

R.S.G.B.



BULLETIN

May 1951

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Radio Society of Great Britain

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Advertising Office :

THE NATIONAL PUBLICITY
CO., LTD.

358 STRAND, LONDON, W.C.2

Telephone : Temple Bar 0948-9

Published on or about the 15th of each month.

Vol. XXVI No. 11

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Forthcoming Events

REGION 1

Ashton-under-Lyne.—June 3, 3 p.m., New Jerusalem Schools.
Blackpool.—June 19, 7.30 p.m., Barclays Bank Chambers, 2 Birley Street, 2nd floor.
Bolton.—June 5, 8 p.m., Y.M.C.A.
Bury.—June 14, 7.30 p.m., Y.M.C.A.
Burnley.—June 6, 7.30 p.m., Mechanics' Institute, Manchester Road.
Chester (C. & D.A.R.S.).—Tuesdays, 7.30 p.m., The Tarran Hut, Y.M.C.A.
Darwen & Blackburn.—May 18, 7.30 p.m., Y.M.C.A., Limbrick, Blackburn.
Oldham.—Alternate Wednesdays, 7.30 p.m., Civic Centre, Clegg Street.
Manchester.—June 4, 7.30 p.m., Reynolds Hall, School of Technology, Sackville Street.
Preston.—May 25, June 8, 7.30 p.m., Three Tuns Hotel, North Road.
Rochdale.—June 3, 3 p.m., Drill Hall, Baron Street.
Southport.—May 21, 8 p.m., 38a Forest Road.
Liverpool.—May 26, 2.30 p.m., The Mansion House, Queen's Drive, West Derby.
Wirral (W.A.R.S.).—May 23, 8 p.m., Y.M.C.A., Whetstone Lane, Birkenhead.

REGION 2

Barnsley.—May 25, June 8, 7.30 p.m., King George Hotel, Peel Street.
Bradford.—May 22, 7.30 p.m., Cambridge House, 66 Little Horton Lane.
Catterick.—Tuesdays, 7 p.m., Loos Lines, Catterick Camp.
Darlington.—Thursdays, 7.30 p.m., 129 Woodlands Road.
Doncaster.—June 13, 7.30 p.m., Black Bull, Market Place.
Gateshead.—Thursdays, 7 p.m., Y.M.C.A., Sutherland Hall, Durham Road.
Hull.—May 30, 7.30 p.m., R.E.M.E. Canteen, Walton Street.
Middlesbrough.—Thursdays, 7.30 p.m., All Saints' Hall, Grange Road.
Newcastle-upon-Tyne.—May 21, 8 p.m., British Legion Rooms, 1 Jesmond Road.
Rotherham.—Wednesdays, 7 p.m., Cutlers' Arms, Westgate.
Scarborough.—Thursdays, 7.30 p.m., L.N.E.R. Rifle Club, West Parade Road.
Sheffield.—May 23, 8 p.m., Dog & Partridge, Trippett Lane, June 13, 8 p.m., Albreda Works, Lydgate Lane.
Slaithwaite.—Fridays, 7.30 p.m., 3 Dartmouth Street.
Spenborough.—May 30, 7.30 p.m., Temperance Hall, Cleckheaton.
York.—Wednesdays, 7.30 p.m., Community House, Falsgrave Crescent.

REGION 3

Birmingham South.—May 27, 10.30 a.m., Stinchley Institute.
Stourbridge (S. & D.A.R.S.).—June 5, 8 p.m., King Edward's School.
C Coventry.—May 25, 7.30 p.m., Priory High School, Wheatley Street.

REGION 4

Derby (D. & D.A.R.S.).—May 23, June 6, 20, 7.30 p.m., Sub Basement, Derby School of Arts & Crafts, 119 Green Lane.
Leicester (L.A.R.S.).—May 21, June 4, 18, 7.30 p.m., Holly Bush Hotel, Belgrave Gate.
Mansfield (M. & D.A.R.S.).—May 27, 3 p.m., Swan Hotel.

Newark.—May 27, June 10, 7 p.m., North Gate House, North Gate, Newark.
Northampton (N.S.W.C.).—June 1, 7 p.m., otherwise on Fridays, 6 p.m., Clubroom, 8 Duke Street.
Nottingham.—May 28, June 11, 7.30 p.m., Lord Nelson Hotel, Carlton Street.
Spalding.—May 31, 7.30 p.m., 10 South Parade.
Workshop.—June 4, 7.30 p.m., King Edward Hotel

REGION 5

Chelmsford.—June 5, 7.30 p.m., Smith's Radio Shop, 184 Moulsham Street.
Southend (S. & D.R.S.).—May 25, 8 p.m., Room 1, Municipal College. "Television," Mr. Garnham, Mullards.

REGION 6

High Wycombe.—May 22, 7.30 p.m., 6 Peterborough Avenue; May 27, N.F.D. Try-Out, Oakdene, Hazlemere.

REGION 7

Barnes & Richmond.—June 12, 7.30 p.m., 22 Lowther Road, Barnes.
Barnet & Whetstone (B.A.R.S.).—June 16, 7.30 p.m., Bunny's Restaurant, Station Road, New Barnet.
(B. & D.R.C.).—Wednesdays, 8 p.m., Hopedene, The Avenue, Barnet.
Brentwood.—May 25, June 8, 8 p.m., Drill Hall, Ongar Road.
Chingford.—May 24, June 7, 8 p.m., A.T.C. H.Q., Pretoria Road.
Croydon (Surrey R.C.C.).—June 12, 7.30 p.m., "Blacksmith's Arms," South End, Croydon.
Dulwich & New Cross.—June 4, "Kentish Drivers," Rye Lane, S.E.15. "Private Junk Sale."
East Ham.—May 22, June 5, 57 Leigh Road, East Ham.
Edware (E. & D.R.S.).—Every Wednesday, 22 Goodwin Avenue, Mill Hill.
Enfield.—May 20, June 17, 3 p.m., George Spicer School, Southbury Road.
Finbury Park.—May 22, 7.30 p.m., 164 Albion Road, Stoke Newington, N.16.
Gravesend.—Every Wednesday, 7.30 p.m., 30 Darnley Road.
Guildford.—May 27, 3 p.m., Royal Arms Hotel, North Street. "Radio Control of Models."
Hayes & Uxbridge.—June 1, 7.30 p.m., "The Vine," Uxbridge Road.
Hoddesdon.—June 7, 8 p.m., "The Salisbury Arms."
Holloway (Grafton R.S.).—Mondays, Wednesdays and Fridays, 7.30 p.m., Grafton School, Eburne Road, N.7.
Kensington & Shepherds Bush.—June 15, 8 p.m., 38 Royal Crescent, W.11.
Lewisham (R.A.R.C.).—Every Wednesday and Thursday, 7 p.m., Childer Road School, New Cross.
Norwood.—May 19, 7.30 p.m., G2VB, 35 Grangecliffe Gardens, South Norwood.
St. Albans.—June 6, 7.30 p.m., 2 Church Crescent.
Slough.—June 21, 7.45 p.m., "The Golden Eagle," High St.
Sutton & Cheam.—June 5, 19, 7.30 p.m., Sutton Adult School, Benhill Avenue.
Welwyn.—June 15, 8 p.m., Council Chambers.

REGION 8

Brighton (B.D.R.C.).—Tuesdays, 7.30 p.m., Eagle Inn, Gloucester Road. (E.B.S.W.C.).—Tuesdays, 8 p.m., 27 Warren Avenue, Woodingdean.

(Continued on Page 432)

GREAT CLEARANCE OFFER OF BRAND NEW AND PERFECT CATHODE RAY TUBES & VALVES

CATHODE RAY TUBES

CV No.	Civilian No.	Dia. in inches	Focus	Defn.	EHT	O.K. for T.V.	Price	Rail, Pkg. & Insur.
600	5CP1	5	E.S.	E.S.	2 kV.	Yes	25/-	2/6
953	—	5½	Gas	E.S.	1.5 kV.	No	17/6	2/6
1596	—	4½	E.S.	E.S.	1.2 kV.	Yes	25/-	2/6
1384	VCR528	11.5	E.S.	Mag.	6 kV.	No	60/-	12/6
1516	—	11.5	E.S.	E.S.	4 kV.	Expmntl.	40/-	10/-
1522	VCR516	9	Mag.	Mag.	5 kV.	No	40/-	10/-
2880	VCR522	1.75	E.S.	E.S.	800 V.	Yes	15/-	1/6
3776	EM1.4/1	3	E.S.	E.S.	800 V.	Yes	17/6	1/6
	—	5.25	E.S.	E.S.	4 kV.	Expmntl.	20/-	2/6

5CP7 C.R. Tubes, 50/-, plus 5/-, carriage, packing and insurance.

VCR 517C C.R. Tubes, 6½" diameter, Green/Blue Screen, excellent for T.V., 20/- each, carriage, packing and insurance 5/-. Base 2/6 each.

Now available **C.R. Tubes, Type ACR 13.** A perfect replacement without alteration for the VCR97. Guaranteed free from "cut-off." 35/- each.

A limited quantity only of the following **C.R. Tubes** at the ridiculous price of 5/- each. Preferably to callers only as packing, carriage and insurance amounts to 7/6. **ACR1, ACR2, ACR2X, ACR8, VCR1381.**

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CV66-RL37 - 6/6	CV1116-VR116-V872 (Mazda) 6/6
CV73-11E3 - 5/-	CV1120-SU2150 (Cossor) 6/6
CV92-E1232 - 5/-	CV1127-VT127-PEN46 (Mazda) 6/6
CV102-Crystal Diode 3/6	CV1133-VU133-V960 (Mazda) 5/-
CV187-U19 (Marconi) 6/6	CV1136-VR136-EF54 6/6
CV1001-VU120A - 6/6	CV1137-VR137-RL16 6/6
CV1018-2155G (Cossor) 6/6	CV1141-DPO - 6/6
CV1051-PEN220 (Mazda) 6/6	CV1189-(AC6 PEN) 5/-
CV1052-VT52-EL32 6/6	CV1199-(NS2) - 5/-
CV1054-VR54-EB34 3/6	CV1281-KTW61 (Marconi) 6/6
CV1056-VR56-EF36 6/6	CV1314-(ADI) - 6/6
CV1059-VT121-955 3/6	CV1510-(E1242) - 6/6
CV1065-VR65-SP61 3/6	CV1572-VT60A-807 8/6
CV1068-VS68 - 6/6	Ceramic Base
80 - - - 6/6	CV1755-(1626) - 3/6
84 - - - 6/6	CV3558-MR 300/E 15/-
DET5 - - - 10/-	HL23 (Mazda) - 5/-
805 - - - 15/-	U74 - - - 7/6
717A - - - 6/6	EF8-(Mullard) - 5/-
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CV1078-VR78-D1 2/6	1616 - - - 5/-
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CV1092-VR92-EA50 3/6	
CV1095-VR95-954 3/6	
CV1102-B162 - 6/6	
CV1110-S130 (Cossor) 4/6	

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CV3505-HY114B	6/6 each
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CV1123 (EF8) 6.3 V. Low Noise H.F. Pentode	5/- each, 36/- doz.
CV1141 Thyratrons	6/6 each, 50/- doz.
CV22 Thyratrons	20/- each
CV43 Klystrons	30/- each
CV90 T.R. Box	20/- each
CV115 T.R. Box	5/- each
CV186 Magnetron	10/- each
CV1321-9D2 STC-ARP3 13 V. 2 A. H.F. Pentode	3/- each, 24/- doz.
CV19	30/- each
CV1262 Mercury Vapour Rectifiers (GU1)	7/6 each
CV1072 Mercury Vapour Rectifiers (GU50)	7/6 each
CV52	4/6 each
Type 956 Acorns	2/6 each, 20/- doz.
Type 958A Acorns	3/- each, 24/- doz.
Type 9004 Acorns	3/6 each
Type 9005 Acorns	3/6 each
Type RL18 UHF Oscillators	5/- each, 40/- doz.
Type EL50 Bayonet base (side contact) 6.3 V.	5/- each
Type 861 1 kw. Pentodes	20/- each (callers only)
Type DET5 Output Triode (replacement for PX25)	10/- each, 75/- doz.
(Replacement for PX25A)	10/- each, 75/- doz.
Type 2X2/879 EHT Rectifiers	2/6 each, 20/- doz.
Type 7193 UHF Triodes	1/6 each, 12/- doz.
Type PT25H 25 W. Pentodes 4 V.-400 V.	3/- each, 24/- doz.
Type E1148	1/6 each, 12/- doz.
Type 717A "Door Knobs" UHF Pentodes.	
Ideal for T.V. Require only 120 V. H.T.	4/6 each, 36/- doz.
Type 713A A similar valve to the 717A	4/6 each, 36/- doz.

PREMIER RADIO CO. 740 HIGH ROAD, TOTTENHAM, LONDON, N.17

152-153 FLEET STREET, E.C.4. Phone: CENTRAL 2833—and at—207 EDGWARE RD., W.2. Phone: AMB 4033
207 Edgware Road is open until 6 p.m. on Saturdays.

TERMS OF BUSINESS

Postage and Packing is free for orders over £2 in value unless otherwise stated. Under this amount, please include 1/- for orders up to 10/-, and 1/6 for orders over 10/-. C.O.D. orders cannot be sent under 20/-.

Please Print Your Name and Address in Block Letters.

**THE QUESTIONNAIRE**

ELSEWHERE in this issue we publish the bare facts which have emerged as a result of a preliminary analysis of the recent Questionnaire. Members will realise that some time must elapse before these figures, which together with a mass of supplementary comment that accompanied the forms, can be analysed into information which will give the Council a clear lead in decisions on policy.

One or two comments can be offered at this juncture, probably the most obvious of which is surprise at the relatively small percentage of the total membership who troubled to return a questionnaire form. Certainly a few found fault with the form itself, and felt that the scope of the questions was not sufficiently wide. Even so a 25 per cent. return can scarcely be considered as satisfactory.

Nevertheless as the Council is annually elected on a somewhat smaller total vote, it would seem only reasonable to accept the results of the questionnaire at their face value and act accordingly where action is called for.

It is a pity, however, that the Council is still without the views of the great majority of the membership. Views which, it would appear, are impossible to obtain.

Dealing with the broad issues as seen in the preliminary analysis, the largest percentage vote, 94 per cent., is against a smaller and cheaper BULLETIN. Seventy-five per cent. want more technical articles and well over 50 per cent. want more articles of one kind or another, yet only 62 per cent. favour an increase of subscription rates.

In this connection it is significant that a large proportion of those who expressed a preference were in favour of increasing other peoples' subscriptions, but not their own. London thought the provinces should pay more; the provinces would like to see London members pay more. Such suggestions would, of course, form a happy basis for a reorganisation of the Society's subscription rates, especially for those whose rate remained unaltered!

One clear-cut expression of opinion is to be found on the question of local meetings. No less than 86 per cent. think that such meetings should be self-supporting, which it is felt, is a

thoroughly healthy outlook. Nearly the same percentage favours retaining the present practice of issuing the BULLETIN free to members. Of the total of 3,407 replies, 2,972 want a new handbook and 2,410 favour a larger BULLETIN.

Turning to the BULLETIN itself, the regular features seem to have come out pretty well, with the exception of "Around the Regions" which would rather tend to suggest that the re-introduction of Regional Notes would meet with a somewhat mixed reception.

Interest in the Regional representation scheme claims a vote of 2,350. Only 886 say they are not interested. What of the remaining thousands? We just do not know.

Discrimination between transmitting and non-transmitting member has a 50/50 vote but an overwhelming majority favours the retention of the Associate grade. It is interesting, however, to note that although only 238 Associates voted, 1,337 think they should pay a larger subscription.

A small majority prefers annual to triennial elections of Council and a similar small majority favours election addresses.

The preparation of this preliminary analysis has proved to be an enormous task which has been undertaken by the members of the Council, in what remained of their spare time. A much bigger job now lies ahead in attempting to analyse the volume of additional comment which accompanied the forms. It also remains to bring this mass of information down to figures upon which to base further action.

This is now being done and further details will appear as soon as possible.

A.O.M.

National Convention

Have you completed and returned your Order Form? If not, please do so without delay. Many visits are already almost fully booked.

June 21-24, 1951.

TWENTY-FIVE WATTS ON 70 CM.

By W. A. SCARR (G2WS)*

PROBABLY the majority of those who are now transmitting in the 420-460 Mc/s. band employ an existing 144 Mc/s. transmitter with the addition of a tripler followed by perhaps a power amplifier. Valves which will perform these functions well are not easily obtainable; in fact, until recently no efficient tripler from 144 to 432 Mc/s. was generally available.

A new valve, the QQV 06/40, has now been produced by Mullard Electronic Products Ltd., the special features of which make it admirable as a source of R.F. energy for 70 cm. work with conventional circuitry. Using the maximum licensed input of 25 watts, this valve functions efficiently as a tripler or as a straight P.A. at 432 Mc/s.

This article describes the use of such a valve as a tripler which, when coupled to a 144 Mc/s. output stage, provides an excellent crystal-controlled transmitter for operation on 432 Mc/s.

The QQV 06/40 is a double-tetrode with a single screened grid and a single cathode. The simplification of construction contributes to the valve's stability in operation and also enables the simplest type of circuit to be used.

Circuit Design

Constructors interested in designing a transmitter around this new valve will probably wish to follow their own mechanical arrangement using the circuit shown in Fig. 1 as a guide. It should be appreciated, however, that for maximum efficiency the whole unit should be screened to reduce radiation and to protect the valve from accident. In the original model (illustrated in Fig. 2) an aluminium chassis $9\frac{1}{2} \times 4\frac{1}{2} \times 2$ in. was used as a basis, and an aluminium box 7 in. high was then built round it. The four sides of the box were cut separately, those for the ends being made an inch wider than the chassis to provide $\frac{1}{2}$ in. wide flanges which, after bending, were bolted to the front and back panels as well as to the chassis. A lid was then made from similar metal and provided with holes for ventilation. Input and output *Pye*-type plugs were fitted at either end of the box above chassis level and power connections taken to a 5-pin *Belling-Lee* socket.

Complete isolation of the grid and anode circuits is secured by the use of a screen measuring $4 \times 4\frac{1}{2}$ in. mounted on the chassis which fits the box exactly (Fig. 3). A circular hole in the screen about 2 in. diameter gives good clearance for the valve envelope; the valve holder is supported from the screen by four 1 in. metal pillars. By fixing

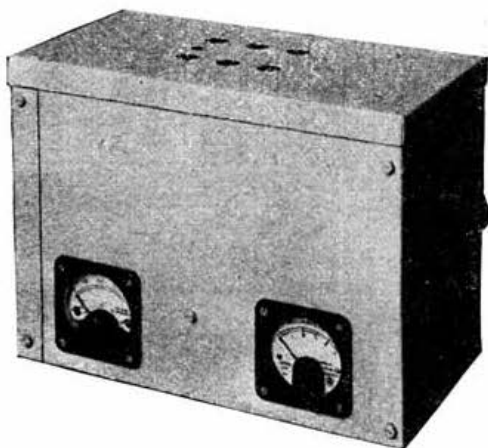


Fig. 2
A general view of the complete transmitter.

the valve base behind the screen in this way, the metal screen and the screen-grid of the valve are in the same plane.

The grid circuit is quite straightforward, the grid coil consisting of two turns of No. 14 enamelled copper wire 1 in. in diameter connected across the grid terminals of the valve holder and untuned. The input coupling loop consists of a single turn also 1 in. in diameter and suspended between the two turns of the grid coil. Coupling may be varied by bending this loop up or down; a half-way overlap will probably be found to give maximum results.

Anode Line Construction

Although metal strip may be employed for the anode lines, slightly greater efficiency is likely to be obtained if copper tubing is used. Fig. 4 shows the method of construction used in the original model. The two clamps (A) were obtained from *Philips Industries* (Eindhoven) and are probably not stocked in this country. The tubes (B) are $2\frac{1}{2}$ in. long and are of stout copper of internal diameter $\frac{1}{4}$ in. A 6 B.A. rod (C) is screwed into the clamp and after insertion into the tube is fixed by a washer and nut (D). Attachment to the anode pin is completed by screwing up the nut.

At this point it will be as well to emphasise that any undue pressure or torsion may result in a fracture of the glass at the anode seals, thus ruining the valve. Every care should therefore be taken in assembly and adjustment.

Shorting Bridge—Construction and Adjustment

The shorting bridge is made from strips of stout copper bent to the curve of the tubes and provided with a clamping nut and bolt which also act as the terminal for the H.T. lead. Connection, via the 150 ohm resistor, is made through the chassis by means of a lead-through insulator.

