester	26	105	2855
16	G3FD/P	Dunstable	42	158	2842
17	G3KSR/P	Newbury	28	92	2035
18	G8PX/P	Oxford	23	108	1858
19	G4BP/P	Scarborough	9	100	788
		MOBILE SECTION			
1	G3BOC/M	Chester	39	270	4343
2	G3AYT/M	Glossop/ Ashton/Hyde	32	95	1882

* Late entry. Claimed Score shown.

Check Logs

Check logs from G2AHY, G3DO, G3IAM, G4JJ and GW8UH are gratefully acknowledged.

TV DX

JUST before this issue went to press news reached Headquarters that ZS1NZ of Capetown, South Africa, had received B.B.C. television sound on 41 Mc/s at S9 + 10 db. Vision signals were also received on 45 Mc/s at about S8.

Radio Amateur Emergency Network

By C. L. FENTON (G3ABB)*

ON page 226 of this issue will be found an up-to-date list of Emergency Communications Officers. This list will, in future, be published annually; copies are available on request from either R.S.G.B. Headquarters or the Honorary Secretary. Amendments to the list will be published from time to time in this column.

Examination of this list will reveal many places where no E.C.O. has been appointed. Records show that there are members in many of these areas, and once again we would appeal for volunteers to come forward to fill the gaps. We have said many times in the past, and must continue to repeat, that the lone member can do little in any emergency; it is the organized group that is going to be of real assistance. A letter to the writer will bring full details.

All E.C.O.s are asked to establish contact with their nearest neighbours, and to inaugurate regular inter-group schedules, so as to maintain contact for the interchange of ideas.

The second R.A.E.N. Rally is now behind us. Activity seems to have been high, and reports received so far indicate that the rules were an improvement on last year.

The members of the R.A.E.N. Committee visited the B.R.C.S. Training Headquarters at Barnett Hill, Guildford, on November 4 for a conference with senior Red Cross officials.

News from the Groups

Preston, Lancashire, now have a weekly practice net on 1940 kc/s each Monday, at 20.00 G.M.T., and invite anyone interested to join in. Activity continues at a high level in Lincolnshire, with regular nets on the second and last Sundays of each month. The frequency is 1975 kc/s, and the time 11.30 G.M.T. More support is requested from the south of the county. The County Controller was able to speak about R.A.E.N. at the recent Spilsby hamfest, at which the Network was well represented. G2FT (Mablethorpe) continues daily check skeds with Hull and Grimsby at 08.45, 13.45 and 19.00 on 1980 kc/s.

Yorkshire has already been alerted for the first "amber" flood warning of the winter, and members continue to maintain their bad weather watch.

The writer has a regular sked with G2ACD and G2UK every Sunday at 09.15, on 3700 kc/s. This sked usually terminates at about 10.00, when G3ABB will be pleased to work any other stations at that time, and to answer R.A.E.N. queries.

Resignations

The following E.C.O.s have resigned, and volunteers are urgently needed to take over:—

F. J. Wadman (G2GK), Babbacombe, Torquay, Devon.
L. J. Coupland (G2BQC), Boston, Lincs.

* "*Niarbyl*," *Gay Bowers, Danbury, Chelmsford, Essex.*

LONDON MEMBERS' LUNCHEON CLUB
will meet at the Bedford Corner Hotel, Bayley Street, Tottenham Court Road, at 12.30 p.m. on
Fridays, November 16 and December 21, 1956.
Telephone table reservations to HOL 7373 prior to day of luncheon. Visiting amateurs especially welcome.

Radio Amateur Emergency Network

List of Emergency Communications Officers

THE following members have been appointed to serve as Emergency Communications Officers. Changes of address should be communicated to the Hon. Secretary, R.A.E.N. Committee (C. L. Fenton, G3ABB), " Niarbyl," Gay Bowers, Danbury, Chelmsford, Essex.

G2ABR R. Mayman, 27 Tennyson Avenue, Hull, Yorks.
G2ACD Lt.-Col. A. C. Dunn, 57 Promenade, Bridlington, Yorks*
G2CPS F. Marshall, 92 Flemingate, Beverley, Yorks.
G2DVD W. L. Rimmington, " Batwells," Slinfold, nr. Horsham, Sussex
G2FT J. W. Marlow, " Elton," 83 George Street, Mablethorpe, Lincs.
G2UK Dr. A. C. Gee, " East Keal," Romany Road, Oulton Broad, Lowestoft, Norfolk
G3ABS W. D. Heath, 4 Dalton Terrace, Derby Dale, nr. Huddersfield, Yorks.
G3ADQ A. W. Walmsley, 6 Hilton Road, Bradford 7, Yorks.
G3ASQ P. C. Ives, 10 Welsford Road, Eaton Rise, Norwich*
G3ATI R. W. Pinfold, 6 Station Road, Upper Poppleton, York
G3BLE J. E. Swayne, 12 Oxford Hill, Witney, Oxon
G3BTU M. White, 39 Trent Street, Retford, Notts.
G3CED G. A. Partridge, 11 Ethel Road, Broadstairs, Kent
G3CFE W. Hewitt, 28 Brown's Lane, East Bridgford, Notts.
G3CGD J. J. Yeend, 30 St. Luke's Road, Cheltenham, Glos.
G3CGE R. Gardner, 62 Rosewall Road, Maybush, Southampton, Hants
G3DBB R. Betton-Foster, " Windy Ridge," Bushbridge Lane, Godalming, Surrey.
G3DML J. R. Brindley, 45 Rosendale Avenue, Chesterton, Newcastle-under-Lyme, Staffs
G3DQ W. R. Metcalfe, 3 Royal Crescent, Bridlington.
G3DWQ G. Lancefield, 35 Brixton Road, Frenchwood, Preston, Lancs.
G3DZT J. H. Beamond, 101 Valley Lane, Wissage, Lichfield
G3EEL L. Critchley, 36 Waterloo Road, Peterborough
G3EFA T. F. Wareing, 105 Shellfield Road, Southport, Lancs.
G3EKP J. E. Whittle, 2 Church Terrace, Darwen, Lancs.
G3ELZ F. R. Peterson, 58 Peaksfield Avenue, Grimsby, Lincs.*
G3ERB L. N. Goldsbrough, 54 Kings Lane, Bebington, Cheshire
G3ERV A. R. Mee, 20 Greendrift, Royston, Herts.
G3FEX B. C. Oddy, " Bonigen," Maudlyn Close, Steyning, Sussex*
G3FGY T. Darn, 42 Laurel Avenue, Ripley, Derbyshire
G3FKO A. G. Blackmore, 5 Rivers Street, Bath, Somerset
G3FUR F. K. Parker, 64 Tinwell Road, Stamford, Lincs.
G3FVW G. H. Brown, " Hill Rise," Mill Lane, Cayton Bay, nr. Scarborough
G3FZW E. A. Matthews, 1 Shortbutts Lane, Lichfield, Staffs.*
G3GVM F. Robins, 104 Congreve Road, Worthing, Sussex
G3GXX W. S. Horsfall, District Bank Chambers, 26 Talbot Road, Blackpool, Lancs.
G3GXZ M. Kind, 62 Clifford Street, South Wigston, Leicestershire
G3HIU F. H. Dewick, 47 Gloucester Road, Wolverton, Bucks.
G3HRK D. F. Willies, " The Wilderness," Grove Road, Holt, Norfolk
G3HRP T. J. Wright, 236 Queensway, Ashby, Scunthorpe, Lincs.
G3HSM W. J. Mason, 39 Victory Road, Clacton-on-Sea, Essex
G3IMP S. Poole, 26 Cross Road, Romford, Essex
G3IRL S. Sawyer, 166 Stradbroke Grove, Ilford, Essex
G3JBU B. Hayes, 7 Western Terrace, Northampton
G3JMC M. D. Holmes, 53 Clare Road, Tankerton, Kent
G3JMJ D. E. Nunn, 7 Bigwood Avenue, Hove 4, Sussex
G3JMY E. C. Halliday, 14 Boverton Road, Filton, Bristol, 7
G3JYH J. B. Harding, 16 Junction Road, Norton-on-Tees, Co. Durham
G4JW J. R. Petty, 580 Redmires Road, Sheffield, 10
G4KO H. Staff, 59 Charles Avenue, Thunder Lane, Thorpe, Norwich, Norfolk
G4RW R. A. Wilson, " The Hollows," Newry Avenue, Felixstowe, Suffolk
G4VF R. Ferguson, 33 St. Fabian's Drive, Chelmsford, Essex
G5GX H. M. Rix, " Greenroofs," Leven, Hull, Yorks.
G5RQ G. W. Tonkin, " Ingsdon," Stockhill Road, Downside, Stratton-on-the-Fosse, Bath, Somerset
G5TN W. C. Holley, " Waverley," Worlibury Hill Road, Weston-super-Mare
G6IO E. Rayner, 44 Lawrie Park Gardens, Sydenham, London, S.E.26
G6LV H. Wright, 2 Garland Place, Penryn, Cornwall
G6UC T. Kennedy, 22/4 Main Street, Spittall, Berwick-on-Tweed
G8BU L. Rooms, 51 Locksway Road, Milton, Portsmouth
G8UT B. Challis, 43 Dorchester Close, Dartford, Kent
GI2DZG W. E. Caughey, 35 Gilnahirk Park, Cherry Valley, Belfast
GI3BHK G. Henry, " Carrowlaverty," Armoy, Ballymoney, Co. Antrim, N. Ireland
GI3HXM Dr. J. J. Cosgrove, " Stacumnie," Culmore Road, Londonderry, N.I.
GI3ILV J. Thompson, 1 Westland Road, Portadown, N. Ireland
GM3OM O. M. Derrick, 261 Main Street, Larbert, Stirlingshire
GW2OP Capt. G. Courtney-Price, T.D., Bangeston Hall, Pembroke Dock, S. Wales.
GW3ASW Capt. C. R. Mountjoy, M.M., " Pant Villa," Cwmbach, Aberdare, Glam.
GW3FRK V. C. Morgan, " Hafan," Comins Coch, Aberystwyth

* County Controllers.

Emergency Calling Frequencies

The following calling frequencies will be used by R.A.E.N. stations in the event of an emergency:

1980 kc/s	14100 kc/s
3600 kc/s	21150 kc/s
7050 kc/s	28200 kc/s

145 Mc/s

In an emergency stations will call CQ QRRR DE G..... and QSY to a mutually agreed frequency immediately after establishing contact. Contacts must not be continued on emergency calling frequencies. All frequencies should be monitored as much as possible.

Second European (WAE) DX Contest 1956-57

COPIES of the rules for this Contest, organized by the German National Society, D.A.R.C., can be obtained by sending a stamped addressed envelope to Headquarters.

Contest Periods are as follows:—

Telephony: 1st Section, 12.00 G.M.T., December 8, 1956, to 24.00 G.M.T., December 9, 1956.

2nd Section, 12.00 G.M.T., January 19, 1957 to 24.00 G.M.T., January 20, 1957.

Telegraphy: 1st Section, 12.00 G.M.T., January 5, 1957, to 24.00 G.M.T., January 6, 1957.

2nd Section, 12.00 G.M.T., April 6, to 24.00 G.M.T., April 7, 1957.

Council Proceedings

Résumé of the Minutes of the Proceedings at a Meeting of the Council of the Radio Society of Great Britain held at New Ruskin House, Little Russell Street, London, W.C.1, on Monday, September 17, 1956, at 6 p.m.

Present.—The President (Mr. R. H. Hammans in the Chair), Messrs. H. A. Bartlett, C. H. L. Edwards, K. E. S. Ellis, D. A. Findlay, F. Hicks-Arnold, J. H. Hum, W. H. Matthews, W. R. Metcalfe, A. O. Milne, L. E. Newnham, W. A. Scarr, J. Taylor, John Clarricoats (General Secretary) and John A. Rouse (Deputy General Secretary).

