THE T. & R.

BULLETIN

THE INC. RADIO SOCIETY OF GT. BRITAIN

AND THE BRITISH EMPIRE RADIO UNION

Vol. 7 No. 12 JUNE, 1932 (Copyright) Price 1/6

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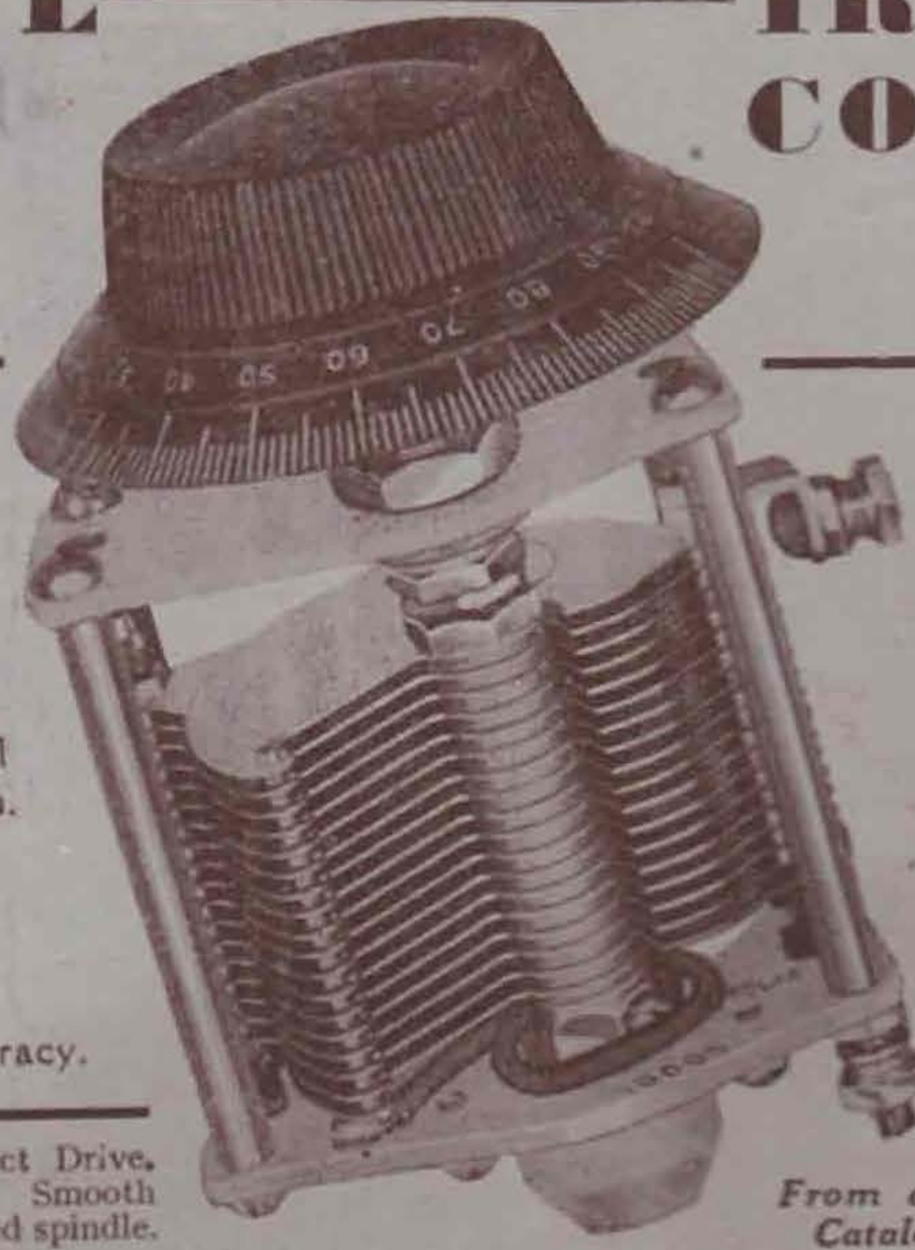

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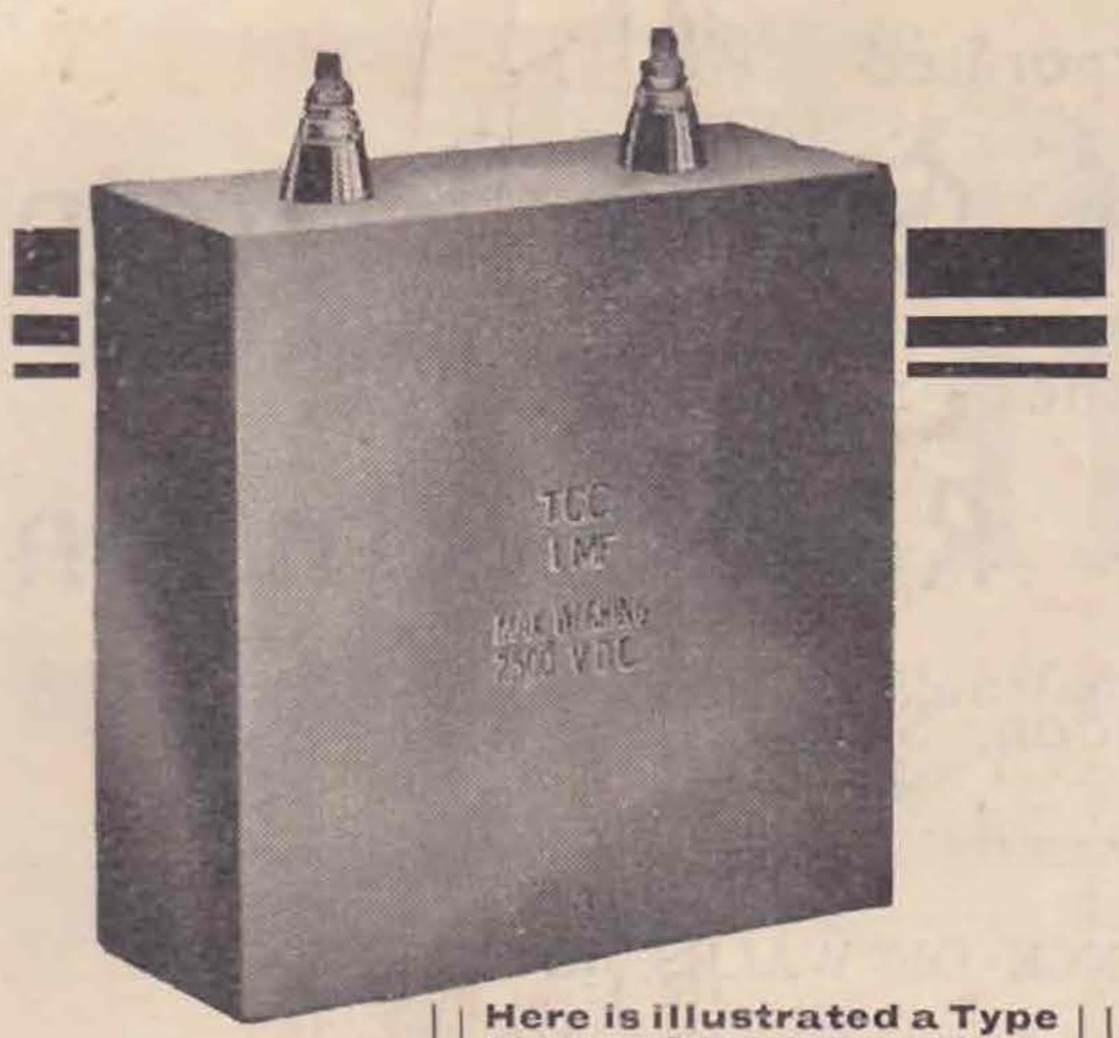

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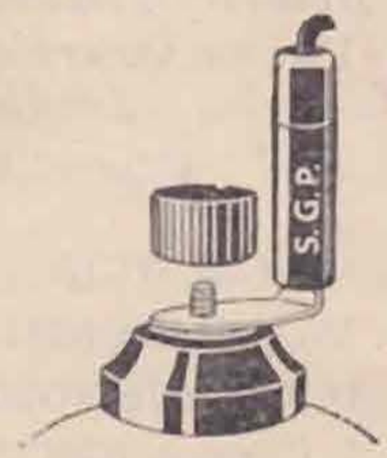

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R.S.G.B. CALENDAR

Annual Convention

AUGUST 26 and 27
in LONDON.

Full details will appear in future issues under the Social Section.

R.M.A. Exhibition at Olympia, August 19 to 27 inclusive.

Details of forthcoming local Conventionettes will be found under the District Notes Section as they become due. The following has still to take place this year: June 19, District 4, at Nottingham.

Honorary Secretary:
J. Clarricoats (G6CL).

Provincial District Representative on Council:
H. B. Old (G2VQ).

COUNCIL:
H. C. Page (G6PA).
T. A. St. Johnston (G6UT)
J. C. Watts (BRS246).
H. V. Wilkins (G6WN).

The T. & R. Bulletin.

(*Published on the 14th of the month.*)

Hon. Editor: G. W. Thomas (G5YK).

Editorial Committee: A. W. Alliston (G5LA), J. D. Chisholm (G2CX), J. J. Curnow (G6CW), J. W. Mathews (G6LL), A. O. Milne (G2MI).

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All correspondence should be addressed to The Secretary (or other officer concerned.) The Radio Society of Great Britain 53, Victoria Street, London, S.W.1. Insufficiently addressed letters may be considerably delayed.

T&R

Bulletin

The only Wireless Journal Published by Amateur Radio Experimenters in Great Britain

JUNE, 1932. Vol. 7. No. 12.

REPRESENTATION.

THE present issue of the BULLETIN contains a form for use in nominating members to serve as County Representatives during the coming year.

In a growing organisation such as ours we believe that success can only be achieved by every individual using his endeavours to further our causes, but full co-ordination of that effort seems more essential than ever to-day, because our home membership is growing so rapidly. A few years ago, when amateur radio was beginning to feel its feet in Great Britain, steps were taken to appoint certain members to act as District Representatives, but as time passed and membership increased it was found necessary to introduce improved methods of representation in order to reduce the load on the shoulders of the D.R.s, and at the same time obtain a closer local contact between individual members and a Society official.

We are just concluding the first year of working under the new scheme, whereby every English county is represented by an elected or appointed member.

Certain criticisms have been levelled against the system, but we are convinced that, providing the right type of men are chosen to represent their counties, amateur radio will be better able to make progress than was possible under the older plan.

It is the duty, therefore, of every corporate member of standing to see that the best man in his county has been nominated for the post of C.R. In the event of more than one member in any particular county being nominated, an election becomes necessary, and the forms for that purpose will be included in the next issue of the BULLETIN.

During the present year District Conventionettes and County Meetings have been held (or are to be held) in every part of England, and it should now be clear to everyone who has followed the trend of events in his district to judge whether his present representative *is* the best man available.

Last year some apathy was shown in connection with these elections, with the result that Headquarters Council were compelled to appoint several members to serve as C.R.s. Situated as we are, remote from the provinces, it is but natural that in some cases the wrong person was chosen, but this year we believe that the provinces will respond to the invitation extended. We base this view on the enthusiastic support shown at the District Conventionettes it has been our pleasure to attend.

For the benefit of our newer members we outline below the organisation which is at present in vogue.

Council, who have the final decision on all matters affecting policy, are elected annually. Most of the present members are resident in or around London, but by a sound decision made in 1929 one of the Council seats is now filled by a provincial member who is present at all meetings

(*Continued on page* 414.)

THE BRITISH EMPIRE CHALLENGE TROPHY—1932.

By John Clarricoats, Honorary Secretary, R.S.G.B. and B.E.R.U.

Here's the report you've all been waiting for! The 1932 B.E.R.U. Contest has proved to be the biggest and best thing that we've had in amateur radio in the Empire. Intense interest from everyone. Sleep lost; bats run down; skeds missed; tubes gone soft—but B.E. stations worked. That's all that mattered.

The thanks of all go to J. Clarricoats (G6CL) and A. E. Watts (G6UN) for their efforts in preparing the contest and here is the detailed report compiled after nights of work by our Hon. Sec. The way the overseas groups participated was magnificent, and the success of the contest was in no small way due to the untiring work put in by our representatives in the Dominions, Colonies, etc., to bring the contest before the eyes of those who were not then members of our Union. Thank you, fellow amateurs beyond the seas.

AMATEURS throughout the world will join with us in congratulating Mr. F. W. Miles (G5ML), of Tudor Lodge, Gibbet Hill, Kenilworth, Warwickshire, upon winning the B.E.R.U. Challenge Contest. Considered purely from a statistical viewpoint his score of 5,060 points, obtained from 70 contacts in 10 Zones, can only be regarded as an remarkable performance.

Second place was won for Ceylon by Mr. G. Todd (VS7GT), of Colombo, with a total of 3,080 obtained from 82 contacts in 8 Zones. Mr. Todd's success is all the more creditable in view of the very low input power he used. According to his entry form a maximum of only 30 watts was employed throughout the contest.

Great Britain, through Mr. L. H. Thomas (G6QB), of Thornton Heath, Surrey, provided the third highest total. Mr. Thomas' score of 2,960 points, was obtained through 40 contacts in 10 Zones.

Fourth place was secured by Sgt. C. D. Connerton (VU2FX), attached to the R.A.F. at Lahore, Punjab, India, who, with an input of 40 watts, ran up a total of 2,790 points through contacts with 64 stations in 9 Zones. Tribute should be here paid to the excellent entry form submitted by Mr. Connerton; for besides giving very full details of each contact established, it provided a résumé of conditions noted during each week-end.

Transmitting Station Entries.

The success of the contest was already assured but it is certain that even our most optimistic members at home or abroad could scarcely have visualised the tremendous enthusiasm which was actually shown. The 1931 contest in the light of this year's event can only be regarded now as a mildly successful effort. From far and near, day after day, right up to the end of the Contest, entries were coming in from all corners of the Empire.