As it was found difficult to obtain a sufficiently fine tuning adjustment by means of the shorting bridge, a "micrometer" adjustment was also provided by arranging a metal disc, clamped to the side of the box, over the anode tubes close to the valve pins. The disc, which is about 1 in. in dia-

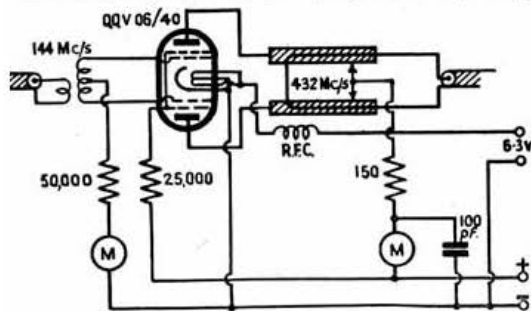
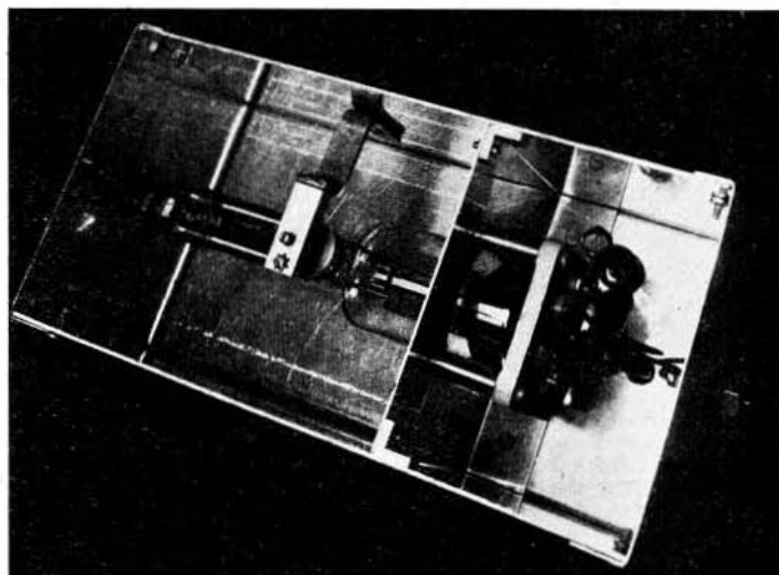


Fig. 1
Circuit diagram of a 70 cm. transmitter using a Mullard QQV 06/40 valve as a tripler.

* 8 Beckenham Grove, Shortlands, Kent.

Fig. 3

Internal view showing location of valve, valve screen and anode lines.



meter, is "earthed" by its metal support and adjusted by turning the 4 B.A. supporting screw. It is desirable to stick on a piece of mica to the lower side of the disc to prevent a short-circuit of the H.T. supply should the disc be screwed down too far.

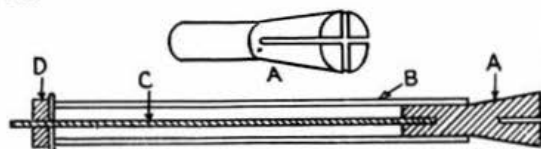


Fig. 4

Diagram of anode lines. The clamp A is manufactured by Philips Industries, Eindhoven.

When tuning-up, the disc is screwed down until it is about $\frac{1}{4}$ in. above the anode lines. The shorting bridge is then adjusted for maximum output. This will be obtained when the near side of the

bridge is approximately 2 in. from the point where the anode pins enter the clamp. Before making final adjustments, however, the output coupling loop should be fixed. The coupling loop consists of a simple "hairpin" of insulated copper strip or stout wire lying just below the anode lines. Fairly close coupling will probably be required.

With the bridge correctly adjusted, it will be found that the action of screwing the disc either up or down will result in reduced output; once this condition is obtained the bridge may be securely clamped or even soldered in position.

Grid and anode milliammeters are, of course, optional but provide a helpful check.

The manufacturers of the QQV 06/40 valve recommend that the input power should be about 8 watts at 144 Mc/s., but a substantial output on 432 Mc/s. is obtainable with lower input wattages. Using an anode voltage of 300 the total anode current should be in the region of 85 milliamps under normal operating conditions.

A Crystal Probe for use with Lecher Wire Systems

By D. N. PARKINSON (G3AUJ)*

THE use of Lecher wires for frequency measurement—standard practice on V.H.F. and U.H.F. bands—is fully described in *V.H.F. Technique* and elsewhere. Reliable measurements, however, can only be made when the Lecher wires are very loosely coupled to the oscillator under test. This means that with low power oscillators (say less than $\frac{1}{4}$ -watt) it becomes increasingly more difficult to detect the small changes of anode current when the normal shorting bar passes through the half-wave current loops.

Under such conditions an alternative system is to replace the shorting bar with a sensitive detector and meter. At G3AUJ a simple crystal probe of this nature has been found most effective when

calibrating a 955 acorn oscillator on wavelengths of the order of two metres, and it is felt that other members may find a similar instrument capable of wide application.

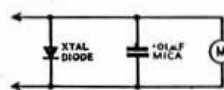


Fig. 1
Theoretical diagram of a Silicon Crystal-type probe for use with Lecher wire systems.

Description

The probe consists simply of a silicon crystal and by-pass condenser connected by a length of twin flex to an indicating meter. The theoretical diagram is shown in Fig. 1, which is largely self-explanatory. Both series and parallel arrangements (with and without isolating condensers) were tried

* 26 Marsh Hall Road, Widnes, Lancs.

and this circuit was finally chosen because of the improved sharpness of the current maxima. Germanium diodes of the wire-ended type would have simplified construction, but two chosen at random had sensitivities much lower than the silicon crystal, type CV102, which was finally selected.

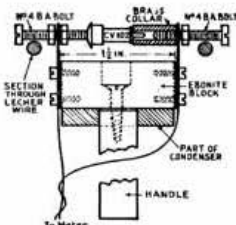


Fig. 2

Shows a convenient method of constructing the crystal probe.

The indicating meter (M) should preferably be a low-range millivoltmeter, with a full scale deflection of the order of 5 mV. The current passed by the meter does not appear to be so important. In fact, almost identical sensitivities have been obtained with two 18 mV. instruments: one with a 2 mA. full scale deflection compared with 200 μ A. of the other. Results with a 5 mV. (0.5 mA.) instrument were better than either of these, whereas a 250 mV. (2.5 mA.) meter was relatively insensitive.

Construction

Fig. 2 shows a convenient method of construction. Two brass springs are screwed to a

cross-piece of ebonite, which, in turn, is attached to a handle of the same material. Two 4 B.A. bolts, provided with locking-nuts are fixed through holes drilled in the brass springs. One of the locking-nuts comprises a brass collar (tapped 4 B.A.) to facilitate the clamping of the CV102.

Incidentally, in the first design to be tried, the CV102 was soldered into position, but this treatment destroyed its rectifying properties. Diodes of this type *can* be soldered—if the iron is not left in contact for too long—but the procedure is not recommended.

The by-pass condenser is wired to two of the spring retaining screws together with the meter leads.

Application

In use, the probe is moved along the Lecher wire system from one maximum reading to the next; the distance between the two positions indicating a half-wavelength. At G3AUY, maxima were quite sharp and could be located to within 2 mm.

When measuring longer wavelengths—using Lecher wires stretching possibly the full length of the shack—the meter can be carried in one hand whilst the probe is operated with the other. This is more accurate than trying to observe the pointer deflection from a distance. An alternative system would be to mount a small meter on the handle of the probe (taking care not to bring the mass of metal too near to the wires), although this has not been attempted in practice.

TOP BAND ACTIVITY

LAST year Mr. G. C. Allen, BRS 250, furnished the Society with a report of Top Band activity as observed at his station during the preceding year. This year Mr. F. A. Herridge, BRS 12474, of Balham, London, S.W.12, has rendered a similar valuable service. His report follows:

Period Covered April 28, 1950, to April 27, 1951

Total number of U.K. call signs with detailed analysis. (The figures given in parenthesis are those recorded by BRS 250 during 1949):

G2	238	(259)
G3	596	(514)
G4	49	(52)
G5	74	(69)
G6	83	(86)
G8	71	(74)
GC	2	(6)
GD	2	(2)
GI	12	(10)
GM	17	(42)
GW	35	(35)
Total	1179	(1149)

The above total represents 1,133 different licensees (1,116), plus /A & /P calls. Stations in 59 U.K. counties made up as follows, were recorded:

G	40
GC	1
GD	1
GI	2
GM	10
GW	5

The county producing the most calls was, as would be expected, London, with 151.

At the other end of the scale come:

Rutland	0
Hereford	2
Cumberland	2
Shropshire	5

Top Band DX

A total of 25 countries were heard during the year (six doubtful). Czechoslovakia leads the field handsomely with 26 stations, Germany is second with nine stations and the U.S.A. third with eight.

All the above reception was done on a much modified ex-Army R103A receiver using ten valves; one R.F. stage and two I.F. stages at 465 kc/s. Various aerials were used, from a 40-ft. wire round the shack to a 264-ft. wire used both end-fed, and centre-fed with 72 ohm feeder, this being bent in the shape of a "W."

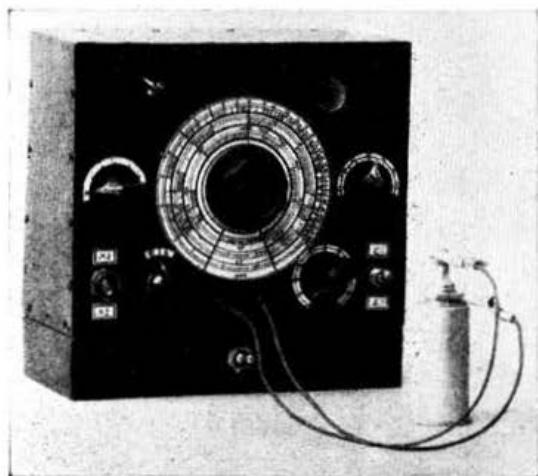
NEW PRESS DATE

REGULAR contributors to the BULLETIN, including Regional Representatives, Scribes and Secretaries of Affiliated Societies, are asked to note that in future the closing date for copy will be the 28th (instead of the last day) of the month preceding publication. If still topical, copy received after that date will be used in a later issue.

The earlier closing date becomes necessary in order to allow the Editorial staff more time to prepare material for the printers and the authors of regular and topical features more time to check proofs.

RESISTANCE-CAPACITY BRIDGE AND COMBINED LEAKAGE TESTER

By W. E. CORLETT (G3DIP)*



View of the completed test set, excluding power supplies. The dial is constructed on white drawing paper, backed with heavy cardboard or similar material. The cursor consists of a circular perspex disc, with an engraved hairline and fixed to the main capacity/resistance control knob.

APART from the usual applications of a R.C. Bridge it is often desirable to subject war surplus condensers to capacity and leakage tests before incorporating them into equipment. When contemplating the construction of such a bridge the most deterring factor is usually that of cost. High precision "standards" are difficult to obtain and expensive. Calibration also presents a problem. It was with the intention of eliminating these factors that the present design was embarked upon. All components are of the normal variety, with the exception of the main "ratio" potentiometer which is of the large instrument type. A similar component having a linear, smooth action can be substituted.

Bridge Design

The design of the bridge, as can be seen from the circuit (Fig. 1), is of the standard type, the principle of which is described in any text book on the subject. Briefly, in order to obtain a voltage null at point "P" an alternating voltage applied across VR1 will be divided by the slider in a proportion relative to the proportion of Rs or Cs and the unknown value. The values of Rs and Cs being known, the unknown reactance may be calculated from the ratio of the applied voltages, or, as in practice, the ratio of the sectors of VR1, divided by the slider. In the case of resistance the ratio will be directly proportionate, and for condensers, inversely proportionate.

Practical Considerations

VR1 should be of the large, wirewound type, with a power rating of at least 3 watts. Its value is not critical and can be of any value between 1,000 and 10,000 ohms. Linearity is, however, of prime importance, because calibration is mathematically carried out as a function of degrees of rotation and not as a ratio of actual resistance. The two should therefore be directly related.

The "Power Factor" control, VR2, is also of

the 3-watt wirewound type, and here again the actual value is not critical, the only essential being that it must actually zero. Average values for this are from 800 to 1,000 ohms at maximum.

Resistors and condensers used for the "standards" can be of the normal plus or minus 10% or 15% type, but should be checked against a commercial bridge or accurate meter for value and, in the case of the condensers, for power factor. Any reputable dealer will be only too pleased to carry out these tests for a nominal charge. Inexpensive "standards" are thus obtained.

The values of the resistors and capacitors chosen should be multiples of the lowest value, thus simplifying calibration considerably. Allowing for a ratio of .1 to 10, a list of "standards" has been compiled and is included in the components list. The range of the instrument can, however, be extended by the inclusion of further standards.

Null Indicator

This device consists of a "magic eye" indicator, type EM34, together with its associated coupling circuits. In the described model a dual sensitivity tube is employed solely because it was available. The actual circuit is straightforward and calls for no comment; the switching arrangements being discussed later.

Oscillator

This comprises a simple oscillator/amplifier circuit using a 6SN7 dual triode. C4 is selected by trial to produce a frequency of approximately 300 c/s. T1 and T2 are normal 3:1 interstage transformers, though it may be necessary to remove the iron core from T1 in order to produce a suitable frequency. This should be reduced until a clear null is obtainable on both the high and low capacity ranges.

Bridge Calibration

Calibration is carried out mathematically. This method is not subject to errors due to the wide tolerance of most resistors and condensers, as is the case of the method of obtaining calibration points from resistors and condensers of various values and, usually, wide tolerance. Because the calibration depends entirely upon the ratio of the two portions of VR1, it is comparatively simple to obtain any desired calibration point from the following formulae:

For ratios greater than 1, i.e. $\times 2$, $\times 5$, etc.,

$$\phi = 180^\circ - \left\{ \left(\frac{\theta}{r+1} \right) + k \right\} \dots \dots \dots (1)$$

For ratios less than 1, i.e. $\times 0.1$, $\times 0.5$, etc.,

$$\phi = \left\{ \left(\frac{\theta}{r+1} \right) + k \right\} - 180^\circ \dots \dots \dots (2)$$

Where ϕ angle of calibration point from centre of scale

θ complete angle of rotation of potentiometer

r ratio

$k = \frac{360 - \theta}{2}$

and is constant for any one potentiometer, being dependent upon the full angle of rotation.

It should be noted that the reciprocal ratios have the same angle ϕ , but in opposite directions from the centre of the scale. Fig. 2a illustrates the relative angles.

* 9 Mon Crescent, Bitterne, Southampton.

Leakage Indicator

Basically this device consists of two switched shunts (R_1 , R_2) placed in series with the condenser to be tested and a high voltage supply. If current flows through the condenser it will develop a P.D. across the shunt, which will be applied to the grid

the order of 2-3 mA. with a poor condenser, any available power supply may be called upon to provide the necessary voltage.

Capacity—Leakage Switching

S_1 (a), (b), (c), (d) is a two-position four pole ceramic switch, the only specific requirement being

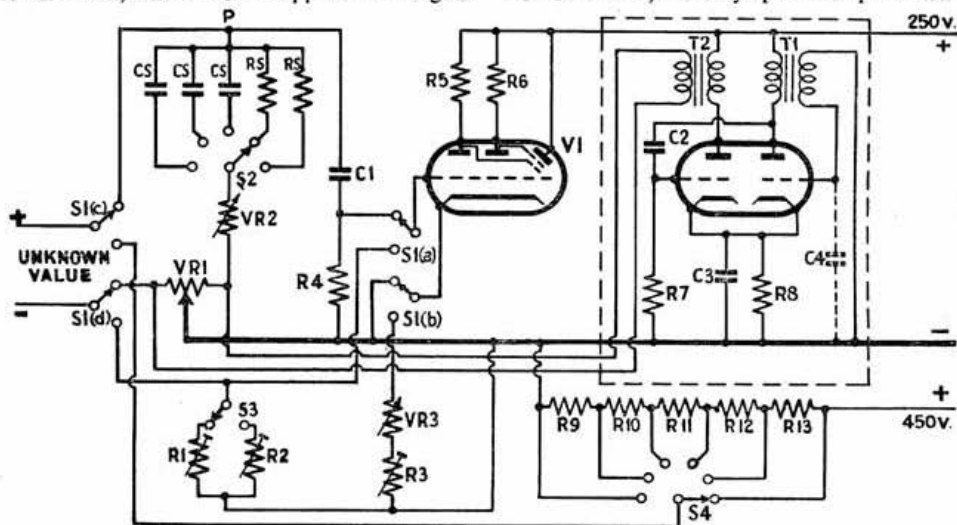


Fig. 1

Circuit diagram of the R.C. bridge and leakage tester. The switch S_1 (a), (b), (c), (d) is shown in the capacity/resistance position. Test leads are taken to S_1 (c), (d).

Components

VR1	See text.	R9	10,000 ohms, $\frac{1}{2}$ -watt.	T1, T2	3:1 Interstage.
VR2	1,000 ohms, 3-watt.	R10	15,000 ohms, $\frac{1}{2}$ -watt.	V1	EM34.
VR3	25,000 ohms, 3-watt.	R11	25,000 ohms, $\frac{1}{2}$ -watt.	V2	6SN7.
R1	50,000 ohms, 3-watt preset.	R12, R13	100,000 ohms, $\frac{1}{2}$ -watt.	Cs	0.0001 μ F. (0.0001-0.001).
R2	15,000 ohms, 3-watt preset.	C1, C2	.01 μ F. 350 V. Wkg.		0.01 μ F. (0.1-1).
R3	30,000 ohms, 3-watt preset.	C3	25 μ F. 25 V. Wkg.		1.0 μ F. (1.0-10).
R4	4 megohms, $\frac{1}{2}$ -watt.	C4	See text.	R5	100 ohms (10-1,000).
R5, R6	1 megohm, $\frac{1}{2}$ -watt.	S1	4 Pole, 2 Way.		10,000 ohms (1,000-100,000).
R7	5,000 ohms, $\frac{1}{2}$ -watt.	S2, S4	1 Pole, 12 Way.		100,000 ohms (10,000-1 Megohm).
R8	150 ohms, 2-watt.	S3	1 Pole, 2 Way.		

of the indicator as bias. A measure of the current flowing through the condenser is thus available.

Leakage Calibration

An equally sub-divided scale is constructed as in Fig. 2b, the divisions being one tenth of the full scale angle (in the case of most potentiometers this is 300° , giving 30° divisions). This is calibrated from 0 to 1 mA.

With the scale set at zero, R_3 is adjusted until the shadow just closes. A 0 to 5 mA. meter is then connected to the test leads and the test voltage selector switch (S_4) set to the lowest range. The current range selector switch (S_3) is set to the highest resistance position (R_1)—the current registered by the meter then being approximately 0.2 mA. VR_3 is then rotated to correspond with this position on the scale, and in so doing the shadow will be caused to open. R_1 is adjusted until the shadow just closes once again. The scale is then "aligned" to read directly from the scale and can be left at that point. It may be necessary to readjust R_3 , as there is slight interaction between R_1 and R_3 . The current range switch is then set to the next position and R_2 adjusted until the reading on the meter corresponds to half that to which the calibrated scale is set, thus applying a multiplier of $\times 2$ to the second position of S_3 .

These ranges may be extended to cover any desired range of current by the application of suitable shunts.

The test voltage divider (R_9 , R_{10} , R_{11} , R_{12} , R_{13}) is used to provide the working voltages of various condensers and can be modified to individual requirements. As the current drawn is in

a low capacity and high insulation at points (c) and (d). If space is of no consequence, two separate double-pole double-throw switches could be used.

In the capacity position, S_1 (a) switches the indicator grid to the coupling network (C_1 R_4). S_1 (c) and (d) switch the test leads to the requisite bridge arm.

For leakage testing the grid of V_1 is connected to the shunt via the selector switch, the cathode being connected to VR_3 and R_3 . S_1 (c) connects the voltage selector S_4 to the positive test lead,

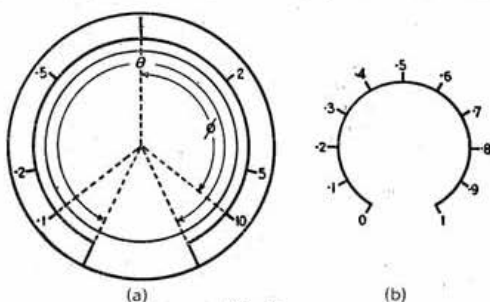


Fig. 2

(a) Bridge calibration. Calibration points are shown at $\times 2$, $\times 5$, $\times 10$, and $\times 0.1$; $\times 0.2$, $\times 0.5$. Intermediate points are calculated from formulae (1) and (2) respectively. These points will represent resistance ratios; condenser ratios will be in the opposite direction.

(b) Leakage calibration. The zero position corresponds with the zero resistance position of VR_3 . Full scale reading is 1 mA.; intermediate points being marked as shown.

S1 (d) completing the circuit via S3 and the selected shunt.

Construction

Constructional arrangements will depend upon the available material and are by no means critical. A large open scale is, as with any instrument of this type, very desirable. Wiring should be carried out as directly as possible, but is not essential. The only screening necessary is associated with the oscillator circuit, which should be completely screened to avoid any bridge pick-up at points other than that at which the voltage is injected. Dial construction is best left to individual design, there being unlimited scope in this field.

Operation

The condenser to be tested is connected to the test leads and the switches set to the appropriate positions. In the case of electrolytic condensers, correct polarity should be observed. The main capacity control is rotated until the shadow opens to its widest, indicating that the bridge is balanced. The capacity is then read off the scale and multiplied as determined by the setting of S2. Should no definite maximum be obtained, VR2 is rotated until the indication is precise. This then represents the "power factor," which, due to the availability of the leakage test, it has been deemed unnecessary to calibrate.

When testing for leakage the switches are set to the appropriate positions and the leakage control

to zero. S4 is set to the rated working voltage. Should the shadow open, indicating leakage, the leakage control is rotated until the shadow just closes once again. This is then the leakage current, multiplied by S3 if necessary.

Before handling the test leads, both prior to and after tests, the voltage selector switch (S4) must be returned to the zero voltage position, in order to avoid high-voltage shock. This will automatically discharge the condenser under test through R1 or R2.