Apologies for Absence

Apologies for absence were submitted on behalf of Messrs. W. H. Allen and R. G. Lane.

Absent

Mr. H. W. Mitchell.

Membership

(a) *Resolved* (i) to elect 163 Corporate Members and 28 Associates; (ii) to grant Corporate Membership to 6 Associates who had applied for transfer.

(b) The Secretary reported that of the 638 members whose subscription became due on June 1, 1956, 61 became overdue on August 31, 1956. Of this number 12 were London, 34 were Country and 11 were Overseas Members and 4 were Associates. Of those overdue 4 London, 17 Country and 9 Overseas Members held call-signs.

(c) The Secretary reported that 11 of the 61 members referred to in (b) above had written to resign. Of this number 4 gave no reason for resigning, 4 had resigned for personal reasons, 1 had resigned for financial reasons, and 2 had lost interest in Amateur Radio.

The Secretary reported that 53 persons had applied for membership at the Earls Court Radio Show. Many others had taken forms and had since made application for election. The Secretary also reported that 57 of the newly elected members had used one of the application forms issued with the August BULLETIN.

Secretary's Service Agreement

Resolved, in view of the present three-year contract with Mr. Clarricoats which expires on December 31, 1956, but will continue until such time as shall be determined by giving six months' notice in writing on either side, the Council do not consider it necessary to take any action on the contract.

(The General Secretary and Deputy General Secretary were absent from the meeting during the discussion on the above matter).

On his return to the meeting the President conveyed the terms of the above resolution to Mr. Clarricoats and informed him that arrangements would shortly be made for him to meet four members of the Council to discuss his agreement with the Society.

Regional Representatives

Resolved to receive with regret the resignation of Mr. J. Timbrell (G6OI) from the office of Region 3 Representative on the grounds of ill-health.

The Secretary was instructed to write and thank Mr. Timbrell for his past services to the Society and to express the hope that he will make a good recovery.

Resolved to invite Mr. W. A. Higgins (G8GF) to act as Region 3 Representative until a successor to Mr. Timbrell shall have been elected.

Mr. Bartlett informed the Council that he wished to relinquish his duties as Region 9 Representative as from the end of the current year.

The President, on behalf of his colleagues, thanked Mr. Bartlett for his past services to the Society as Region 9 Representative.

Membership Drive

Resolved to adopt a suggestion made by Mr. J. J. Maling (G5JL) that the Society should print and issue to members free of charge, small gummed labels to be affixed to QSL cards intended for U.S.A. and Canadian amateurs. The label would carry an invitation to write to the sender of the card for details of R.S.G.B. membership.

N.F.D. 1957

Resolved to accept a recommendation of the Contests Committee that for the 1957 N.F.D. event the power limit be increased to 10 watts on all bands.

It was reported that the Contests Committee had decided for the 1957 N.F.D. event that each group shall be given the choice of all six bands; one station may choose any three bands and the associated station (if any) must then opt for the three remaining bands. Single station entries will be permitted to choose three bands only. In view of the wide range of groupings thus made possible the Committee recommended the Council that "A" and "B" station listings be abolished. Leading stations on each band would, however, still be listed. The recommendation was adopted.

1957 Programme

Resolved to adopt the programme of Contests for 1957 as submitted by the Contests Committee.

Earls Court Radio Show

It was reported that takings on the R.S.G.B. stand at the Earls Court Radio Show amounted to £441 7s. 4d. of which amount £67 12s. 0d. represented subscriptions paid by new members.

Resolved to thank Mr. Ruth for his services to the Society as Exhibition Manager.

Schoolboy's Exhibition

Resolved to follow up a suggestion made by Mr. R. F. G. Thurlow (G3WW) that an enquiry should be made of the organizers of the Schoolboy's Exhibition whether the Society could be provided with stand-space and if so at what charge.

Short Wave Magazine and R.A.E.N.

The Council gave consideration to correspondence which had passed between the Editor of *The Short Wave Magazine* and (a) the Chairman of the R.A.E.N. Committee; (b) the Hon. R. F. Wood, M.P.

Resolved (a) to recommend the Chairman of the R.A.E.N. Committee to make no reply to the Editor of *The Short Wave Magazine*, (b) to publish an appropriate *"Current Comment"* in the October issue of the BULLETIN.

Reciprocal Arrangements

Consideration was given to a letter from Mr. R. L. Varney in which he suggested that the Society should make every effort to persuade the U.K. Government to enter into reciprocal agreements with other Governments whereby the amateurs of one country would be allowed to operate Amateur Radio stations in another country.

After Mr. Milne and the General Secretary had explained that the G.P.O. were not prepared to initiate the first moves in discussions on reciprocal arangements with other Governments, it was *Resolved* to take no action on the suggestion made by Mr. Varney.

R.A.E.N.

Resolved to approve a visit by members of the R.A.E.N. Committee to British Red Cross Society Training Headquarters at Guildford, and to authorize the members concerned to claim reasonable out-of-pocket expenses.

The meeting terminated at 9.10 p.m.

Society News

Advertisement Rates

IN order to offset, to some extent, the increased costs of production, the Council has decided that Advertisement Rates for the R.S.G.B. BULLETIN shall be increased as from January 1, 1957, except for existing contracts which will be completed at the old rates.

The new rates are as follows:—

Displayed Advertisements

No. of Insertions	1	3	6	12		
Whole page	£30/–	£27/–	£25/–	£22/10	per	insertion
Half Page	£16/10	£15/–	£13/10	£12/–	,,	,,
Quarter Page	£9/10	£8/10	£7/10	£6/10	,,	,,
Eighth Page	£5/–	£4/10	£4/–	£3/10	,,	,,

Cover Positions (when available). Rates on application.

Classified Advertisements

Trade: 9d. per word (minimum 12s.); all capitals 1s. per word (minimum 18s.).

Members: 3d. per word (minimum 5s.); all capitals 6d. per word (minimum 9s.).

Box Number fee 1s. 6d.

The old rates for displayed advertisements are £20 per page and pro rata for smaller spaces. The old rates for classified advertisements are :—

Trade: 6d. per word (minimum 9s.); all capitals 1s. per word (minimum 18s.).

Members: 2d. per word (minimum 3s.); all capitals 6d. per word (minimum 9s.).

Readers and advertisers are reminded that this is the first time BULLETIN displayed advertisement rates have been increased since 1946.

New Frequency Allocation for U.K. Amateurs

AS the result of negotiations carried out by the R.S.G.B., the Post Office has authorized holders of Amateur (Sound) and (Sound Mobile) Licences to use the frequency 70.3 Mc/s ± 0.1 Mc/s, on a basis of non-interference to other services. The maximum d.c. input power permitted is 50 watts and the types of emission allowed A1, A2 and A3. The arrangement will continue until December 31, 1956.

The new allocation must not be used within 50 miles radius of Jodrell Bank Observatory, Cheshire.

Amateur Radio at the Schoolboys' Own Exhibition

THIS winter for the first time, the R.S.G.B. will take a stand at the Schoolboys' Own Exhibition. The Exhibition will be held at the Horticultural Halls, Westminster, from December 31, 1956, to January 12, 1957, and will be open from 9 a.m. to 7 p.m. daily.

The Council's decision to take space at this popular Exhibition was made in pursuance of their policy of promoting interest in Amateur Radio amongst the general public, especially young people, with a view to increasing membership.

A " live " station will be a feature of the stand but the accent throughout will be on simple equipment which can be built by the schoolboy. Every effort will be made to awaken interest in Amateur Radio and short-wave listening.

Members, particularly those who are schoolmasters and those with experience of dealing with youth are invited to help man the R.S.G.B. stand. Offers should be sent as soon as possible, stating dates and times available, to Headquarters

Frequency Measuring Test, October 28, 1956

THE frequency in use at G3DQ (operating as GB2RS) was 3604.10 kc/s.

Correct measurements were submitted by S. H. Iles (G3BWQ), of London, N.21, and J. B. M. Hain (G3KUN), of Greenford, Middlesex.

P. E. Hale (G3JPI), D. W. Brough (G3HUR) and N. G. Anslow (G4GD) submitted measurements within 25 parts per million; a further four members, G3HDU, G3JXA, G8QZ and G3EPO were within 50 parts per million of the correct value.

Membership Drive

GUMMED stickers for use by members on QSL cards intended for Canadian and U.S. stations are now available on request from Headquarters. The wording is as follows: "The Radio Society of Great Britain welcomes U.S. and Canadian amateurs as members. Subscription rate three dollars a year. This station will be pleased to send you an application form."

London Meeting

NINETY Members attended a meeting of the Society at the Institution of Electrical Engineers, London, W.C.2, on October 26, 1956, when Mr. Frank Hicks-Arnold (G6MB) delivered a lecture entitled "More about the antennamatch". Mr. D. A. Findlay (G3BZG), Executive Vice-President, was in the chair. A vote of thanks to the lecturer was proposed by Mr. W. J. H. Kempton (G8LN).

Since his first lecture at the I.E.E. two years ago, Mr. Hicks-Arnold has described the Antennamatch to about 1,000 members at 14 centres in England and Scotland.

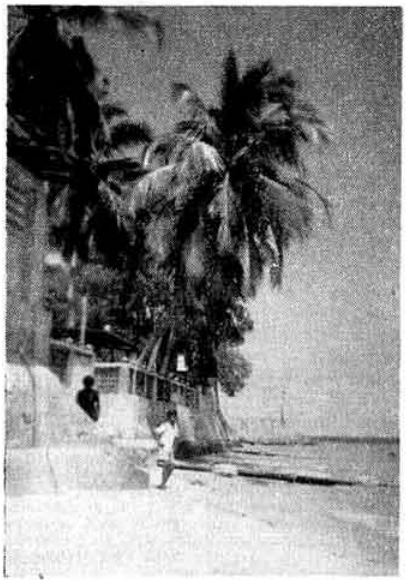
Council Ballot Scrutineers

AT the above mentioned meeting, Messrs. T. L. Herdman (G6HD), G. M. C. Stone (G3FZL), J. W. Hill (G3JIP), and R. C. Patrick (G2BBX) were appointed to scrutinise the Council Ballot.

East to Zanzibar—The VQ1JO Expedition

DX-peditions to exotic lands had always interested Mal Geddes (ZE3JO) when, early this year, a long holiday, including a sea trip, was ordered as convalescence following an operation. After much consideration, Zanzibar was chosen and plans laid for operating an amateur station during the visit.

It soon became evident that it was not just a case of taking a transmitter and receiver along and erecting an aerial. The first move was to obtain a licence and in this connection valuable advice was received from VQ4RF who operated the first amateur station from Zanzibar in 1951. When the licence arrived it was for 150 watts input on 14 Mc/s c.w. only, using the call-sign VQ1JO. ZE2KV loaned a B2 transmitter-receiver and ZE6JL a supply of crystals.



What a spot for DX! This is the kind of exotic scenery which provided the background for VQ1JO to give joy to many stations seeking a new country.

On arrival in Zanzibar, it was found that the hotel room did not offer particularly good facilities for aerials but eventually a 100ft long wire was strung up from the room (60ft up) to a paw-paw tree about 12ft from the ground. The first call at 11.30 G.M.T. on August 14 brought replies from a dozen stations, the best being W5BNO who gave a report of RST579. During three hours of operation that day about 60 stations were worked but several were lost due to the awful "pile-up" on the frequency. Requests to QSY seemed to go unheeded.