Table 1 gives the winners of the Zone awards; and it will be seen that in two cases Council have decided to grant extra awards in view of the splendid response from Zones 1 and 8. It will be noticed, too, that Messrs. Miles, Auret, Samson, Turner and Archer have duplicated their 1931 successes.

Table 2 gives the positions of the first ten stations in order of merit.

Table 3 shows the final positions of all transmitting station entries arranged in order of Zone. As was to be expected, Zone 1 produced the greatest number of entrants, but it is pleasing to record that both Australia and South Africa contributed over a dozen reports each. An outstanding feature observed was the remarkably high scoring obtained by four out of the five entries from Zone 8. As has already been mentioned, Messrs. Todd and Connerton obtained second and fourth place in the final list, but from the order of merit table, it will be seen that Mr. Rahim (VS7AP), and Mr. Nicholson (VU2JP), both succeeded in obtaining a place amongst the leaders. The total points scored by Zone 8 amounted to 10,635, and was the third highest "points total" in the Empire, being only exceeded by Zones 1 and 12. The only part of the Empire which failed to support the contest enthusiastically was Canada; three entries only were received and the Zone award won easily by Mr. Turner (VE2CA).

From Zones 3, 5 and 6, only single entries were received, and as a consequence these members automatically received Zone awards. We appreciate that this position could not have been avoided under the present ruling, but steps will probably be taken, prior to the start of the next Contest, to avoid a recurrence of this condition. Several members commented upon the difficulty of effecting contact with these three Zones.

Mr. Connerton in his report stated that it was necessary to "sit" on VQ3MSN and SU1CH for several hours in order to attract their attention. For the greater part of two nights he called the latter station without success, although, as he points out, his signals were undoubtedly reaching Egypt. His final comment in this connection is of interest. He says "as an achievement my contact with SU1CH is hardly worthy of mention, but in accordance with the rules of the Contest, my score was increased by more than 280 points."

The contest was very well supported by our members in Hong Kong and as will be observed from Table 3, Messrs. Merriman (VS6AH), and O'Brien (VS6AE), obtained almost the same number of contacts in the same number of Zones, and were only separated by a mere 70 points in 1,800.

No less than seven out of the 17 entrants from

Zone 12 obtained scores exceeding 1,000 ; Mr. Mackenzie's total of 2,592, representing 55 contacts in eight Zones, was of outstanding merit as a large number of DX contacts were obtained including 16 with Zone 1.

It should be mentioned here that in many cases serious errors were made by members in reckoning their scores, with the result that corrections were

Table 1.

ZONE AWARDS.

Zone 1	F. W. Miles ...	...	G5ML
	L. H. Thomas	...	G6QB†
Zone 2	E. H. Turner	...	VE2CA
Zone 3	T. Archer ...	...	V1YB *
Zone 4	N. H. Auret ...	...	ZU6W
Zone 5	W. G. Manson	...	VQ3MSN *
Zone 6	E. M. Chorlian	...	SU1CH *
Zone 7	D. L. Martin ...	...	YI2DC
Zone 8	G. Todd ...	...	VS7GT
	C. D. Connerton	...	VU2FX†
Zone 9	T. G. Laver ...	...	VS3AC
Zone 10	G. Merriman ...	...	VS6AH
Zone 11	G. G. Sampson	...	ZL4AI
Zone 12	A. H. Mackenzie	...	VK4GK

* Only entrant.

† Special awards.

necessary in order to obtain the final totals. It was realised from the commencement of the contest that some difficulties would arise in working out great circle distances, and therefore, it is our intention next year to simplify matters in this direction as much as possible.

In general it would seem that both the 7 and 14 M.C. bands provided an equal amount of DX, but it must be admitted that with few exceptions the most successful stations were those employing fairly high input powers.

Table 4, which gives the final Zone positions, shows that a total of 1,947 contacts were established and no less that 68,208 points scored. In a number of cases it was found that although contacts had been claimed by one station they were not recorded by another. Occasionally this was attributed to the fact that a particular station had worked the full quota of stations in a particular Zone, and had omitted to record subsequent contacts with that Zone, but in many others one could only assume that the claiming station was mistaken in call sign ; this was definitely proved to be the case in two instances.

It is regretted that at least four members who took part in the contest failed to forward entries. These were G2VQ, of Nottingham, who made 20 contacts in nine Zones ; G5PJ, of London, with seven contacts in three Zones ; G6YK, of London, with six contacts in five Zones ; and VK5HG, of Australia, with five contacts in three Zones. Contacts with these stations were of course allowed. One surprising feature of the contest was the failure of five British E.L.'s to send reports. Mr. Desmond (G5VM), who was highly placed last year, was unable to take part for domestic reasons, whilst Mr. Frank Neill (GI5NJ), was absent from his home on business throughout the contest. The other five maintained a dead silence.

Mr. Duggan (VK3XI), a non-member, effected 22 contacts in six Zones, whilst Mr. Fleming (VP1FF), and Mr. Rostier (VP1FR), both of Fiji, provided several Zone 10 and 12 stations with useful points. Contacts out of the ordinary were made with OB2SK, AC2AK, V8AB, V8AF and YH1RV.

The following particulars are given regarding each of the leading stations :—

Mr. Miles (G5ML), operated a crystal-controlled transmitter on both 7 and 14 M.C., using an input power of between 420 and 480 watts. On 7 M.C. a single stage power amplifier was used and on 14 M.C. a push-pull arrangement was in force. The aerial was a 67 ft. Zepp, North by South, and 67 ft. Zepp, East by West ; alterations were made dependent upon the direction required. A two-valve receiver was used, a screened grid valve being employed as detector and a Pentode as amplifier.

Mr. Todd (VS7GT), used an input of 20-25 watts on 7 M.C. and 30 watts on 14 M.C. The circuit in use was a T.P.T.G., utilising either a TBO4/10 or a UX210. A 67 ft. Hertz Aerial with 60 ft. feeders was used on both bands, whilst the receiver comprised a screened grid detector and one L.F. stage transformer coupled.

Mr. Thomas (G6QB), favoured a Goyder locked crystal-controlled T.P.T.G. transmitter, using an input power of between 50 and 70 watts feed into a 67 ft. Windom type aerial. His receiver was a single valve Schnell.

Table 2.

THE LEADERS—IN ORDER OF MERIT.

1	F. W. Miles ...	G5ML	5060	points.
2	G. Todd ...	VS7GT	3080	,,
3	L. H. Thomas ...	G6QB	2970	,,
4	C. D. Connerton	VU2FX	2790	,,
5	A. Mackenzie ...	VK4GK	2592	,,
6	A. Rahim ...	VS7AP	2360	,,
7	G. G. Sampson	ZL4AI	2303	,,
8	J. S. Nicholson	VU2JP	2240	,,
9	H. D. Price ...	G6HP	2056	,,
10	Trevor Evans ...	VK2NS	1992	,,

Mr. Connerton (VU2FX), forwarded full particulars of the four different types of self-excited transmitters used at different times during the Contest. The series-fed Hartley was found the most suitable, but some success was also obtained with a push-pull transmitter, as described by Mr. Heightman (G6DH), in a back issue of the Bulletin. His input power was approximately 40 watts fed into a voltage-fed Hertz using a 66 ft. top and twin 55 ft. feeders. The receiver was a standard, throttle-controlled O-V-2 R.C.C. type, transformer-coupled on the audio frequency side.

Mr. Mackenzie (VK4GK), favoured an ultraudion transmitter, using a D.E.T.1. His input power was 50 watts to a voltage fed Windom type Hertz aerial. He mentioned that this is also used on both 28 and 56 M.C. His receiver used a screened grid detector and one stage of audio frequency.

Mr. Rahim (VS7AP), used a self-excited T.P.T.G. transmitter fed into a half-wave Zepp aerial with a maximum power of 22 watts. His receiver was a screened grid detector and one L.F.

TABLE 3.

FINAL POSITIONS.

Zone 1. Name.	District.	Call.	Contacts.	Zones.	Points.
†F. W. Miles	3	G5ML	70	10	5060
L. H. Thomas	7	G6QB	40	10	2970
H. D. Price	13	G6HP	35	8	2056
†J. S. Owner	3	G6XQ	26	8	1852
†G. Brown	3	G5BJ	29	7	1771
B. Hall	7	G2DZ	25	7	1267
J. W. Mathews	14	G6LL	18	7	1057
R. H. Hammens	7	G2IG	20	8	904
A. E. Livesey	4	G6LI	20	6	864
†G. C. Price	5	G2OP	14	6	570
J. D. Chisholm	13	G2CX	12	7	551
L. A. Moxon	15	G6XN	14	6	522
W. A. Clarke	4	G5FV	14	5	505
†R. A. Bartlett	5	G6RB	11	6	384
L. W. Parry	2	G6PY	11	4	368
†A. Smith	15	G6VP	10	5	340
†B. Groom	5	G6RG	8	6	336
W. D. Nightingale	3	G5NI	8	5	285
C. H. Chorley	13	G5YH	7	5	245
†H. V. Wilkins	15	G6WN	8	5	210
†J. Wyllie	5	G5YG	5	4	124
A. W. Alliston	7	G5LA	5	4	112
†H. J. Powditch	6	G5VL	9	3	96
Miss B. M. Dunn	2	G6YL	5	4	88
A. D. Gay	13	G6NF	5	2	88
†H. A. M. Whyte	7	G6WY	3	2	58
H. A. Clarke	12	G6OT	3	3	36
J. Davies	1	G2OA	3	3	33
A. J. Perkins	13	G6KP	2	1	6
A. E. Wood	13	G5AW	2	1	4
Zone 2.					
Earle Turner		VE2CA	14	3	225
J. Stadler		VE2AP	3	2	36
W. Stoyles		VO8MC	7	1	14
Zone 3.					
T. A. Archer		VIYB	8	2	76
Zone 4.					
N. Auret		ZU6W	32	6	1122
R. Keir		ZS6Y	23	7	838
O. Egenes		ZT5R	21	6	552
H. Yule		ZU5B	18	6	510
H. Buckley		ZS5U	24	4	484
H. Bridgman		ZT1Z	11	6	360
*A. Walker		ZT5Q	14	4	224
N. Jervis		ZS2F	7	4	120
J. Lategan		ZS4U	7	2	64
J. Lunt		ZT6X	3	2	34
E. W. Osborne		ZT1H	2	2	18
Zone 5.					
W. Manson		VQ3MSN	37	4	548
Zone 6.					
E. M. Chorlian		SU1CH	11	2	66
Zone 7.					
D. Martin		Y2DC	39	6	966
W. Cragg		YI6WG	27	4	492
K. Rancombe		YI6KR	29	4	392

† Empire Link Stations. * Non-members of B.E.R.U.

Mr. Samson (ZL4AI), used an input of 150 watts on 3.5 and 14 M.C. and 200 watts on 7 M.C. His transmitter employed 2 UX852 valves in push-pull on 7 M.C. and one UX852 on 3.5 and 14 M.C. A T.P.T.G. circuit was used on the former band and a Hartley on 3.5 and 14 M.C. He employed a 40 ft. vertical aerial and 24 ft. horizontal counterpoise. He mentioned that a 130 ft. Zepp was discarded as being too directional. A doublet receiving aerial was used and the receiver employed a straight detector with one or two stages of audio frequency.

Mr. Nicholson (VU2JP), also favoured a T.P.T.G. on both 7 and 14 M.C., and throughout the Contest no greater power than 7 watts was used. The aerial was a half-wave Hertz voltage-fed with with feeders spaced at 2½ ins. His receiver was a 1927 *Wireless World* 3 with an additional " band spreader " device.

Mr. Price (G6HP), used a locked T.P.T.G. crystal-controlled transmitter on both 7 and 14 M.C. His input was 50 watts and during the first week-end a 14 M.C. Windom was in use, but for the remainder of the Contest an end-fed Hertz was employed. Like Mr. Thomas, a single valve receiver only was used consisting of a plain detector stage, the valve being an AC/2HL coupled to an indoor aerial.

Mr. Evans (VK2NS), who it will be remembered was the winner of last year's contest, used a crystal-controlled transmitter and a power of 50 watts fed into a half-wave 7 M.C. Zepp aerial. His receiver was an O-V-2 using valve base coils.

TABLE 3 (*continued*).

Zone 8. NAME.	Call Sign.	Contacts.	Zones.	Points.
G. Todd	VS7GT	82	8	3080
C. D. Connerton	VU2FX	64	9	2790
A. Rahim	VS7AP	63	8	2360
J. S. Nicholson	VU2JP	61	8	2240
G. H. Jolliffe	VS7GJ	8	5	165
Zone 9.				
T. G. Laver	VS3AC	29	5	620
G. W. Salt	VS2AF	10	3	87
Zone 10.				
G. Merriman	VS6AH	51	7	1806
P. J. O'Brien	VS6AE	50	7	1729
J. J. Alvares	VS6AG	23	5	475
J. Barnes	VS6AD	19	5	425
A. P. Rosario	VS6AN	9	3	135
Zone 11.				
G. G. Sampson	ZL4AI	56	7	2303
L. M. Mellars	ZL1AR	36	4	480
*R. T. Stanton	ZL3AZ	13	3	120
J. B. Elliott	ZL3CC	10	1	20
C. W. Parton	ZL3CP	2	1	4
Zone 12.				
A. Mackenzie	VK4GK	55	8	2592
T. Evans	VK2NS	54	8	1992
J. deCure	VK3WL	55	7	1883
G. Pollock	VK2XU	45	6	1830
G. Ragless	VK5GR	33	8	1640
C. H. Harrisson	VK7CH	40	7	1456
O. G. Chapman	VK2OC	44	6	1260
S. U. Grimmett	VK2ZW	33	6	720
C. Cowan	VK2PZ	35	5	655
M. Howden	VK3BQ	26	5	615
A. Hutchings	VK3HL	35	4	532
*A. Woolnough	VK3BW	20	5	510
E. L. Nissen	VK4XN	29	5	500
H. R. Carter	VK2HC	33	4	464
W. E. C. Bishoff	VK2LZ	19	5	455
N. F. Ollivier	VK6FO	10	5	230
Rev. W. Brooke	VK2BR	10	3	72

† Empire Link Stations.