Conclusion

Although constructed almost entirely from surplus components, this instrument has proved reliable and extremely useful. Its adaptability to individual requirements is also very convenient. It has often been stated that a bridge of this type cannot be used for the measurement of electrolytic condensers. This is true very occasionally, but for the most part fairly accurate capacity measurements can be obtained. As the leakage test is usually sufficient for this type of condenser, it is of minor consideration.

When calibrating the instrument it should be remembered that the capacity range is inversely proportional to the resistance range. The direction in which each has to be calibrated is easily determined by connecting known values to the test leads. To avoid recalibration this should be done before commencing the task.

R.E.C.M.F. EXHIBITION

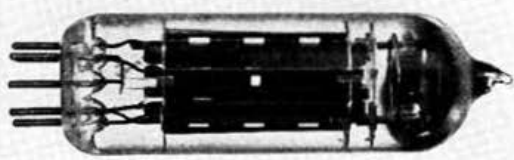
Further Advances in Miniaturisation

AT the 8th British Radio Component Show, which took place in London last month, more than 100 firms exhibited radio and electronic components and valves. Great Britain is now the world's leading exporter of radio parts, the value of exports having multiplied by 12 times in five years, adding up to a present-day total of 6 million pounds per annum. The Exhibition, which was organised by the **Radio and Electronic Component Manufacturers' Association**, was visited by engineers and industrial experts from 28 countries.

Most marked was the influence of television and V.H.F. techniques on the design of components and valves, the trend being, as in previous years, towards continued miniaturisation, with added emphasis on improvement of sealing and resistance to climatic changes. The contrast between current standard component assemblies, as used in radar, and new subminiature types under development, was strikingly demonstrated on the *Ministry of Supply* stand, where, incidentally, small printed resistors of gold-platinum alloy only 1,000 angstrom units in thickness attracted much attention.

U.H.F. exhibits included small wave-guide junctions (*Ministry of Supply*), silicon crystal units designed as integral parts of wave-guide plumbing (*G.E.C.*), and centimetre-wave valves, such as the compact 3-cm. Packaged Magnetron of 14 kW. maximum power output (*Mullard*).

From the very big—represented by the new *Sobell* plastic console television cabinet, probably the largest plastic moulding in production in Great Britain (*British Moulded Plastics, Ltd.*), to the very small—such as the tiny 15 V. dry battery for hearing aids, weighing less than $\frac{1}{2}$ oz. and measuring 15 x 15 x 35 mm. (*Ever Ready Co.*,



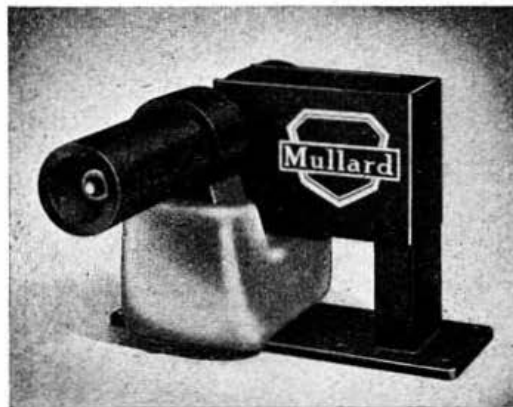
One of the new "Trustworthy" range of *Brimar* valves.

Ltd.), all of the exhibits were a tribute to the vigour and ingenuity of the industry's research and development laboratories. Valves of all types were generously represented, including a new range of robust valves featuring a reduced number of welds in electrode mounting, double mica bridges, and low centre of gravity (*Standard Telephones and Cables*).

Among the new kinds of test equipment on show were a television aerial polar diagram tester enabling aerial characteristics to be determined in a few minutes (*Belling and Lee*), and a test set produced by *Salford Instruments* for measuring the activity of quartz crystals and the dynamic resistance of tuned circuits.

Other exhibits of interest included: a magnetic sheet floater which, by apparently defying the law of gravity, facilitates the separation of thin metal sheets in a stack (*Permanent Magnet Association*); a novel totally enclosed rotary solenoid switch of $\frac{3}{4}$ -inch diameter (*AB Metal Products*); the first British 16-inch metal cathode-ray tube (*English Electric*); nine gauges of resin-cored solder from No. 10 to 22 S.W.G., little thicker than a hair, in six different alloys (*Multicore Solders, Ltd.*); new

colour-cored solder for automatic joint lacquering (*H. J. Enthoven & Sons*); crystal magnets, made from a single group of long crystals, having a performance 25 to 50 per cent. better than that of normal magnets (*Permanent Magnet Association*); and the first permeability-tuned gang multi-station tuner to cover all five B.B.C. television channels (*Plessey Co., Ltd.*).



Mullard 3 cm. Packaged Magnetron.

There is no doubt that as amateurs come to make use of the new components and parts (subject to their availability in view of the defence programme), receivers and transmitters will gradually decrease in size, becoming more compact and more efficient. Apart from the obvious technical advantages, this change will also tend to leave a little more elbow room in many small shacks up and down the country—often a matter of urgent priority!



The first British metal cathode-ray tube (*English Electric T901*) with an almost flat 16" screen, and an overall length of 17½".

British Standards Exhibition

STANDARDS, Standardisation and Simplification will be graphically presented at an Exhibition to be staged at the Science Museum, South Kensington, London, by the British Standards Institution.

Most of the major industries who use the services of the B.S.I. will take an active part, each industry showing how standards have simplified production, reduced costs and maintained quality, and how in turn they have benefited the users of its products. Test apparatus designed to secure compliance with British Standards will be shown, together with many special exhibits of an unusually interesting nature.

The Exhibition will be open from June 18 to 29, 1951.

R.S.G.B. CALL-BOOK TO BE PUBLISHED

THE Council have authorised the preparation and publication of a Call-book which will show the call signs, names and addresses of licensed Amateurs in Great Britain, Northern Ireland, Isle of Man and the Channel Islands.

The first edition is expected to be on sale near the end of this year at a cost of approximately 3s. 6d. per copy. It is the present intention to reprint an up-to-date edition thereafter at about six-monthly intervals.

Licensed Amateurs who wish to have their call sign, name and address included in the Call-book should insert the necessary details on the postcard which is included with this issue of the *BULLETIN*. Please use block capitals and don't forget to stamp the postcard. Space has been left on the card for the insertion of details of other stations—for example, non-members of the R.S.G.B.

All correspondence in connection with the Call-book should be addressed to the Call-book Editor, Mr. J. P. P. Tyndall, 174 The Drive, Ilford, Essex. Information cannot be accepted on the telephone.

Future Arrangements

(i) For members of the Society:

If you change your address, you need only notify Headquarters in the usual way, but do ensure that your full call sign appears on your letter otherwise the change will NOT be passed to the Call-book Editor.

(ii) For all other licensed amateurs with G, GC, GD, GI, GM or GW calls:

Write your call sign, name and new address on a postcard, and post it to the Call-book Editor.

Acknowledgements of receipt of either the postcards enclosed with this issue of the *BULLETIN* or of other postcards cannot be sent, but after the first edition has been published it may be possible to acknowledge that the change has been noted.

The success of this venture, for the benefit of all Amateurs, depends on your co-operation—please therefore send off your card as soon as possible.

Minister of Education Introduced to Amateur Radio

HIGHLIGHT of a recent Exhibition by the Walsall and District Amateur Radio Society was the occasion when the Minister of Education (the Rt. Hon. George Tomlinson, M.P.) spoke from the amateur station G2ADJ/A, operating in the Walsall Town Hall, to the Wolverhampton station G3FUI.

The station was part of a "Hobbies Exhibition" organised by the local branch of the Rotary Club. Among the items of equipment on display were two home-constructed transmitters, a home-built television receiver, and communications receivers, all of which attracted considerable attention.

The Questionnaire

THE Council wishes to place on record its best thanks to Mrs. W. H. Allen, Mrs. L. Cooper, Mrs. C. H. L. Edwards, Mrs. P. A. Thorogood and Mr. John Cooper who, with Messrs. C. Waterer, G2HP, R. Newham, G3SU, A. Gover, G4AU, J. B. Lievens, G3GUW, S. F. Sharpe, G3CXK, R. T. Bowler, G3GKN, and J. Tyndall, G2QI, assisted members of the Council in the task of checking the questionnaire.

N.F.D. Photographs

The Editor will be pleased to consider, for publication, clear, well-defined and interesting photographs taken during National Field Day.

In the Workshop

Last month some theoretical aspects of U.H.F. aerial arrays, and in particular the paraboloid reflector, were discussed. This article describes the practical construction of paraboloids, using materials and methods that are well within the scope of the average amateur with limited workshop facilities.

A PARABOLOID reflector usually consists of a "spinning" in aluminium or copper sheet, and is made by rotating the sheet, backed by a template or former of the correct shape, in a lathe, the true shape being obtained by rolling or "flowing" the metal against the template by a hardwood tool. As such a process is obviously beyond the means of most amateurs a simpler method of construction is required. The paraboloid reflectors to be described in this article will be of cellular construction. Though giving less beaming efficiency, they frequently provide more freedom from unwanted and wasteful side-lobes than the solid or "spun" variety.

It should be remembered that paraboloid structures are very vulnerable to winds, the forces exerted on them being considerably greater than in the case of the open dipole-reflector arrays. Consequently, care in construction and mounting is a matter of importance.

Construction

It will be assumed that a radiator in the form of a $\frac{1}{2}$ -wave dipole is to be used, fed by coaxial cable as distinct from a wave-guide arrangement with its added complications. The dipole should lie within the plane of the front face of the paraboloid, and the position of the focus should be decided accordingly, with regard to diameter D , to which the proposed design is related. The formula connecting diameter, wavelength and beam angle, together with a table listing the resultant dimensions for the various bands, appeared last month.

For large paraboloids (more than 1 ft. 6 in. in diameter), a wooden framework should be constructed as shown in Fig. 1. The eight curved members are shaped accurately to the curve of a parabola, and constitute a former for the metal parts of the reflector. If hardwood is employed,

the overall weight of the structure may be considerably reduced by cutting out the centre portions of these members.

A stiffening ring of $\frac{1}{4}$ -inch galvanised iron or brass is then secured to the outer edges of the members by means of woodscrews through drilled holes. This ring should be well cleaned and tinned before fitting.

Next, a piece of galvanised wire netting ($\frac{1}{4}$ -inch mesh) of dimensions just greater than the perimeter of the paraboloid should be laid over the framework. With the aid of a wooden template cut to the shape of a paraboloid section, the netting should be pressed firmly down across each of the diagonal members in turn. This will be found quite easy if a mallet is used to assist the process: the mesh of the netting will distort to take up the paraboloid shape outlined by the members.

The netting should be fastened down by fine staples, starting across one diameter, then proceeding across another diameter at right angles, using the template as necessary. The two remaining diameters are treated in the same way, the final result being a well shaped wire-mesh paraboloid.

A better, but more laborious, method of fixing down the netting is to use strips of copper or brass fastened to the members with woodscrews.

With a sharp pair of shears, trim off the surplus netting at the outside circumference, leaving sufficient to fold right round the metal rim previously fixed. The folding should be done tightly with a pair of pliers. Finally, solder the netting to the rim, using a large hot iron, ordinary (not cored) solder, and an acid flux. Solder, in paste form, and a small blowlamp give the best results.

The baseboard may be cut to a circular shape, and all woodwork given a thick coat of creosote, or other preservative. The netting requires a uniform application of bituminous paint to prevent rust and corrosion.

Small Paraboloids

For small paraboloids (less than 18 in. diameter), a mesh construction has been devised which will give greater geometrical accuracy than the netting type, and can be self-supporting.

Fig. 2 illustrates the general details of construction, which can be varied according to individual ingenuity. As before, a wooden framework or former is constructed to the desired dimensions of the paraboloid required. A length of fairly hard copper tubing of $\frac{1}{4}$ or $\frac{5}{16}$ in. diameter is bent to the curved shape of each member, the ends being flattened and secured at the outer perimeter by woodscrews, and, at the centre, to a copper or brass disc by nuts and bolts. A rim of brass or copper is again formed and soldered to the flattened extremities of each curved copper tube to give rigidity as before.

Next, "nicks" are cut with a sharp file at intervals of $\frac{1}{4}$ -inch down the diagonal tubes, as shown. A better but lengthier method is to cut slots $\frac{1}{8}$ in. deep in the tubes with a coarse-cut

(Continued on Page 414)

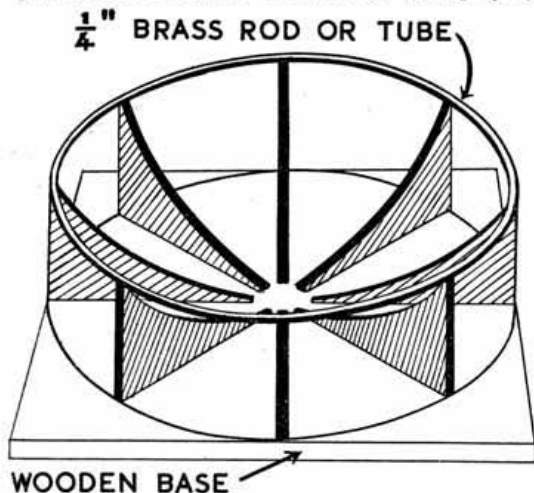


Fig. 1.

Wooden framework for paraboloid, showing mode of construction.

Amateur Radio and the Festival of Britain

Amateur Radio Station GB3FB



IN addition to the equipment listed last month, an Absorption Wavemeter manufactured by E.M.I., will be used at the Land Travelling Exhibition Amateur Radio Station GB3FB. The instrument employs a germanium crystal rectifier, and operates over the range of 1.6 to 30 Mc/s.

"Our Way of Life Exhibition"

ARRANGEMENTS for the operation of an amateur station at the Bristol Festival of Britain Exhibition are proceeding apace and a special QSL card has already been printed. It is anticipated that T.R.H. The Duke and Duchess of Gloucester, who are to open the Exhibition on July 7, will visit the R.S.G.B. stand.

Festival of Britain
EXHIBITION RADIO STATION

BRISTOL,
England.

Confirming our Fone/CW QSO of July 1951 at GMT/BST on Mc/s

Ur Sigs RST To RADIO YX Input: Watts

QRN Ant: RX—Marconi Electra

QSB Operator:

QRA: Bristol Council of Social Service—"Our Way of Life" Exhibition, Bristol 7.

PSE QSL direct to FRANK BUCKLEY, Festival Organiser.

Author: Eric. Printer: Stone. Layout:

The special QSL card which will be used to confirm contacts with the Bristol Exhibition station.

Camberwell Exhibition

The Dulwich and New Cross R.S.G.B. Group and the South London Model Engineering Society are to co-operate in local Festival of Britain activities by holding an Exhibition of Radio Equipment at the School of Arts and Crafts, Camberwell, London, S.E.5. from August 26 to

AMATEUR RADIO FESTIVAL PROGRAMME

The Land Travel Exhibition Call Sign GB3FB

May 5-26: Manchester (City Hall, Deansgate).
June 23-July 14: Leeds (Woodhouse Moor).
August 4-25: Birmingham (Bingley Hall, King Alfred's place).
Sept. 15-Oct. 6: Nottingham (Broad Marsh).

Bristol Call Sign G6YA/A

July 7-21: Memorial Ground.

Cardiff

July 4-14: Welsh Industries Fair.

Darlington

June 10-July 10: South Park.

Camberwell

Aug. 6-Sept. 15: South London Art Gallery, Peckham Road, Camberwell, London, S.E.5.

Uxbridge

June 29-July 9: Uxbridge Industrial Exhibition.

September 15. The Exhibition will be open on weekdays from 1 p.m. to 8 p.m. daily (except Fridays) and on Sundays from 3 p.m. to 7 p.m.

The Group plan to operate an Amateur Radio station from the Exhibition using the call G3ACC/A. Several transmitters will be available including a 50 watt T.V.I.-proof rig for 3.5, 7, 14 and 28 Mc/s.; a single-side band suppressed carrier job for 3.7 and 14 Mc/s. and a 10 watt job for the "Top Band."

Visitors from other parts of the country and abroad will be made welcome. All communications should be addressed to the T.R., Mr. H. F. Knott, via the Group Secretary, Mrs. M. Mills, G3ACC, 59 Uplands Road, London, S.E.22.

WORKSHOP PRACTICE

(Continued from Page 413)

hacksaw, after the tube members are bent to shape, but before they are fixed to the framework.

Hard drawn copper wire (No. 16 or 18 S.W.G.) is then wound round the slots in the form of a spiral, starting at the centre, soldering at each slot, and keeping the convolutions even and regular. When the winding is complete, a length of 1/4-inch

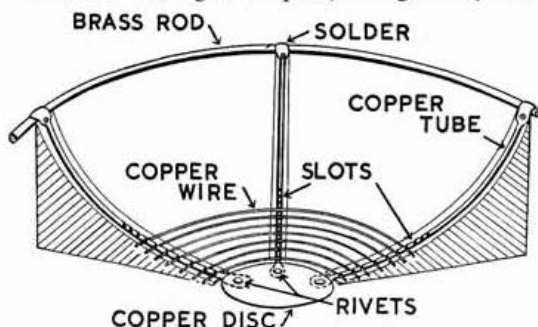


Fig. 2.

Mesh construction of small paraboloids.

copper strip should be soldered to the turns between each wooden member on the back of the paraboloid for stiffening purposes. Finally, the wooden framework can be completely removed, leaving an accurate and self-supporting paraboloid reflector.

In this kind of soldering job, it is permissible to break away from the conventional technique of using only resin flux or cored solder. "Killed spirits," or one of the numerous commercial confections, make the work much more rapid and effective. After completion, the joints should be cleaned off to remove any corrosive flux, and the paraboloid may be painted with anti-corrosion paint.

* * *

Next month, problems arising from the introduction of the dipole, and the external mounting of the paraboloid, will be examined.

Hints to Contributors

is the title of a useful little pamphlet available to prospective "Bulletin" contributors. Write today for a copy.

THE MONTH ON THE AIR

By A. O. MILNE (G2MI)*

Behaviour

PROPOS of our Editorial remarks last month, we feel bound to add that bad manners and bad language are not entirely restricted to telephony operators. "Bad manners," in our view, may be considered to cover a large field of activity and to include the man who keeps a 1½-kw. final tucked-away out of sight as well as the type whose motto is "I must work the DX and the devil take . . .!" Even those who fill the amateur bands with inane chatter are showing bad manners because they occupy channels which others might be using to better advantage. For example, the 3.7 Mc/s. shared band is not the place to indulge in competition to see who can express himself in the most pedantic English, nor is it the place for the funny men of Amateur Radio, such as the G3 whose babblings are so puerile that he has to punctuate them with a pseudo Arthur Askey chuckle to indicate the "funny" bits!

Notes and News

G2HKU, who recently collected a B.E.R.T.A., now has a DX C.C. Certificate—also gained with a maximum input of 22 watts. He has heard FQ8AC and FR7ZA around 0630 G.M.T. on 14050 C.W. FR7ZA is usually heard best during the late afternoons. HKU has heard VP5BL on 14025 at 1950 G.M.T. and FQ8AE on 14065 at 0615 G.M.T.

BRS18017 offers KZ5AA, 14050 at 1915. DU1AY, 14040 at 1930. VP5BP (Caymans) on 'phone at 2230.

Bob Pybus reports a definite 28 Mc/s. opening with FF8, VQ4, ZE, ZS, LU, CE, EA8, PY, MI3, VQ2, PK3, KP4, HP, XE, ZS7C and VP6 all at good strength. GW3FSP has worked VS7NG, VP8AP, VP8AI, VP8AO and VP7NM, on 7 Mc/s. His best on 14 Mc/s. is HS1VR at 1530 G.M.T. He has heard AC3SQ (who QSL's) on 14028 at 1600 and has worked UAOKKB (Vladivostok) at 2000 on 14060. Zone 19 and no mistake!

A1180 (Newcastle-on-Tyne) reports hearing ZS5IW/MM (28240) at 1406 on March 25. On 14 Mc/s. CS3AB (2120, 14330, 'phone), HP1OA (2300, 14150), TA3XOX (2215, 14276), YS1ZG (2230, 14150), and HC1FG with HC1JW were the best.

BRS19107 (Croydon) gives these frequencies: VP6SD (3720), VP6FO (3765 'phone), VP7NH (3790), ZC6JM (3795), YN4CB (3695), ZL4AV (3510 C.W.), VP9AF (3815 C.W.), ZD4AB (3510), FY7YC (3528), FP8AX (3520), 4X4RE (3545) and VP5BD (3520). So just ponder that lot! VR6AB has been heard on 14100 and FK8AH around 14060. VR1F is on leave at the time of writing.

G6QB draws attention to the calls, in the CE7Z series, which have appeared from "Chilean Antarctica." Apparently they have renamed the British territory of Grahamland, O'Higgins land! Rest assured, they will be treated as "pirates," if found to be in the same category as the LU stations already in operation.

Two lady operators to look for are EA3GE, wife of EA3FR, who speaks perfect English, and EA2CQ, wife of EA2CA.

G6YQ reports that 200 cards from VP6CDI are on the way to the R.S.G.B. Bureau.