For the first five days conditions were reasonable but from August 20 to 30 they deteriorated into the worst that VQ1JO had ever experienced on 14 Mc/s since 1935. Even the VQ1 call seemed futile! Nevertheless, 350 contacts had been made with stations in 45 countries before it was time to return home on August 30. If conditions and the aerial had been better the 1,000 contact mark would have been reached easily.

As only two other amateur stations—VQ1RF and VQ1RO—have ever operated on Zanzibar, VQ1JO's results, despite the poor conditions, were well worthwhile.

QSL cards have been sent direct to all stations worked. Anyone who has not received a card should write to VQ1JO c/o Box 2462, Salisbury, Southern Rhodesia.

Third S.R.J. Convention, 1956

THE third annual Convention of the Yugoslav Society, S.R.J., took place in Belgrade this year and was timed to coincide with celebrations to mark the centenary of the birth of Nikola Tesla. As on the two previous occasions the Convention was attended by amateurs from many other countries including Germany, the Saar, Hungary, Bulgaria, Switzerland, Rumania, Czecho-Slovakia, Denmark, Sweden, Poland, Russia and Great Britain.

The inaugural meeting took place on July 7 and this was followed by the opening of a large exhibition of commercial and amateur built equipment of various types, including some foreign gear. A 2 metre D/F contest was held during the morning of the second day. Visits were made to places of scenic beauty while the evenings were devoted to station visits.

Many subjects of mutual interest were discussed during the conference sessions and prizes were presented to the winners of the various contests at the hamfest. Delegates from other countries received souvenir plaques and pennants.

Visiting amateurs were allowed to operate the Convention station and to sign with their own calls, e.g. G3FOO/YU0C, YO3RF/YU0C. The call-sign YU0C was allotted for the Convention in much the same way as GB calls are issued in this country for special occasions.

Before leaving for home foreign amateurs were invited to meet the Mayor of Belgrade.

The Convention commemorated the tenth anniversary of the foundation of S.R.J.—G3FOO.

Army Wireless Reserve Amateur Radio Society

OWING to the Suez emergency the duties of Secretary of the Army Wireless Reserve Amateur Radio Society have been taken over by Mr. J. d'A Collings (G3BIX).

Several members of the Society have been recalled for active service including Major D. W. J. Haylock, G3ADZ (who is commanding 2 Ind. Press Comm. Sig. Squadron), Capt. A. D. Taylor (G8PG), Capt. D. H. MacLean (G3DNQ), Sgt. Richey (G3KLX), Cpl. Gilding (G3FQN), and Cpl. Greenleaves (G3HWB).

Brig. Eric Cole, C.B.E. (G2EC), has accepted an invitation to become a Vice-President of the Society.

Tahiti-Nui Expedition

THE call-sign in use by the Tahiti-Nui Expedition (September BULLETIN, page 110) is *FO8AP/MM*. The frequencies on which the station is operating are 7015, 7030, 14042, 14103 and 21042 kc/s, c.w. only.

R.S.G.B. News Bulletin Service

GB2RS		**3600 kc/s**
10.00 G.M.T.	**Sundays**	**12.00 G.M.T.**

London Lecture Meeting

Friday, November 30, 1956

"1250 MC/S OPERATION"

by

MEMBERS OF THE LONDON U.H.F. GROUP

at the

Institution of Electrical Engineers, Savoy Place, Victoria Embankment

Buffet Tea 6 p.m. **Lecture 6.30 p.m.**

Rules for National Field Day 1957

Increased Power — Additional DX Bands — Rising Serial Numbers

TEN watts . . . six bands, including 21 and 28 Mc/s . . . complete freedom of choice in the division of bands between the two stations . . . rising serial numbers instead of the name code: these are the main innovations in the rules for the 1957 National Field Day.

Sufficient new ideas, indeed, to keep keen Groups busy from now until next June—planning, building and testing new equipment, new techniques and new tactics. Even those Groups who do not wish to use 21 and 28 Mc/s and who still hope that a vintage rig will see them to victory one day will find that the new rules will repay careful study if they are to make best use of the facilities offered. Smaller Groups whose resources do not run to manning two stations will welcome especially the chance to pile up high scores on any three favourite bands.

There will be a few regrets that the name-code which often enabled operators to spot old friends at the other key has gone, but the single rising serial number regardless of band brings the contest into line with I.A.R.U. recommendations and will assist checking.

Rules

1. The event will commence at 17.00 G.M.T. on Saturday, June 1, 1957, and conclude at 17.00 G.M.T. on Sunday, June 2, 1957.

2. Only properly constituted R.S.G.B. Town or Area Groups within the British Isles, which for the purposes of the event comprise the prefix zones G, GC, GD, GI, GM and GW, may enter for the contest.

3. Operators of portable stations competing in the contest must each hold a current British Isles (G.P.O.) Amateur (Sound) Licence, and must be fully paid-up Corporate Members of the Society at the time of the contest.

4. Each competing Group will be permitted to place two stations ("A" and "B") in operation. "A" stations must select any three of the six frequency bands in use in the contest, 1.8, 3.5, 7, 14, 21 and 28 Mc/s, and the other three frequency bands will be allocated to the "B" station, i.e., no group may operate two stations on any one frequency band. Both stations may operate from the same site or from different sites, provided that they are located within the agreed limits of the area covered by their Regional Representative. It will be permissible for two or more towns or areas within a single region to amalgamate for the purposes of scoring. Single-station entries will be accepted for stations operating on not more than three of the frequency bands listed above.

5. Each station must be licensed to use a different call-sign. Club and other collectively held call-signs are not permitted.

6. Applications to enter N.F.D. may be made only by T.R.s and A.R.s as the case may be. All applications must be made on the form which will be circulated from Headquarters to all T.R.s and A.R.s not later than February 28, 1957. The application is necessary to enter the contest and will include details of the frequencies chosen for each station entered—this choice of frequencies may not be varied after applications have been submitted.

7. Applications, duly signed, addressed to the Hon. Secretary, R.S.G.B. Contests Committee, New Ruskin House, Little Russell Street, London, W.C.1, must be postmarked not later than March 31, 1957.

8. Stations must be operated from tents.

9. No apparatus may be erected on the site prior to 12.00 G.M.T. on June 1, 1957. This rule includes aerials and aerial fittings as well as tented accommodation for the stations. This does not apply to a tent to be used for storage purposes.

10. Any aerials may be used up to a maximum of four per station (including the receiving aerial), subject to the following limitations.
(a) All aerials must be constructed from wire of total cross-sectional area not greater than that of 14 s.w.g., with the exception, however, that masts may be used as vertical radiators.
(b) No part of the aerials shall exceed a height of 45 ft above ground level.

11. Equipment at any "A" or "B" station must not exceed three transmitters and one receiver. Reserve equipment may be kept available, but not connected.

12. Total d.c. input to the anode circuit of the valve or valves energising the aerial, or to any previous stage of the transmitter, shall not exceed **10** watts.

13. Power for any part of the station shall not be derived from supply mains.

14. The contest is restricted to the use of c.w. (A1) only.

15. An exchange of reports must be made and acknowledged before points may be claimed. In contacts made by competing stations the report must include a rising serial number commencing with 001 and increasing by one with each successive contact made by the station (e.g., RST579001, etc.), and such serial numbers, both incoming and outgoing, together with signal reports, must be entered on the log sheets. Proof of contacts may be required.

16. Contacts with ships, or unlicensed stations located in countries where licences are obtainable, will not count for points. The decision as to whether a station is to be classed as unlicensed will rest with the Contests Committee.

17. Only one contact with a specific station, whether fixed, portable or mobile, may be made on each band during the contest.

18. Points must not be claimed for contacts made by a competing station with other stations within its own town or area or with members of its own group whether fixed, portable or mobile.

19. Points will be scored on the following basis:—

(a) Fixed, mobile and non-competing portable stations in the British Isles	1 point
(b) Fixed stations in the rest of Europe including Eire...	2 points
(c) Fixed stations outside Europe	3 points
(d) Fixed stations in the British Empire	6 points
(e) Competing portable stations in the British Isles ...	*3 points
(f) Portable stations in the rest of Europe including Eire	4 points
(g) Portable stations outside Europe	6 points
(h) Portable stations in the British Empire	12 points

*An additional point may be claimed on 1.8 Mc/s **ONLY** for contacts with a competing portable station in any other British Isles prefix zone (e.g., GM–G, GM–GD, G–GI, GW–GC contacts on 1.8 Mc/s score 4 points). The six British Isles prefix zones are G, GC, GD, GI, GM, and GW. *N.B.* For contacts within the British Isles the portable-to-portable scoring rates apply **ONLY** for contacts between stations listed in the official list which will be circulated with the log sheets from Headquarters. ***Contacts with mobile or unlisted portable stations will score one point only.***

20. An entry will be valid only if signed by the properly appointed T.R. or A.R., who will be solely responsible for the conduct of the event in his Town or Area.

21. Contacts made by an operator whose personal signature does not appear on the covering sheet(s) of the appropriate log(s) will be disallowed.

22. Each station's entry shall consist of extracts on the official log sheets from the station log, a separate extract being submitted for each band worked, together with a cover sheet for each band and a summary sheet. Forms for this purpose will be supplied by Headquarters. Entries must be addressed to the Hon. Secretary, R.S.G.B. Contests Committee, New Ruskin House, Little Russell Street, London, W.C.1, postmarked not later than June 17, 1957. ***Logs must be kept and entries submitted in G.M.T.***

23. In addition to the National Field Day Trophy and miniature replica, which will be awarded to the Group obtaining the highest combined score, miniature replicas will be awarded to the Groups with the highest score on each frequency band. A certificate will be awarded to each of the following: (a) the chief operator of the overseas station whose check log shows that he contributed the most points to competitors: (b) the chief operator of the British Isles station whose check log shows that he contributed the most points to competitors.

24. The Scottish N.F.D. Trophy (together with miniature) will be awarded to the Scottish Town or Area Group scoring the highest number of points.

25. The Bristol Trophy will be awarded to the Town or Area Group which having entered only one station shall obtain the highest number of points in comparison with other groups entering on a similar basis.

26. The Trophies will be handed to the T.R. or A.R. of the groups concerned, who will be responsible for their safe keeping until their return is requested by Headquarters.

New Books

HI-FI—LOUD SPEAKERS AND ENCLOSURES by Abraham B. Cohen. Published by John F. Rider Inc., New York, and distributed in the U.K. by Chapman & Hall. Size 8½ in. x 5½ in. 360 pages; about 180 illustrations. Price 37s. 6d.

The aim of this book is to answer all the questions of the high-fidelity enthusiast and audio technician that pertain to loud speakers and enclosures. The book is divided into three main sections—The Loud Speaker, The Enclosure and The Room. In the first section the reader is taken in easy steps from basic loud speaker principles towards an appreciation of those variations which lead towards the specialised high efficiency, high quality reproducers of today. The record section analyses and develops types of loud speaker baffles and enclosures from the simplest flat baffle to the most complex folded-horn enclosures. The third section deals with the listening room as part of the acoustic circuit.

An appendix consists of 18 complete plans for the construction of typical loud speaker enclosures.

The book is an important addition to the literature on the subject of Hi-Fi.

* * *

HI-FI—FROM MICROPHONE TO EAR. (Modern Sound Recording and Reproduction Technique) by G. Slot. Published by Philips of Eindhoven and distributed in the U.K. by Cleaver Hume Press Ltd., London, W.8. Size 8 in. x 5½ in. 180 pages. 118 illustrations. Price 17s. 6d.

The 12 chapters in this fascinating book, range over the whole field of modern sound recording and reproduction. The first few pages are devoted to a historical survey of the subject, after which information is given on Pick-ups, Needles, Records, Record Players, Record Changers, Amplifiers, Loud Speakers, Acoustic Problems, High Fidelity, and Magnetic Tape Recordings.