* Non-members of B.E.R.U.

Non-Transmitting Station Entries.

Zone 1.

A total of 15 non-transmitting station entries were received from Zone 1. The winner being Mr. A. T. Mathews (BRS497), with a total of 2,270 points. Mr. J. P. Stove (BRS417) was a close second with 2,080 points, followed by Mr. R. D. Dutton (BRS616), with 1,316 points.

The full list of entries are shown in Table 5. It should be mentioned here that a large number of receiving station entries were incorrectly filled in although it was clearly defined in the rules that re-

ceiving stations were to record the call sign of the station called as well as the station calling. Failure to abide by this rule reduced sev ral members' scores by many hundreds of points.

Mr. T. P. Allen (GI6YW), Mr. G. O. Kollien (G5IG), and Mr. Orr-Ewing (G5OG), were unable to take part in the Contest from the transmitting side, but forwarded useful checking data. Mr. Ponting (G6ZR), also provided valuable information although not at present a member.

Zone 2.

Mr. Crowell (VE1DQ), of Halifax, N.S., a non-member, forwarded a full list of contacts made by him during the contest, thus enabling many Zone 1 QSO's to be checked. In his covering note he asked for reports on his 14 M.C. telephony signals.

Mr. Blais (VE2AC) sent a long list of calls heard but was unable to effect any contacts. He distributed 15 copies of the entry form to other Canadian stations but mentioned that conditions were exceptionally poor in Canada during the Contest, which probably explains the absence of reports.

Zone 4.

Dr. Lunt (ZT1Q), attached to his entry a complete list of all calls heard during the contest, numbering in all 150.

Zone 5 .

Mr. Lane (VQ4CRH) was without a transmitter during the Contest but sent in a valuable list of 40 stations heard in four Zones.

Zone 8.

Mr. G. W. Horton, of Quetta, India, led for the whole Empire on the non-transmitting side of the Contest. His excellently-written up log contained a list of 70 contacts heard in 10 zones, giving him the high total of 3,650 points. It should be mentioned that Mr. Horton was only able to take part in the Contest during three of the four week-ends.

Mr. C. W. Catt, of Meerut, Punjab, India, provided a most interesting " calls heard " list.

Mr. Jack Witty (G5WQ), reported upon all Empire calls heard during the Contest. During the first two week-ends, he was on board a ship in the South Indian Ocean, and on the third week-end was at Cape Town. The fourth and final week-end reception was recorded from a position in the South Atlantic. On this particular week-end conditions on 7 M.C. were bad, only G6XN being heard, although 12 Zone 1 and several Zone 4 and 8 stations were received on 14 M.C. His full log contained a list of over 130 Empire stations heard.

Zone 12.

Mr. D. E. White, of Lidcombe, N.S.W., provided the only non-transmitting entry from Australia ; his full log contained a record of 39 contacts in six Zones, giving him a total of 1,098 points.

Mr. Campbell (VK3MR), also provided a list of the contacts worked from his station during the contest.

General Remarks and Impressions.

Special thanks are due to Mr. Oscar Egenes (ZT5R), for his personal efforts in connection with the Contest. In order to arouse local interest he, as Chairman of the Durban Division of S.A.R.R.L., organised a competition in conjunction with the Trophy Contest, with the result that a number of most useful logs were forthcoming. He furthermore sent a comprehensive list of all stations heard at his own station during the four week-ends. These, and those forwarded by Dr. Lunt, should prove of considerable value to Contact Bureau groups interested in the study of skip distance and fading. In his l tter Mr. Egenes stated : " We enjoyed the Contest very much and we look forward to the next."

Mr. Jack deCure (VK3WL), in a long letter accompanying his log, wrote as follows :—

" Last year a lot was said, or implied, about the advantage VK or ZL stations gained by their proximity and their ability to work with ease on three bands. It seems that this alleged ease is rather over-estimated, in fact 22 hours were occupied by me in working 10 ZL's on 14 M.C. Another feature is the fact that we in VK and ZL are practically cut off from the African continent which comprises three Zones, as well as from Canada and the West Indies. I am on the air almost nightly and in the past 12 months have worked over 500 different W stations and 100 DX stations in all. Of that total only three are Canadians, one South African, one Egyptian, and I have yet to hear the West Indies." He concluded by saying : " This B.E.R.U. Contest promises to be the world's biggest and most interesting, and I trust that some genius may be able to devise some means of making it more open."

Table 4.

ZONE POSITIONS.			
Zone	Entries.	Contacts.	Points.
1	30	442	22,762
12	17	576	17,406
8	5	278	10,635
10	5	152	4,570
4	12	168	4,386
11	5	117	2,927
7	3	95	1,850
9	2	39	707
5	1	37	548
3	1	8	76
6	1	11	66
Totals	85	1947	68,208

Mr. Mellars (ZL1AR), said " the Contest was great, but as far as our first district was concerned it was an overwhelming victory for static, and in the final hours QRM was the worst experienced for years, whilst the American Good Will Tests produced a considerable amount of interference." He mentioned that the Southern districts, 3 and 4, succeeded in working Britishers with ease. Only two Canadians, VE2CA and VE2BE were heard, but neither could be worked. He concluded by saying : " To be a participant was a privilege and well worth while, and I look forward to the next contest."

Mr. Nicholson (VU2JP), who put up such a fine effort on behalf of Zone 8, gave an excellent general report governing conditions during the tests which, in his own words, " went off with a bang." " During the first week-end the 7 M.C. band was excellent for DX work, Australia coming in well from all districts except the 7th."

The South Africans were good but Zone 5 calls were absent, only VQ3MSN being heard. Zone 9 stations came in well, with occasional signals from

Zones 10 and 11. One or two G stations were heard. Conditions during the second week-end were much the same as the first, but there was an increase of static on 7 M.C. Zone 1 was most prominent on 14 M.C. but these stations were only heard at short periods. Most of the DX with British stations was done on the 7 M.C. band. The third week-end was rather disappointing as was to be expected owing to a rise in static level. This was a continuous roar and made receiving a strenuous job. In most cases QRM was greater than signal strength and on the 21st the first rain shower for 60 days was recorded. Conditions gradually became worse during the following week-end until the end of the Contest. Only a few contacts were made on the 27th, and not a single one on the 28th. It would appear that the best periods in India are between new moon and full moon with an advantage of about two days ahead of new moon as the beginning, and two days after full moon at the end of that period."

We take this opportunity of congratulating Mr. Nicholson on the extraordinary success he achieved, as it will be remembered his input was only 7 watts.

Mr. Lategan (ZS4U), stated " I was very glad to partake in the Contest, but regret I was unable to obtain contacts with Zone 1 stations. It is always with great interest that I look forward to the arrival of the BULLETIN, and I always enjoy it very much."

An inter sting and gratifying letter was received from Mr. Ragless (VK5GR), who enthusiastically endorses the views of many other Empire amateurs

Table 5.

NON-TRANSMITTING STATION ENTRIES.

Zone 1.			
A. T. Mathews ...	...	BRS497	2270
J. P. Stove ...	...	BRS417	2080
R. D. Dutton ...	...	BRS616	1316
C. E. Jefferies ...	...	BRS589	1248
F. A. Robb ...	...	2AXW	1116
S .Baveystock ...	...	BRS478	1092
A. H. Lawson ...	...	BRS605	1072
J. Hamilton ...	...	2ASX	920
R. C. Ashton ...	...	BRS458	686
R. Drewery ...	...	BRS575	384
N. Corry (Miss) ...	...	BRS776	255
R. Parsons ...	...	2AWJ	234
F. Foster ...	...	2BWP	141
L. Robins ...	...	BRS579	115
L. E. G. Grosvenor	...	2ATK	34
Zone 8.			
G. W. Horton ...	...	B.E.R.S.74	3650
Zone 12.			
D. E. White ...	...	B.E.R.S.112	1098

when he says : " The BULLETIN is sure fine business ; I enjoy it better than any other amateur journal, as it seems to have a personal message for everyone. I enjoyed the Contest very much even if I lost a lot of sleep." He made several useful suggestions for future events and looks forward with keenness to reading the report of the 1932 Contest.

Mrs. Hutchings (VK3HM) (who was our first lady member to win a W.B.E. certificate), was unable to operate during the Contest this year, but her son, Mr. Alan Hutchings (VK3HL), stated : " It was satisfactory to see so many taking part in the event and it promises to prove very popular in future years." He was in contact with five Zones but lamented the fact that the low power man was at a disadvantage.

Mr. O'Brien (VS6AE), B.E.R.U. representative in Hong Kong, and Sgt. Connerton (VU2FX), both forwarded very useful lists of suggestions and recommendations for future contests which will receive careful consideration prior to the issuance of the 1933 Contest rules. The former concluded his letter by saying : " We are glad to have noted an increased interest and enthusaism in this year's Contest, and we feel sure that next year will bring along an even greater number of contestants for that elusive trophy. We of the H.A.R.T.S. will be only too pleased to co-operate in all future ventures."

Mention should here be made of the support given by Mr. George Merriman (VS6AH), President of the H.A.R.T.S., who undoubtedly infused into his colleagues that spirit of co-operation which will eventually lead, we believe, to a better understanding between the amateurs of the world. His Editorial in the March issue of " DX " sums up many of our own views when he says :—

" To our friends abroad we extend our warmest thanks for the unalloyed enjoyment we derived from the Contest, and we trust that the friendships made therein will endure and ripen. At no time in the history of the world has friendship between countries been as important as it is just now—radio is taking a hand ; is doing a very important share in linking together more closely individuals in all the countries of the world. International goodwill cannot be brought about by nations *en bloc* ; it must start individually in the breasts of you and I."

In concluding this somewhat lengthy account of the Contest, we should like to offer our thanks to all those who have in any way contributed to its success (especially grateful are we to Mr. A. E. Livesey (G6LI), who gave much valuable assistanc : in checking entries), and we trust that the friendships made over the air during the Contest will lead to a better understanding of the problems facing every national amateur radio organisation at this time.

We apologise for any errors or omissions which may have occurred in regarding the results of the Contest, but we assure all those who have contributed suggestions, that every consideration will be given to them by those responsible for the organisation of future Tests. May our motto for this year be " Let Empire Friendship Continue."

Contest Thoughts (*continued from page* 410).

like a foot . . . well, we'll wait for the dawn . . . that usually stirs up the mud a bit . . . methinks I hear EAR227 CQing . . . don't want him . . . this isn't my night for DX . . . who's this . . . CV5EV . . . this is demoralising . . . better shift off him before I lose control of the situation . . . no fear . . . hunt DX during B.E.R.U. test ? . . . pooh . . . eight a.m. . . . that settles it . . . no more till next week-end . . . gosh ! what a night ! I remember once about four years . . . (Massiter ! bathee water velly cold !) That settles it . . . daily round and common task . . . wonder who'll win that cup . . .—*Septimus.*

STATION DESCRIPTION No. 25.

G5ML

By Esskay.

THE WINNING STATION IN THE 1932 B.E.R.U. CONTEST.

We have much pleasure in publishing a short description of Mr. Miles' latest station. Some time ago we remember he said "my new house is being built around my radio station"; having now seen the new layout and examined his contest entry form, we can well believe that his statement was no exaggeration!

Mr. Miles needs little introduction to our members, having been one of the most active British stations for the past eight years. He was among the first Empire Link Stations appointed and had the distinction of holding the Marcuse-Rotab Cup during 1930.

Mr. Miles has been an official of the Society for many years, both as a District and a County Representative, and his achievement in winning the B.E.R.U. Challenge Trophy will be regarded by our members in the West Midlands as much a District Honour as an outstanding individual record.

AMATEUR Radio Station G5ML is owned and operated by Mr. Fred Miles at "Tudor Lodge," Gibbet Hill, and is situated high up on the main Kenilworth Road some three miles from the City of Coventry. This is the third QRA since the station first came on the air in 1924, and from the point of view of absence of interference and screening effects, the antenna position is ideal.

G5ML entered the "game" as an interested visitor, in 1922, to the station of G6UY, then situated in Radford, Coventry.

Since that time his rise to fame has been rapid, due in no small measure to the thorough way in which he has directed his energy.

The first signals to emanate from this station were from a modest single-valve T.P.T.G. circuit, deriving power from a 300-volt bank of accumulators.

The need for frequency stabilising was appreciated at this station long before the new regulations became operative, and so the T.P.T.G. outfit was relegated in favour of crystal control. At that time the present facilities for obtaining a calibrated crystal did not exist, and many a weary hour was spent in grinding "pebbles."

After much experimenting, a calibrated crystal was purchased and a horizontal "breadboard" layout built, using the Goyder Lock system of control, with power from the mains throughout. Much good work was done with this outfit, and a W.A.C. certificate obtained in 1928.