G3CHR corrects the information given last month about MD7WE. G3CHR is one of the operators from MD7DC and is hoping to send cards in due course to all who have worked that station. He mentions, however, that the call was extensively pirated. Cards for MD7DC should be sent to Cpl. J. Howse, c/o G3CHR. DX from the latter call includes FI8TP (1630) and CR9AF (1515). The secret of working DX seems to be to join the Army and work shifts!

G2BJY gives the QTH of EQ3FM as APO 205, c/o P.M., N.Y.C. Numerous cards have recently arrived from this station. G2BJY is one of the lucky ones with a QSL from F9QV/FC. G6RH worked FB8ZZ (14045) on April 21 at 1725 G.M.T. KC6WC is on 14055. M1B seems active again on 14055, T9. RH also reports hearing 3P6MN but has no clue to his identity. He has received certificates for all four sections of the French Award D.U.F.

GM3DHD, writing from a new and quieter location, submits a fine list of stations worked including EQ3FM, F9QV/FC, KR6FA, VR2BJ, VR5GA, XZ2KN, UA0AC, ZK2AA and ZM6AA, all on 'phone. On 14 Mc/s. C.W., FP8AX, HE9LAA (who QSL's), M1B, UA0AA, UG6AD and SU1GM have been added. W3OB, who is Secretary of the Maritime Mobile Amateur Radio Club, states in a letter to GM3DHD that the curtailment of MM licences applies only to ships while they are carrying war stores.

G3AAM also mentions CR9AF on 14040 at 1600. VS6BE has no information on this one but he seems genuine. FI8TP is active up to 2000 G.M.T. EA0AB is on 14040 C.W. and 14200 'phone. G3AAM says YJ1AA and VR1F (separate from VR1C) are on leave. KC6WC (Palau), 14220 'phone, is another good one. G3AAM has AC3SQ's card. VR1G has been heard but we have no details yet. FP8AW is QRT but FP8BX is still active on 14080.

BRS19107, of Croydon, states there was a Russian contest on March 31 and between 1805 and 1825 kc/s. the following calls were heard: UA1KMC, 3AW, 3CR, 4FC, UB5BP, 5KAI and 5KAO. G stations were heard calling UR2AF, UA6LA and UG6KAA. On 3515 kc/s. he has heard FP8BX, TI2PZ and PY7WS around 0600. The latter was working ZS1AN. KV4AO claims to be the only KV 'phone ever to use the 3.5 Mc/s. band.

G3APX seems to hear them early! JA2KW and VO1VI at 1420, UJ8KAA (Stalinabad) at 1425 and an interesting one, F8EX/AR, at Beirut. He has also heard PI1LC, who is on a Dutch ship—14050 kc/s.

G3DXC has worked ZL3CX at 0300 G.M.T., which must nearly be a record for an early morning contact with New Zealand. He asks whether the Society could publish DX prediction information. This was done years ago but was dropped because the experts seemed to be unable to agree! There are several schools of thought on this subject, and the various charts seen seldom agree. What do you think?

G6BB will be glad to know that HE9LAA cards are coming in. His best for April was VQ2AB and FF8MM. He asks: "Can't someone run an expedition to Zone 39?" The pleasant climate

* 29 Kechill Gardens, Hayes, Bromley, Kent.

of the delightful island of Mauritius seems to keep the local boys off the air. BRS7594 reminds us that WOPRZ (14295) is in South Dakota. W.A.S. aspirants please note.

G3CDC, a new contributor, heard the following on April 1: FB8ZZ (1922), DUIDO (1510), CE7ZB (1915) and F8EX/AR (1400). He wonders if anyone has received a card from either VK1VU or FD3RG?

G3EFY worked 6K6AA, who said "Name Sandy. QTH Enn, in Country 15"! What will they think of next?

G6QX got a 579 from FG7XA, despite the W's. Another nice one was YS1O (14080 midnight). VP9OO (QSL's by air) is Frank Soltis, ex-HL1BA. 1934th A.A.C.S. Squadron, A.P.O. 856. UA9OB is worth getting for Zone 18. BRS14261 comments on the great improvement in conditions on the higher frequencies and mentions FO8AB active on 14 Mc/s. G2FAY has JA2OM (14090), JA2KW (14060), PZ1AH (14050), VE5BB (14070) and a queer one, ZE4GJ (14050), to offer this month.

According to A1193, VPIAB is on most evenings (14395 kc/s. 'phone) but he seems to confine his contacts mostly to U.S.A. G2FRY, using D.C. mains and an 8PL indoor square aerial, has worked VK2, VK3, VE1, 3V8, ZS6, ZS1, EK and SV, which only goes to show!

BRS19066, who heard ZS9F on 28 Mc/s., wonders who Z1PA can be. GM3CSM has heard four which we could use, FN8AD, FR7ZA, F18TP and FB8ZZ. GM3GDX produces ZS3K (14040, 1830) and ZS3Q (14060) for those who want this little heard corner of the world.

Who's Who and Where

ZD2DCP forwards a complete list of licences issued in Nigeria. The calls are: ZD2DCP, DYM, FAR, G, GAJ, GHK, JAB, JHP, LMF, PLL, PVS, RGY, S and TBS. Of these DCP, DYM, FAR, GAJ, JAB, JHP, PLL and TBS are active. The others have not renewed. ZD2LO is a pirate. One and two letter calls ceased in 1949. All new calls include the three letters, usually the holder's initials.

G6WX, who recently returned from a holiday in the Canary Islands, says there is a general complaint there of lack of QSL's from the Isle of Man. He mentions EA8AX, who is crippled and confined to a wheelchair, who refers to his shack as his "Sing Sing"! Amateur Radio means a great deal to him so please don't forget that card.

A1180 reports that G2CIW will soon be on with an EK1 call. VS2AA will be leaving Malaya later this year. Mrs. Jean Smith, of 764 Mountbatten Road, Singapore, is VS1YL. She is the wife of VS1BQ. G5JF is holding all cards for Bob Ford, AC4RF. It is understood that Bob is now held in Pekin and that negotiations for his release are in process.

From Ron Burden, BRS18794, we learn that SU1MR will be in England again this month and that he is bringing with him QSL's for all his contacts, which will be distributed through the R.S.G.B. Bureau. VS9AH leaves Aden this month. His home address is J. B. Halton, 22 Hugh Street, Bransty, Whitehaven, Cumberland. VS9AO—ex-MT2E—will help VS9AA to keep the flag flying.

We were pleased to receive a visit from Guy Kane last month, better known as DL4FS/3A2AB. He was able to see the stations of G2MI, G8IG and G3GNL and we elicited the information that he has permission to operate in Andorra. The projected second trip to Monaco will not be made as he is due to return shortly to the U.S.A.

From the *Romford Recorder* we read that VK2CJ would like to contact his old home town. What about it, G6QX? According to EK1RR, the best place to send cards for Tangier is F.P.O. Box 150. Incidentally, the authorities have abandoned their attempt to levy a licence fee of £50 per station! Proper licences will be issued soon.

Nyasaland Jubilee

In connection with the Jubilee celebrations from May 15 to 17, ZD6NJC will be operating on all bands and will use a special card to QSL all contacts.

Comment Superfluous

G2AUC reports ST2KR as very active on 21 Mc/s. for which band all Sudan amateurs, like their colleagues in Southern Rhodesia, are now officially licensed. We are informed by our own G.P.O. that this is a matter purely within the jurisdiction of the administrations concerned. The inference should therefore be plainly obvious, even to the licensing authorities in this country!

Madeira

The following is a complete list of current licences: CT3AA (C.W. only), 3AB (C.W. and 'phone), 3AC, AD, AE, AK (all 'phone only), 3AN and 3AV (C.W. and 'phone), 3MN ('phone only). All other CT3's are unlicensed.

Tailpiece

We thank all members who have responded to our appeal last month. Here is the result, a bigger M.O.T.A. Please note that, for next month only, all copy should be with G2MI not later than Friday, May 18, as he will be away on holiday for the rest of the month, and in consequence this feature will have to go to the printers nearly two weeks early.

Ten Minute Quiz

This month's posers for the radio enthusiast.

1. What are the approximate radiation resistance limits of a resonant array fed with 72 ohm feeder in order to maintain a standing wave ratio of better than 1.5 to 1?
2. What is the formula for finding the resistance of a tuned circuit at resonance?
3. What are the approximate relative resistances of (a) iron; (b) aluminium; (c) eureka, each compared with copper?
4. What is a Wehnelt cylinder?
5. What is the approximate current-rating of metal rectifiers in mA. per sq. cm.?
6. What happens to the sensitivity of a C.R.T. if the anode-cathode potential is decreased?
7. Which is the "odd man out"?
PY; LU; XZ; KZ; XE; TG.
8. Complete the family — neutrons, protons, electrons and ?
9. What well-known B.B.C. transmission has a 4th harmonic in the 80-metre band?
10. What are the frequency limits of the projected 15-metre band going to be?

Now turn to page 430 and see whether you have beaten the Question Master.—H.E.B.

THE THIRD R.S.G.B. 420 Mc/s. TESTS

THE third R.S.G.B. 420 Mc/s. Tests, to be held on June 16-17, 1951, promise to be of outstanding interest to all U.H.F. enthusiasts. Not only will they provide an opportunity of testing the latest 420 Mc/s. equipment—transmitting and receiving—during peak activity periods but they will also give all members a chance of gaining what has already become one of the Society's most highly-prized awards, "The Arthur Watts Trophy."

British amateurs can claim credit for a fine record of progress and achievement on the U.H.F. bands since the resumption of activity in 1946. The main purpose of the 1951 Tests is, therefore, to draw attention to the valuable work being done on the 420 Mc/s. band and to stimulate co-ordinated activity all over the British Isles during a month when experience suggests that there is an above-average chance of tropospheric propagation. An after-dark operating period is included this year to increase the chance of a tropospheric "opening" but it is emphasised that operation during this first period is not obligatory.

Notify Headquarters

All amateurs who intend to be active on the 420 Mc/s. band during the Tests are invited to notify Headquarters, not later than May 28, of their call sign, home address, proposed location, and whether horizontally or vertically polarised aerials, crystal-controlled or self-excited transmitters will be used. It is hoped to send a resumé of the information received to all members who signify their intention to participate. It should be noted, however, that members who are unable to notify Headquarters may still enter for the Tests.

The award of the Trophy will not be directly dependent upon the number of contacts made or the mileage covered; such factors as original experimental work, ingenious equipment, the compilation of a well-presented and detailed report,

and the amount of effort put into the Tests will also be taken into account by the Contests Committee when assessing the merit of each entry. Entries from receiving stations will be welcome and will be eligible for the award.

Rules

As in 1949 and 1950 the event will have few fixed rules, other than the general time limits of from 2230 B.S.T. June 16 to 0030 B.S.T. June 17 and from 1200 B.S.T. to 2200 B.S.T. June 17, and the provision that all entries must be from fully paid-up Corporate members and accompanied by the Declaration set out below. Any type of operation—fixed or portable—or mode of transmission may be used, providing that entrant adheres to the terms of his (or her) licence.

The entries will be required to include details of stations heard and worked (with distances), and general observations on the band. A full description of all equipment used should be included and this information and any other evidence submitted of work carried out will be taken into consideration when judging the event. The contestant submitting the best entry in the opinion of the judges will be recommended to Council for the award of the Arthur Watts Trophy.

Entries headed "R.S.G.B. 420 Mc/s. Tests" 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 25, 1951, and contain the following declaration:

I declare that my station was operated strictly in accordance with the rules and spirit of the Tests, and I agree that the ruling of the Council of the R.S.G.B. shall be final in all cases of dispute.

Date..... Signature.....



The Arthur Watts Trophy

CONVENTION PARKING FACILITIES

During Festival of Britain year, parking will not be permitted in roads adjacent to the Coventry Street Corner House, London. As a special concession to R.S.G.B. members, the Management of LEX GARAGES, LTD., Lexington Street (about 200 yards from the Corner House), have agreed to accept advance bookings for garage space, providing reasonable notice is given. The Garage fees are as follows:

- 24 Hours: 9 h.p. cars, 3/6; 10-12 h.p., 4/-
13-20 h.p., 4/6; 21-25 h.p., 5/-
12 Hours: Rates as above less 6d.;
6 Hours, less 1/-; 3 Hours, less 1/6

Enquiries should be addressed to: The Manager, Lex Garages, Ltd., Lexington Street, London, W.1.

FOR MOTORISTS

LONDON MEMBERS' LUNCHEON CLUB

THE Club will meet at the Kingsley Hotel, Bloomsbury Way (opposite Headquarters), at 12.30 p.m., on the following Fridays during the Festival of Britain:

May 18, June 15, July 20,
August 17, September 20,

when Overseas and Provincial Amateurs will be cordially welcomed. The Club Secretary is Frank Fletcher, G2FUX, 11A Ickenham Road, Ruislip, Middlesex (Ruislip 2763).

FESTIVAL LUNCHEONS

AROUND THE V.H.F.'s

More Two-Metre First Contacts

By W. H. ALLEN, M.B.E. (G2UJ)*

QHL and QLH

FOR many years these "unofficial" Q-Code signals have been known to amateurs as indicating that the calling station intended searching the band from the high-frequency end to the low, or *vice versa*. Originally employed on the lower frequency bands when nearly all stations were crystal controlled, the practice lost much of its usefulness with the almost universal appearance of the V.F.O. On two metres, however, where crystal control is still standard practice, QHL or QLH—with QHM or QLM to indicate searching from the high or low ends to the middle of the band when activity is high—could be a great time saver in as much as the answering station, depending upon his position in the band, would know whether a long or short call was desirable. Very few operators are heard to use these Q signals regularly, and from experience it would appear that many do not appreciate how best to take advantage of them when answering, but for contest working, as well as for normal activity, there is much to be gained from their intelligent employment.

The Two Metre Band

While there have been a number of quite good openings for long distance working during the almost unbroken series of bad weather periods which characterised the first three months of 1951, the onset of almost Summer weather in late April really convinced the V.H.F. fraternity that another DX season was at hand.

April 17, 18 and 19 were exceptionally good in most parts of the country. On the 17th, G3EHY (Banwell, Som.) heard EI8G, near Dublin, calling him at RST 559 on 145.62 Mc/s. So far as is known this was the first time that 2-metre signals from Eire had been heard in England. 'EHY replied, but before contact could be established EI8G faded out. On the following day the Dublin station was received by GW2ADZ (Llanymynech, Mont.), at a strength of RST 559, and on the 19th at 22.20 B.S.T. the first GW/EI two metre contact was effected with signals up to S7 in both directions. The distance between the two stations is of the order of 130 miles, but considering that the signals travelled over the very considerable barrier of the Welsh mountains this was no mean feat. It is understood that there are other stations active on the band in and around Dublin, and it is to be hoped that many contacts will be effected during the coming months.

On April 5 a ridge of high pressure passed over the country, and a most beneficial effect on two metre signals resulted. On that evening GW2ADZ succeeded in contacting G3BCY, BLP, EHY, ENY, 4SA, 5MA and 6YP. Since the 17th, 'ADZ says that time has been the only limiting factor in DX work!

G6LI (Grimsby) found that conditions improved considerably during the periods mentioned above, but contacts were somewhat difficult to obtain and

limited to around 100 miles. Among the stations heard and worked were G2CPL, CPT, FNW, FO, XV, 3BA, BLP, CFK, CGQ, DMU, ENS, VM, WW, 5UD, 8AX, GL, SB, GW2ADZ and 5MQ.

Conditions were not at all good during the French V.H.F. Contest held on April 7 and 8. G5MR (Hythe, Kent), worked F8AA, GH, NW, OL and 9DI. The latter station, at Amiens, was contacted by G6LL (Cuffley, Herts.), on the 15th, signals being S7/9 with fading. ON4BZ (Brussels), was worked by 5MR at 23.45 B.S.T. on April 20 with signals running RST 599 in both directions. The frequency of the Belgian station was approximately 144.9 Mc/s. The same station was heard, again by G6LL, calling "CQ DL" at about 22.00 B.S.T. on April 23 at a strength of S5, presumably off the back of his beam. It is understood that F8OL has not been able to maintain his regular skeds. on 145 Mc/s. for some time owing to pressure of his professional work.

From G5BD (Mablethorpe), it is learnt that Lincolnshire is represented on the band most evenings by G2CPT, 3APX, DMU, 5BD and 6LI. On the 18/19th, 5BD heard G2FO, OI, 5MA, 6LK, XM, GW2ADZ and GW5MQ.

Proving that the band is not always as dead as it sounds, G3VM (Norwich), finds that he can often hear GW2ADZ at 200 miles when no other signals are audible, but their sked. is not yet running consistently. Other reliable signals in Norwich are G3EHY and G2XC (Portsmouth).

BRS 13336 (London, W.1.), sends a list of no less than 153 stations heard by him over a period using a super-regen receiver, which indicates the high level of activity in and around the London area. This receiver has the advantage of a Mullard CV66 earthed-grid triode R.F. stage, and C.W. signals are read by beating them with a frequency meter. 13336 is now operating with a converted RF 26 unit, and it will be interesting to learn how this compares with the super-regen. in DX and weak signal reception.

Two Metres in Germany

Writing from Fassberg, 20 miles north of Celle, DL2DV (G8DV) tells of the increasing interest in two metre work manifest in Germany at the present time. Much of the activity previously was with unstabilised transmitters and super-regen. receivers, but with the DX falling to those stations equipped with modern gear there is a growing realisation of its advantages, despite the fact that "surplus" is by no means so easy to acquire in Germany as in this country. Using 50 watts to an 829 P.A., an 8-element double-Yagi and an all 6J6 converter, DL2DV has had his share of new international contacts, being the first station to work Sweden from Germany. This was early in March with a contact with SM7BE (Lund, near Malmö), over a distance of 250 miles on C.W. Shortly before, he worked OZ2FR (Baekke) at 210 miles on 'phone, this being the second time that Denmark had been worked from Germany. The first QSO was between OZ2FR and DL6SW (Hamburg).

* 32 Earls Road, Tynbridge Wells, Kent.

DL2DV is situated on the Lüneburger Heide, of Armistice fame, an area of sandy heath land with many pine trees, and until the beam was raised to 45 feet, and slightly higher than the majority of the trees, results were disappointing.

The Cascode R.F. Stage

A number of two metre operators have tried this type of R.F. amplifier, considered in commercial circles to be extremely effective at these frequencies, but few, from what can be gathered, have found it particularly effective. From G6LI comes data which may be of assistance to those who would like to improve this interesting circuit. Using a noise generator it was soon seen that the text books were right and an over-coupled aerial circuit produced the best signal-to-noise ratio. In G6LI's case this also served to decrease the blocking effect of powerful car ignition. Another point was that with the tuned circuit coupling the anode of the neutralised triode section to the cathode of the following earthed-grid triode it is possible to find a point where signals rise sharply, as if at resonance. This circuit is very heavily damped by the considerable mismatch between the anode and cathode impedances of the respective valves, and is, therefore, very flatly tuned indeed. The sharp resonance effect noticed is, in fact, due to feed-back in the earthed-grid triode section and is accompanied by a considerable increase in valve noise—due to the regeneration—and a deterioration in the signal-to-noise ratio, and should be avoided. The correct setting is difficult to ascertain, but it is suggested that a grid-dip oscillator would be useful in this connection. The final noise figure obtained by G6LI was 4.7 db.

The employment of a c.c. oscillator in a converter has one serious disadvantage; the output circuit of the mixer must be at least 2 Mc/s. wide, and can lead to serious losses if not well designed. To get over this difficulty, and at the same time to enjoy the benefits of a stable oscillator, has led G6LI to design a somewhat elaborate oscillator/multiplier system for his converter. For the best conversion efficiency a 6AK5 mixer requires approximately 4 volts injection (measured between cathode and earth), and to supply this, with something in hand, an EF50 Clapp oscillator is used—tuning between 8240 and 8380 kc/s. followed by two frequency multiplying stages. The valve actually injecting into the mixer is a 9003 running as a class A amplifier. The main difficulty has been with slight drift in the Clapp oscillator due to changes in room temperature altering the capacity to earth of the tuned circuit. Adequate precautions have been taken to guard against "birdies" by screening the R.F. circuits and filtering all supply leads, and by employing co-axial cable for both input and output of the converter. Care should be taken regarding the length of the latter lead which should not be near an odd multiple of a quarter wavelength at signal frequency. If a cathode follower is in use to couple the mixer to the main receiver it is as well to decouple its anode circuit with 500 or 600 ohms to discourage oscillation at random frequency.

Notes and News

G3BW (Whitehaven, Cumberland), is on again after a complete rebuild of the station and the erection of a 16-element stacked array. G3ENI (Kew Gardens, Surrey), is on 145.29 Mc/s. with 20 watts on 'phone and C.W., an all-6J6 receiver and 4-element indoor Yagi and would welcome contacts.

At the time these notes were compiled (April 24) the two metre band was again providing a good opening, with GW2ADZ coming in well on

'phone in southern England and ON4BZ putting excellent signals into the London area.

70 centimetres

At a meeting of the South London V.H.F. Group on March 18 discussion ranged over a number of topics including means of making searching easier on 70 cm. While realising that the 6 Mc/s. channel lying between 432 and 438 Mc/s. is very difficult to search thoroughly in a reasonable space of time, the meeting strongly disapproved of any plan further to restrict this section of the band as it was felt that every encouragement should be given to those operating on 2 metres to extend their activities to 70 cm. by trebling their present frequencies. Increased use should be made of QLH/QLH procedure when making a general call.