The radio amateur interested in high fidelity reproduction will find this latest addition to the Philips Technical Library of absorbing interest. The high standard of production associated with Philips' publications has been well maintained.

* * *

CORRECTING TELEVISION PICTURE FAULTS. By John Cura and Leonard Stanley. Published for "Wireless World" by Iliffe and Sons Ltd. Size 7¼ x 4¾ in. 69 pages. Printed on real art paper. Price 3s. 6d.

This useful little book contains more than 150 "Tele-Snaps" mostly showing the result of various types of faults; a few obtained under perfect condition of reception are included for comparison. Faults are dealt with under sectionalized headings, thus it is an easy matter to identify any defect which may appear on a particular set. The cause of each fault is clearly explained—first in simple language which the ordinary viewer can undertand, and then in greater detail (printed in different type) for the technician. Information on how to overcome the fault is given, wherever possible. A glossary of control terms is included, and an index enables any item to be readily found.

This book should bring better viewing to thousands of homes and should prove invaluable to the service engineer and dealer.

* * *

GUIDE TO BROADCASTING STATIONS 1956-1957. Compiled by the staff of "Wireless World." Ninth Edition. Published for "Wireless World" by Iliffe and Sons, Ltd. Size 7¼ in. x 4¾ in. 80 pages. Price 2s. 6d.

Hundreds of additions and amendments have been included in the operating details of the 3,000 stations of the world listed in this edition of "Guide to Broadcasting Stations." The tabulated information has been checked against frequency measurements made at the B.B.C. Receiving Centre at Tatsfield, Surrey.

Some 700 European stations operating on long and medium waves are listed in order of frequency and geographically. Incidentally 50 per cent. of the medium-wave broadcasting stations in Europe are operating on frequencies not allocated to them under the international plan drawn up at Copenhagen in 1948! These stations are shown in the frequency list.

Nearly 2,000 short-wave stations operating with a power of not less than one kilowatt are also listed, with their call signs, in order of frequency and geographically.

Post Office Radio Amateurs' Examination

SEVENTY-THREE candidates entered for the Radio Amateurs' Examination set by the Post Office and held on October 6, 1956. Of this number, 50 (68.5 per cent) passed and 23 failed.

The examination paper was as follows:—

Part 1. (Candidates were required to answer ALL the questions in this part)

1. Licence conditions.
   (*a*) State what qualifications are appropriate for Amateur Sound Transmitter operating,
   (*b*) What form of log should be kept and what relative entries should be made?
   (*c*) What kinds of transmission are prohibited? (15 *marks*)

2. Draw a circuit diagram of a radiotelephony transmitter incorporating a master oscillator, amplitude modulator and power amplifier.
Describe the action briefly, giving your reasons for your choice of the modulator method. (15 *marks*)

3. Draw a circuit diagram of a system for providing a stabilised high tension suitable for a transmitter. Describe the action briefly and say why a stable h.t. is desirable. What other features would you incorporate to ensure that only one frequency was transmitted? (15 *marks*)

4. Draw a diagram of either a Hot Wire Ammeter or a Moving Coil Ammeter. Describe the construction and say how it could be adapted to measure; (*a*) Supply h.t. to a transmitter, (*b*) Filament voltage, (*c*) Anode current, and (*d*) Aerial current. (15 *marks*)

Part 2. (Candidates were required to answer only FOUR of the following questions)

5. State Ohm's law.
Two resistors of 20 ohms and 30 ohms, are connected in parallel and the combination is joined in series with a 24 ohm resistor and a battery of 12 two volt cells. Calculate the current flowing in the circuit and the power dissipated in the 24 ohm resistor (10 *marks*)

6. What do you understand by "second channel interference" and "adjacent channel interference" in superheterodyne receivers and how may they be minimised in practice? (10 *marks*)

7. What is meant by "skip distance" in relation to the propagation of radio waves? Why does skip distance vary and what steps may be taken to offset the effect in both transmitter and receiver? (10 *marks*)

8. State what practical precautions should be taken when erecting an aerial system. Describe how a transmitter aerial (of your own choice) could be matched to the output stage of your transmitter. (10 *marks*)

9. Describe the construction of an h.f. pentode valve. Draw a sketch of the electrode assembly and say what features render this valve more suitable than a triode. (10 *marks*)

10. Calculate the reactance of an inductor of 10 microhenrys at a frequency of 28 Mc/s.
What do you understand by the "Q" factor of a circuit? (10 *marks*)

Contests Diary

	1956	
November 24–25	-	R.S.G.B. 21–28 Mc/s Phone Contest[2]
December 8–9	-	W.A.E. DX Contest (organized by D.A.R.C.)
January 19–20	-	W.A.E. DX Contest (organized by D.A.R.C.)
	1957	
January 26-27	-	B.E.R.U.[1]
June 1-2	-	National Field Day[3]

[1] For rules, see page 479, R.S.G.B. Bulletin, May, 1956.
[2] For rules, see page 480, R.S.G.B. Bulletin, May, 1956.
[3] For rules, see page 230.

Regional & Club News

Aberdeen Amateur Radio Society.—At the recent A.G.M. the following office bearers for 1956/57 were elected: *President:* B. McK. Davidson (GM3ALZ); *Vice-President:* E. G. Ingram (GM6IZ); *Hon. Secretary:* A. G. Knight, 6 Blenheim Lane, Aberdeen; *Committee Members:* W. Beaton (GM3DWX); I. C. Sinclair (GM3ICS); C. Sherrit (GM3EOJ); G. T. Donaldson (GM3FKS).

Acton, Brentwood and Chiswick.—Attendance at meetings continues to rise and all R.S.G.B. members in the area are invited to attend.

Aldershot and District Radio Society.—Meetings are held on alternate Wednesdays at " The Cannon ", Victoria Road, Aldershot, commencing at 7.30 p.m. A special meeting has been arranged for Sunday, December 9, at Farnham, when Frank Hicks-Arnold (G6MB) will lecture on " The Antenna-match ". Admission will be by ticket only obtainable from the *Hon. Secretary:* A. E. Redman (G2FNQ), 19 South Street, Farnham, Surrey.

Ashington and District Radio Club.—This new club holds fortnightly meetings at the Grand Hotel, Ashington. The next is on November 20. Further information can be obtained from T. G. Musgrove (G3KBK), Millbank Farm, Bedlington, Northumberland.

Brighton and District Radio Club.—At the A.G.M. the following were elected: *Chairman:* T. Henley (G2CMH); *Vice-Chairman:* C. T. Fairchild (G3YY); *Hon. Treasurer:* R. Langridge; *Hon. Secretary:* J. Trangmar, 33 Lennox Street, Brighton, 7; *Committee Member:* D. Hemsley. Visitors and prospective members are assured of a warm welcome at the meetings held on Tuesdays at the Eagle Inn, Gloucester Road, Brighton, commencing at 7.30 p.m. At the meeting on December 4 there will be a talk on " Electronic Control of Machine Tools ". Morse classes are held regularly.

Bristol.—A lecture on equipment for 144 Mc/s was given by Council Member W. H. Allen, M.B.E. (G2UJ), on October 19. A. G. Blackmore (G3FKO) will be talking about " Mobile Equipment " at the meeting on December 7, at which the local committee for 1957 will be elected.

British Two-Call Club.—Membership has now reached 164. Full details may be obtained from the *Hon. Secretary:* G. V. Haylock (G2DHV), 63 Lewisham Hill, Blackheath Common, London, S.E.13.

Cambridge and District Amateur Radio Club. — At the meeting to be held at " The Jolly Waterman ", Chesterton Road, Cambridge, on November 30, at 8 p.m., G. A. Jeapes (G2XV) and J. F. Moseley (G2CIW) will demonstrate 70 cm equipment. *Hon. Secretary:* F. A. E. Porter, 38 Montague Road, Cambridge.

Guest of honour at the annual dinner of the Welwyn Garden City Group was Douglas Findlay, G3BZG, Executive Vice-President. He responded to the toast of " The Society," which was proposed by Cecil Cleland, G2CN (right), next to whom is Mrs. Kathleen Cleland. On the left is Mrs. Hum, wife of the W.G.C. Town Representative.

City and Guilds Radio Society.—On November 26, D. H. Barlow (Mullard, Ltd.) will lecture on " Electronics in Automation ". The Guilds' Society is making an all-out effort to increase membership. *Hon. Secretary:* D. S. Froome.

Coventry Amateur Radio Society. — The following were elected at the A.G.M.: *Chairman:* D. W. Harries (G3RF); *Hon. Treasurer:* J. Faldon; *Hon. Secretary:* N. J. Bond (G3IHX), 12 William Bree Road, Coventry; *Committee Members:* A. Noakes (G2FTK); K. Barber (G3HDP); H. J. Chater (G2LU); K. Lines (G3FOH); D. A. Drybrough and A. Clements. Meetings are held on Mondays at 9 Queen's Road, Coventry, commencing at 7.30 p.m.

East Kent Radio Society.—Prospective members and visitors are always welcome at meetings at the Technical College, Longport Street, Canterbury. An R.A.E. class has been started. Details may be obtained from the *Hon. Secretary:* D. Williams, Llandogo, Bridge, near Canterbury.

Hartlepools Amateur Radio Club.—Meetings are held weekly on Mondays at 7.30 p.m. (excepting holidays) at Rear, Park Avenue, West Hartlepool. *Hon. Secretary:*—J. Thompson (G3KQU), 27 Chester Road, West Hartlepool, Co. Durham.

Lancaster and District Amateur Radio Society.—The recent programme included a lecture on " The Design and Construction of Tape Recorders " by T. Halstead. *Hon. Secretary:* B. Parker (G3KOQ), 125 Regent Street, Morecambe.

Liverpool and District Amateur Radio Society.—At the A.G.M. the following were elected: *Vice-President:* I. Griffiths (G3ELL); *Chairman:* A. D. H. Looney; *Hon. Treasurer:* R. Kenyon; *Hon. Secretary:* W. D. Wardle (G3EWZ),

" HAM PARTY " AT G6UT

In this picture, taken by G5UM on the occasion of a " Ham Party " given by G6UT on Sunday, September 16, 1956, " Mine Host " is seated between G6CL and G6LB. Other old timers in the picture include G2JG, 2XG, 2XV, 4DC, 6HU, and 6LL. Empire DX Certificate holders G3AAE and 3YF can also be seen. The only licensed YL present—Stella Fish, G3IYL—is sixth from the left, front row, next to her husband, G2CHZ; Mrs. G6CL is on her left.

16 Mendip Road, Liverpool, 15; *Committee Members:* C. Fox (G3HII); J. Hardcastle (G3JIR); L. Ethridge; A. Burgess; H. James; R. Halhead (G3KOR). *Auditors:* D. Bradley (G2DVA) and J. Whelan (G3EWU). The word "*Club*" in the title has been changed to "*Society*". The A.N.W.R.S. Constructional Contest will be held on January 16, 1957.

London Members' Luncheon Club.—The October meeting was one of the most representative for a long time. Among the guests were the Rev. Canon Waring (EI8J), Capt. F. C. Jordan, U.S.N. (W3FIU), J. Filmore (KN4ERT), E. Smart (ZD3A), Phil Dombey (ZS1MS) and Ewald Strobele, a German short wave listener. Stan Vanstone (G2AYC) was in the chair. The club will meet again at the Bedford Corner Hotel, Bayley Street, Tottenham Court Road, London, W.1, at 12.30 p.m., on November 16 and December 21. All visitors to London are invited to attend. Those intending to be present are asked to telephone Ruislip 2763 or Holborn 7373 at least 24 hours in advance if possible.

Nottingham and District Amateur Radio Society.—The subject of "Mobile Operation" was discussed recently by G3GGK, G3JWU and G3JWQ. The *Hon. Secretary* is now R. I. Sills (G3IQM), 38 Montfort Crescent, Sherwood, Nottingham.