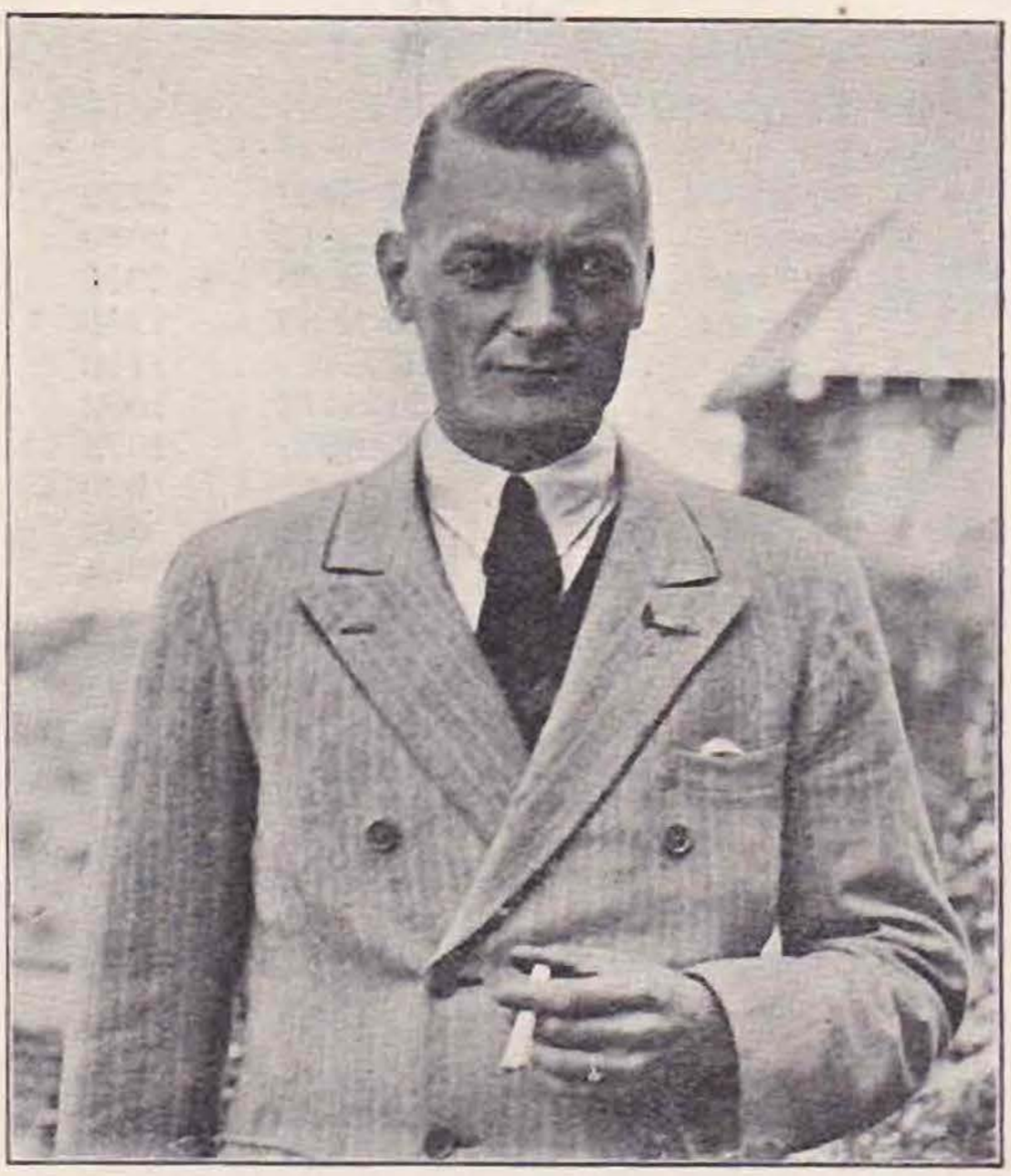
During this year pioneer work was also accomplished by G5ML on the 28 M.C. band in working four continents, he being the second station to QSO India on this frequency.

Various systems of crystal control have been experimented with, from single-stage-driven amplifiers to push-pull neutralised power amplifier circuits; the latter, having proved most satisfactory, is being used at present.

The transmitter at this station is of the "double-decker" horizontal type; as will be seen from the photograph, the upper part carrying the oscillator and amplifiers, the lower shelf housing all the sources of supply.

The layout is excellent, permitting maximum efficiency with neatness.

On the 7 M.C. band a 3.5 M.C. crystal oscillator, using an LS5B with 400 volts on the anode, is coupled to a frequency doubling stage using a DET1 driven with 750 volts; this is coupled to an Osram MR9F power amplifier valve, on which H.T. up to 2,500 volts is used.



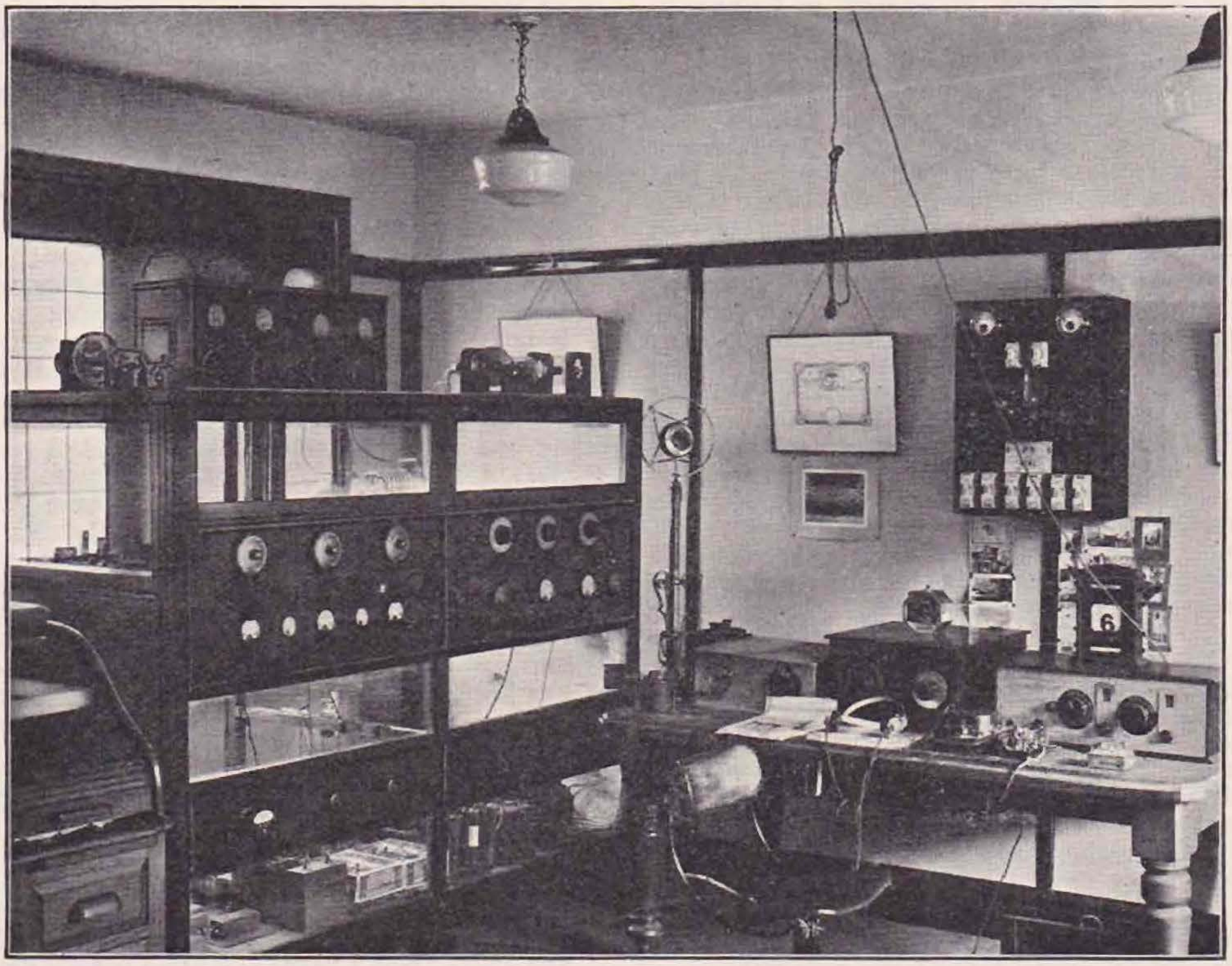
F. W. MILES, G5ML.
Winner of the B.E.R.U. Challenge Trophy, 1932.

The same oscillator and frequency doubling stages are used for work on 14 M.C., being followed by two UV203A's in push-pull driving two Osram DET2's with 1,500 volts on the anodes.

Keying is accomplished by intercepting the bias

lead to the frequency doubling stage or stages driving the power amplifier or amplifiers, and by this method " Keyclick " interference is reduced to a minimum without the use of filters. In his new station G5ML has catered for plenty of power, and can draw off as much as 60 amps. from the local 230-volt 50-cycle supply if necessary.

The power for the 7 and 14 M.C. transmitters is obtained from three separate units of rectified A.C., utilising an Osram U12, two GU1's, and finally two American type R3 Mercury vapour



RADIO STATION G5ML, Kenilworth, England.

" Rectobulbs." " Parmeko " transformers and chokes are used throughout. Grid bias is at present obtained from 240 volts of dry cells used on all stages except the C.O., in which a 10,000-ohm grid leak is employed, but a complete change over to an eliminator is pending.

The receiver used, which seems to bring in everything to be heard at great volume (and quite good quality, by the way, on phone) is a two-valve affair using an Osram S.G.2 as detector, followed by an Osram PT2 pentode, coupled with a 150 henry choke.

It is no exaggeration to say that wonderful results are obtained from this receiver, which was introduced by G5BJ.

The facilities available for the erection of aerials is such that any direction or type can be used.

Practically all types have been tested, the best results having been obtained with a Zepp having a 67-ft. top and 48-ft. feeder operated with series tuning on both 7 and 14 M.C. and coupled to the transmitter inductively by means of a split coil.

The meters in the feeders are " Jewell " 3-amp. thermo-couple instruments, and full scale readings can be obtained with an input of 450 watts on 14 M.C. !

Two such aerials are now erected at the station pointing N.S. and E.W. respectively, and it is the firm opinion of G5ML that this arrangement is necessary to enable consistent communication to be maintained with any part of the globe.

In conclusion, Mr. Miles wishes it to be known that a hearty welcome awaits any amateur who may be in the vicinity of Kenilworth, and may the writer add—it will be a pleasant experience.

STRAY.

During the B.E.R.U. contest we heard J5CC calling " Test BERU " for all he was worth. KGEG also asked us why that guy in Beru didn't answer. He heard so many people calling Beru that he got his charts out and tried to locate the place ! (*From " DX."*)

* * *

With Apologies to VS6AB.

John Brown's heart for the trophy did aspire.
John Brown's input crept higher and higher,
John Brown's station simply caught on fire,
But his sigs went marching on ! ! !

(*From " DX."*)

CONTEST THOUGHTS.*

By One of the VS6 Crowd.

THIS reaction control will send me batty one of these days or nights or what have you . . . nice note that . . . of course . . . I thought it was VS7GT . . . sounds as though this competition is entirely his . . . well he said last QSO he would get that cup or bust, so I s'pose he is just being lenient with himself . . . lets yell out a " Test Beru " and see what happens . . . funny sending " test " . . . Gosh ! I sound like a " G " in the monitor . . . fine monitor this . . . 224 tube dynatron . . . runs from same A.C. filament supply as receiver . . . no hum at all . . . best thing in the shack I think . . . Ah ! what is this that this is ? . . . I am being called by the stalwart ZL2AU, who sounds like a horse breathing . . . VS6AE pounding " test " on one side of him, and his last few cycles, may be even his last bicycle, just on his top edge nudging him along . . . . VS6AN two blocks away stacking 1,000 of the roughest R.A.C. volts on a crystal controlled RV218 on the other side of him . . . Now as long as VS6AD doesn't start up in between I think we might be able to get what he says . . . Phew ! this is the stuff nightmares are made of . . . of which nightmares are made . . . sorry, teacher . . . I remember once, Blah blit blah blit Blah blah blit blah, that'll be KAIHR doing his nightly stuff . . . I was saying that once . . . Blah blit blit-it-it blah . . . that's VS6AD . . . circulation manager of this honourable society . . . he's sure circulating something to-night . . . Time getting on too . . . who is this that dares to call me at 30 words per minute . . . why if it 'aint old VK2NS himself, the present holder of the coveted trophy which we are all preparing to receive . . . well, old son, you're the cause of all this trouble . . . you've got something which we all want very muchly . . . dunno why my key says " hope you keep it OM " . . . " Not a chance " he says . . . may be he is getting the wind up, or may be he has heard about that blackwood stand VS6AG has got ready . . . let's do a spot of stocktaking . . . two thermos flasks of coffee, six sandwiches, one tin of Mr. W. D. and H. O. Wills's Gold Flakes . . . that ought to see us through the night . . . while angels guard thee all through the night . . . goodness, listen to them there Aussies . . . come on, gang, let's up and at 'em . . . at 'em . . . atom . . . that's what I am . . . one single atom comparatively . . . among all these Empire Stentors . . . here's one very snappy and short . . . doesn't believe in wearing out relays . . . possibly Scotch . . . even Scotch in his report . . . if I am only QSA 3 R3 in VK when the ball is at its height on this cold and winter's night, well I might as well go to bed . . . well, that's ten of those birds . . . don't want any more Aussies, let's look for some Zedders . . . here's a likely fella, you can always tell a New Zealander by the way he makes a CQ . . . the flourish is New Zealandic . . . means Kia Ora or happy days or something . . . more better send " boomerang " . . . that one means " will ye no come back at me ? . . . gosh, he is taking his time about this call he's paying me . . . makes my call as though New Zealand was DX . . . poor lad . . . probably a beginner astounded at his good fortune in raising me . . . Heavens ! it's a " G " . . . G5VL as ever was ! ! ! ! . . . away home in Cornwall . . . well I'll be—I mean would you believe it ! . . . just a few miles from there there is the quaintest old house where the best friend I ever had is probably making pasties . . . hoping her wandering boy is well tucked in . . . which he won't be yet awhile . . . G5VL . . . phew ! well now that's DX . . . let's say 8,000 miles . . . my multiple is six, so that scores 48 points all in one hit . . . whoopee ! . . . fluke I suppose . . . good one though . . . who is next ? . . . shush ' ' ' here he comes in morse a-sending . . . VU2JP . . . well, well, if it isn't little old Nic himself . . . ever hear a pdc sig signing " MUNNAR " ? That was Nic . . . when he was a bootlegger . . . a radio bootlegger . . . Sure, I'll give your 73 to 6AB . . . now Nic, stop asking questions . . . a job to do I have . . . and valves to amplify . . . Cu agn after the tests. Things are getting cheerier every moment . . . soon be 3 a.m., " Three o'clock in the morning, tra la, la-la-la, la-la " . . . nice sig I have to-night unless that dynatron is fibbing . . . and now . . . and now . . . what noble ham comes next to taste our Roman beer . . . sorry . . . for beer read cheer . . . Listen ! ! surely that is calling me . . . wish my watch wouldn't tick so loud . . . Heaven forbid that any misguided Chinaman should choose this moment to let off some crackers . . . DE . . . gosh ! ! it's a " G " . . . a G2 something . . . if I could only get that last letter . . . Z . . . G2DZ ! . . . Basil Hall, or I'm a PA . . . back in London Town . . . lucky beggar . . . it seems only a month or two ago he was having dinner with 6AN and I . . . well I never . . . you bet I'll give your 73 to Arthur . . . won't he grin . . . this contest business is getting interesting . . . nice QSO too . . . both weak, but no repeats . . . good-bye Basil, see you next week . . . hello, there's someone else calling me . . . good CC note . . . sounds like he is keying primary of his transformer and the filter is cushioning his morse . . . G6HP . . . saucy one . . . FB OM, but hurry . . . I can hear the layer shifting . . . sigs getting weaker every moment . . . hooray . . . have got . . . well that was a close thing . . . zoom zip zip-p-ip zobm . . ouch ! ! ' . . . serves me right for pa king on VS6AN's licensed and lawful frequency . . . must mark my dial in red ink . . . wish I could get at him . . . save ink . . . use his blood . . . four-thirty ac emma . . . eight-thirty G.M.T. . . . all the " G's " putting on nosebags I guess . . . nothing on the dial except the vibrations remaining from VS6AN's call . . . and one mentally deficient commercial who sends IATR-VOC3 over and over again as if he were trying to memorise it . . . fist