A proposal was made by G4CG, and endorsed by the meeting, that a new system of calling and searching be adopted. Assuming activity to be between the limits 432-438 Mc/s., stations calling CQ should add the figures 32, 33, 34, 35, 36 or 37 indicating that they intended searching one megacycle only, i.e. 432 to 433, 433 to 434, etc. The views of other 70 cm. operators on this proposal would be welcomed.

GW2ADZ and G4LU (Oswestry), consider that planning of 70 cm. activity is required to take full advantage of any "openings." They suggest that for a period all stations to the north west of the London area should call London for ten minutes from 20.00 B.S.T. on Monday evenings, followed by the London stations calling with their beams turned north west for the next ten minutes.

The patience of G3EHY has at last been rewarded, and his signals have been heard by G2DD (Stanmore). He is now able to work G4AP (Swindon), regularly at a distance of 50 miles, and has had a number of contacts—cross band—with GW3HCH (Newport, Mon.), at 30 miles despite the fact that the latter's corner reflector is indoors.

On April 24, GW5MQ (Flint), was heard by G5RW (Ilkeston).

Lecher Wires

Referring to the experiments carried out by G2DD and G8SM regarding the effect of silver plating on the efficiency of Lecher lines mentioned in this feature in March, G5CD comments that the results obtained were in line with what would be expected. He points out that, provided metal of good electrical conductivity is employed, silver plating of circuit elements is hardly worth-while when they are heavily loaded by the valve and/or couplings. What has been found of considerable aid to efficiency, however, is silver plating those metal parts—chassis, brackets holding components, etc.—which are within the R.F. field of the Lecher lines. A very thin film is all that is required, as the penetration by R.F. is very small at frequencies of the order of 450 Mc/s. "Within the field" may be taken as a distance approximately equal to the spacing of the lines concerned.

Late News

From I.R.T.S. News, we learn that signals from EI8G were also heard by G6CW (Nottingham) and G8SB (near Manchester) during the spell of good conditions last month. The transmitter line-up at EI8G is as follows: 6J6, 832, 829; input 22 watts (C.C.). Aerial, 4-element close-spaced beam (folded dipole radiator) 28 ft. high. Horizontal polarisation. The receiver uses 6AK5 R.F., 6AK5 Mixer, 955 Oscillator into a BC.348 tuned to 11.5 Mc/s.

Special Note

The closing date for the June issue will be May 22; it would be appreciated if reports of the Third 70 cm. Activity Period could be sent before this date.

The following is a list of stations for which application has at the sites indicated. Entry forms will be issued from in the February, 1951

REGION 1

Town or Area	Stn	Call Sign	Location
Blackpool ..	A	G8GG/P	Highcross Hill, High Cross, Poulton-le-Fylde.
Bolton ..	B	G6LD/P	As A station.
	A	G3WG/P	Top o'th Heights Farm, Morris Green.
Burnley ..	B	G6QT/P	As A station.
	A	G8TD/P	200 yds. S.S.E. Waggoner's Arms, Summit (NGR 34/291829).
Bury ..	B	G3SJ/P	As A station.
	A	G2GA/P	Scout Camp, Ashworth Valley.
Chester ..	B	G3BRS/P	As A station.
	A	G3GIZ/P	Queen's Park Nurseries.
Darwen and Blackburn	B	G2YS/P	As A station.
Liverpool ..	A	G2HW/P	Land adjoining Royal Hotel, Tockholes.
	A	G3BNO/P	Liverpool Electricity Supply Dept., Sports Field, Thingwall Rd., 15.
	B	G3DVB/P	Automatic Telephone & Electric Co., Ltd., Sports Field, Childwall, 16.
Manchester (North-East)	A	G3GB/P	High Barn Farm, Mainway, Alkington.
Manchester (North-West)	B	G3RP/P	As A station.
	A	G2ATU/P	Heaton Park Grounds.
	B	G6OM/P	As A station.
Preston ..	A	G2NY/P	Wyngarth, Bilborough.
	B	G3PJ/P	Fishwick Hall Golf Club, Morningside Rd.
Southport ..	A	G3EFA/P	Rugby Football Ground, Waterloo Rd.
	B	G2ART/P	As A station.
Warrington ..	A	G3CKR/P	The Towers, Myddleton Lane, Winwick.
West Cumberland	A	G6WR/P	Tarn Flatts Farm, near St. Bees.
Wirral ..	B	G4NS/P	As A station.
	A	G2AMV/P	Thingwall Rd., Irby
	B	G8BM/P	As A station.

REGION 2

Barnsley ..	A	G5IV/P	Keresforth Hill Farm, Broadway.
	B	G5KM/P	As A station.
Cleckheaton ..	A	G2BMC/P	The Wilderness, Upper Edge, Elland.
Darlington ..	A	G8IA/P	Maidenhall Farm, Eastbourne.
	B	G2CKN/P	As A station.
Hexham ..	A	G4LA/P	
	B	G5RI/P	
Hull ..	A	G6UJ/P	White House Poultry Farm, Nafferton, near Driffield.
	B	G5PQ/P	Field adjoining Flagstaff House, We'wick.
Keighley and Bradford	A	G2VO/P	Cross Roads, Harden Rd., Keighley.
	B	G6KU/P	Poplar Grove, Great Horton.
Middlesbrough	A	G5YP/P	Hemlington Grange Farm.
	B	G3CBW/P	As A station.
Northumberland	A	G4QA/P	Saltwick, near Stanington (NGR 172801).
	B	G2CO/P	As A station.
Rotherham ..	A	G2LG/P	Boston Park, Moor-gate.
Scarborough ..	A	G8KU/P	Scarborough Boys' High School, Playing Field, Oliver's Mount.
	B	G8SI/P	As A station.
Sheffield ..	A	G8NN/P	Field adjoining 580 Redmires Rd.
	B	G5TO/P	As A station.
Slaithwaite ..	A	G8NF/P	Worts Hill. (Inquiries to 3 Dartmouth St., Hill Top, Slaithwaite.)
	B	G2DBW/P	As A station.
South Shields*(1)	B	G8JO/P	West Park.
Sunderland*(1)	A	G5GI/P	Colleys Farm Lane, Lizard Lane, Whitburn.
York ..	A	G3FYP/P	Garrow Hill, Heslington Rd.
	B	G3DTA/P	As A station.

REGION 3

Town or Area	Stn	Call Sign	Location
Birmingham (South)	A	G8JI/P	Field adjoining 222 Shenley Fields Rd., Selly Oak.
	B	G8PN/P	As A station.
Coventry ..	A	G6TD/P	Oaken End Farm, Allesley.
	B	G4NB/P	As A station.
Hereford ..	A	G3NA/P	Garway Hill Common Garway (NGR 436252).
	B	G3ESY/P	As A station.
Malvern ..	A	G2AO/P	Messrs. Guinness's Hop Farm, Braces Leigh.
	B	G2XX/P	As A station.
Rugby ..	A	G3GG/P	Water Tower Farm.
	B	G4KK/P	As A station.
Stourbridge ..	A	G3BMY/P	King Edward VI School Playing Fields.
	B	G8GF/P	As A station.
Worcester ..	A	G3GJL/P	Field next to Newtown Grange Farm, Ronkswood.
	B	G3BDS/P	As A station.

REGION 4

Boston ..	A	G6GH/P	Glebe Field, Stickney.
	B	G6LH/P	As A station.
Derby ..	A	G3ERD/P	Glebe Farm, Blagreaves Lane, Littleover.
	B	G3FNK/P	As A station.
Grimsby and Cleethorpes	A	G3DAE/P	Crossroads of Station Rd. (B1203) and Grimsby Rd. (B1219), Waltham.
	B	G4XC/P	As A station.
Leicester ..	A	G2RI/P	Thrusington Lane, Rearsby.
	B	G4BB/P	The White House, Scaptoft.
Lincoln ..	A	G4BU/P	Hilltop Field, Brace-bridge Heath.
	B	G5XL/P	As A station.
Loughborough	A	G4BI/P	Walton-le-Wolds.
	B	G3CKF/P	As A station.
Mansfield ..	A	G8SA/P	Messrs. Neville's Sports Ground, at junction of Nottingham Rd. and Derby Rd.
	B	G3EVG/P	Winthorpe Airfield.
Newark ..	A	G6CW/P	Hill Farm, Epperstone.
Nottingham ..	B	G5VU/P	As A station.
Peterborough	A	G3EHQ/P	Manor Farm, Alwalton.
	B	G2NJ/P	As A station.
Retford*(2) ..	B	G3BTU/P	Plaster Pit Hill, Little Gringley.
Worksop*(2) ..	A	G8ON/P	Mr. Slaney's Field, Blyth Grove.

REGION 5

Cambridge ..	A	G5IG/P	King's Hedges Farm, King's Hedges Rd.
	B	G8PB/P	Bendall's Farm, Bottisham.
Chelmsford ..	A	G5RV/P	The Running Mare, Galleywood.
	B	G3BKF/P	As A station.
Gt. Yarmouth	A	G3GIR/P	Gorleston Cliffs (south of R.O.C. post).
	B	G3GVW/P	As A station.
Harlow ..	A	G6UT/P	Vicinity of Epping Uplands in Region 7.
	B	G3ERN/P	As A station.
Ipswich ..	A	G4RW/P	Station Hill, Felix-stowe.
	B	G8MU/P	Post Office Farm, Stutton.

FIELD DAY

- 3 1951

been made to the G.P.O. for permission to operate portable Headquarters prior to the event. N.F.D. Rules appeared '51, issue of the BULLETIN.

REGION 5—continued

Town or Area	Stn.	Call Sign	Location
Norwich ..	A	G2YU/P	The Deer Park, Cat-
	B	G3VM/P	ton.
Southend-on-Sea	A	G5QK/P	As A station. Thundersley Glen,
	B	G5VQ/P	Thundersley, Covertside, Hockley.

REGION 6

High Wycombe	A	G3FGQ/P	Oakdene, Amersham Rd., Hazlemere.
Luton	B	G2FDF/P	As A station.
	A	G3ASD/P	The Old Brickworks Field, Stopsley.
North Bucks ..	B	G3AST/P	As A station.
	A	G2DTD/P	Rectory Farm Loughton, Bletchley.
Oxford	B	G3AZ/P	Glebe Farm, Wing.
	A	G2DU/P	Watt's Farm, Elsheld.
Stotfold, Shefford & Bedford	B	G8PX/P	As A station.
	A	G4OL/P	Nash's Meadow, Mepershall, Beds

REGION 7

Barnes and Richmond	A	G6RC/P	Bank of England Sports Club, Priory Lane, Roehampton, S.W.15.
	B	G4GD/P	East Sheen County School for Boys, S.W.14.
Barnet	A	G3FFA/P	Rowley Green.
	B	G6CY/P	As A station.
Beaconsfield ..	A	G3BI/P	Long Bottom, Seer Green
	B	G3DAG/P	As A station.
Brentwood	A	G8RC/P	The Plover's Barrow, Wyatt's Green, Dodinghurst.
	B	G4AK/P	As A station.
Bromley and Beckenham	A	G6HD/P	Field opposite Buxton Browne's Research Farm, Downe.
	B	G4AU/P	As A station.
Chingford ..	A	G4GA/P	Bury Farm, Sewardstonebury, E.4.
	B	G8AL/P	The Owl, Lippit's Hill.
Coulsdon ..	A	G2DN/P	Field above Hall & Co. Lime Works.
	B	G3CIF/P	Field at White Hill, Caterham.
Croydon ..	A	G2FWA/P	Addington Hills, Shirley (near cafe and reservoir).
	B	G6LX/P	As A station.
Dulwich ..	A	G3CU/P	Goldsmith's College, Lewisham High Rd., S.E.14.
	B	G3ACC/P	Askes School Playing Fields, S.E.14.
Ealing	A	G3BRL/P	Hanger Hill Estate, between Hanger Lane and Heathcroft, W.5.
	B	G3DOZ/P	As A station.
East Ham ..	A	G2ZZ/P	Lady Trowers Sports Ground, Burgess Rd., E.6.
	B	G3CJQ/P	As A station.
East Molesey	A	G6MB/P	Broadmoor, near Dorking.
	B	G8IP/P	Chobham Ridge.
Enfield	A	G8SK/P	The Forge, Hertford Rd
	B	G2BAB/P	A.A. Gun Site, N.4.
Finsbury Park	A	G3CWS/P	As A station.
	B	G2TN/P	Shorne Mill, Shorne.
Gravesend ..	A	G3DLC/P	Gun Hill, West Tilbury.
	B	G5WP/P	Staple Lane, East Clandon.
Guildford and Woking	A	G5WP/P	Staple Lane, East Clandon.
	B	G6NA/P	Marrow Downs, Guildford.

REGION 7—continued

Town or Area	Stn.	Call Sign	Location
Hendon and Edgware	A	G5FG/P	Weedon's Farm, Nan Clark's Lane, N.W.7.
	B	G2IM/P	As A station.
Hoddesden*(2)	B	G4HJ/P	Roman Road, Hertford Heath.
	A	G8TL/P	East London Mission Field, Lambourne End, Chigwell.
Kensington and Shepherd's Bush	B	G2JG/P	As A station.
	A	G4AR/P	Horsenden Hill, North Ealing
Kingston ..	A	G2ACA/P	Belvedere Tower, Claremont, Esher.
	B	G3DHZ/P	As A station.
Lewisham ..	A	G2DHV/P	Bomb site at top of Lewisham Hill, S.E.13.
	B	G8VR/P	Top of Shooter's Hill, rear of Woolwich War Memorial Hospital.
Redhill and Reigate	B	G8LN/P	As A station.
	A	G5LK/P	Field off Madeira Walk, Reigate.
Romford ..	B	G2AJ5/P	Field at rear of Caterham School.
	A	G4KF/P	Bedford's Park, Havering-atte-Bower, (NGR 927515).
Sidcup	A	G2NK/P	K. E. C. Lamorby Park.
	B	G3MZ/P	As A station.
Slough ..	A	G3XH/P	Taplow Court, Taplow.
	B	G6CJ/P	As A station.
Southgate ..	A	G3GBN/P	Hadley Wood Common, Cockfosters, Herts.
	B	G6KM/P	Playing Field, Banstead Hall, Banstead.
Sutton and Cheam	B	G3DF/P	As A station.
	A	G2FME/P	Uxbridge Municipal Golf Course.
Uxbridge ..	B	G3BWC/P	As A station.
	A	G2QB/P	Royal Masonic Junior School for Boys, Playing Fields, London Rd., Bushey
Watford ..	B	G2VD/P	As A station.
	A	G5UM/P	Mr. Sherriff's Field, Digswell Lane.
Welwyn*(2)	A	G5UM/P	Mr. Sherriff's Field, Digswell Lane.

REGION 8

Ashford ..	A	G2JF/P	Wye Hill, Wye.
	B	G2QT/P	Paddock Hill, Smeeth.
Brighton and Hove	A	G5AO/P	Brown Loaf Farm, Race Hill, Woodingdean.
	B	G3YY/P	As A station.
Christchurch ..	A	G3HJO/P	Bure Homage, Mudeford.
	B	G3CVE/P	As A station.
Eastbourne ..	A	G4FV/P	Comphurst Lane, Windmill Hill, near Hailsham.
	B	G5AQ/P	The Stage, Silver Hill, Hurst Green.
Isle of Thanet	A	G8QB/P	Foreness Recreation Ground, Palm Bay, Margate.
	B	G2IC/P	As A station.
Isle of Wight	A	G3ARL/P	Brading Down.
	B	G3FAN/P	As A station.
Maidstone ..	A	G2OO/P	Kent Police Sports Ground, Sutton Rd.
	B	G5BS/P	As A station.
Medway Towns	A	G2CM/P	Oakhurst, Victoria Rd., Bluebell Hill, Chatham.
	B	G6NU/P	Batchelor's Field, 1 mile S.E. of Rochester.
Petersfield ..	A	G6DT/P	Horndean Community Association Ground, Merchiston Estate.
	B	G6NZ/P	Field of V. Gauntlett, Crookhorn.
Portsmouth ..	A	G8WC/P	As A station.
	B	G3AED/P	Radstock Farm, Earley.
Reading ..	A	G6WO/P	Scouts Site, junction of Kentwood Hill and Armour Hill.
	B	G5LR/P	Tilehurst.
Southampton	A	G5LR/P	Netley Hill Common.
	B	G5OB/P	As A station.

REGION 8—continued

Town or Area	Stn.	Call Sign	Location
<i>Tunbridge Wells</i>	A	G3FCQ/P	Rear of Kentish Horse, Mark Beech, near Edenbridge.
	B	G4IB/P	As A station.
<i>Worthing</i>	A	G3BF/P	Field, west side of Cote St., High Salvington (NGR 51/115068)
	B	G4NY/P	As A station.

REGION 9

<i>Bath</i>	A	G8DX/P	Chapel Farm, Lansdown.
	B	G2LR/P	Banner Down.
<i>Bristol</i>	A	G3YT/P	Dundry Hill.
	B	G6GN/P	As A station.
<i>Calne</i>	A	G3DXO/P	Maud Heath Monument, Bremhill.
	B	G3EKX/P	As A station.
<i>Cheltenham</i>	A	G3CGD/P	Wistley Hill, near Charlton Kings.
	B	G5BM/P	St. Mark's Community Centre, Playing Fields, Brooklyn Rd.
<i>Exeter</i>	A	G3JW/P	Conway's Meadow, Exminster.
	B	G5QA/P	Panorama, top of Pennsylvania.
<i>Falmouth</i>	A	G2AYQ/P	The Beacon, St. Agnes.
	B	G6LV/P	Ashfield, Ponshinden.
<i>Gloucester</i>	A	G3MA/P	Spoonbed Farm, Painswick Beacon.
	B	G2RT/P	As A station.
<i>North Devon</i>	A	G8US/P	Gorse Hill, West Yelland Farm, Instow.
	B	G6GM/P	Featherlands, Holsworthy.
<i>Penzance</i>	A	G3FVO/P	Chyehall Farm, Paul.
	B	G2WW/P	As A station.
<i>Plymouth</i>	A	G5ZT/P	Atwill's Farm, Collaton Cross, Newton Ferrers.
	B	G3TX/P	As A station.
<i>Stroud</i>	A	G5HC/P	Lypiatt, near Stroud.
	B	G5WA/P	As A station.
<i>Swindon</i>	A	G2MM/P	Field adjoining Military College of Science, Shrivenham.
	B	G4AP/P	As A station.
<i>Torbay</i>	A	G3AVF/P	Kings Kerswell, near Newton Abbott (NGR 20/872658).
	B	G2GK/P	As A station.
<i>Weston-super-Mare</i>	A	G8GB/P	Worlebury Golf Course.
	B	G3AIR/P	As A station.
<i>West Wilts</i>	A	G2PS/P	White Horse Downs, near Westbury.

REGION 10

<i>Cardiff</i>	A	GW5BI/P	Ridd's Farm, Lavernock, near Penarth.
	B	GW8UH/P	As A station.
<i>Neath and Port Talbot</i>	A	GW4NZ/P	Mynydd Drumau, Skewen.
	B	GW2FRB/P	Pentyla Hill.
<i>Monmouthshire</i>	A	GW8CT/P	1 Mile N.E. Croesyceiliwg.
	B	G4GR/P	As A station.

REGION 11

<i>Llandudno</i>	A	GW2BCH/P	Great Orme.
	B	GW4OH/P	As A station.
<i>Wrexham</i>	A	GW3EFZ/P	Nant y Ffrith, Bwlchgwyn.
	B	GW3BKP/P	As A station.

REGION 12

<i>Aberdeen</i>	A	GM3ALZ/P	Banchory, Devenick.
	B	GM2FHH/P	As A station.
<i>Banff</i>	A	GM3DPK/P	Boydrie, Banff.
	B	GM3GCH/P	As A station.
<i>Dundee</i>	A	GM4NR/P	Roundhill, Birkhill, Angus.
	B	GM4HR/P	Muirloch Farm, Fowlis, Angus.

REGION 12—continued

<i>Forfar</i>	A	GM2HIK/P	Lour Hill, Angus (NGR 58/470460).
	B	GM2DRD/P	As A station.
<i>Montrose</i>	A	GM3KC/P	Strathella Farm, Rossie Muir, Farnell.
	B	GM4MQ/P	As A station.
<i>Stonehaven</i>	A	GM3EHH/P	Wood on Uras Farm 400 yds. S.E. of Crawton Crossroad.
	B	GM3AXR/P	As A station.

REGION 13

<i>Berwick-on-Tweed</i>	A	GM5BA/P	Lamberton Moor, 4 miles N. of Berwick (NGR 463781).
	B	GM6UC/P	As A station.
<i>Dunfermline</i>	A	GM3FGH/P	Broomhall.
	B	GM3GUS/P	Hillton of Pitfirrane, Cairneyhill.
<i>Edinburgh</i>	A	GM8FM/P	Eastfield Farm, Penicuik.
	B	GM3UM/P	Straiton Farm, Loanhead.
<i>Kirkcaldy</i>	A	GM4GK/P	The Whins, Newton Farm, Markinch.
	B	GM4AN/P	As A station.

REGION 14

<i>Falkirk</i>	A	GM4JQ/P	One mile S. of Carronbridge Hotel, Stirlingshire.
	B	GM4MF/P	As A station.
<i>Glasgow</i>	A	GM8MJ/P	Lickprick Farm, E. Kilbride.
	B	GM6MD/P	As A station.