Radio Society of Harrow.—Meetings are arranged for November 23 ("More about V.H.F.", G3HBW), November 30, December 7 (Constructional Contest) and December 14. Closing date for the Constructional Contest is November 23. *Hon. Secretary:* S. C. J. Phillips, 131 Belmont Road, Harrow Weald, Middlesex.

Ravensbourne Amateur Radio Club.—Meetings are held on Wednesday evenings in the Science Room, Durham Hill School, Downham, commencing at 8 p.m. A new transmitter is under construction using a Miniciter driving an 813.

Romford and District Amateur Radio Society.—Forthcoming arrangements include a talk on audio equipment (November 27) and two film shows (November 20 and December 11). Meetings are held every Tuesday at 8.15 p.m. at R.A.F.A. House, Carlton Road, Romford. Visitors are always welcome. *Hon. Secretary:* N. Miller, 55 Kingston Road, Romford.

Scunthorpe Amateur Radio Society.—A representative of Mullard, Ltd., will be giving a lecture, illustrated with films, on December 6. Meetings are held at the Talbot Hotel, Earl Street, Scunthorpe, at 7.30 p.m. every fortnight. Details may be obtained from the *Hon. Secretary:* J. Stace, 38 Skippingdale Road, Scunthorpe.

Slade Radio Society.—The A.G.M. is arranged for November 23. On December 7, S. R. Kharbanda of Labgear (Cambridge), Ltd., will lecture on the Labgear LG300 transmitter. Meetings, which commence at 7.45 p.m., are held at the Church House, Erdington, Birmingham, 23. The next "Slade Net" will be on the air on November 30. *Hon. Secretary:* C. N. Smart, 110 Woolmore Road, Erdington, Birmingham, 23.

Sutton and Cheam Radio Society.—At the meeting to be held at the Harrow Inn, Cheam Village, on November 20, commencing at 7.30 p.m., G3JXQ will talk about "Mobile and Portable Operation". Visitors and prospective members will be welcome. *Hon. Secretary:* F. J. Harris (G2BOF), 143 Collingwood Road, Sutton, Surrey.

Torbay Amateur Radio Society.—At the October meeting G3JD reported on the Torquay O.R.M. and read a letter from the Regional Representative, Herb. Bartlett (G5QA), congratulating the Committee on the arrangements, despite the poor attendance. A Junk Sale will be held at the meeting at the Y.M.C.A., Castle Road, Torquay, at 7.30 p.m., on November 17. *Hon. Secretary:* L. H. Webber (G3GDW), 43 Lime Tree Walk, Newton Abbot.

Letters to the Editor . . .

Let's Have More V.h.f. Activity

DEAR SIR,—As a comparative newcomer to the amateur v.h.f. bands, particularly 70 cm, I am prompted to "burst into print" by remarks on activity attributed to G5UM in *Two Metres and Down* for October, 1956. Before continuing I would hasten to add that it is my belief that, subject to compliance with the terms of his licence, a radio amateur is free to operate his station as he pleases. However, the encouragement of interest and experiment in new techniques and systems has always been an important feature of Amateur Radio generally.

That this fact is appreciated by our leading v.h.f. men is confirmed by the publication of much excellent literature on the subject. This literature lights many a spark of enthusiasm but, let's face it, the spark is quenched when the would-be v.h.f. convert is told that he won't be able to work anybody except during contests.

I think we should remember that the great majority of amateurs take out a transmitting licence to be able to transmit, i.e. have QSOs. I do not wish to enter into an argument about "communicators" and "experimenters" but I, personally, think the correct balance can be found to the benefit of all.

The purpose of this letter is, quite simply, to appeal to all operators equipped for 70cm or 2m to spend a little more time on the bands during non-contest periods, and remember, a short CQ call may produce results; listening on an empty band certainly won't. Activity at contest time indicates that there are quite a number of stations equipped for the bands and a little more activity from each, during doldrum periods, would make an enormous difference.

Finally—without rancour or criticism—whilst the seeking of DX, new countries, new counties, and stations is very laudable, is there not some merit in, occasionally, exchanging reports, news, and views with the locals? Some of them may have poor v.h.f. locations and be unable to work the more distant stations. A contact, even over a comparatively short distance, will help to maintain interest. So what about it v.h.f. enthusiasts?

Yours faithfully,
R. W. STANDLEY (G8RW).

Hayes, Bromley, Kent.

Do You Know a Bedridden Amateur?

DEAR SIR,—Some time ago, as the result of a collection among the amateurs of Bury and Rochdale, a special table was purchased for Jack Butterworth, G5XF, who was then in hospital. Jack has since died and the table is now being stored by a local member until we can find a use for it.

The table is of the type that can be wheeled over the end of a hospital bed but is extremely strong, being designed to take the weight of an AR 88.

Naturally we should prefer it to go to someone in Lancashire or an adjoining county and would be most grateful if you could give publicity to the fact that we have this table available for long loan to a bedridden amateur either in or out of hospital. Application should be made to me at the address below.

Yours faithfully,

24 Beryl Avenue, Tottington, nr. Bury, Lancs. JOHN E. HODGKINS (G3EJF)
Chairman, Bury Radio Society.

Four Metres

DEAR SIR,—May I congratulate the Society on bringing to a successful conclusion its long negotiations for a Four Metre Band?

What a scoop too for GB2RS, itself another of the benefits that the R.S.G.B. has obtained for British amateurs, whether members or not. Well done and thank you!

Yours faithfully,

Coulsdon, Surrey. W. N. CRAIG (G6JJ).

Silent Key

W. H. D. NIGHTINGALE (ex-G5NI)

Old-timers will be sorry to learn that Mr. W. H. D. (Bill) Nightingale passed away on October 13, 1956. Well-known to pre-war amateurs for his DX achievements, Bill Nightingale was perhaps even better known as the proprietor of Radiomart of Birmingham. He never really recovered from the shock of his son's death on active service with the Royal Air Force during the 1939-45 war. Just after the war Mr. Nightingale farmed in the West Country but he returned to Birmingham some time ago.

The sympathies of all who knew him are offered to his widow.

Forthcoming Events

REGION 1

Blackpool (B. & F.A.R.S.). — November 27, 7.30 p.m., Roker Private Hotel, New South Promenade.
Bury (B.R.S.).—December 11, 8 p.m., George Hotel, Kay Gardens.
Chester (C. & D.A.R.S.).—Tuesdays, 7.45 p.m., Tarran Hut, Y.M.C.A.
Crosby. — Tuesdays, 8 p.m., over Gordons' Sweet shop, St. John's Road, Waterloo.
Lancaster (L. & D.A.R.S.).—December 5, 7.30 p.m., George Hotel, Torrisholme.
Liverpool (L. & D.A.R.S.—Tuesdays, 8 p.m., Room G, Wavertree Community Centre, Penny Lane, Liverpool, 18. (November 20—Constructional Contest; December 11—"Practical Survey of Aerials.")
Manchester (M. & D.R.S.).—December 3, 7.30 p.m., Brunswick Hotel, Piccadilly. **(S.M.R.C.).**—Fridays, 7.45 p.m., Ladybarn House, Mauldeth Road, Manchester, 14.
Preston (P.A.R.S.).—Wednesdays, 7.45 p.m., 48 High Street, off Lancaster Road, Preston.
Southport. — Thursdays, 8 p.m., Sea Cadets Camp, Esplanade.
Stockport (S.R.S.).—November 21, December 5, 19, 8 p.m., Blossoms Hotel, Buxton Road.
Warrington (W. & D.R.S.). — November 15, December 6, 20, Royal Oak Hotel, Bridge Street, Warrington.
Wirral (W.A.R.S.).—November 21, December 5, 19, 7.45 p.m., Y.M.C.A., Whetstone Lane, Birkenhead.

REGION 2

Barnsley. — November 23, December 14, 7.30 p.m., King George Hotel, Peel Street.
Bradford.—November 20, 7 p.m., visit to Burley Street Repeater Station, Leeds.
Doncaster.—December 4, 7.30 p.m., Lord Nelson Hotel, Cleveland Street.
Gateshead.—Mondays, 7.30 p.m., Mechanics Institute, 7 Whitehall Road.
Hull.—November 27, December 11, 7.30 p.m., Rampant Horse, Paisley Street.
Leeds.—Wednesdays, 7.30 p.m., 4 Woodhouse Square.
Middlesbrough.—Thursdays, Joe Walton's Boys' Club, Feversham Street.
Newcastle.—December 4, 7.45 p.m., Liberal Club, Pilgrim Street.
Pontefract. — November 29, December 6, 8 p.m., Queen's Hotel, Tanshelf.
Rotherham. — Wednesdays, 7 p.m., Cutler's Arms, Westgate.
Scarborough.—Tuesday, 7.30 p.m., Chapman's Yard, North Street.
Sheffield (S.A.R.C.).—November 28, 8 p.m., "Dog & Partridge," Trippet Lane.
Slaithwaite.—Fridays, 7.30 p.m., 3 Dartmouth Street.
South Shields (S.S. & D.R.C.).—November 28, 7 p.m., Trinity House Social Centre.
Spen Valley.—November 21, 28, December 12, 7.30 p.m., Temperance Hall, Cleckheaton.
West Hartlepool (H.A.R.C.).—Mondays, 7.30 p.m., rear of Park Avenue, West Hartlepool.
York. — Thursdays, 7.30 p.m., Club Rooms, Y.A.R.S., Fetter Lane.

REGION 3

Birmingham (South).—December 7, 7.30 p.m., "A" Committee Room, Cadbury Bros., Bournville Lane. **(M.A.R.S.).**—November 20, 7 p.m., Midland Institute. **(Slade).**—November 23, 7.45 p.m. (A.G.M.), December 7, 7.45 p.m., Church House, High Street, Erdington.
Coventry. — November 23, 7.30 p.m., Vine Street School, Coventry. **(Courtaulds).**—Wednesdays, 5-8.30 p.m., Courtaulds, Ltd., Foleshill Road.
Malvern.—December 3, 8 p.m., "Foley Arms."
Redditch.—November 27, December 13, 8 p.m., "Scale and Compass," Birchfield Road.
Solihull.—November 19, December 3, 17, 7.30 p.m., Civil Defence H.Q., Sutton Lodge, Blossomfield Road.
Stoke.—November 28, 8 p.m., "Lions Head," John Street, Hanley.
Stourbridge & District.—November 23, 8 p.m., "White Horse," Amblecote; December 4, 8 p.m., King Edward VI School.
Walsall.—November 28, December 12, 8 p.m., Technical College, Bradford Place.

REGION 4

Alvaston. — Tuesdays, Thursdays, 7.30 p.m., Sundays, 10.30 a.m., Boulton Lane, Alvaston, Derbys.
Chesterfield.—Tuesdays, 7.30 p.m., Bradbury Hall, Chatsworth Road.
Derby (D. & D.A.R.S.). — Wednesdays, 7.30 p.m., Room 4, 119 Green Lane, Derby.
Ilkeston (I. & D.A.R.S.).—Thursdays, 7 p.m., Room 5, Ilkeston College of Further Education, Field Road.
Leicester (L.R.S.).—November 19, December 3, 17, 7.30 p.m., 140 High Cross Street, Leicester.
Lincoln (L.S.W.C.).—December 5, 7.30 p.m., Technical College, Cathedral Street.
Newark (N. & D.A.R.S.). — December 2, 7 p.m., Northgate House, Northgate, Newark.
Northampton (N.S.W.C.). — Fridays, 7 p.m., Clubroom, 8 Duke Street
Nottingham.—November 16, December 21, 7.30 p.m., Basford Hall Miners' Welfare, Nuthall Road, Cinderhill.
Peterborough. — December 5, 7.30 p.m., 21 Hankey Street.
Retford.—December 6, 7 p.m., Sun Inn, Cannon Square.
Scunthorpe (S.A.R.S.).—November 20, December 6, 18, 7.30 p.m., Talbot Hotel, Earl Street.
Stamford.—December 7, 7.30 p.m., The Cottage, Uffington, nr. Stamford.