(*Continued on page* 407).

* With acknowledgements to DX (H.A.R.T.S.).

U C S

JOURNALS published by amateur organisations catering for the well-being of those interested in the art of wireless telegraphy, present articles describing the operation of a station. These articles deal with matters such as lengthy calls, etc., and, judging by what is heard during a short spell at a receiving set, receive but little attention when the journal is read.

It is admitted that, to most amateurs, radio is a recreational pastime and practised for pleasure, and, as a pleasure, hidebound convention, bordering on red tape, should be avoided. This admission does not prevent a station being operated in a reasonable and intelligent manner. It is submitted that intelligent operating is far more important to the amateur than commercial precision, and if intelligent and precise operating can be achieved so much the better.

Operators have been known to tell each other to " use the other foot," thus indicating that they do not think very much of the efforts of the man at the other end. The general standard of operating of to-day leaves a lot to be desired, and it is considered that the time is ripe for the introduction of an unofficial code group indicating that the operator, to whom it is addressed, is not being intelligent. The art of being intelligent is largely the use of common sense, therefore make the group U C S, Use Common Sense.

The need for the use of common sense when operating a station has increased of recent years, and will increase in importance in the future. Restrictions are imposed and the difficulties of the operator increase proportionately. Narrow frequency channels cause congestion and interference, and restricted hours of operation make it necessary to get the utmost value from the permissible operating time.

What do amateurs do to improve the situation ? Some realise the position and help all they can ; others, unfortunately, cause more interference than they need by having badly designed sets, spacing waves, spreading notes, etc., although they have been implored countless times in amateur journals to clean up their notes, eliminate spacing waves and stabilise their frequency. It is realised that all amateurs cannot adopt crystal control and multi-stage sets, but those who are unfortunate in this respect can still improve their signals. It is to be regretted that, in numerous cases, they either do not or will not take any steps to make an improvement. To the confusion caused by the " do nots " and " will nots " is added the effect of those amateurs who cannot operate their station in an intelligent manner ; they are almost legion.

After some years' experience as an amateur operator in the East a shock was received by the writer on return to Europe last year. It was anticipated that amateurs operating in a welter of interference would do so in an intelligent manner. Observation showed that this was not the case, and it was decided that the amateurs living at the back of beyond, where QRM is not very rampant, operated their stations in a more intelligent manner than a very large number of amateurs whose need for intelligent operating was greater.

These conclusions were not drawn as a result of a few minutes' observation, but from deliberately arranged tests of operating practice. An analysis of the tests is interesting and almost amazing ; for example, only 30 per cent. of stations tested sent single on receipt of a QSA5 report ; conversely, when a QSA5 report was received, and each word sent twice, only 10 per cent. of the stations tested made a request for single sending. It is almost unbelievable that such a thing is possible in view of the thousands of words which have been written on this subject. To the 70 per cent. in the first case and the 90 per cent. in the second could the U C S be used without argument.

Additional tests were carried out to ascertain if amateurs understood the meaning of the signals QSQ, QSZ, QRS and QRQ. The tests showed that an astonishing percentage did not.

It is quite obvious that misuse of certain Q signals occasions a great waste of time. The time factor as far as the British Isles is concerned is important. The licence issued clearly states the maximum permissible transmitting time, and sending each word twice, when it is not necessary, is a waste of time and could cause a situation where the permissible transmitting time is virtually reduced to one hour in any consecutive twenty-four.

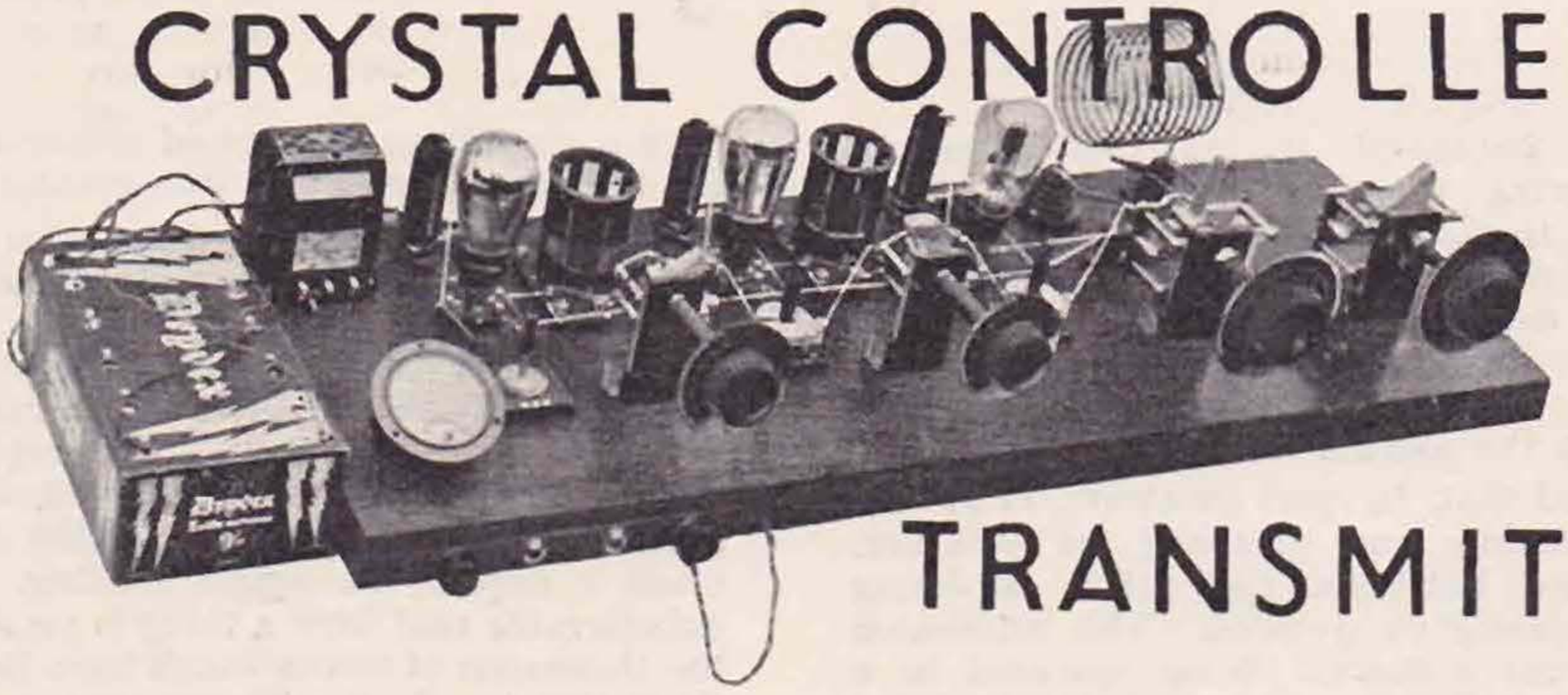
The QSA group is very explicit, and if a starting point is made for all amateurs much time and energy will be saved. A satisfactory solution can be produced if all amateurs adopt the maxim that if a signal can be copied single, given that the speed of sending is within the capabilities of the receiving operator, then that signal is QSA5, *irrespective of R strength.*

The adoption of this standard means that if a report of QSA5 is received then sending each word once is automatic, for all other reports each word is sent twice. The question of the rate of transmission is connected with a QSA report by virtue of the individual capabilities of operators ; it is so easy to help if a little thought is used.

An operator sends a " Test " or " CQ " call ; he is answered by a station which, in due course, sends K. The originator of the call has gleaned no information, and sends each word twice to be on the right side. In time he learns that he is reported as, say, QSA5 R8. He then replies, sending each word once at, say, 18 words per minute. A frequent reply in this type of case is " Sorry QRM—please repeat." The maker of the " Test " call is no wiser as to the true conditions, and in the absence of a new report, he correctly argues that the QRM was only of a temporary nature and single sending should still obtain. He acts accordingly and an unsatisfactory QSO results. A very probable cause of the trouble is that the operator answering the " Test " call cannot read at a speed in excess of, say, 15 words per minute when each word is sent once. Why not say so ? There is no disgrace in

(*Continued in column* 2, *page* 423.)

A LOW POWER CRYSTAL CONTROLLED TRANSMITTER



In the last issue of the T. & R. BULLETIN an article was given on the Design and Construction of a Low Power Crystal Controlled Transmitter; a short report is presented herewith on its performance with different types of valves.

IN the last issue the construction and operation of a 3-valve transmitter was described. Little was said concerning the use of valves, as a detailed report on its performance with different types of valves was in preparation for this issue. This report is presented herewith, and the result of numerous tests with valves not commonly used in transmitters is most interesting.

For the purpose of these tests a Zeppelin aerial was coupled to the transmitter, which was worked on 7 M.C., i.e. a 3.5. M.C. crystal oscillator followed by frequency doubler and power amplifier. The aerial was 66 ft. long and the feeders rather under $\frac{1}{4}$-wave. All measurements and comparisons of power from the amplifier were made by reading the current in the feeders and squaring. The valve was loaded as fully as possible for each test by adjusting the aerial coupling for maximum feeder current, and of course the frequency was not changed.

Certain criticism has been heard regarding the suggestion made that the second stage may be modulated, either by choke or grid control. Although in "high quality" circles a modulated valve may not be followed by an amplifier worked at more than a fraction of its maximum input, for amateur use where inferior microphones often are used, and intelligible speech is more sought after than perfect quality music, sub-amplifiers and frequency doublers may be modulated with satisfactory results. A complete study of the requirements of modulation is beyond the scope of this article, but should be studied by anyone desiring to obtain "perfect" phone transmission.

The following valves were used in the tests:—(Osram) DE5b, LS5, LS5b, PT4, MH4, (Mullard) PM24D.

The Pentode was found to be an excellent valve, either as crystal oscillator or frequency doubler, where the driving power or H.T. voltage is limited. It will then be found considerably superior to a triode working under similar conditions.

The use of a pentode as power amplifier gave no advantage over an LS5, and therefore it is suggested that the pentode be employed in the crystal oscillator stage, where it does its job excellently.

A point worth noting was that valves with low filament consumption did not last long, although their initial efficiency was possibly higher than the thicker filament valves.

Tests with indirectly-heated valves showed that these valves were quite efficient as either crystal oscillator or frequency doubler, but the H.T. had to be kept at a value approximating to the makers' maximum anode voltage specification, to avoid damage to the cathode.

Using an Osram PT4 as crystal oscillator, followed by an MH4 as frequency doubler (both with 240 volts on the anodes, and the PT4 with 200 volts on the screen grid), an LS5 in the power amplifier stage, with 480 volts on the anode, was satisfactorily loaded up to 24 watts, the plate then appearing very dull red. The "no-load" anode current was 7 m.a. and the "loaded" anode current was 50 m.a. Halving the anode voltage reduced the input by approximately two-thirds, i.e. to 8 watts. As was to be expected, the power output was also reduced by the same amount, thus proving the efficiency of the neutralised power amplifier.

The use of another PT4 in the frequency doubling stage showed no appreciable increase in output, so that the MH4 previously used was obviously being driven effectively. By reducing the power in the crystal oscillator stage, by putting in a three-electrode valve and reducing H.T. slightly, the use of the PT4 as frequency doubler was justified, the output being brought back to normal by its use.

Using the PT4 in the crystal oscillator as before, a PM24D, a larger pentode, was put in as frequency doubler, with, however, only 240 volts on the anode. This showed a definite increase of input to the power amplifier, with a corresponding increase of output.