REGION 15

<i>Northern Ireland</i>	A	GI5SJ/P	Mount Pleasant Farm, Ballysillan Rd., Belfast.
	B	GI5UR/P	As A station.

CHANNEL ISLANDS

<i>Guernsey</i>	A	GC3HFN/P	Icart, St. Martins.
	B	GC2ASO/P	As A station.

* Indicates station is combining with another for the purposes of scoring. Where no asterisk is shown, and only one station call is given, the town or area is not operating a second station.

Swiss Portables

THE following Swiss portable stations will be operating during N.F.D. weekend: HB1CM, DB, DT, EK, EQ, HC, IG, IZ, JJ, JP, MD and MJ.

N.F.D. is coming!

Identify yourself with a

CALL-SIGN BADGE

Five Characters 5/-

ADDITIONAL CHARACTERS 6d. each

CAR PLAQUES

with Call-sign

Five Characters 5/-

R.S.G.B. SALES DEPT.



SOUTH WALES O.R.M.

Amateur Radio Exhibition opened by Postmaster-General

THE Region 10 O.R.M., held at Rhigos, Glam., on Sunday, April 22, was a notable and memorable occasion. Notable, because of the support given by the Postmaster-General (the Rt. Hon. Ness Edwards, M.P.) and by the presence of a strong delegation from Headquarters. Memorable, for the excellence of the Postmaster-General's speech at the opening of the Exhibition and Mr. Scarr's reply. (Extracts from the speeches appear on page 424.—Ed.)

The Amateur Radio Exhibition, the finest of its kind ever held in Wales, was supported by leading equipment and component manufacturers, the technical press, the G.P.O. and the R.A.F. Region 10 amateurs were also represented by some well constructed equipment. In such a fine show comparison is invidious, but the R.A.F. stand must have special mention. GW8NP and GW3BUX are to be congratulated on their part in this excellent effort.

Business Meeting

The platform party at the Business Meeting comprised the President, the General Secretary (Mr. John Clarricoats), Council Members Messrs. Craig, Edwards, Herdman, Milne and Winsford, and the Region 10 Representative (Mr. F. Hamer), who was in the chair.

After outlining the *raison d'être* for the I.A.R.U. Bureau, the President called for free and frank discussion of all R.S.G.B. affairs. The discussion that followed was, indeed, free, frank and cordial.

The General Secretary, rather wistfully, regretted that time would not permit of his "black book" address, but he managed, nevertheless, to make a concise and comprehensive survey of Society affairs, touching particularly on the part which the Society's local representatives can play in maintaining an active, strong Society.

Discussion

During the discussion, interest centred on the desire of the Region for reformation of Council Election arrangements. Replying to questions from GW2BFD, Mr. Craig said he could see much to commend the scheme, but he outlined difficulties of travel, etc., which would make it onerous for all but a very few Regional members to give efficient service on Council. A scheme whereby Council Members resident in, or near, London could represent particular Regions might be the answer, but such a scheme had been tried some years ago, and failed through lack of efficient liaison. The President thought there was much to be said for what Region 10 wanted, but he wondered whether the Provincial membership was sufficiently active or interested to make the scheme a success.

GW3ZV, who spoke in favour of the Region 10 proposals, pointed out that two years had passed since a Council Member last visited Region 10. To really be *au fait* with the wishes and needs of a Region much more frequent personal contact was essential. GW5VX pointed out there were members in Wales willing and able to undertake the necessary travel, but under the present system they had small chance of election to Council.

Mr. Milne emphasised that if personal touch was not always possible, any letter sent for the attention of Council always did, in fact, receive the attention of that body. Unless members could specify any



Postmaster-General at R.S.G.B. Meeting

The President (W. A. Scarr, M.A., G2WS) second from left, with the Postmaster-General (Rt. Hon. Ness Edwards, M.P.), at the Region 10 O.R.M., held in Rhigos on April 22, 1951. Others in the group, reading from left to right, Council Member Lyell Herdman (G6HD), John Banner (GW3ZV), Emllyn Thomas, M.P., Council Member W. N. Craig (G6JJ), the General Secretary (John Clarricoats, G6CL), the Hon. Editor (Arthur Milne, G2MI), Council Member C. H. L. Edwards (G8TL), and F. Hamer (GW8BW, Region 10 Representative).

occasion on which they felt Council had fallen down on its job, they should consider carefully before advocating any radical change.

Mr. Edwards described how the present scheme of Representation started. He agreed with many of the Regional proposals, but in doing so he pointed out that the function of a Regional Representative is to keep the membership in touch with Council.

In response to a query from GW8UH, Mr. Milne clarified the circumstances leading up to the "Freedom of Speech" letter and explained why it was not possible to publish a full statement in the January BULLETIN, whilst a "flash" would necessarily have been misleading.

In closing the Business Meeting, the President congratulated the Regional Representative on the arrangements which had been made, including the visit by the Postmaster-General to the Exhibition. All who attended the meeting will concur that GW8BW and his assistants did, indeed, make a first class job of it.

After Proceedings

After tea came the usual "swindle," with more than 30 donated prizes for distribution. The drum must have come under the spell of the President's eloquence, for a large "bag" fell to Council; in fact, a meter, originally won by Mr. Winsford, when put back found its way to the President.

Before breaking up, and indeed during the whole day, there were many informal talks with Council Members, and the consideration they gave to all queries and suggestions can only convince Region 10 more than ever that there must be more of this excellent personal touch.

GW3BZH.

"Push-Button Band-Switching"

SINCE the article on Push-Button Band-Switching appeared in the March issue, the author (C. W. Cragg, G2HDU) has received a number of enquiries from members regarding a source of supply for suitable push-button units. Can any reader help? Letters to G2HDU, 48 High Street, Oakham, Rutland, please.

C.U.A.C.?

The Postmaster-General and Amateur Radio

SPEAKING at the opening of the Amateur Radio Exhibition arranged in connection with the Region 10 (South Wales) O.R.M. held at Hirwaun on April 22, 1951, H.M. Postmaster-General (the Rt. Hon. Ness Edwards, M.P.) had many things to say about Amateur Radio and those who subscribe to the art.

On the Scientific Bent

"It is of very great importance indeed that we should encourage the scientific bent amongst our people, and give them the maximum opportunities for acquiring technical knowledge.

"The amateur study of radio is a highly technical affair, and is open to a very restricted coterie. I do not think it is possible to over-estimate the value of this amateur effort to the welfare and well being of our community.

On Marconi and the Post Office

"The record of the Post Office in the field of radio will bear very critical examination. It was largely due to the foresight of the then Engineer-in-Chief (Sir William Preece) that Marconi, in 1896, was encouraged to pursue his experiments to the advantage of the British race and mankind in general. Those early experiments, which took place at Penarth, only 30 or so miles from here, laid the foundation of the interesting scientific developments on which you are now engaged.

On the Radio Amateur

"The encouragement given by the Post Office to Marconi has, within certain limits, guided our subsequent treatment of serious amateur research. Since 1904, when my predecessor in office was given the task of controlling, for the first time, the use in the United Kingdom of wireless telegraphy, a policy, as then set out, has been faithfully followed. That policy was to ensure that those who wish to conduct experiments in wireless telegraphy should not be hindered by Post Office control more than necessary.

The Postmaster-General then referred to the decision of the Post Office (taken in 1946 after consultation with the Society) to issue Amateur as distinct from Experimental licences.

On "Nattering"

After recalling that the President (Mr. W. A. Scarr) had commented, at a recent meeting, that the ether will soon be as crowded as the streets, the P.M.G. said:

"It is all very well to use your shack for the purpose of hiding away from your wife. That may be a legitimate excuse, but I would remind you that if the time you spend there is used for the purpose of gossiping with somebody in Brazil about the colour of the hair of his wife, or about the meat ration, you are wasting valuable ether space which should be available for more serious and scientific study. I hope the tendency, which I understand is called 'nattering,' will be eliminated.

On Serious Endeavour

"I notice that your President, in his Presidential Address, estimated that only about 5 per cent. of amateurs in this country are making, or attempting to make, a serious scientific contribution to the solution of radio problems. I hope that is something to which you will address your minds, and see to it that whilst you get some fun out of

life, you will also tackle some of the many problems which still require solution.

"Amateurs are free to use their stations as they will, but the manner in which they use them will, I am certain, in the future be taken into consideration.

On the 21 Mc/s. Band

"The International Radio Regulations, which were agreed to at the Cairo Conference in 1938, make no provision for the use by amateurs of any frequency between 14 and 28 Mc/s.—the frequencies of general value for long distance work. The Atlantic City Conference, held in 1947, did, however, provide a band for amateurs at 21 Mc/s., and it was confidently hoped that this new band would be available within a couple of years. However, owing to the failure of subsequent Planning Conferences, the Atlantic City Frequency Table has not yet been fully implemented. We must therefore wait and see what the forthcoming Conference in Geneva will bring forth. If the Conference succeeds in devising means to bring the new frequency allocation table into being, there is a good chance that the 21 Mc/s. band will be available to amateurs within a year or so. It is probable that there will have to be an interim period during which amateurs would share the band with services already in operation until the latter could move to their new frequencies. For the present, it would be a breach of International Radio Regulations to allow amateurs to use the 21 Mc/s. band.

The President's Reply

Mr. W. A. Scarr, M.A. (President of the R.S.G.B.) in the course of his reply said:

"It is my privilege to thank you, Sir, on behalf of all the members of our Society, and in particular our South Wales members, for honouring us, not only with your presence, but with a speech which is an inspiration to us, and a challenge to the future. It is also your latest demonstration of the support which you, personally, are giving to our Society. I think, with peculiar pleasure, of the occasion when we asked you to assist us in our quest for amateur television licences, and the delightful and helpful reception you gave us. I think again, too, of the occasion on which you honoured us with your attendance at our own Amateur Radio Exhibition. We hope very much to see you there again in the future.

"You have reminded us this afternoon that our radio work is a hobby, but at the same time I read into your speech the thought that because it is a hobby, it does not mean that we should treat it lightly. In our hobby we have the privilege of world-wide communication, but we also have the tremendous responsibility that goes with that privilege. The very freedom we enjoy gives us opportunities for developing along new lines, for making discoveries and advancements which would be quite impossible if we were working along professional lines.

"We have, amongst our membership as a whole, two main characteristics. The first is that of specialised knowledge; the second is that of abundant enthusiasm. If ever a national situation should require it, we shall offer that knowledge and that enthusiasm as they were offered once before."

INTERNATIONAL Goodwill Station OTC. Leopoldville, Belgian Congo, broadcasts special English speaking 20-minute programmes for radio amateurs on Wednesdays at 1910 G.M.T. on a frequency of 9767 kc/s. (30.71 m.). The programmes comprise news of general interest, interviews with Belgian and visiting radio amateurs, DX topics, and reviews of Amateur Radio periodicals. Reports and QSLs should be sent to Postbox 26, Brussels 1, Belgium.

To promote interest and friendship in VK3 contacts, the **Moorabbin and District Radio Club**, Victoria, Australia, are awarding Honorary Membership Certificates to overseas amateurs who contact any 12 member stations by radio (phone or c.w.). A copy of the rules may be obtained on application from Colin Gibson, VK3FO, 424 Centre Road, Benleigh, S.E.14, Victoria, Australia.

Propos the paragraph "**SJAB on VHF**" in the March issue, BRS.12474 asks how many members of the R.S.G.B. also belong to the St. John Ambulance Brigade? He and BRS.11228 have served for more than seven years in the same division; G3CU, T.R. for New Cross and Dulwich, is an ex-member of the Brigade. Any more for the register . . . ?

In U.S.A., the Philadelphia Fire Department's new V.H.F. radiophone network went into action for the first time recently. Comprising two R.C.A. 250-watt transmitters and six receivers at base, and operating on frequencies of 170.15 and 154.01 Mc/s., the equipment maintains contact with 150 F.M. transmitter-receivers installed in fire engines and other vehicles.

With **National Field Day** in the news once again, and more than 250 stations preparing to invade the pastures of Festive Britain for one of the outstanding events of the amateur year, some may idly wonder when this well-known contest was born. For the record—the year was 1933, and 34 stations took part, the winners being G6WN and G6YK representing District 15 (at that time West London and Middlesex). In the August issue of the **T. & R. Bulletin** for that year appeared the following interesting observation. "The event (N.F.D.) clearly demonstrated that if the necessity arose, we could place into operation an emergency network of stations at short notice. Such a necessity is hardly likely to arise in this country, but it is reassuring to know our capabilities in that direction." A prophetic thought indeed, and just as applicable now as it was 18 years ago, in spite of the war that went between.

Mystic Aerial . . . Can any philosopher-member assist the enquirer who recently asked for information about the Yogi array . . . ?

Demonstrations of navigational radar and exhibitions dealing with the nature of matter, including atomic research and investigations into inner and outer space, will be a feature of displays to be seen aboard the **Festival Ship "Campania"**, which will make a special tour of ten major British ports during the period May 4 to October 6. Further details will appear in local newspapers as the "**Campania**" makes its Festival cruise.

A **Marconi** multi-channel V.H.F. link providing eight simultaneous phone channels is to replace the existing experimental link between Iceland and the Westmann Islands. The latter are 47 miles from Reykjavik, and are cut off from the mainland for most of the year by heavy seas. . . . Overall

mast height of **Holme Moss TV Station** will be 2,500 feet above sea level, and the 8-dipole array will serve video to 11 million people. . . . V.H.F. played a part in this year's **Monte Carlo Rally** when three Humber Hawks, equipped with **Marconi V.H.F.** transmitter-receivers maintained contact and exchanged information about detours, timing, and road conditions. . . . Closer co-operation and exchange of television programmes was the outcome of a recent three-day discussion in Rome between French and Italian delegates. . . . Evening television programmes are being radiated from **Hamburg** on Mondays, Wednesdays and Fridays, on frequencies of 93 Mc/s. at 200 watts for vision, and 99.4 Mc/s. at 100 watts for sound. Definition is 625 lines.

London Members' Luncheon Club

THE 24 members who were present at the April meeting were pleased to welcome D. McIlwain, the new Assistant Editor.

After lunch, Jim Kirk, G6ZO, gave a brief but interesting account of his recent visit to North Africa, where he met several prominent amateurs.

For details of forthcoming lunches see page 417. A hearty welcome awaits all visitors to London. Please phone HOLborn 7373, or Ruislip 2763 to say you are coming.

British Schools Exploring Society

APPPLICATIONS are invited for the post of Honorary Wireless Officer for the Central Iceland Expedition leaving on July 30 and returning on September 18, 1951.

Applicants should have seen service in one of H.M. Forces, preferably as a Signals Officer; must be capable of operating and servicing a medium power W/T and R/T set and possess a Morse operating speed of not less than 20 w.p.m. They must also hold a Post Office Transmitting Licence.

The entire cost to each member will be £120 including provision by the Society of personal equipment.

Applicants should apply as soon as possible to: The Secretary, British Schools Exploring Society, c/o Royal Empire Society, Northumberland Avenue, London, W.C.2, stating age and brief qualifications.



The GSKH Trophy

The GSKH Trophy recently presented to the R.S.G.B. London Region by Mr. H. D. Cullen, GSKH, will be awarded for the current year to the London Region "A" station scoring the highest number of points in the 1951 National Field Day.

AFFILIATED SOCIETIES' CONTEST

TWENTY-NINE clubs entered for the second Affiliated Societies' Contest, although the logs revealed that several more were operating. The entry represents an increase of one third over that for last year, indicating that a Contest of this type, in which every member of a Club can take part, is gaining in popularity.

Because of the larger entry, scoring was considerably higher, and the winning score of 402 points by the Thames Valley Amateur Radio Transmitters' Society, G6MB, came from 101 contacts made in the sixteen hours during which operation was permitted. The R.A.F. Amateur Radio Society, Cranwell, G8FC, finished second, only two points behind, and the Surrey Radio Contact Club, G3BLP, were third with 365 points (one point in front of last year's winners—West Kent Radio Society, G4IB/P).

The Thames Valley Club are to be congratulated on their successful rise from seventh position, and

they will be recommended to Council for the award of the *Edgware Trophy*.

807's were used as P.A. in at least 21 transmitters. The remainder employed a variety of valves ranging from 6L6's to an 813. With the exception of one home-built double superhet, all receivers were commercial models, including 10 H.R.O.s, 9 A.R.88's, and 4 B.C.348's. The half-wave dipole proved to be the most popular aerial, with the half-wave end-fed as a close second.

Among the very few comments or criticisms received were the suggestions that operating times should be brought forward or shortened to avoid interference by and to continental stations, and that the club number should be changed to location, as the number had no meaning to non-competitors.

Two check logs were entered, one by an operator using two calls — G3ANQ/A and G3GEC; the other by A. Rigby (Junior Associate).

Posn.	Name of Society	TELEGRAPHY		TELEPHONY		Total Points
		Call Sign	Points	Call Sign	Points	
1	Thames Valley Amateur Radio Transmitters' Society	G6MB	197	G6MB	205	402
2	R.A.F. Amateur Radio Society, Cranwell	G8FC	198	G8FC	202	400
3	Surrey Radio Contact Club	G3BLP	176	G3BLP	189	365
4	West Kent Radio Society	G4IB/P	186	G4IB/P	178	364
5	Coventry Amateur Radio Society	G2LU	195	G3RF	166	361
6	Gravesend Amateur Radio Society	G6BQ	180	G6BQ	179	359
7	(Kingston & District Amateur Radio Society	G2ACA	175	G3BNZ	171	346
8	Medway Amateur Radio & Transmitters' Society	G2CBA	171	G2CBA	175	346
9	Derby & District Amateur Radio Society	G3ERD	173	G3ERD	169	342
10	Cheltenham Amateur Radio Society	G3GPW	173	G3CEG/P	161	334
11	Chester & District Amateur Radio Society	G2YS	178	G3GIZ	138	316
12	Rotherham Radio Club	G3ELG	165	G3ELG	146	311
13	North-West Kent Amateur Radio Society	G6HD	156	G6HD	150	306
14	R.A.F. Amateur Radio Society, Locking	G3AIR	145	G3AIR	143	288
15	West Cornwall Radio Club, Falmouth	G2AYQ	131	G2AYQ	147	278
16	Leicester Ham Radio Society	G3GVK	126	G8HA	144	270
17	Yeovil Amateur Radio Club	G3CMH	130	G3CMH	137	267
18	City & Guilds College Radio Society	G5YC	124	G5YC	135	259
19	Sheffield Amateur Radio Club	G3FA	120	G3FA	133	253
20	Wirral Amateur Radio Society	G2CKU	100	G3BOC	149	249
21	Worthing & District Amateur Radio Club	G3GVM	155	G3FRG	93	248
22	Southport Amateur Radio Society	G2ART	126	G3GSS	118	244
23	Harlow & District Radio Society	G3ERN	137	G3ERN	105	242
24	Brighton & District Amateur Radio Club	G2FAD	125	G2FAD	112	237
25	S.R.D.E. Amateur Radio Society	G3DMZ	141	G3DMZ	73	214
26	Edgware & District Radio Society	G3ASR	81	G3ASR	118	199
27	Sutton & Cheam Radio Society	G2BOF/A	110	G2BOF/A	74	184
28	Stourbridge & District Amateur Radio Society	G3CLG	158	—	—	158
	South Shields Amateur Radio Society	G3DDI	131	—	—	131

* Entry received late. Score as claimed, unchecked.

Direction Finding Field Day

DETAILS of the Qualifying Field Day to be held on June 10, 1951, are as follows:

- Organiser:** The Slade Radio Society, Mr. T. Griffin, 11 Attleboro' Lane, Water Orton, Nr. Birmingham.
- Call Sign:** G2ATK/P.
- Frequency:** 1899.5 kc/s.
- Assembly Point:** Outside the premises of G2AK, 110 Dale End, Birmingham 4. (Near the junction of High Street and Bull Street.)
- Map:** Ordnance Survey, No. 131. Birmingham.
- Assembly Time:** 1330 B.S.T.

Intending entrants are requested to notify Mr. Griffin of their intentions to compete, not later than June 4, 1951, stating the total number in party who will require tea.

Silent Keys

It is with deep regret that we announce the death on April 20 of Mr. W. Rogers, G2SY, at the age of 49 years. Will Rogers, who had been a member for many years, enjoyed the friendship of a host of amateurs both at home and overseas. Ever-ready to help over the air, or otherwise, his station at Daventry was always open to visitors. At the funeral many local members were present to pay a last tribute to an outstanding personality.

To his wife, Millie, well known to many amateurs over the air, we extend this expression of our sorrow and offer her our heartfelt condolences. D.E.P.

It is also our sad duty to record the death of Mr. J. R. (Dick) Treadwell, G8SJ, of Halifax, Yorks, on April 18. Dick Treadwell, who operated only on two metres, will be sadly missed by all who work on that band. To his wife and close friends we extend our heartfelt sympathy.

Also with regret we record the death of Mr. H. Butler, B.R.S.9740, of Plymouth.

B.S.R.A. Exhibition

AN Exhibition of Sound Recording, Reproducing and Audio Equipment, organised by the British Sound Recording Association, will be held at the Waldorf Hotel, Aldwych, London, W.C.2, on Saturday, May 19 and Sunday, May 20. Demonstrations of high quality disc, tape and wire recording are included in the programme. Admission to non-members of the Association will be by catalogue available at the door, price 1s.