REGION 5

Chelmsford.—December 4, 7.30 p.m., Marconi College, Arbour Lane, Chelmsford.

REGION 7

Acton, Brentford and Chiswick.—November 20, December 18, 7.30 p.m., A.E.U. Rooms, 66 High Road, Chiswick, W.4.
Bexleyheath (N.K.R.S.). — November 22, December 12, 7.30 p.m., Congregational Hall, Chapel Road, Bexleyheath.
Ealing.—Sundays, 11 a.m., ABC Restaurant, Ealing Broadway, W.5.
East London.—November 18, 2.30 p.m., Town Hall, Ilford ("Simple 430 Mc/s Equipment", by H. T. McFarlane, G8SK).
Ilford.—Thursdays, 8 p.m., G2BRH, 579 High Road.
London Meeting. — November 30, Institution of Electrical Engineers, "1250 Mc/s Operation," by London U.H.F. Group. December 14, 6.30 p.m., E.I.M.A. (above I.E.E.), Annual General Meeting.
London (U.H.F. Group).—December 6, 7.30 p.m., Bedford Corner Hotel.
Norwood and South London.—November 17 ("Tape Recording Headaches," by G4AU and G3IIR); December 15 (Junk Sale), 8 p.m., Windermere House, Weston Street, Crystal Palace.
Slough.—December 4, QTH from G2HOX, 13 Quaves Road, or G3GYD, 5 Parklands Avenue, Slough.
Southgate, Finchley and District. — December 13, 8 p.m., Arnos School, Wilmer Way, N.14 (A.G.M.).
Welwyn Garden City.—December 4, Service Training School, Murphy Radio, Ltd., Bessemer Road (Just Audio! by Geoff Watts, Radar Lab, Murphy Radio).

REGION 9

Bath.—November 19, December 17, 7.30 p.m., R.N.V.W.R. H.Q., 12 Pierrepoint Street (top floor).
Bristol.—November 16, December 7, 7.15 p.m., Carwardine's Restaurant, Baldwin Street.
Exeter.—December 7, 7 p.m., Y.M.C.A., St. David's Hill.
Falmouth (W.C.R.C.). — Alternate Tuesdays, 7 p.m., Technical Institute, Falmouth.
Plymouth.—Alternate Tuesdays, 7.30 p.m., Virginia House Settlement, Barbican.
Torquay.—November 17, December 15, 7.30 p.m., Y.M.C.A., Castle Road.
Weston-super-Mare.—December 12, 7.30 p.m., Sea Cadets Hall, Alfred Street.
Yeovil.—Wednesdays, 7.30 p.m., Grove House, Preston Road.

REGION 10

Cardiff.—December 10, 7.30 p.m., "The British Volunteer," The Hayes, Cardiff.
Neath & Port Talbot.—December 4, 7.30 p.m., Royal Dock Hotel, Briton Ferry.

REGION 11

Prestatyn. — December 3, 7.30 p.m., Station Hotel.

REGION 14

Falkirk & Stirling.—November 23, 7.30 p.m., The Temperance Café, High Street, Falkirk.
Glasgow. — November 30, December 21, 7.15 p.m., Christian Institute, 70 Bothwell Street, Glasgow, C.2.

Visitor from Gothenberg

RECENT visitor to Headquarters was Lennart Bjureblad (SM6AEN), Chairman of the Gothenberg Radio Society, a Branch of S.S.A., the Swedish National Society. During his visit Mr. Bjureblad handed to the Secretary, as a token of good will, a crystal vase of unique design.

Members are reminded that the Gothenberg Radio Society issues a special Worked All Gothenberg certificate. European amateurs resident outside Sweden have to submit evidence of working 10 Gothenberg stations. Full details of this award and many others are given in the new R.S.G.B. publication *Amateur Radio Certificates and Awards*, price 2s. 10d. post free from Headquarters.

Can You Help ?

● A. S. Bragg (B.R.S.11262), 118 Wallace Road, Ipswich, Suffolk, who requires details of the alignment procedure for the ex-A.M. v.h.f. receiver type R.1392 and any information on conversion for 2 metres ?

Can You Help ?

● J. W. Black (B.R.S.19566), 40 Clelland Avenue, Auchinairn, Bishopbriggs, Glasgow, who urgently requires the manual for the Marconi CR100 receiver?

R.S.G.B. Frequency Measuring Tests

12 noon Transmission from GB2RS (Nominal Frequency 3600 kc/s).

November 25, December 30

Reports to R.S.G.B. Headquarters by Tuesday, following tests.

Slow Morse Practice Transmissions

G.M.T.	Call	kc/s	Town
Sundays			
09.00	G3GYV	1900	Hartford, near Northwich
09.30	G3BKE	1900	Newcastle-on-Tyne
10.00	G6MH	1990	Southend-on-Sea
10.30†	G3DGN / G3GZB	1930	North London
11.00	G2FXA	1900	Stockton-on-Tees
12.00	G3LP	1850	Cheltenham
12.00	G3KAN	1850	Northampton
12.00	GI5UR	1860	Belfast
21.00	G2FIX	1812	Nr. Salisbury
22.00	G3ARM	1919	Guildford
Mondays			
18.30	G3NC	1825	Swindon
19.00	G3NC	1825	Swindon
21.00	G3BLN	1900	Bournemouth
Tuesdays			
18.30	G2FXA	1900	Stockton-on-Tees
19.00	G2HDR	1860	Bristol
20.30	G3GDZ	1905	Kingsbury, N.W.9
21.00	G3EFA	1855	Southport
21.45†	G3ETP / G3JMX	1875 / 1860	Lowestoft
22.30†	G3IIR / G3GQK	1915	Norwood
Wednesdays			
18.30	G3GCY	1830	R.A.F., Dishforth
19.00	G3HUB/A	1902	Chelmsford
22.30	G3FBA	1910	Bath
Thursdays			
18.30	G3NC	1825	Swindon
20.00–†21.00	G2ABR / G3FCY / G3GWT / G3KTO	1919	Hull, Yorks.
20.30	G3JQM	1878	Barwick, Yeovil
22.30	G3ADZ	1940	Southsea
Fridays			
19.00	G3BLN	1900	Bournemouth
20.00†	G2FNI / G3EGX / G3ERB	1875	Wirral
20.30	G3ICX	1915	Sutton Coldfield
21.30†	G3KLZ / G3INW (or G3KSS) / G3KEP	1860	Bradford / Bradford / Bingley
Saturdays			
13.00	G2FXA	1900	Stockton-on-Tees
21.00	G3HWI	1987	Blackburn, Lancs.
23.00	GM3HBY	1900	Glasgow

† *Alternately.*

Slow Morse transmissions are organized by Mr. C. H. L. Edwards (G8TL), 28 Morgan Crescent, Theydon Bois, Essex. Members using the service are requested to send listener-reports to the stations concerned.

Australian Amateur Radio Call Book

THE 1956 Edition of the *Australian Call Book* is the most comprehensive yet produced. The Olympic Games motif of the front cover (the Olympic Torch) is in keeping with the great events now taking place in Australia.

An innovation is the separation of certain Australian call-signs into additional groupings to make their location easier and to justify the interest shown in these particular areas by overseas DX enthusiasts.

The most important change is the allocation of the VK1 call-sign prefix to amateurs located in the Australian Capital Territory. Some confusion may unfortunately exist until current VK1 licensees return from the Antarctic regions. All future licensees moving to these regions will be licensed under new call-sign prefixes yet to be decided.

The *Call Book* sells for 4/6d. in Australia and is first-class value for money. Orders should be sent direct to Box 2611W, G.P.O. Melbourne, C1.

New Members

THE following were elected to Membership at the October Meeting of the Council:—

Corporate Members (Home Licensed)

G3IJ †C. HARRIS, Whiteways, Ash Green, nr. Aldershot, Hants.
GM3OM †O. M. DERRICK, 261 Main Street, Larbert, Stirlingshire.
G3ADJ †G. L. FISH, 5 Butts Road, Barton-on-Humber, Lincs.
G3ASJ †T. G. KELSEY, 36 Marshfield Avenue, Goole, Yorks.
G3AZF †M. ILLIDGE, 82 Ashridge Street, Runcorn, Cheshire.
G3CCX †P. CRAW, Dinard, Sea Lane, Rustington, nr. Littlehampton, Sussex.
G3CGU †R. H. CLIFTON, 9 Mill Lane, Iffley, Oxford.
G3HDB †J. H. WHITBY, 24 Thornby Avenue, Kenilworth, Warwicks.
G3JKU †J. J. FORBES, 8 Castletown Road, West Kensington, London, W.14.
G3JSY C. E. NICHOLSON, Sgt's. Mess, R.A.F. Topcliffe, nr. Thirsk, Yorks.
G3KFY J. R. LAWRENCE, 65 Park Avenue, Worcester.
G3KTM R. ATTHILL, 65 Pennant Road, Rochester, Kent.
G3KUD J. R. DUNCAN, Maymore, Everton Road, Hordle, Lymington, Hants.
G3KZH A. F. HALCROW, 30 Nor'Bren Avenue, Bognor Regis, Sussex.
G3LAS *J. B. BUTCHER, 9A Broad Street, Ely, Cambs.
G3LCH *M. PHARAOH, 1 Madeira Road, Mitcham, Surrey.
G3LDW †W. J. ELLESMERE, 289 Gillott Road, Edgbaston, Birmingham, 16.
G3LET P. A. F. HOBBS, 59 Southborough Drive, Westcliff-on-Sea, Essex.
G3LGL J. E. FRENCH, 53 Reddal Hill Road, Old Hill, Staffs
G3LHI A. L. SMITH, 9 Chandos Road, Broadstairs, Kent.
G5NF †C. L. WARD, Halcyon, Lawday Link, Folly Hill, Farnham, Surrey.
G8TJ †A. J. GARNOCK-JONES, 32 Rolleston Drive, Wallasey, Cheshire.
GI3CWY †E. S. WILSON Dunlochan, Whitehead, Co. Antrim, Northern Ireland.
GM3KGT J. NICHOLSON, W.O.W.S., Beaumanor Park, nr. Woodhouse, Leics.
GM3LEY J. DUNLOP (Snr.), 29 Douglas Street, Milngavie by Glasgow.
GM8JW †J. WILSON, 101 Crindledyke Crescent, Newmains, Wishaw, Lanarks.
GM8VL †J. I. M. SINCLAIR, Station House, Giffen, By Beith, Ayrshire.
GW3LEW *G. WEALE, 25 Dyserth Road, Penarth, Glamorgans.