With an increase of anode voltage on the PM24D, to 480 volts, sufficient R.F. was obtained to drive a power amplifier to 150 watts, or more.

GRID BIAS TABLE.

Valve.	Position in transmitter.	H.T.	Bias required.
PT4	C.O.	240 volts	45 volts
DE5B	C.O.	,,	9 ,,
MH4	C.O.	,,	9 ,,
PT4	F.D.	,,	100 ,,
LS5B	F.D.	,,	45 ,,
DE5B	F.D.	,,	45 ,,
MH4	F.D.	,,	100 ,,
PM24D	F.D.	,,	100 ,,
LS5	P.A.	480 volts	72 ,,
		240 ,,	36 ,,

Using the conventional DE5B as crystal oscillator, followed by another DE5B as frequency doubler, both with 240 volts on the anode, and an LS5 as power amplifier, as before, the output was considerably less. The use of an LS5B as frequency doubler, with the same H.T., restored the output to very nearly that previously obtained with a pentode as crystal oscillator.

From these tests, it would seem that, with a limited voltage on the earlier stages, the use of a pentode is advantageous and desirable. If, however, more power is available for these stages, its usefulness is not so marked, unless one of the larger type is used. In all cases when using pentodes, the rated anode voltage must not be greatly exceeded, as in the event of a " flash-over " inside the valve, considerable damage may be caused not only to the valve, but to other apparatus in circuit at the time. The PM24D is an excellent valve of its class, and should find much popularity among the higher-powered fraternity, as a driving valve to the power-amplifier. For lower power, the PT4 is an admirable valve, as indicated previously.

Appendix.

For the benefit of readers unaccustomed to the valves used in the tests, the following details may be useful.

The PT4 is a pentode requiring 4 volts, 1 ampere, on the filament, 200 volts on the anode (auxiliary grid voltage same) and has a mutual conductance of 2.2.

The MH4 is an indirectly-heated valve (the heater consuming 1 ampere at 4 volts). Maximum anode voltage is 200, inpedance 11,100 ohms and mutual conductance 3.6. The input should not exceed 2.5 watts, this figure being based on the design and emitting properties of the cathode.

The PM24D is a power pentode requiring 4 volts, 2 amperes, on the filament. Maximum anode voltage 500 ; maximum auxiliary grid voltage 200. The mutual conductance is 4.

Table showing H.T. volts and currents for a complete set of three stages:—CO—FD—PA.

C.O.	F.D.	P.A.
MH4 240v. at 8 m/as.	**MH4** 240v. at 9 m/as.	**LS5** 480v. at 40 m/as.
PT4* 240v. at 8 m/as.	**MH4** 240v. at 11 m/as.	**LS5** 480v. at 50 m/as.
MH4 240v. at 8 m/as.	**PT4*** 240v. at 16 m/as.	**LS5** 480v. at 50 m/as.

* Auxiliary grid volts 200, passing 4 m/as as C.O. and 8 m/as as F.D.

Reception Tests.

Below will be found dates and periods for the next Reception Tests. Members wishing to take part should refer to May issue of the BULLETIN for full details. Although a number of fresh stations have sent in their logs, it is hoped that still further entries will be received. Entrants from Ireland and Wales are particularly asked for as these countries are still to be represented. With regard to 28 M.C., there are several Dutch stations transmitting during our periods, and this should add additional interest to these tests. All logs should be sent off by July 12 and addressed to T. A. St. Johnston (G6UT), 28, Douglas Road, Chingford, E.4. It should be mentioned that logs from Continental members of the R.S.G.B. are invited.

PERIODS AND BANDS.
Series No. 7.

Date.	B.S.T.	Test Letter.	Band.
Sun., June 19 ...	0900–1000	A	1.7
Sat., July 2-3 ...	2330–0030	B	1.7
Sun., July 10 ...	2230–2330	C	1.7
Tues., June 21 ...	2100–2200	D	3.5
Mon., June 27 ...	2200–2300	E	3.5
Wed., July 6 ...	2230–2330	F	3.5
Thurs., June 23 ...	2200–2300	G	7
Friday, July 1 ...	2100–2200	H	7
Sun., July 3 ...	2000–2100	I	7
Sun., June 19 ...	1830–1930	J	14
Sat., June 25 ...	1930–2030	K	14
Sun., July 3 ...	0700–0800	L	14
Sun., June 19 ...	1100–1200	M	28
Sun., June 26 ...	1000–1100	N	28
Sun., July 3 ...	1800–1900	O	28

HIC ET UBIQUE.

REPRESENTATION—(*Continued from page* 401).

as representative of the provincial districts. Council having been given the right by the Articles of Association to govern the Society in any manner they consider desirable, decided last year to inaugurate a new scheme of Representation, giving themselves the prerogative to appoint District Representatives and the members themselves the right to elect their County Representatives.

It is the duty of these D.R.s to keep in close touch with their several C.R.s and arrange periodical meetings with them to discuss ways and means for interesting and helping the members in their district. They also are directed to keep in regular postal communication with Headquarters and the P.D.R. and to prepare each month some news for the BULLETIN.

The D.R.s are, in Council's opinion, the most suitable men for the job they hold, but here again the appointments have mostly been based upon knowledge gained as a result of contact with the provincial membership. Council realise the difficulty of pleasing everyone, but they believe that with few exceptions their choice for the current year has met with the unanimous approval of the membership. Most of our present D.R.s are well-known members who have time and facilities available for organising the Society's activities in their county. Their duties are numerous but chiefly they are in office to represent the views of the majority of the members in their county, and are responsible through their D.R. for all official actions taken on behalf of the Society.

Regard it, then, as your duty to see that the right man for the job is nominated, give him your unstinted support if he is elected and remember that in a democratic organisation such as our own, a majority rules. If your choice is defeated in an ensuing election do not throw over your support, but remember that he has taken office with the firm intention of helping both you and the Society.

Modulation !

The Editor has been pleased to accept an offer of a prize from a new member who desires to remain anonymous for the best article on modulation, submitted for publication in the T. & R. BULLETIN. The prize will consist of Radio Apparatus to the value of two guineas, to be purchased from BULLETIN advertisers.

The competition will remain open until September 30, 1932. The articles will be judged by a sub-committee of three to be appointed by Council at a later date. The Editor reserves the right to publish all or any of the articles submitted in subsequent issues of the T. & R. BULLETIN.

Any members residing outside the British Isles who desire to take part in this competition but who would be unable to enter by the date mentioned on account of the time taken for postal communications to reach their destinations, are requested to notify the Editor at the earliest possible moment of their intention to contribute an article so that the competition may be left open accordingly.

Radio Exhibition Tickets.

Council are making arrangements this year to supply any member of the Society with one complimentary ticket for this year's exhibition at Olympia (August 19 to 27 inclusive). Will all members who desire to avail themselves of this offer make written application to Headquarters before August 10, enclosing a stamped self-addressed envelope for reply ?

SOCIAL NOTES.

Convention is drawing near, and we all look forward to making new and renewing old acquaintances.

It is up to the London members to make our provincial friends comfortable when in town.

As in the past, will all members in town who can accommodate one or two please do so.

Mr. T. A. St. Johnston (G6UT) has again kindly offered to make all arrangements, so will those who have facilities please notify him. Also will all provincial members wishing to be accommodated please write him. His address is at head of District Notes.

It has been suggested to me that we might supply members requiring them with badges for blazer coats. These would cost about two shillings each if sufficient orders are forthcoming to warrant our ordering them.

Should any members be interested will they please drop me a card.

H. V. W.

CALIBRATION SECTION.

We are informed that Mr. Jean Lory (F8DS), of Paris, is giving a calibration service on 7 and 14 M.C. each Sunday with an input of 180 watts. These signals should be audible in many parts of England, and are given according to the following schedule :—

09.00—09.10	G.M.T.	...	14,000 K.C.
09.15—09.25	,,	...	14,400 ,,
10.00—10.10	,,	...	7,000 ,,
10.15—10.25	,,	...	7,300 ,,

The frequencies have been measured by the "Laboratoire National de Radioelectricite," and are within 1 part in 3,000 of the announced frequency.

Each transmission is commenced by "QST (announcement of frequency) de F8DS REF" repeated, and a 30-second dash given approximately five minutes after the commencement of each transmission.

A. D. G.

QSL Section.

A QSL section, rightly or wrongly, seems to be regarded as fair game by the born grouser, and it appears inevitable that unless a QSL manager has a tough hide and a meek disposition trouble with clients will raise its ugly head as surely as night follows day. Even the proverbial worm will turn, however, and heartened by Uncle Tom's insults to you in other issues it is our intention this

month to point out how *you* might pull up your socks in other directions. For instance, how many of you remember :—

(1) Whether you have any envelopes at H.Q.
(2) That envelopes bigger or smaller than 6½ ins. by 4½ ins. are an infernal nuisance to the section.
(3) That your call sign should be printed in large capitals on the top left-hand corner of the envelopes.
(4) That if you *will* have QSL cards of the poster variety they are invariably ruined by folding in order to get them into the recipient's envelope.
(5) That the section wastes hours daily looking to see to whom the card is addressed.
(6) That the section objects to paying excess postage on packets of cards sent to them for distribution.
(7) That if you think you have a genuine complaint it is no good grumbling to all and sundry about it—take it to the people who can deal with it.

That is all for the present, but if 50 per cent. of members would keep 75 per cent. of the above in mind the QSL section would be a far happier place for at least those who have the running of it.

Lastly, our apologies to Uncle Tom for poaching on his preserves, but we don't see why he should monopolise the wouffong !

QRA Section.

Manager : M. W. PILPEL (G6PP).

NEW QRA's.

G2CR—A. L. CRANE, " Kenilworth," 29, Kingsand Road, London, S.E.12.
G2RV—S. HIGSON, The Manchester Hotel, Aldersgate Street, London, E.C.1.
G5OS—E. P. OSCROFT, Corner House, Fletsand Road, Wilmslow, Ches.
G5WU—D. A. LOW, " Nantissa," Westbourne Road, Penarth, Glam.
G5XA—H. RANSOM, 86, Seymour Road, London, N.8.
G5XB—S. A. G. COOK, 2, Queen's Avenue, Snodland, Kent.
G5XV—R. J. PARRY, 117, Bell Hill Road, St. George, Bristol.
G5YB—R. C. ASHTON, 41, Sithney Street, St. Budeaux, Plymouth, Devon.
G6KZ—W. J. MCKENZIE, 183, Great Junction Street, Leith, Edinburgh.
G6MZ—F. S. MIZEN, 28, Brunel Road, Bridgwater Road, Bristol.
G6SV—M. SAVAGE, 10, Marlborough Road, London, W.5.
2BDW—LEN ROBINS, " Lansdowne House," Colwyn Bay, Denbigh.
2BHD—C. G. BARNES, " Inglenook," Orlando Drive, Carlton, Nottingham.
2BHK—E. H. SWAIN, 31, Woodbastwick Road, London, S.E.26.
2BOF—R. D. L. DUTTON, 13B, Lime Walk, Headington, Oxford.
2BTI—N. VAN PERLSTEIN, 13, South Ridgway Place, London, S.W.19.
2BYO—J. G. RENOUF, jun., 1, Rockhampton Villa, St. Aubins Road, Jersey, Channel Islands.

100 Kc. QUARTZ BARS

We can now supply 100 Kc., X cut, QUARTZ BARS. The frequency is checked against a N.P.L. calibrated standard bar, and is given accurate to 0.05%. These bars are eminently suitable for checking precision frequency meters, as described by G6NF in the April issue of the "Bulletin."

Price £1 0 0

Enclosed dustproof Mounting. 10/0 extra.

VARIABLE TRANSMITTING CONDENSERS

We have purchased a bankrupt stock of Marconiphone .00013 and .00025 Mfd. Variable Condensers, suitable for transmitting use. The vanes are solid brass, rigidly clamped and soldered. Long single bearing, and absolute minimum of di-electric. The .00013 type are double spaced and the .00025 approximately 1½ times normal spacing. A real low loss job.

Price 3/3 each. **Two for 6/0 Post Free.**

NOTE:

We can supply all the parts for the C.C. Transmitter described in last issue. If you intend building it, it will pay you to write to us for details.

THE QUARTZ CRYSTAL CO. (G2NH & G5MA), 63a, Kingston Rd., New Malden, SURREY, Eng.
Telephone : Malden 0671.

Photo Cells

are now well known for their use in commercial as well as scientific work. For sound films, television, invisible ray, colour comparison and photometry, counting and timing of passing objects such as cartons travelling on endless belt to packing room, motor cars through a tunnel, timing the velocity of a projectile or speed of races, transmission over a beam of light, illumination control, burglar alarm, measuring photographic plates, pyrometry, smoke detection, storm and sunshine detectors.

The usual price of these cinema photo cells is £5 : 10 or £7 : 10 and they are guaranteed in their sound to light responses. A few spares are available at bargain prices. Every Ham should be experimenting with Photo Cells to-day.

15/-
B.T.P.—King.
25/-
UX867 by RCA.

ELECTRADIX RADIOS, 218 Upper Thames Street, London, E.C.4
Telephone: CITY 0191.

SALES

Members' Notepaper, full quarto size, per 100 sheets	2/6
Call Sign Brooches	2/6
Enamelled Coat Badges of Emblem R.S.G.B.	1/6
B.E.R.U.	1/-
Rubber Stamps of Emblem	1/6
K.C.—Metre Charts	-/8
Car Plaques of Emblem	3/6
Orders can be taken for the June Call Book	5/6

All the above are Post Free, but orders must be accompanied by a remittance.

The R.S.G.B. Sales Department
53, Victoria Street, London, S.W.1

The following are cancelled :—G5PZ, 2BSR, 2BZW.

QRA wanted : XV1WQ.

Please send all new QRA's, changes of address, etc., to M. W. Pilpel, G6PP, 54, Purley Avenue, London, N.W.2. 'Phone : Gladstone 1282.