The Exhibition will be formally opened at 2.30 p.m. on May 19 by Col. Sir Ian Fraser, C.B.E., M.P., but the public will be admitted from 10.30 a.m. on both days. The Exhibition will close at 6 p.m. daily.

B.A.T.C. Convention

ANATIONAL Television Convention organised by the British Amateur Television Club will be held on June 23, from 10 a.m. to 6 p.m., at the Cinematograph Exhibitors' Association, 164 Shaftesbury Avenue, London, W.C.2. The date has been chosen to coincide with that of the R.S.G.B. National Convention for the convenience of those attending either function. Telecine equipment, 3 cm. and 13 cm. radio links, and monitoring and receiving equipment will be on show, and the programme will include discussions and demonstrations of apparatus.

Further details may be obtained from the Hon. Secretary, M. Barlow, 8 Primrose Street, Cambridge.

Side-Slip

April, 1951, issue: "An Earthed-Grid Triode Pre-Amplifier." Caption under Fig. 3 on page 367 should read "... The output end of the amplifier is at the right-hand side."

Contests Diary

May 19-20	- 144 Mc/s.—Open Event.
June 2-3	- National Field Day.
June 16-17	- 420 Mc/s. Tests.
July 8	- 144 Mc/s.—Field Day.
September 9	- Low Power Field Day.
September 30	- D/F Field Days—National Final.
October 6-7	- Low Power (3.5 Mc/s.)
Nov. 10-11	- "Top Band" (1.8 Mc/s.)
December 1-2	All European DX.
December 8-9	All European DX.

Advertising Arrangements

AS from this issue the Society's Advertisement Managers will be *The National Publicity Co., Ltd.*, 358 Strand, London, W.C.2. (Telephone: Temple Bar 0946-9).

Mr. Horace Freeman, who has been Advertisement Manager to the Society since the *BULLETIN* first appeared in 1926, has closed down *Parrs Advertising, Ltd.*, and has taken a directorship with *The National Publicity Co., Ltd.*

In announcing this change the President, Council and Editorial Staff place on record their appreciation of the services rendered to the Society by *Parrs Advertising, Ltd.*, during the last 26 years.

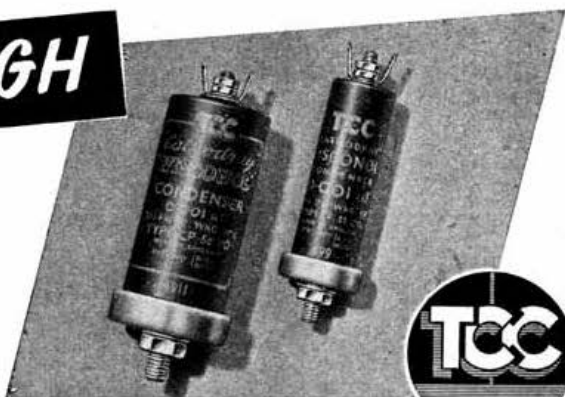
Mr. Freeman will continue to supervise all R.S.G.B. *BULLETIN* advertising and will again act as Manager of the 5th Amateur Radio Exhibition to be held in the autumn.

Where voltages are HIGH

..... choose 'VISCONOL' Cathodray Condensers

The 'Visconol' Process—exclusive to T.C.C.—means greater dependability and a longer useful life than ever before. It is in fact the answer by T.C.C. research engineers to the insistent demand for condensers which will stand up to higher and still higher voltages. A selection from the range is given here: full details on request.

- LOW POWER FACTOR
- COMPLETE DIELECTRIC STABILITY
- RESISTANT TO VOLTAGE SURGES
- AMPLE RATING AT HIGHER TEMPERATURES
- PROOF AGAINST BREAKDOWN OR FLASH OVER



CAPACITY in Mfd.	MAX. WORKING VOLTS (at 60° C.)	Dimensions in inches		TYPE NUMBER
		Overall Length	Overall Diameter	
.0005	25000	5 1/2	1 1/2	CP57H00
.001	6000	2 1/2	1 1/2	CP55Q00
.001	12500	3	1 1/2	CP56V00
.002	18000	3 1/2	1 1/2	CP57X00
.0025	3000	2 1/2	1 1/2	CP55H00
.005	6000	3	1 1/2	CP56Q00
.01	6000	3	1 1/2	CP56Q00
.05	6000	5 1/2	1 1/2	CP57Q00
.1	7000	6 1/2	2	CP58Q00
.25	1000	3	1 1/2	CP56V
.5	3000	6 1/2	2 1/2	CP59H00
1.0	750	5 1/2	1 1/2	CP57T

Radio Division: **THE TELEGRAPH CONDENSER CO., LTD., NORTH ACTON, W.3.** Tel.: ACORN 0061

R.S.G.B. BULLETIN, MAY, 1951

Slow Morse Transmissions

REGULAR slow Morse transmissions have proved of considerable benefit to many aspiring amateurs, but more volunteers are still required for districts not already covered and to allow a temporary respite to those who have given their services for several years.

B.S.T.	Call	kc/s.	Town
Sundays			
10.00	G6MH	1990	Southend-on-Sea
10.00	G5XB	1950	Reading
10.00	G3AEZ	1847	Dorking
10.30	G3GIO	1915	Guildford
11.00	G2FXA	1900	Stockton-on-Tees
21.00	G2FIX	1812	Nr. Salisbury
Mondays			
13.00	G3AXN	1870	Southend-on-Sea
14.00	G3ADZ	1910	Southend-on-Sea
19.00	G3NC	1825	Swindon
19.30	G3AIX	1760	Birmingham
19.30	G3GYW	1922	Westcliff-on-Sea
20.00	G2AJU	1900	Stutton, Ipswich
20.00	G3DSR	1750	Derby
21.00	G3ESP	1850	Wakefield, Yorks
21.00	G3BLN	1900	Bournemouth
21.00	G3BHS	1820	Eastleigh, Hants
22.00	G3AEZ	1860	Falkirk
22.00	G3AEZ	1847	Dorking
22.00	G3GIO	1915	Guildford
22.15	G8TL	1896	Ilford
Tuesdays			
13.00	G3AXN	1870	Southend-on-Sea
18.00	G2FXA	1900	Stockton-on-Tees
19.00	G5XB	1905	Reading
19.30	G2CPL	1900	Lowestoft
21.00	G3DMP	1850	Wakefield, Yorks
21.00	G3EFA	1855	Southport
22.00	G3ELG	1772	Rotherham
22.00	G3GIO	1915	Guildford
22.00	G2BND	1890	Dalston, E.
22.30	G6JB	1820	Salcombe, Devon
Wednesdays			
14.00	G3ADZ	1910	Southend-on-Sea
18.45	G3CQL	1990	Leigh-on-Sea
19.00	G3ADZ	1900	Southsea
20.00	G2NY	1850	Preston
22.00	G3DLC	1800	Grays, Essex
22.00	GM4JQ	1860	Falkirk
22.00	G3GIO	1915	Guildford
Thursdays			
18.00	G3AXN	1870	Southend-on-Sea
18.00	G2FXA	1900	Stockton-on-Tees
19.00	G3NC	1825	Swindon
19.30	G3BUJ	1990	Southend-on-Sea
20.00	G3FVH	1920	Hull, Yorks
20.00	G3NT	1805	Northallerton
21.00	G2AQN	1850	Ossett, Yorks
21.30	G6DL	1760	Birmingham
22.00	G3AEZ	1847	Dorking
22.00	G3GIO	1915	Guildford
22.30	G3OB	1803	Manchester
Fridays			
13.00	G3AXN	1870	Southend-on-Sea
14.00	G3ADZ	1900	Southsea
19.00	G3BLN	1900	Bournemouth
19.30	G2CPL	1900	Lowestoft
20.00	G2AJU	1900	Stutton, Ipswich
20.00	G2AMV	1870	Wirral
21.00	G3RB	1850	Ossett, Yorks
21.00	G3BHS	1820	Eastleigh, Hants
22.00	G3GIO	1915	Guildford
22.30	G6JB	1820	Salcombe, Devon
Saturdays			
22.00	GM3OM	1860	Falkirk
22.00	G3GIO	1915	Guildford
23.00	G2FXA	1900	Stockton-on-Tees

Stations listed who find themselves unable to continue transmissions should immediately notify the organiser, Mr. C. H. Lamborn Edwards, A.M.I.E.E. (G8TL), 10 Chepstow Crescent, Newbury Park, Ilford, Essex.

News in Morse

THE following schedule of London Press Service news transmissions is published for the information of Overseas members who may wish to improve their knowledge of the Morse Code. Sending speed is between 20-27 w.p.m. and all transmissions are beamed to reception areas abroad.

G.M.T.	Call	kc/s.	Area
0030-0115 w	MIK	9725	4
	GIH	10650	5
0030-0130 m	MIK	9725	4
	GIH	10650	5
0115-0230 w	MIK	9725	4
	GIH	10650	5
0130-0230 m	MIK	9725	4
	GIH	10650	5
0130-0300 w	GDC	4125	6
	GAH	8065	7
	GCX	8920	2
0945-1045 w & S	GDZ	13910	3
1100-1200 m & s	GDZ	13910	3
1215-1315 m & s	GAG	17105	1
1600-1700 w	GBI	10865	3
	GPA	20100	2
	GBO	13665	1
1700-1800 w	GBO	13665	1
1815-1930 w & S	GPX	11645	1
	GBI	10865	3
1845-1945 w	GPI	9350	6
	GIM	12975	7
1945-2045 w	GDT	8925	3
	GCX	8920	1
2045-2215 w	GDT	8925	1
	GCX	8920	1
2045-2200 S	GDT	8925	1
	GCX	8920	1
2100-2200 w	GA4Q	14905	2
2251-2330 w	GPX	11645	4
	GIH	10650	5
2330-0015 w	GPX	11645	4
	GIH	10650	5
2330-0030 m	GIH	11980	2

Key to abbreviations: w—weekdays only; m—Mondays only; s—Saturdays only; S—Sundays only.

Key to Areas: 1—South-East Asia; 2—Africa; 3—North-East Asia; 4—North America; 5—South America; 6—Distant Europe; 7—Middle East.

Licence Cancelled

THE Postmaster General recently cancelled an amateur transmitting licence because the holder had been heard to use bad language over the air.

REPRESENTATION

THE following are additions or amendments to the list published in the February, 1950, issue of the R.S.G.B. BULLETIN:—

County Representatives.

Region 1 East Lancashire.

I. D. Auchterlonie, G6OM, 4 Stand Close, Rinsley Road, Whitefield, Manchester.

Region 12 Northern Counties.

*R. B. S. Braid, GM3GME, Vaila, Sheriffbræ, Forres, Morayshire.

Town Representatives.

Region 2 Bradford.

A. W. Walmsley, G3ADQ, 6 Hilton Road, Lidget Green.

Region 7 Cray Valley.

P. Woodhouse, G2BQY, 41 Orchard Rise East, Sidcup, Kent.

Region 9 North Devon.

W. Mills, G2FHW, Prospect House, Pitt. Appledore, Bideford.

Region 13 Kirkcaldy.

W. G. Hopcroft, GM4AN, 141 St. Clair Street, Sinclairtown.

* New Appointment.

Vacancies.

Mr. F. R. Cooper, G3GTH, has resigned as Representative for the Hamstead Area.

As no replies have been received to recent correspondence addressed to Mr. E. J. Napier, G8FA, he is deemed to have resigned from the office of Hayes (Middlesex) Town Representative.

Nominations for their successors should be made in the manner prescribed in the September, 1949, issue of the BULLETIN and sent to reach the General Secretary by May 31, 1951.

HEADQUARTERS CALLING

COUNCIL, 1951

President :

WILLIAM A. SCARR, M.A., G2WS.

Executive Vice-President : F. Charman, B.E.M., G6CJ.

Hon. Treasurer : A. J. H. Watson, F.S.A.A., G2YD.

Hon. Secretary : L. Cooper, G5LC.

Hon. Editor : Arthur O. Milne, G2MI.

Immediate Past President : V. M. Desmond, G5VM.

Members : W. H. Allen, M.B.E., G2UJ, A. P. G. Amos, G3AGM, W. N. Craig, B.Sc., G6JJ, C. H. L. Edwards, A.M.I.E.E., G8TL, T. L. Herdman, B.A., A.M.I.R.E., G6HD, P. A. Thorogood, G4KD, P. W. Winsford, G4DC.

General Secretary : John Clarricoats, G6CL.

March Council Meetings

Résumé of the Minutes of the Proceedings at the Meeting of the Council held at New Ruskin House, Little Russell Street, London, W.C.1, on Thursday, March 15, 1951, at 6 p.m.

Present.—The President (Mr. W. A. Scarr) in the Chair, Messrs. W. H. Allen, F. Charman, L. Cooper, W. N. Craig, V. M. Desmond, C. H. L. Edwards, T. L. Herdman, A. O. Milne, P. A. Thorogood, A. J. H. Watson, P. W. Winsford and John Clarricoats (General Secretary).

Apology.—An apology was submitted for the absence of Mr. A. P. G. Amos.

Finance.

Resolved to accept and adopt the Cash Account for the month of February, 1951, as submitted by the Hon. Treasurer.

Membership.

Resolved

- (a) to approve 77 applications for Corporate Membership
- (b) to approve 26 applications for Associate Membership
- (c) to grant Corporate Membership to 5 Associates who had applied for transfer
- (d) to grant Life Membership to Mr. R. G. Clements, B.R.S.18478.

Applications for Affiliation.

Resolved to grant affiliation to:—

- R.E.M.E. Radio Club, Arborfield, Berkshire;
- East Brighton Short Wave Club;
- Mid-Kent Amateur Radio Society;
- Rotherham Radio Club.

Civil Defence.

It was reported that a group of members in Region 9 had written to suggest that the Council should inquire whether it is the intention of the Government to make use of radio amateurs for Civil Defence purposes in the event of a National emergency.

It was further reported that Mr. C. I. Orr-Ewing, M.P. (Hendon North) had, without prior knowledge of the inquiry from members in Region 9, submitted a written question to the Secretary of State for the Home Department dealing with the matter of co-operation between radio amateurs and the Civil Defence services in the event of a National emergency. Mr. Orr-Ewing's question would also draw attention to the plans which have been announced for co-operation between the U.S. amateurs and the U.S. Civil Defence organisation.

It was agreed to defer further consideration of the inquiry put forward by members in Region 9 until after the Home Secretary has replied to Mr. Orr-Ewing.

Council Election Arrangements.

Consideration was given to resolutions submitted by members in Burnley and Bury referring to the arrangements, introduced on legal advice for the 1951 Council Election, which made it necessary for members to vote for the full number of candidates for the respective offices.

It was agreed to inform the groups concerned that the matter raised by them is being carefully considered by the Committee set up to draft an amended set of Articles of Association.

Amateur Television.

It was reported that the G.P.O. had been asked to authorise two amateur stations to transmit television signals on frequencies within the 420-460 Mc/s. band in order to ascertain whether such signals are likely to cause interference to other services using the band.

Contests Committee.

The Council approved a programme of events for the current year. A recommendation that the Committee should

be set up on an *ad hoc* basis was referred back to the Committee for further consideration.

Membership Committee.

The Council approved a recommendation of the Committee to publish details of suggested changes in certain regional boundaries and to invite comments by May 31 next. [Details appeared in the April issue.—Ed.]

The Council also approved an amended version of a circular dealing with the duties of representatives.

Conference with R.R.s.

The President, the Executive Vice-President, Mr. W. N. Craig and the General Secretary were appointed to prepare an Agenda of Business for a Conference with the R.R.s. A draft of a letter inviting the R.R.s. to submit propositions for discussion at the Conference was approved.

Region 10.

The Secretary reported that the Region 10 Representative had issued a résumé of a meeting held in Cardiff on February 12, 1951, and that a copy had been sent to each member of the Council.

Resolved to defer consideration until later of the matters set out in the résumé.

Adjournment.

Due to the lateness of the hour the meeting was adjourned until March 23, 1951 (Good Friday).

The Council rose at 10.25 p.m.

The meeting was resumed at 10.15 a.m. on Good Friday, March 23, 1951.

Present.—The Executive Vice-President (Mr. F. Charman) in the Chair, the President (Mr. W. A. Scarr), Messrs. A. P. G. Amos, L. Cooper, W. N. Craig, C. H. L. Edwards, T. L. Herdman, A. O. Milne, P. A. Thorogood, P. W. Winsford and John Clarricoats (General Secretary).

Apologies.—Apologies for absence were submitted from Messrs. W. H. Allen, V. M. Desmond and A. J. H. Watson.

Matters arising from the 24th Annual General Meeting and from the Council's Statement of Policy issued by the Council.

The Council considered matters arising from the 24th Annual General Meeting and from their Statement of Policy.

East London Resolutions.

Consideration was given to the following resolutions submitted by the East London D.R.:—

"Proposed the formation of a Committee of Investigation the Members of which shall not be past or present Council Members or Officers, to inquire into the general running of the Society from top to bottom, including the Articles of Association."

"Proposed that each Region should have an Efficiency Officer with full power to investigate in all Departments R.S.G.B. business, the results of his investigation to be published in the BULLETIN."

Resolved to advise the East London D.R. that the General Purposes Committee is empowered to review the organisation if necessary; that a specially appointed Committee has already completed a first draft of the Memorandum and Articles of Association; that the Council is unable to accept the view that the appointment of fifteen Regional Efficiency Officers would serve any useful purpose at the present time; that the cost of appointing such Officers would, in any case, be prohibitive; that the Honorary Treasurer will be glad to furnish information on any specific financial matter in which the Group is interested.

Southend-on-Sea Group.

Consideration was given to the following resolution submitted by the Southend-on-Sea T.R.:—

"That we the R.S.G.B. Members, Southend and District, welcome the decision by Council to issue a questionnaire to be published in the March edition of the BULLETIN, which we hope will afford the members an opportunity of expressing their views on the organisation and management of the Society."

Resolved to thank the Group for their interest in the decision of the Council to issue a questionnaire.

Mr. R. L. Glaisher.

Consideration was given to a lengthy letter written by Mr. R. L. Glaisher.

Resolved to thank Mr. Glaisher and to advise him that the Council is taking steps to carry into effect certain of the matters referred to in his letter.

Arising out of a consideration of Mr. Glaisher's letter it was

Resolved to instruct the General Secretary to make the most strenuous efforts to engage two clerical assistants who will be responsible for preparing and maintaining up-to-date membership records.

Region 4.

Consideration was given to a letter from Dr. Vance containing resolutions, etc., adopted at meetings held in Region 4.

Resolved to refer the resolutions to the Special Committee set up to prepare an Agenda of Business for the Regional Representatives' Conference.

Berkshire (Region 8).

Mr. Craig reported that Messrs. W. H. Matthews (Region 7 Representative), W. H. Jennings (Grafton Radio Society), B. G. Wardman and other London members had addressed a meeting in Reading on February 24. Mr. Craig further reported that a full account of the proceedings had been prepared by an independent observer and that copies had been circulated to Members of Council on rota.

The Secretary reported that shortly after the meeting the Berkshire C.R. had written offering to arrange a further meeting in order to enable representatives of the Council to state a case on behalf of the Society.

It was agreed to advise the Berkshire C.R. that the Council is willing to appoint representatives to attend a meeting in Reading on a Saturday or a Sunday after the Regional Representatives' Conference has taken place.

Regional Representatives' Conference.

Arising from a discussion on the previous item it was agreed to invite the Oxfordshire C.R. to represent Region 6 (at present without a Regional Representative) at the forthcoming Conference between the Council and the Regional Representatives.

Stroud.

Consideration was given to the Minutes of a meeting held in Stroud.

Resolved to advise the Region 9 Representative of the steps the Council is taking, or proposes to take, to deal with certain of the proposals put forward at the Stroud meeting.

Hoddesdon.

Consideration was given to the Report of a meeting held in Hoddesdon.

Resolved to thank the T.R. for the Report and to advise him of the steps the Council is taking, or proposes to take, to deal with certain of the proposals put forward at the Hoddesdon meeting.

Questionnaire.

The Secretary reported that 500 questionnaires had been received to date.

Resolved

- (a) to authorise Mr. Craig to have printed 200 specially designed Count Sheets;
- (b) that the questionnaires shall be checked by Council Members at home;
- (c) that each Council Member shall be allowed to invite another member to assist him in checking the forms;
- (d) that all such assistants shall be advised that the information given on the forms is confidential;
- (e) that each form shall be serially numbered and initialled by the Council Member responsible for the checking;
- (f) that the forms shall either be collected in person by Members of the Council or sent by registered post;
- (g) that the result of the questionnaire shall be submitted to the Council at their meeting on April 10 and to the Regional Representatives at the Conference on April 28-29.

The Council went into recess at 12.40 p.m.

The Council resumed business at 2.10 p.m. with all Members present at the morning session in attendance.

General Correspondence.