Corporate Members, Overseas (Licensed)

AP2Z K. MOHD, G.H.Q. Signal Regt., Rawalpindi, Pakistan.
DL4ZX/K6JSU R. C. GENN, Jr., 4th Signal Group, APO 403, U.S. Army.
K2ARY N. J. MUNDELL, Snr., No. 345 Laurel Street, Carney's Point, New Jersey.
K2MHC N. E. MAYNE, 90 Prospect Avenue, Springville, Erie Co., New York.
K4DVX S. B. HUNT, 8313 Jolima Avenue, Norfolk 3, Virginia.
K4IWE JAMES W. GANT, 5916 Charlotte Pike, Nashville 9, Tennessee.
KN9CPW N. R. ROESCH, 5037 N. Olympia Avenue, Chicago 31, Illinois.
VE2YA G. C. GOODE, 188 Lakeview Avenue, Pointe Claire, Montreal 33, Quebec.
VE6KX W. J. HUGET, 11638, 76 Avenue, Edmonton, Alberta.
VK2DA H. W. S. CALDECOTT, 8 Seaview Street, Balgowlah, New South Wales.
VK4HB H. F. BREMERMAN, Beams Road, Aspley, Brisbane, N.13, Queensland.
VQ2RG R. J. GALLOWAY, P.O. Box 213, Mufulira, Northern Rhodesia.
W1ZJQ ARTHUR W. WESTMOUNT, 45 Orchard View Road, Portsmouth, Rhode Island.
W2AWH† PROF. YARDLEY BEERS, 4 Ploughman's Bush, Riverdale 71, New York.
W4IZQ SAMUEL BRODSKY, P.O. Box 602, Elizabeth City, North Carolina.
W6WXG G. MCKAY, 3999, Via Padova, Claremont, California.
W7AGS LEO. A. WHITE, RFD. 4, Box 598, Salem, Oregon.
W7JFU WALTER E. BRITTON, Box 1009 Sta " A," St. Helens, Oregon
W8OCT W. C. MCNEIL, 661 Princeton Road, Berkley, Michigan.
WN9BZC FLOYD H. KIRKLAND, E.O.T.B. Hospital, The Dalles, Oregon.
YU2AH PERSE EDO, Bosanska 27, Zagreb, Yugoslavia.
YU2DB MATIJA KLAUSER, Krasova 7, Zagreb, Yugoslavia.
ZB1CZ S. C. SCOTT, Malta Workshops, R.E.M.E. B.E.P.O.51, Malta.
ZD2GWS W. G. SLINGER, Posts & Telegraphs Dept. Buea, Southern Cameroons.

Corporate Members (British Empire Receiving Station)

938 D. L. JACKSON, " D " Watch, 264 Signals Unit, R.A.F. Ayios, Nikolaos, B.F.P.O. 53, Cyprus.

Corporate Members (Foreign Receiving Station)

263 W. R. DEAL, Piermont, New Hampshire, U.S.A.

Corporate Members (British Receiving Stations)

21187 R. E. SMAGGASGALE, 10 Aveley Mansions, Whiting Avenue, Barking, Essex.
21188 D. T. WYATT, 4 Norman Avenue, Branksome, Poole, Dorset.
21189 K. C. WRIGHT, 27 Haverstock Court, St. Paul's Cray, Orpington, Kent.
21190 R. V. MOORE, 30 Abbey Crescent, Beauchief, Sheffield 7.
21191 R. BENNETT, Broomhill Clutton, nr. Bristol.
21192 A. G. LEE, 77A Poole Road, Westbourne, Bournemouth, Hants.
21193 A. G. VALLANCE, 1 Parkwood Road, Bexley, Kent.
21194 E. JENKINS, Springs Cottage, Killon Street, Bury, Lancs.
21195 P. STONE, 22 Grange Road, Salford, Lancs.
21196 E. C. PARTNER, Orchard House, Layer Breton, Colchester, Essex.
21197 B. ASH, Beulah, Northcote Road, Langdon Hills, nr. Basildon, Essex.
21198 B. F. CROWSON, 16 Mountfitchet Road, Stanstead, Essex.
21199 W. DINSDALE, 6 Grey Avenue, Heselden, West Hartlepool, Co. Durham.
21200 E. L. SMITH, " Eastnor," Lodge Lane, Bexley, Kent.
21201 J. M. HEATHCOTE, 16 Stonehall Avenue, Ilford, Essex.
21202 G. H. LATUS, 16 Valleyfield Street, Edinburgh, 3.
21203 DR. R. GILES, 35 Arnhem Avenue, Aveley, Purfleet, Essex.
21204 G. A. MARTIN, 18 Milton Lane, Wookey Hole, Somerset.
21205 J. STUBBS, 63 Willowdale Road, Walton, Liverpool, Lancs.
21206 A. J. BALMFORTH, 53 Longman Road, Barnsley, Yorks.
21207 M. R. W. WADE, 16 Walkern Road, Stevenage, Herts
21208 T. L. MILES, 250 Hughenden Road, High Wycombe, Bucks.
21209 F. J. BURRIDGE, 13 Winfield Avenue, Patcham, Brighton 6.
21210 E. G. MORGAN, 24 High Street, Hadleigh, Essex.
21211 A. J. SMITH, 156 Chelmsford Avenue, Chase Cross, Romford, Essex.
21212 T. L. JOHNSON, Flat 18, Foxhill Club, Weetwood Lane, Leeds 16.
21213 J. OLDHAM, 20 Victoria Street, Ashton-under-Lyne, Lancashire.
21214 H. P. WARD, 18 Brennock Street, Bradford, Manchester 11.
21215 W. E. H. ADAMS, 80 Aylen Road, Copnor, Portsmouth, Hants.
21216 R. J. W. GUTTRIDGE, 33 Mayfield Road, Sanderstead, Surrey.
21217 M. O. NEWSOME, 12 Park View, Harrogate, Yorks.
21218 W. S. COLES, April Cottage, Grange Road, Ash, Surrey.
21219 C. J. JAMES, 6 Sylvia Avenue, Hutton, Brentwood, Essex.
21220 *MISS J. G. FISH, 25 Oaklands Avenue, Irvine, Ayrshire.
21221 †J. D. BIRD, 27 Vincent Road, East Croyden, Surrey.
21222 D. HULME, 20 Glenbott Street, Hallliwell, Bolton, Lancs.
21223 A. M. WITLEY, Northgate House, 46 Northgate, Hunstanton, Norfolk.
21224 R. D. WATSON, 11B Anglesea Road, Kingston-on-Thames, Surrey.
21225 R. K. BULLOCK, 1 Park Road, Alford, Lincs.
5205 †REV. G. W. D. SPURRELL, Crostwight Rectory, Happisburgh, Norwich, Norfolk.
9941 †J. BROWN, Waterworks, Penryn, Cornwall.

Associates

M. T. BLENKINSOPP, 17 Hillersdon Avenue, Barnes, London, S.W.13.
P. T. BURT, 26 Gaveston Road, Coundon, Coventry.
D. F. CANNELL, 38 Herongate Road, Wanstead, London, E.12.
J. D. CANNELL, 38 Herongate Road, Wanstead, London, E.12.
M. J. GINGELL, 37 Ridgeway Crescent, Orpington, Kent.
R. HAIGH, 32 Blackacre Road, Theydon Bois, Epping, Essex.
R. KAY, 76 The Drive, Alwoodley, Leeds 17.
M. T. MCCABE, 33 Millar Place, Stirling.
D. MYERS, 49 St. Stephens Road, West Bowling, Bradford 5, Yorks.
M. J. NEWSTEAD, 22 Woodlands Close, Maidstone, Kent.
R. SCRIVENS, 26 Newlands Green, Smethwick 40, Staffs.
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Size 15in. × 8in. × 2in. Complete with 45 Mc/s. Pye Strip 12 valves, 10 EF50, EB34 and EA50, volume controls, and hosts of Resistors and Condensers. New condition. Modification data supplied.

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GENERAL PURPOSE POWER SUPPLY UNIT. Type AD/U410. L.T. supply being isolated from earth. A separate H.T. "On/Off" switch is provided. Input: 200-250 volts, 50 Cycles A.C. only. Output: 6.3 Volts at 2 amps. approx. and 250 Volts at 60mA (unstabilised). Dimensions: 8½" x 4½" x 5½".

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AD/U 405–406–408–409 ... **£3.10.0** each
AD/U 410 Power Unit ... **£4.0.0** each

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AN/APN.1 TRANSDUCER

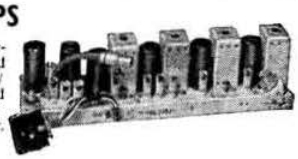
This unit consists of Magnet, and Coil which is attached to an aluminium diaphragm suspended freely and perforated to prevent air damping. Mounted on a Ceramic cover which sits over the diaphragm is a form of 2-Gang capacitor which has a swing from 10-50 pF.

The above unit is used as part of Wobbulator described on page 252 of the June "Wireless World."

PRICE **7/6** p.p.

SPECIAL OFFER—MALLORY VIBRATOR PACKS
12 volt, 150 volt 40 mA. Brand new and boxed, size 5¼ x 5¼ x 3in. **12/6** p.p.

MINIATURE I.F. STRIPS



Size 10¼in. x 2¼in. x 3in. frequency 9.72 Mc/s. 2 EF92s and 1 EF.91 I.F. Amps. EB.91 Det/AGC. EF.91 AGC Amp. and EL91 Limiter. Circuit supplied Price: (Less valves) **8/-** each, post paid.

A.P.Q.2 RADAR JAMMING UNIT. Containing 931A Photo Multiplier Cell complete with resistance network and lightproof box. Wide band Amplifier (2) 6AC7, (2) 6AG7, (2) 388A. This unit is similar to the A.P.Q.9. Jamming Unit shown in the October issue of *Wireless World*. Brand New. **£5.0.0** plus 10/- carr.

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2 yards of cab type twin cable and 2 large croc. clips, new and boxed. **3/-** p.p.

RADIO ALTITUDE METERS
5 mA basic movement 3in. dia. circular scale with approx. 300° sweep. **6/-** plus 2/- p.p.

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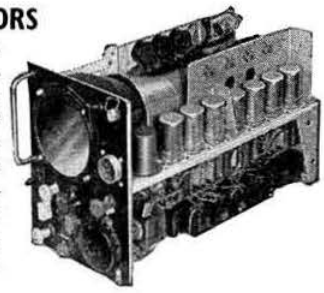
TYPE 62A INDICATORS



Ideal for conversion to oscilloscopes, T.V. units, etc. Containing V.C.R.97, 12 VR.91 (EF.50), 2 VR.54 (EB.34), 3 VR.92 (EA.50), 4 CV.118 (SP.61). Slow-motion dial, 13 Pots and scores of useful components. Size 8½in. x 11½in. x 18in. In wooden packing case. PRICE: **£3.0.0.** Carriage 7/6.

THE PERFECT BEAM ROTATOR
Cowl Gill Motors. These motors have a 4 stage (600 to 1) reduction gear. Tapped field giving 2 speeds in either direction. Size 12in. x 3½in., drive end ¼in. splined. Price: **25/-** each p.p.

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75-500 kc/s, 600-15,000 kc/s, 3-18 Mc/s; not new but good condition. Air Tested. Price **£6.5.0,** plus 10/- carriage.

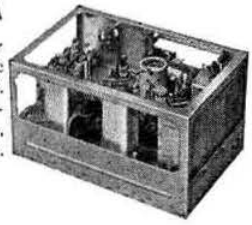
DESYNN TYPE Antenna or Beam position indication system
This comprises a transmitter unit and Indicator which will operate on 12 or 24 volts D.C. and will indicate with instantaneous and smooth pointer movement. The Transmitter is a specially designed potentiometer and will operate the Receiver on a simple three-wire system and the receiver in this instance is calibrated in Gallons but dial could be easily altered to indicate a 360 Deg. sweep. Transmitter and Receiver with full instructions. Price **12/6,** plus 2/- p.p.

MAINS POWER UNIT Type "234"
Double Smoothed 200-250V 50 c/s input. 240V 100mA 6.3 at 6 amps. with Volt Meter reading Input and Output Voltages. Size: 19in. x 10in. x 6½in. Standard Rack Mounting. Price **£4.10.0** each, plus 7/6 carriage.

COAXIAL AERIAL CHANGEOVER RELAY UNIT
24V or manual operation, good condition. Price **12/6** each, plus 2/6 p.p.