English and Welsh County Representatives, 1932-33.

To The Honorary Secretary,
R.S.G.B.,
53, Victoria Street, London, S.W.1.

I wish to nominate Mr.....

Call Sign..... of (Town).....

to serve as Representative for the County of ..... during 1932-3, and have obtained his permission to put forward this nomination.

Signed .....

Call Sign (or B.R.S. No.) .....

Address .....

Date .....

Note.—Nominations must reach Headquarters by Saturday, June 25, 1932.

Members nominated must reside in the same county as the nominee.

AT YOUR SERVICE!

You read the "Bulletin" because you are a member of the R.S.G.B.; therefore you must be keen on Short-Wave work, both Transmission and Reception. But are you able to get all the information you want? How to make that RX perk on five metres and what to do about modulating a CC outfit? How to put up an aerial which is "correct" theoretically and the way to set about getting a two-letter call?

This is where we come in! We exist to provide not only information required in connection with BCL work, from P.A. equipment and Radiograms to catswhisker receivers, but also all the dope you are wanting to become either a transmitter or a more proficient one. We don't try and sell you gear (unless you cannot get it yourself) but we do offer you dependable, unbiassed and lucidly written technical information on anything connected with Radio.

What can we do for YOU?

Charges : 3/- per query ; four or more, 2/6 each.

Questions involving elaborate treatment are quoted for by return, while diagrams and sketches, executed by a Draughtsman, are included when necessary.

QRA—

RADIO TECHNICAL AGENCY

2, Westgate Chambers, Newport, Mon.

NOTE.—This business is controlled by a Transmitter whose call is familiar to most R.S.G.B. members.

Unauthorised Transmissions.

AN OFFICIAL STATEMENT.

On several occasions recently, members have complained to Headquarters that unauthorised use has been made of their licen·ed call. Steps have been taken by Council to advise the G.P.O. of the complaints.

Unfortunately other members have forgotten that a close liaison exists between Council and the G.P.O., and have "shortcircuited" the Licensing Manager by writing direct to the G.P.O. This has resulted in considerable confusion, as the *G.P.O. will only deal with complaints made via the Society.*

Members are requested in future to pass all complaints relating to unauthorised t ansmissions through Headquarters after having first notified their District Representative of their intentions.

It should be mentioned here that complaints regarding the unauthorised use of a member's call-sign should not be made on the evidence of QSL cards referring to isolated telephony transmissions. At least three reliable reports of C.W. signals heard must be furnished before a complaint is lodged.

Members reporting the activities of a "pirate" transmitter should bear in mind that the G.P.O. cannot investigate complaints based on surmise. Every attempt should be made to provide definite information as to the exact whereabouts of the unauthorised transmitter, and to this end useful D.F. work may be accomplished.

New Members.

F. N. MacDowell (G5MZ), 36, Osborne Park, Belfast, N.I.
J. E. Perkis (G5UI), "Beulah," 67, Arthur Street, Ryde, I.W.
F. A. Boyce (G6DK), Penguin, Carson Lane, Wraysbury, Staines, Middlesex.
W. G. Rowlands (2ALD), 46, St. Mary's Road, Gillingham, Kent.
A. G. Forbes (2AOO), 33, Rake Lane, Wallasey, Ches.
W. G. Page (BRS872), 261, Uppingham Road, Leicester.
J. B. Duncan (BRS873), 10, Corunna Street, Sandyford, Glasgow.
L. G. Bolton (BRS874), Superintending Electrical Engineer's Dept., H.M. Dockyard, Portsmouth.
J. R. Fennessy (BRS875), 90, Leeds Old Road, Bradford.
W. G. D'Arcy (BRS876), The Crescent, Coundon, Co. Durham.
A. Mowatt (BRS877), 10, Chichester Road, Belfast, N.I.
T. W. Binns (BRS878), Durham Chambers, Pelham Street, Nottingham.
P. J. L. Macfarlane (BRS879), 28, Meath Road, Ilford, Essex.
C. J. Paish (BRS880), Well Street, Stow-on-the-Wold, Glos.
R. S. Jackson (BRS881), 49, Goulden Road, Withington, Manchester.
A. L. Greensmith (BRS882), 138, Abbeydale Road, Sheffield.
W. A. MacCullum (BRS883), 21, Park Place, Stirling, Scotland.
R. M. Flavill (BRS884), Craig Neash, Uppingham Road, Leicester,
R. V. Lord (BRS885), 240, Borough Road, Middlesbrough, Yorks.
J. R. Miller (BRS886), c/o Mrs. Twiss, 53, Henshaw Street, Stretford, Manchester.
F. B. English (BRS887), 42, Brownberrie Avenue, Horsforth, near Leeds.
V. Parker (BRS888), Chalfonte, Thornes Road, Wakefield, Yorks.
B. Pashley (BRS889), 124, Nicholson Road, Heeley, Sheffield.
F. H. Monkhouse (BRS890), 75, Lidderdale Road, Sefton Park, Liverpool.
J. K. Todd (BRS891), Orchard Place, Wannock, P.O. Polegate, Sussex.
J. J. Beirne (A), Leatra School, Williamstown, Co. Galway, I.F.S.

Dominion and Foreign.

G. Pollock (VK2XU), The Towers, Belmore, N.S.W., Australia.
A. W. Martin (W6UC), P.O. Box 191, Salinas, California, U.S.A.
G. H. Grey (ZT1A), Mya, Park Road, Mowbray, Cape, S. Africa.
J. Hunt, Sos Colentina 88, Bucarest, Roumania.
H. W. Holt, Box 254, Warrenton, N.C., U.S.A.

APPARATUS REVIEWED.

The T.61D.

THE Mullard T.61D valve is already familiar to many of our members, but the following remarks may be of interest to those who are looking for a good medium powered dull-emitting transmitting valve, or for comparison against results with other valves. We are confident that any such tests will show the superiority of the T.61D.

The price of the valve is £6 10s., and it is rated for a continuous maximum dissipation of 60 watts. The maximum anode voltage is 2,000 D.C., though on 20m. it should not exceed more than 1,200 volts and on 10m. 800 volts, the powers on these two waves being limited to 100 watts and 60 watts respectively. It will be seen from these figures that it is considerably better than any other valve of a similar class.

The total emission of the filament is approximately 1.5 amps., and the supply should be 6 volts at 4.25 amps. The anode impedance is rated at 4,500 ohms and with an amplification factor of 21 gives the astonishingly high mutual conductance of 4.5 mA/volt.

The general construction of the valve leaves nothing to chance. The anode connection is taken out at the top, filament and grid connections being taken to pins in the 4-pin base now standard with British medium power transmitting valves. The internal capacity is thus kept as low as is consistent with good performance and high voltages.

H.T. Volts on Driving Valve.	Power Amplifier* (volts × m/As = watts)	Output†
500	900 × 100 = 90 **900 × 105 = 94·5**	61 **86**
320	900 × 90 = 81 **900 × 100 × 90**	48 **76**
500	1250 × 125 = 156 **1250 × 130 = 162·5**	111 **144**
320	1250 × 120 = 150 **1250 × 125 = 156**	81 **123**

* Figures in bold indicate the T.61D, as against the standard in ordinary type.

† Amps. in Zeppelin feeders squared and multiplied by 100 for direct comparison against input watts (frequency 14,000 kc.)

It was considered that this valve would best be tested in a neutralised power amplifier. Two sets were available for this test, one a straight CO-2FD-PA and the other (for testing a pair in push-pull) CO-2FD-PA(PP). The T.61D was tested against another double-ended 50-watt transmitter of well-known make, which in the following report will be called the standard.

First, it was noticed that, in the single valve power amplifier set, the internal capacity of the T.61D was slightly higher, and similarly that a slightly greater capacity was required for neutralising. 7,000 K.C. and 14,000 K.C. were used, and in spite of the high "mutual" of the valve neutralising was very easy and no instability occurred when the set was keyed. The set, by the way, was not shielded. This was very satisfactory. The valve driving the power amplifier was an LS5b, with varying H.T. voltages up to 500. It was at once noticed that when the drive volts were low the efficiency of the T.61D was much higher than that of the standard.

The accompanying table will be of interest in comparing the input to output powers of the valves under test. The grid bias on the standard was —90 volts for the lower H.T. voltage and —110 for the higher. The similar voltages for the T.61D were —54 and —72. At these grid voltages the anode current was practically zero (with a high-reading milliammeter) with the drive cut off. A grid leak of 10,000 ohms was always in circuit.

As this valve is suitable for 60 watts input on 28 M.C., it was thought advisable to test it as a frequency doubler, though doubling to 28 M.C. on the set available was not possible, owing to the construction of the P.A. circuit.

The following results were, however, obtained when doubling from 7,000 to 14,000 K.C. The grid bias was 160 volts. The H.T. on the driving valve was 500 volts and an output of 156 watts (1,250 volts at 125 milliamps) to the T.61D showed an aerial reading which, squared and multiplied by 100, gave 99. Compare this with 123 for the same input with the T.61D as a straight amplifier and with 111 with the standard. For doubling this does not appear bad.

These results were practically duplicated in another transmitter using slightly greater power, where, with an input of 200 watts on 14,000 K.C., the plate showed only slight colouration on keying load.

In the push-pull transmitter, although shielded, results were a little disappointing as slight self-oscillation troubles were experienced that made an increase of grid bias necessary for stable working. Even then after much careful adjusting the neutralising did not appear perfect. As a result no greater output could be obtained.

* * *

Burne-Jones Short-Wave Adapter.

We have recently tested a short-wave adapter made by Messrs. Burne-Jones & Co., Ltd. It consists of an entire short-wave detector circuit contained in a metal cabinet with blister enamel finish. On the front are provided three controls: slow-motion tuning condenser, reaction and aerial coupling. On the top, sockets are provided to take six-pin plug-in short-wave coils and detector valve, together with aerial and earth terminals. A four-way cord terminating in a four-pin valve socket plug is provided for plugging the adapter into the detector socket of the Broadcast receiver. The set then becomes a single valve detector followed by the existing L.F. amplifier, the aerial being taken direct to the aerial terminal on the adapter. Directly or indirectly heated valves may be used, and with the latter type the earth terminal

of the adapter must be connected to the cathode, or earth connection, of the receiver.

Two coils covering 20 to 40 and 40 to 80 metres are provided.

The adapter was connected to an all-mains B.C. receiver and an AC/HL valve used as detector. Being used to short-wave receivers with very limited tuning ranges, the tuning condenser appeared rather "quick" for careful searching for amateur signals. On the other hand the set appeared most suitable for the listener who desires to use a short wave set for occasional listening to S/W broadcasting. The signal strength below 25 M. appeared to fall off a little, but on the 40 M. coil many stations were received with excellent volume. No hand capacity effects were at all noticeable and our only criticism is the rather low ratio of the slow motion dial (about 10/1) and the smallness of the reaction knob, which made delicate adjustment of the reaction a little difficult.

The detector valve is removed from the B.C. set and the plug takes its place, the valve being used in the adapter. Selling at 39s. 6d., it seems an excellent investment for the B.C.L. who wants to see what "short-waves sound like" before becoming a dyed-in-the-wool "Ham."

* * *

We desire to draw members' attention to the excellent Clix Chassis Mounting valve holder, which is becoming almost universal in chassis-built receivers. The photograph shows clearly the

construction and the whole is built on paxolin. Both 4- and 5-pin are made and sell at 8d. and 9d. each respectively; slotted terminals are provided and allow for either soldered or screwed connections. We believe a special type is made for set manufacturers without terminals and it was due to the extreme popularity of these among the radio trade that Lectro Linx, Ltd., manufactured the terminal type for experimenters. The sockets are helically slotted and are therefore practically self-cleaning; a sure contact is ensured. A cover plate at the top allows the valve to be inserted in the correct way only, and short circuits through carelessness are practically impossible.

* * *

Westinghouse Metal Rectifiers.

The Westinghouse Brake and Saxby Signal Co., Ltd., have now put on the market a small metal rectifier, style M.B.5, designed for use in A.C. measuring instruments. This enables D.C. moving-coil meters to be used on A.C., with no further alteration than the addition of the rectifier and the calibration of the instrument for A.C. The D.C. readings will be increased by about 11 per cent., and a pamphlet is obtainable from the makers giving full details of probable errors due to supply variation, etc., together with circuits. Three models are available with outputs of 500 M.V. at 1 m.a., 5 m.a., 10 m.a., and the price is 25s.

As from June 1, this firm is making important alterations in the price and types of its rectifiers. The H.T.1, H.T.2, H.T.3, H.T.4, A.3, G.B.1, R.421, R.422, R.424, R.442 types will be withdrawn from the booklet, "The All-Metal Way," and advertisements, although they will still be obtainable if required. The H.T.8 is reduced in price from 21s. to 18s. 6d., and seven new types are introduced, viz., L.T.1, L.T.2, L.T.4, L.T.5, H.T.9, H.T.10, H.T.11. The output figures and prices for these are: L.T.1, 6 v., 0.25 amps, 10s. 6d.; L.T.2, 6 v., 0.5 amps., 11s.; L.T.4, 6 v., 1 amp., 13s.; L.T.5, 12 v., 1 amp., 15s.; H.T.9, 300 v., 60 m.a., 21s.; H.T.10, 200 v., 100 m.a., 21s.; H.T.11, 500 v., 100 m.a., or 400 v., 150 m.a., 35s.

The new H.T. types should make a great appeal to our members, as they are much more suitable for transmitter supply than the older types.

R.S.G.B. AND N.P.L. CALIBRATION SERVICES.

R.S.G.B. Calibration Service takes place from G2NM (Sonning-on-Thames) on each Sunday at 11.00 and 23.00 and Thursday at 23.00 G.M.T. (or B.S.T. if in force) in the 3.500 K.C. band.