The General Secretary submitted correspondence, etc., from the following members relating to the Annual General Meeting and/or to the Statement of Policy issued by the Council:—

- Region 1. Darwen-Blackburn T.R.—J. Simpson.
Wirral A.R.—B. O'Brien.
- " 2. Regional Representative—C. A. Sharp (with enclosures from Hull T.R.).
Further letter from Scarborough T.R.
- " 4. Spalding T.R.—F. Rose.
- " 5. Regional Representative—R. F. G. Thurlow.
- " 7. Magazine CQ Local—Vol. V, No. 2.
Vol. V, No. 3.
Sutton & Cheam T.R.—R. I. Clews.
Gravesend T.R.—P. F. Jobson.
Woking & Guildford T.R.—D. Warner.
Woolwich & Plumstead T.R.—J. B. G. Parker.
J. W. Woodfield, of Hayes, Middlesex.
- " 8. Newspaper cutting from "Bournemouth Times" dated March 2, 1951.
Acting Regional Representative—R. J. Donald (with enclosures from Southampton).
Sussex C.R.—G. W. Morton.
R. S. Street, of West Grinstead.
- " 9. Regional Representative—H. A. Bartlett
(a) with enclosures from Wiltshire C.R. containing notes of Swindon meeting;
(b) re Plymouth meeting;
(c) re Cheltenham meeting.
Bristol T.R.—D. Newport.
Dorset C.R.—A. A. Barrett.
G. H. Maddocks, of Noss Mayo.
- " 10. P. M. Davies, of Cardiff.
- " 13. J. A. Rouse, of Edinburgh.
- " 14. Falkirk A.R.—N. E. Holden.

The Secretary submitted correspondence from the following affiliated societies:—

Aberdeen Amateur Radio Society
Bradford Amateur Radio Society
Coventry Amateur Radio Society
Dorking and District Radio Society
East Surrey Radio Club
Leeds Amateur Radio Society
Slade Radio Society
Thames Valley Amateur Radio Transmitters Society
Worthing and District Amateur Radio Club.

The Secretary also read the replies which had been sent to the writers of the various letters.

Resolved to place on record the thanks of the Council to the General Secretary for the effective manner in which he has dealt with the very large number of letters he has received on Annual General Meeting and associated matters and to endorse the action he has taken in each case.

The Secretary suggested, and it was agreed, that the members of the Special Committee set up to prepare the Agenda of Business for the Regional Representatives' Conference should individually study every letter received by the Society which has a bearing on A.G.M. and associated matters.

Memorandum and Articles of Association.

The Secretary reported that the Special Committee set up to prepare a preliminary redraft of the Memorandum and Articles of Association had completed its task but before submitting a fair draft for consideration they required guidance from the Council on certain important matters of policy. It was agreed to consider these matters at the next meeting of the Council, after which the Committee would present a fair draft for the consideration of the Council at a Special Meeting.

It was agreed that the Regional Representatives should be advised at the forthcoming Conference of the steps being taken to deal with the revision of the Memorandum and Articles of Association.

QSL Matters.

Mr. Winsford expressed the view that the statement published in the March issue of the BULLETIN dealing with political propaganda on QSL cards was totally inadequate in view of the widespread interest in the subject. Several Members agreed that the statement could, with advantage, have been made more comprehensive, but after discussion it was agreed to take no further action in the matter.

The Chairman thanked the Members of the Council, the General Secretary and Miss Gadsden for giving up a day of their Easter holiday in order to attend to the business of the Society.

The meeting terminated at 4.10 p.m.

Around the Trade

The 1951 Catalogue of M. Watts & Co., Radio Component Specialists, is now available, and contains a comprehensive itemised list of thousands of radio and television components and accessories in popular demand. Inquiries for copies should be addressed to 8 Baker Street, Weybridge, Surrey.

Ten Minute Quiz

Answers to the questions set on page 416.

1. Between 47 and 100 ohms.
2. $R = \frac{L}{C \times r}$ where
R. Dynamic Resistance in ohms.
L. Inductance in Henrys.
C. Capacity in Farads.
r. Equivalent series resistance in ohms.
3. If copper equals 1 then: (a) iron=6; (b) aluminium=1.6; (c) eureka=29.
4. A negatively-charged cylinder round the cathode in some forms of C.R. tube to concentrate electron emission into a beam.
5. 120 mA. per sq. cm. of active disc surface (not cooling-fin surface).
6. Sensitivity is increased.
7. XZ (Burma) is not in the American continents as are the others.
8. Positrons—particles similar to electrons but with a positive charge.
9. The Home Service on 908 kc/s. (330m.).
10. 21,000 to 21,450 kc/s.

AROUND THE REGIONS

Brighton and District Radio Club

Programme highlights for May include *Mullard* valve lectures illustrated by film strips, and a talk on a Universal Testmeter for amateur use. The Club meets on Tuesday evenings at the Eagle Inn, Gloucester Road, Brighton.

Chesterfield Model Engineering and Radio Society

Recent talks to the Society, which now meets at Bradbury Hall, Chesterfield, have dealt with the radio control of models and television. The Hon. Secretary, K. Robinson, G3BHQ, 51 Hill Top Road, Old Whittington, Chesterfield, Derbyshire, will be pleased to hear from local R.S.G.B. members who are not members of the Chesterfield Society.

Coventry

During N.F.D. the local R.S.G.B. group will receive assistance from members of the Courtaulds and B.T.H. Radio Societies.

"Cathode Coupled Circuits" was the title of a lecture given recently by Mr. C. O. Titley, G3BGG. Group meetings will, in future, be held on the fourth Friday of the month.

NORTH-EASTERN OFFICIAL REGIONAL MEETING

SUNDAY, MAY 20th, 1951

BRITISH RESTAURANT, SHEFFIELD
(NEAR CITY HALL)

Assemble	1.30 p.m.
Meeting	2.30 p.m.
High Tea	4.30 p.m.
Lecture and Demonstration of Model Aerials by F. Charman, B.E.M. (G6CJ), Executive Vice-President	5.30 p.m.

Tickets, 6/- each, from R.R. (C. A. Sharp, G6KU), 56 Moore Avenue, Wibsey, Bradford, or C.R. (J. P. Featherstone, B.R.S. 16,417), 208 Psalter Lane, Eccleshall, Sheffield, by not later than May 17th, 1951. Remittances to be made payable to the R.R.

Coventry Amateur Radio Society

"Mathematics—Why?" was the subject of an interesting and original lecture given to the Society on April 9 by Mr. T. R. Theakston, B.Sc. The construction of the Society's portable station for N.F.D. is being undertaken by members who are studying for their licence. Meetings are held fortnightly at the B.T.M. Social Centre, Holyhead Road, at 7.30 p.m.

East Surrey Radio Club

The Club will meet on May 17 and every four weeks thereafter, at the Barn Room, 8 Lesbourne Road, Reigate, commencing at 7.45 p.m.

Isle of Man Amateur Radio Society

The Annual General Meeting and Dinner took place on May 9 at Broadway House, Douglas. On the following Sunday members were taken on a conducted tour of the Airport. Inquiries regarding the Society should be addressed to the Hon. Secretary, Mr. H. Grist, Broadway House, Broadway, Douglas, I.O.M.

Leicester A.R.S.

Correspondence for the Leicester Amateur Radio Society should in future be sent to the Leicester T.R.—D. L. Minthorpe, G2FMO, 3 Winstor Drive, Thurmaston, Leicester.

Midland Amateur Radio Society

At a recent meeting of the Society Dr. John Simmonds (Physical Research Dept., Birmingham University) lectured on the new Synchrotron which is under construction at the University. The lecture was illustrated with lantern slides. The Society meets at the Imperial Hotel on the third Tuesday in each month at 6.45 p.m., and prospective members are always cordially welcomed.

Slade Radio Society

The Society is to participate in the R.S.G.B. National D.F. Contest at High Wycombe on May 20, whilst an exhibition of members' apparatus is to be held on May 25. Other attractions are: June 8, discussion evening; June 10, D.F. Contest (Slade preliminary); June 22, "Trouble Shooting"; June 24, Harcourt Trophy D.F. Contest. Visitors are cordially welcomed to meetings of the Society which commence at 7.45 p.m. Further particulars may be obtained from the Secretary, Mr. C. N. Smart, 110 Woolmore Road, Erdington, Birmingham 23.



Surrey Radio Contact Club Show the Flag

An amateur radio station—Call G8TB/A—was in operation at the Hobbies' Exhibition organised last month by the Rotary Club of Purley. Equipment shown in the picture includes a high-power P.A. chassis (G2FWA), 13 cm. plumbing (G2AUS), and a 2 m. transmitter and receiver (G3DVQ and G8TB). G3GHI is at the microphone.

Southend and District Radio Society

Recent events have included a competition for the best examples of home-built apparatus for the Pocock and Hudson Cups and the Annual Hamfest, to which representatives of ten neighbouring radio societies were invited. Future plans include lectures by representatives of *Belling and Lee* and of *Mullard*. During the Festival of Britain the Society hopes to erect and man a station in Chalkwell Park in conjunction with other societies.

Surrey Radio Contact Club

Last month the Club exhibited and operated an Amateur Radio station at the Hobbies Exhibition organised by the Rotary Club of Purley. Using a 3-watt transmitter and the call sign G8TB/A, contacts were made with stations in many parts of the country. Items of U.H.F. and V.H.F. equipment were also shown. The Exhibition, which was opened by Derek McCullough, O.B.E. ("Uncle Mac"), attracted much attention.

Local members of the R.S.G.B. are welcomed to the Club, which meets on the second Tuesday of each month. Current membership is 75, of whom 44 hold licences. Inquiries should be addressed to the Hon. Secretary, S. A. Morley, 22 Old Farleigh Road, Selsdon, South Croydon.

Torbay Amateur Radio Society

At the A.G.M. held last month, Mr. W. A. Launder, B.Sc.(Eng.), 15 Cambridge Road, St. Marychurch, Torquay, was elected Hon. Secretary. During the meeting, G2BMZ received a special award for establishing a new European 2-metre record. The meeting concluded with a technical talk by G3AUS. The Society meets every third Saturday at the Y.M.C.A., Castle Road.

Worthing Bucket and Spade Party

The traditional Bucket and Spade party, organised by the Worthing and District Radio Society and the Worthing R.S.G.B. Group, will take place on August 26. Visitors from London and other parts of the country will be warmly welcomed. Further details can be obtained from Mr. G. W. Morton, G3DRC, 42 Southfarm Road, Worthing.

Worthing and District Radio Society

On June 11, Mr. T. W. Bennington, of the B.B.C., will describe the methods used to forecast radio conditions.

No. 1 Radio School Amateur Radio Society

G3IRS, the station of the No. 1 Radio School Amateur Radio Society, located at Locking, Weston-super-Mare, is keen to contact other R.A.F. and ex-R.A.F. "types". The President of the Society is Group Captain H. A. Evans-Evans and the Chairman, Wing-Commander D. McLaren, O.B.E., who will be remembered by "old timers" as Y14HF and AC4HF. New members are G3EEH, a 3.5 Mc/s. enthusiast, and G3HBW, who is building a 2-metre transmitter for G3IRS.



The Clapp versus Colpitts Controversy

Dear Sir,—I was interested to read Lieut. Deacon's letter in the April issue, but I do not agree with his statement that my circuit is no more and no less than a Colpitts's oscillator. Taking the points of his analysis in detail:

Clapp Circuit.

(1) True, but the Colpitts also develops R.F. voltages between grid and earth.

(2) Untrue, if oscillators of the same power input and efficiency are considered. The R.F. voltage developed across the tuned circuit in a Clapp oscillator is considerably greater than in a pure Colpitts, other things being equal.

(3) Taking the output from the cathode in this case means that the output circuit is connected across part of the tuned circuit, as can be seen in Lieut. Deacon's Fig. 2a. This is undesirable.

(4) This would apply to the Colpitts oscillator if a multi-electrode valve (pentode) were used. Refer to the Type 145 oscillator. It is not a peculiar virtue of the Clapp oscillator.

Colpitts Circuit.

(1) See point (2) above.

(2) Not if the oscillator input power and efficiency are the same. See point (2) above.

(3) True, but only if a triode valve is used. See point (4) above.

These so-called differences between the Clapp and Colpitts oscillators appear to me to be largely irrelevant. The crucial difference is that in the Colpitts circuit, the full R.F. voltage appearing across the tuned circuit is applied between grid and anode. In the Clapp circuit, only a relatively small proportion of the voltage developed is so applied, because of the effect which the small series capacitor has in tapping the grid-anode circuit down the tuned circuit. The capacitor in series with the coil in Fig. 1a (April issue) is not just a grid condenser, but is the fundamental point of the circuit.

Regarding variation of output voltage with frequency, any method of varying the frequency of an oscillator by employing only one variable element is bound to alter the amplitude of oscillation, if for no other reason than that the "Q" of the tuned circuit changes as the frequency is altered. I agree that the method of tuning I employed should cause some variation in the degree of feedback, but the change in output voltage from this (or any other cause) is so slight as to be negligible.

The circuit referred to by Lieut. Deacon as the Clapp circuit (Fig. 2a) is the one suggested in my article of June, 1949. As far as I know, I was the first to propose, in print, varying the parallel capacitance for tuning purposes, though I may be wrong in this statement. The Clapp is often called a series-tuned oscillator circuit, which is misleading since it implies that oscillation takes place at the series resonant frequency of the coil and series capacitance, which is not the case.

The COMO circuit appears to be a sort of half-way house between the Clapp and plain Colpitts. I do not doubt that it works effectively, although I have not tried it. Incidentally, the Clapp, Colpitts and "3PL" circuits will all work with crystal control in the way suggested for COMO.

Yours faithfully,

ALAN G. DUNN (G3PL).

Hull, Yorks.

The "Professional" Amateur

SIR,—Whilst it would be both difficult and undesirable to lay down hard and fast rules as to how far a radio amateur should use his hobby professionally, it seems to me that at the present time amateur status is being abused, at least in spirit, by some who use their call signs in a predominantly professional manner, either for the name of their company, or as a trade mark for their goods.

I am also seriously concerned about the fairly recent practice of offering for sale the "know-how" of building certain purely amateur circuits, at what, in some cases, appear to be rather inflated prices. Every amateur must

surely realise that, but for the mutual exchange of ideas, Amateur Radio would still be in its infancy. Throughout the history of the movement there have been many who, in their own specialist spheres, have been willing, without thought of reward, to offer the results of their researches to the BULLETIN and other non-commercial Amateur Radio publications whilst even more have given of their time and energies to disseminate wisdom over the air. Would the respect shown for the radio amateur in professional circles be so great if it became known that he had sold his knowledge for profit?

I feel very strongly about this matter because, in common with many other radio amateurs, I was helped on to the air by a more experienced amateur, who not only gave me valuable technical advice, but also ungrudgingly passed on to me many pieces of equipment for which he had no further use. I trust that in this great hobby of ours, the wish for personal gain will never predominate over the true spirit of Amateur Radio, and that the practice of publishing news of recent developments for the benefit of fellow enthusiasts and, where applicable, for the general public as well, will long be continued.

Yours faithfully,

R. MAX BAERLEIN, G3EII.

London Lecture Meeting

About 50 members were present at the Institution of Electrical Engineers on Friday, April 27, when A. O. Milne, G2MI, and C. H. L. Edwards, G8TL, opened a discussion on low-power portable equipment. Numerous items of portable equipment were displayed, including the war-time counter-espionage set known as the B2 minor. Among those who contributed to the discussion were G3FYY, 3VA, 2IG, 3FOR, 5CD, 3BLP and 6HD.

The Chair was taken by the Executive Vice-President (Mr. F. Charman, B.E.M., G6CJ), who described early experiments which he had carried out with low-power equipment.

FORTHCOMING EVENTS

(Continued from Page 403)

Chatham (M.A.T.R.S.).—Mondays, 7.30 p.m., Co-operative Hall, Luton Road.

Eastbourne.—June 1, 7.30 p.m., Christchurch Club Rooms, Hanover Road.

Gillingham (G.T.S.).—Alternate Tuesdays, 7.30 p.m., Medway Technical Institute.

Portsmouth.—Tuesdays, 7.30 p.m., Royal Marines' Signal Club, Eastney Barracks.

Southampton.—June 2, 7.30 p.m., 22 Anglesea Rd., Shirley.

Worthing.—May 21, 7.30 p.m., Adult Education Centre.

REGION 9

Bath.—May 21, 7 p.m., 12 Pierrepont Street.

Bristol.—May 18, 7 p.m., Keen's Cafe, Park Row.

Exeter.—June 1, 7 p.m., Y.M.C.A., 41 St. Davids Hill.

Gloucester.—Alternate Thursdays, 7.30 p.m., Spread Eagle Hotel, Market Parade.

North Devon.—June 7, 7.30 p.m., Rose of Torridge Cafe, The Quay, Bideford.

Plymouth.—May 18, 7 p.m., Tothill Community Centre, Tothill Park, Knighton Road, St. Jude's.

Stroud.—Wednesdays, 7.30 p.m., Subscription Rooms.

Torquay.—May 19, 7.30 p.m., Y.M.C.A., Castle Road.

West Cornwall (W.C.R.C.).—May 17, June 7, "Fifteen Balls," Penryn.

Weston-super-Mare.—June 5, 7.30 p.m., Y.M.C.A.

Yeovil.—Wednesdays, 7.30 p.m., Grove House, Preston Road.

REGION 10

Cardiff.—June 11, 7.30 p.m., "The British Volunteer," The Hayes.

REGION 14

Falkirk.—May 25, 7.30 p.m., Temperance Cafe, High Street.

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RECEIVER, Type 25 (TR1196): See "Practical Wire-less," May, 1951. Easily converted to all-wave superhet. 6 valves, EF36 (2), EF39 (2), EK32, EBC33. Conversion data included. Purchased by us last month from the M.O.S. 140 only, price 39/6, post 1/6.

TYPE 87, ROTARY POWER UNITS: Input 24 V. output, 250 V. 65 mA. and 6.6 V. 2.5 A. Elaborately smoothed. Neat black metal case. Size 8½" x 7" x 4½". Brand new, 10/- each, post 1/6.

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Analysis of Questionnaires

The following is an analysis of the questionnaires which were completed and returned to Headquarters.

1	Subscription Rates, Corporate Members ...	In favour of increase Against increase	2112 1184
2	Subscriptions ...	In favour of Flat Rate In favour of Separate Rate	1188 1405
3	Flat Rate Subscription ...	15/- 21/- 25/- 30/- 42/-	15 629 337 150 34
	London Rate Subscription ...	15/- 21/- 25/- 30/- 42/-	3 182 632 279 72
	Country Rate Subscription ...	15/- 21/- 25/- 30/- 42/-	29 831 224 57 9
	Overseas Rate Subscription ...	10/- 15/- 21/- 25/- 30/- 42/-	11 720 319 53 8 1
4	Retain Present Grades of Membership ... Change to Transmitting and Non-Transmitting Grades ...		1712 1477
5	Should Non-Transmitting Members pay a lower subscription than Transmitting Members ? ...	Yes No	1232 1286
6	Do you favour retention of the Associate Grade ? ...	Yes No	2482 834
7	Do you consider the Associate Subscription should be increased ? ...	Yes No	1346 1309
8	Subscription Rates—Associate Grade ...	10/- 15/- 21/- 25/-	1309 1074 233 30
9	Are you in favour of a smaller and cheaper BULLETIN ? ...	Yes No	180 3209
10	Are you satisfied with the Society's Journal ? ...	Yes No	1664 1639
11	Do you favour More Technical Articles ? ...	Yes No	2598 430
	More Transmitting Articles ? ...	Yes No	2118 902
	More Receiving Articles ? ...	Yes No	2585 489
	More Elementary Articles ? ...	Yes No	1516 1559
	More General Articles ? ...	Yes No	1934 1107
	More Topical Articles ? ...	Yes No	1565 1450

13	Are you interested in the following Features ?						
	Editorial	...	...	...	...	Yes	2467
						No	803
	"Month on the Air"	...	...	...	...	Yes	2358
						No	915
	"Around the V.H.F.'s"	...	...	...	...	Yes	2088
						No	1171
	"Workshop Practice"	...	...	...	...	Yes	2411
						No	887
	Resumes	...	...	...	...	Yes	2310
						No	920
	"Around the Regions"	...	...	...	...	Yes	1449
						No	1835
14	R.S.G.B. BULLETIN:						
	Satisfied with present method of distribution	...	...	...	...		2907
15	Favour purchase separately	...	...	...	...		282
	Are you interested in the scheme of representation ?	...	...	...	...	Yes	2350
16						No	886
	Does the scheme work to your satisfaction locally ?	...	...	...	...	Yes	1424
17						No	1056
	Do you attend local R.S.G.B. meetings ?	...	...	...	...	Regularly	1111
18						Occasionally	968
						No	1209
19	Should R.S.G.B. subscriptions be increased to subsidise local R.S.G.B. meetings ?	...	...	...	...	Yes	403
						No	2923
20	Should entry to the Society be made more difficult ?	...	...	...	...	Yes	1569
						No	1742
21	Council Elections:						
	Satisfied with present method (Annual Elections)	...	...	...	...		1777
22	Prefer Triennial Elections	...	...	...	...		1478
	Publicity to Qualifications of Council Candidates:						
23	Satisfied with present method	...	...	...	...		1444
	Prefer Election Addresses	...	...	...	...		1911
24	In favour of:						
	Larger BULLETIN	...	...	...	...		2972
	New H.Q. and larger staff	...	...	...	...		1161
	R.R. Scheme	...	...	...	...		916
	Lecture Tours and Technical Congresses	...	...	...	...		1060
	Transmitting Station	...	...	...	...		1449
	New Handbook	...	...	...	...		2410

THOSE WHO VOTED

London Transmitting Members	...	...	...	...	...	...	522
Country Transmitting Members	...	...	...	...	...	...	1480
London B.R.S. Members	...	...	...	...	...	...	270
Country B.R.S. Members	807
Associates	238
Miscellaneous	90
Number of Forms Received							3407

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