MAGSLIPS
2in. Magslips 50V 50 Cycle A.C. transmitter and receiver units. Accurate to 1/10th of 1°. Guaranteed in good working order. Price **30/-** pair, plus 3/- p.p.

RECEIVER UNIT Ex 1143A



Suitable for conversion to 2 metres or F.M. Wrotham transmission. Valve line-up: (4) EF50, (1) EL.32, (2) EF39, (1) EBC33, (1) EA50. Supplied with circuit diagrams. Fully valved **25/-** each, Plus 3/- p.p.

OCTAL PLUGS
Bulgin bakelite type, **2/6** each p.p.

HEATER TRANSFORMERS
6.3 volt, 1½ amp.; brand new, **6/6** plus 1/- p.p.

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ABSOLUTELY new 144 Mc/s fixed/mobile 15W transmitters complete crystal, valves. All-enclosed, compact, wrinkle-finished cases; ideal below dash. Hamlike price: c.w., £18. C.w./phone, £27. A.C. power supplies for shack use, £10.10.0. GW2FUD, Gwenarth, St. David's Road, Caernarvon. (168

ADMIRALTY wavemeter G56, calibrated 13-27000 kc/s in transit case, with d.c. mains power unit; mains transformer 500-0-500V 170mA, 4V, 4A; SCR 20 receiver 120-2000m.; must sell; no reasonable offer refused. Box 150, The National Publicity Co. Ltd., 36/37 Upper Thames Street, London, E.C.4. (150

ADVANCE Signal Generator 0.1-60 Mc/s, £12. Band III Converter, £3.10.0. TU5B (with case), 12/-. 230V a.c. ½ h.p. B.T.H. motor, £3.10.0. Wolf drill stand, accessories, £1.0.0. T1131 Transmitter Cabinet, 10/-. 100 ft. coil new U.R.I coaxial cable, £2.0.0. 32 feet (in two lengths) Dural tube, 1" O.D. 16 swg, £3.0.0. Unused valves: 866 (12), 40/- lot; 813 (3), 35/-; 811 (3), 15/-; 35T (1), 10/-; 100TH (1), 15/-; 803 (3), PT15 (4), 830B (12), 801 (3), all at 5/- each. K. W. King, G3ACB, 36 Court Hill, Sanderstead, Surrey. (166

A MERRY Xmas can be yours! Eddystone 750, immaculate, at £50, 813, quantity 6 at £2 each. G5TN, Worlebury Hill Road, Weston-super-Mare, Somerset. (160

BRAND NEW. 1 25W Parmeko output transformer AF5084/1A primary 6600Ω secondary 3.5, 5, 7.5 and 15Ω, £1; 1 350-0-350V at 180mA, 6V at 3 amps, 5V at 2 amps, £1. 1 Choke 10H at 250mA, 5/-; 2 813 at 45/- o.n.o. each. 1 Connoisseur Pickup and transformer, brand new, £1.5.0. 1 new QQVO 7/40 (829B), £3 o.n.o. 41 Portway, Baughurst, Nr. Basingstoke, Hants. (154

B2, Transmitter section, perfect, with valves and coils, £3; Crystals in holders, 3520, 7010, 7030, 7078 kc/s, 7s. 6d. each; 6L6M, 5/- new; Mains transformer 500V 300mA, £1, plus carriage; Lots power supply gear, cheap. G8UA, 406 Higher Brunshaw, Burnley. (165

BC 221 perfect, £20; Fairchild Signal Generator 40 to 500 Mc/s, £6; 1191 Wavemeter, £3. Denco Wavemeter, £3; etc. Elizabethan Transmitter unfinished in G4BI cabinet, £6. AR88LF receiver, £25. Hallicrafter Sky Champion, £12. B28 (CR100) perfect, £15. 1131 Transmitter complete with valves in enclosed rack, £12.10.0. CNYI Transmitter, £7. ZCI Mark II receiver/transmitter, £10. Beam Base with gearbox and motor, 50/-. Large Selsyn Motors—Pye Strips with valves 30/-. Send s.a.e. for full details to G4FO, 16 Tudor Drive, Oadby, Nr. Leicester. Phone: Oadby 403 (156

CHEAP QSL cards (duplicated). Return of post service. 13/6 per 200. C.W.O. to Worthaprint QSLs, 9 Links Road, Penn, Wolverhampton. (164

CONVERTERS rebuilt RF 26 units for 20, 15 and 10 metres, from £4.10.0. Suitable power packs, £3. S.a.e. details G3FXB, 86 Cross Road, Southwick, Sussex. (158

EDDYSTONE S640, almost unused, Class D. Wavemeter, Webbs 500-0-500 200mA. 5V 3 amp. 6.3V 4 amp Mains transformer, Woden 12H 150mA swinging choke—lot, £30. G3EUA, 158 Botley Road, Chesham, Bucks. (159

EDDYSTONE S640 good condition; stabilised oscillator 6BA6, R.F. speaker, manual, £18. Callers: BRS18267, K. Hancock, 1 Hampden Road, Muswell Hill, N.10. (173

EDDYSTONE 680 X Communications Receiver complete with external speaker. Brand New, and Guaranteed for 12 months, £100. B.R.S.21024, Reeves, 54 Clements Road, Yardley, Birmingham. Tel.: Ste. 3195/4255. (139

FOR SALE. Eddystone 680 good condition including speaker and 5-10 converter plus power pack, £45. E. A. Coates, 201 Crescent Road, New Barnet, Herts. (155

(Continued on page 244)

EXCHANGE AND MART SECTION (Cont.)

FOR SALE Cossor double beam c.r.t., £3; 35 mm. developing tank, 10/- transistor geiger counter, £18; sample uranium ore, 4s.; Brownie 6-20 camera, 7/6; valves—807, 7/6; red EF50, 10/-; 4D32 (150W 650V), £4; point contact transistor, 5/-; Terman's Radio Engineer's Handbook, 25/-; Admiralty W/T Handbooks, 5/-; old Bulletins available for offer; Austin 7 (1930) engine, £5, gear box, £4. Send s.a.e. for list. Harvey, Lancarffe, Yelverton, Devon. Telephone: Yelverton 656 (157

HALLICRAFTERS communications receiver type S20R 540 kc/s-44 Mc/s; also R1132A 100-124 Mc/s, £25.0.0. Hayward, 70 Meadvale Road, Croydon, Surrey. (170

HAM exiled in London during week wants cheap phone receiver for most bands to keep in practice. Appearance immaterial. Mains preferred but battery model might suit. G2FST. 48 Kinsale Road, Bristol 4. (169

HAMBANDER receiver, 1.2-30 Mc/s, £10. Wilcox Gay v.f.o., £5. Both items good condition, o.n.o. Prefer buyer collects. G3IMK, 71 Sussex Gardens, Chessington, Surrey. (162

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METALWORK.—All types cabinets, chassis, racks, etc., to your own specifications. Philpott's Metal Works, Ltd. (G4BI), Chapman Street, Loughborough. (99

PANDA PR120V, Minimitter atu. BC221, AR88LF. Offers to: G3CGH, 36 Redburn Road, Manchester 23. (162

PATENTS and Trade Marks. Handbooks and advice free. Kings Patent Agency, Ltd. (B. T. King, G5TA, Mem. R.S.G.B., Reg. Pat. Agent), 146A Queen Victoria Street, London, E.C.4. Phone: City 6161. 50 years' refs. (98

QSLs and log book (P.M.G. approved). Samples free. State whether G or B.R.S. Atkinson Bros., Printers, Looe, Cornwall. (400

RESISTORS 80Ω carbon for antenna match. 8/6, postage included. G3FQH, 15 Victoria Avenue, Cleckheaton. (134

R.208 receiver 10-60 Mc/s unmodified, £7.10.0. C. H. Spencer, G2HBA, 7 Coniston Road, Coulsdon, Surrey (171

SALE 14/21/28 transmitter v.f.o., p.p. 807 p.a., £12. H.R.O. Junior. National power pack, 7 coils 480 kc/s-30 Mc/s, coil box, loudspeaker, all in rack, £20. Offers considered or exchange both for CR 150 or similar receiver. Delivered 50 miles Liverpool. Box No. 152, The National Publicity Co. Ltd., 36/37 Upper Thames Street, London, E.C.4. (152

SCR522, complete unit, good condition, 150/-; Rotary Converter, EDC, 200V d.c. in, 230V a.c. 180W out, fully smoothed, bargain, £9; Television, G.E.C. BE1091A, good working order, £12. Carriage extra. G8KZ, 348 Portobello Road, London, W.10. (Phone LADbroke 3143) (95

TRANSISTORS, point contact type, offered in exchange for 1700-1930 kc/s crystals. G3KOX, 57 The Chine, London, N.21. (167

VALVES from 2/- each, really genuine bargains. See my advert in September BULLETIN — s.a.e. for list — Jeapes (G2XV). (113

WANTED BC610 Hallicrafters, E.T.4336 transmitters, and spare parts for same. Best prices. P.C.A. Radio, Beavor Lane, Hammersmith, W.6. (626

WANTED: HRO coils, receivers, power packs, AR88Ds, AR88LFs, SX28s, BC348s, AR77s, and many other types, also laboratory test equipment and R54/APR4, TN17, TN18 and TN19 units. Details please to R. T. & I. Service, 254 Grove Green Road, Leytonstone, London, E.11 (LEY 4986).

WANTED, Radiovision Commander receiver in good condition; all replies answered: Lancs. area. Box No. 161, The National Publicity Co. Ltd., 36/37, Upper Thames Street, London, E.C.4. (161

WANTED Te.149 Crystal Check, Manual. Also coils National 1-10 Cash or Exchange 813s, 832s, 805s. R. Bastin, 86 Christchurch Road, Newport, Mon. (149

40 watt Modulator, crystal microphone input, all valves, £3.10.0; Bias Pack, l.t., various outputs, maximum 150V, 15/-; CRO and Modulation Monitor (external TB needed), 55/-. H.t. power pack 1200V, 200mA, delivers more, £10; V.H.F. transmitter/receiver part stripped by MOS, 5/-; Matched pair RK28, 50/- pair; 500V 250mA pack, 2 of 6V 4A, 5V 3A, less tube, 32/6; Carriage extra. 23 Alington Grove, Wallington, Surrey. (174

APPOINTMENTS SECTION

Situations Vacant

JUNIOR WIRELESS TELEGRAPHY OPERATOR required by FALKLAND ISLANDS GOVERNMENT for service in SOUTH GEORGIA for one tour of three years in first instance. Salary scale £330 rising to £420 a year. Free board and lodging. Free passages. Liberal leave on full salary. Candidates should possess 1st Class P.M.G. Cert. and preferably have some knowledge of postal telegraph and ships W/T services. Write to the Crown Agents, 4 Millbank, London, S.W.1. State age, name in block letters, full qualifications and experience and quote M2C/41977/RC. (151

WIRELESS TECHNICIANS GRADE I required by TANGANYIKA GOVERNMENT POLICE FORCE for one tour of 30/36 months in first instance. Salary scale (including inducement pay) £1,383 rising to £1,566 a year. Gratuity at rate of 13½ per cent. of total substantive salary drawn. Free passages. Liberal leave on full salary. Candidates, preferably not over 40 years of age, must have a wide knowledge of installation, running and maintenance of fixed and mobile radio communications equipment in the MF, HF and VHF categories, the erection and maintenance of lattice steel masts and towers, the installation, running and maintenance of low power and diesel generating equipment and good knowledge of line equipment with teleprinter installations, and associated practices. Candidates should have several years experience and training up to degree or N.H.C. standard. Write to the Crown Agents, 4 Millbank, London, S.W.1. State age, name in block letters, full qualifications and experience and quote M2C/41982/RC. (153

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