The N.P.L. Service is given on the first Tuesday in March, June, September and December from G5HW at 21.00 G.M.T on 1,785 K.C.

Full details of all these Services were published on page 259 of the February issue. The Service from G5YK (Cambridge) has been postponed pending alterations.

Radio Exchange!

During Sunday, May 29, G6NF transformed his station into a radio exchange, when he relayed G5IS's 56 M.C. phone to G5YK on 3.5 M.C. G5IS's phone was perfectly audible at R7, QSA5, at a distance of about 60 miles! The transmitter at G5IS used about 4 watts in a push-pull circuit working into a multi-wave Zeppelin aerial (we believe the old 66 ft.). This was received on a super-regenerative receiver and then modulated, the transmitter on 3.5 M.C. using about 50 watts. G5IS received G5YK direct on 3.5 M.C., and G6NF had only to switch the transmitter on and off, as was required, and eavesdrop into both sides of the conversation. It is hoped to bring further stations in later. The distance between G5IS and G6NF is about ¾-mile, and shows how useful a frequency 56 M.C. could become to amateurs.

* * *

In a stop press stray, G5YH asks for the loan of a converter for an input of 12 v. D.C. (he doesn't mention the output) for the months of July and August!!

* * *

We are informed by the Agrupació Catalana E.A.R. of Barcelona that they have organised 'phone tests on the 7 M.C. band during the whole of June. Prizes are offered to the four foreign competitors receiving the most points. Three points will be awarded for every successful QSO with amateurs in the British Isles. Please send QSL cards, with complete details, direct or via Red Española, Post Box 262, Madrid, Spain.

CORRESPONDENCE.

The Editor does not hold himself responsible for opinions expressed by correspondents. All correspondence must be accompanied by the writer's name and address, though not necessarily for publication.

Earthquakes in the Argentine.

To the Editor, T. & R. Bulletin.

DEAR SIR,—It would be interesting to find out if any readers of the Bulletin have noticed the effect of the earthquakes which took place in the Argentine last month.

I have an idea that some of the Group were on the alert at the time and noticed good reception on the 7 M.C. band.

At G6LI *no* serious observations were made on the short-wave bands since we were too occupied listening to the signals coming through on the *BROADCAST BAND.*

During the whole of the month of April, right up to this moment of writing, broadcast stations have been picked up nightly from the Argentine at strengths varying from R4 to R7 on the loud-speaker.

Several receivers have been used, chief of which was a General Electric short-wave superheterodyne, slightly altered in its output end so as to give more output and higher quality. The station S.W. receiver was tried and also a Cossor Empire Melody Maker. Success attended all efforts.

About eight or ten different stations have appeared regularly. Some of them include : Radios Prieto, Rivadavia, Cardaba, Sarmunto, Nacion, Excelsior, Fenix, Nacional, Mitre, etc. Many have appeared and vanished before they could be captured. Radio Cine-Paris has been logged.

The transmissions originally made their appearance at 0100 G.M.T., and lasted until the break of dawn, when they faded very suddenly.

No stations were logged higher than about 375 metres. Fading was regular and quite rapid for the frequency. Quality was very bad except in the case of Radio Prieto. Under-modulation is outstanding. The programmes are too appalling for description. Thin, stringed instruments that sing in a wailing minor key. Potent Southern singers and very inferior records.

On May 8 only five stations could be logged, which came through at the best just before dawn. Fading occurred as soon as daybreak arrived. April 17 was the best day of reception.

It would seem clear that the layer of volcanic dust in the upper atmosphere was responsible for reflection of the signals at a very large angle projecting them clean over the Atlantic. Recently, it would be thought that the dust had settled. One is forced to assume that electrical stress is responsible in some way for distortion of the layer. It is, of course, known that intense electrical conditions are set up in the region of a volcano.

Strange to say, no North American transmissions have been picked up on the Broadcast band. Conditions in Lincolnshire have been very poor all during April on 14 M.C., and 7 M.C. has been uncommonly dead. One would have expected South American signals during the evening, but they were absent.

Very strong signals from Ecuador and a remarkable report featured in a contact with HC1YL on March 25. Since then nothing else has been heard from this region.—Yours truly,

A. E. Livesey (G6LI).

Telepathy !

To the Editor, T. & R. Bulletin.

Dear Sir,—I have had a rather peculiar experience many times during a few years at the transmitting game. It shows up more clearly when one is attempting to work DX on low power when the chances of a QSO are odds against.

It happens like this. I hear DX stations calling CQ and answer them individually in the usual, and sometimes monotonous, way. Then I suddenly feel at the end of one particular call that this time I've hooked him ; in fact, before the receiver is switched on I *know* I've got him. When one watches for this effect it is hard to locate, and in the instances most clearly in my memory I was certainly not expecting this feeling—which looks as if the effect was a sub-conscious one. In a recent QSO with a real DX country which I had not worked for many months I turned to a visiting friend and said " Got him ! " as I switched on the receiver. This remark seemed to come involuntarily, and I was relieved to find it was a correct forecast.

It is not, of course, a subject for C.B. or the like, but I should like to know if others have experienced the same sensation ?—Yours faithfully,

May 24, 1932. " Curious."

What Do YOU Think About It?

To the Editor, T. & R. Bulletin.

Dear Sir,—I am sure that every single member of the R.S.G.B. will agree that the T. & R. Bulletin is one of the finest radio publications in the world, and many of us think that it stands alone in this respect.

At the same time I feel that it is a matter of keen regret that the Bulletin does so much to foster the spirit of childishness in the pursuit of such a noble aim as that of the advancement of the science of radio communication.

I refer in particular to the material which fills so many pages toward the end of the Bulletin. District Notes take up an alarming amount of space, and Contact Bureau Notes contain a very large proportion of irrelevant or uninteresting matter.

The articles in the opening pages are beyond praise—constructional and technical articles full of useful information, accurate in detail, clearly and concisely given, and often penned by unnamed contributors. Nor do we wish to see the " lighter side " or social side of our work neglected. The genuine experimenter appreciates all these things and is asking for more.

But has not the time come, Sir, when the Society should begin to grow up ? Does the R.S.G.B. exist for the benefit of those who regard it as a kind of overgrown boys' club, or is its aim to assist the genuine experimenter (the only man worthy of his licence) and to promote technical research work ?

It is time that the standard of the Bulletin was raised in this respect. District Notes are for the most part only of local interest and contain little which can be called useful. Contact Bureau is a most valuable institution, but how much of the published material is the result of genuine experi-

ment? The columns are largely filled with airy notions or irrelevant details. Here are some recent extracts from District Notes and "C.B." :—

"G*** is having a spot of bother in getting going at his new QRA."

"G*** is spending all his time on his new CO-PA."

"He has had a breakdown of his smoothing condensers."

Can we afford to take up the valuable pages of the BULLETIN with this kind of material? The man who is busy experimenting wants to know what others are finding out—he wants *results*.

Would it not be better to scrap the District Notes, apart from notices of meetings, etc., and to revise the Contact Bureau Notes so that only experimental results of value were included. Where a "ham" is doing really useful work, let us give him full publicity, but it's time we discouraged the man who has nothing to report, and who does report either because he is worried to by a "D.R." or because he likes to see his call-sign in the "BULL."

—Yours faithfully,

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

4, Ridge Mount, Cliff Road,
Hyde Park, Leeds.
May 28, 1932.

CALLS HEARD.

ZL3CC on 7 M.C., February and March, 1932 :—

g2by, g2xh, g2zq, g5cv, g5ml, g6li, g6ll, g6wy, st2d, su1ch, ve2cd, ve3bv, ve3el, ve5al, vs1ad, vs6ae, vs6ag, vs6an, vs6ah, vs7gj, vs7jp, vu2fx, vu2jp, vu2kh.

* * *

*K. H. Fanke, DE*0849, *Harzstr.* 13, *Blankenburg/Harz, Germany, March and April* :—

7 M.C. : g2cj, g2zj, g2fn, g2yd, g2hp, g2jh, g2us, g2oc, g2pf, g2xa, g2im, g5uf, g5cu, g5wr, g5kq, g5np, g5cp, g5zz, g5kd, g5sg, g5vu, g5fn, g5zx, g5vt. g5cv, g5vq, gi5qx, g5pn, g6pa, g6so, g6wn, g6hp, g6vp, g6pl.

* * *

CV5EV, February to April, 1932 :—

7 M.C. : su1ch, su1ec, vk3zb, vk5hg, yi6wg, zc1s, zl1bn, zl2aj, zl2bs, zl2fi, zl2gn, zl2gs, zl2je, zl4ao, zl4ap, zs1z, zu6w.

14 M.C. : ac2ak, su1aa, vk2yr, vq4crh, vs3ac, vs6ae, vu2bg, vu2fx, xyi6kr, yi6wg, zs6y.

* * *

R. O. Davidson (*B.E.R.S.* 107), *P.O. Box* 31, *Nairobi, Kenya Colony, April*, 1932 :—

14 M.C. : g2dh, g2gz, g2op, g5fv, g51a, g5vl, vq4crh, vs3ac, zu5b.

7 M.C. : vk3ou, vk3wl, vk5fl (?), vk6fp, zs6y.

* * *

ZS4U, Box 8, *Boshof, O.F.S., S. Africa* (*January to April*) :—

7,000 K.C. : g2ig, g2vq, g2oq (?), g5fv, g5ml, g6fo, g6vp, vs1ab, vs1ad, vs2as, vs7gt, vs7ap, vs6ah, vs6ab, vs6an, ve2ax, ve3jh, v1pr, v8ab, v8af, vu2fx, vu2jp, vu2kh, vk6fl, vk6fo, vk6ag, vk6sa, vk6wi, vk6gf, vk3ba, vk3sl.

14,000 K.C. : g2vq, g2bl (?), g6rg, g6vx (?), g5la, g6hj, g2yd, g5ml, g2oa, ob2sk, vs7gt, vs7ap, vs3ac, vs3acd, vu2jp, vu2df, vu2fx, vq3msn, vq2ty, ve2ch, xzn2a, xzn2b, xg2b, ze1jh, zt1q, zt1h, zs1c, zs6y.

G5DF, s.s. Meriones, Capetown to Fremantle, March 1 *to* 16.

7 M.C. : g2cw, g2io, g2vq, g2zq, g5cv, g5is, g5iz, g5yu, gi5zy, g6ip, g6py, g6rg, g6wn, vu2kh, vu2pn, yi1dc.

Off Newcastle, N.S.W., April 3.

7 M.C. : g2xa, g5bj, g5cv, g5fv, gi5nj, g5pj, g6vp.

Adelaide to Cape Leeuwin, April 22 *to* 25.

7 M.C. : g5bj, g5iz, gi5nj, gi5zy, g6jg, g6kp, g6li, g6rb, g6sk.

14 M.C. : zl1ar.

Cape Leeuwin to Socotra, April 25 *to* 30.

7 M.C. : g2dh, g2lz, g5fv, g5iz, g5kl, g5yh, gi5nj, gi5zy, g6gv, g6qv, g6sk, zs1z, zs2a, zt6j, zu5b.

14 M.C. : vs7gt.

Red Sea, May 10 *to* 14.

14 M.C. : g2by, g2dz, g2zq, g5bj, g5fv, g5ib, g5ku, g5la, g5vb, g5yh, g6py, g6vp, g6wn, g6yc, g6yl.

* * *

VK2BR, Terrigal, N.S.W., March and April.

7 M.C. : g5cv, ve3el, ve3hc, ve5he, vs6ae.

14 M.C. : g6vp, vu2bg, vu2df.

* * *

W. E. Lane (*VQ4CRH*), *P.O. Box* 570, *Nairobi, Kenya Colony, March* 25 *to April* 30.

14 M.C. : g2dz, g2ig, g2op, g2yd, g5oc, g5qc, gi5qx, g5rv, g5vb, g5vm, g6wn, g6wt, g6wy, vu2bg, vu2df, zs4u, zu6w.

* * *

*BRS*497, 24, *Woodside Park Road, N. Finchley, N.*12, *March* 30 *to May* 22.

7 M.C. : su1ec, yk2by, vk2jo, vk2oj, vk3br, vk3ek, vk3jt, vk3ka, vk3lq, vk3rj, vk3wl, vk6rl, vk7ch, vp2cc, vp2pa, vs1ad, vs6ae, vs6ah, vs6an, yl6wg, zc1s, zl2bx, zl2gn, zl3ah, zl3as, zl3az, zl3cc, zl3ct, zl4ao, zl4ap, zs2a.

14 M.C. : su1ch, su1ec, su6hl, v1yb, ve1dm, ve2co, ve2cs, ve3he, ve3wa, ve3wm, vk2xu, vo8lc, vo8mc, vp2mr, vq4crh, vs6ae, ls6y.

BOOK REVIEWS.

THE RECORDING AND REPRODUCTION OF SOUND. (Cantor Lectures). By A. G. D. West, M.A., B.Sc. 95 pages and 78 illustrations. Price 3s. Obtainable from Royal Society of Arts, John Street, Adelphi, London, W.C.2.

This pamphlet contains the four lectures delivered before the Society in March, 1931, by the author, and is interesting from cover to cover. It surveys every step from the trapping of the sound to its rebirth from the reproducer. Not only does each step in the process involve many problems but the ingenuity of man has provided many solutions.

The first lecture deals mainly with sound, its measurement, the frequency composition of musical and unmusical sounds, and the acoustics of recording studios. The author shows how reverberation is measured, controlled and even artifically produced in order to simulate the effect of a cathedral or large hall.

A brief description of quality microphones, in the second lecture, precedes an account of the technique of sound recording on wax and film. By the use of electrical equivalents for the mechanical components of a wax recorder the author shows that it may be regarded as a band-pass filter

(*Continued on page* 423)

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N 80

The Z Code.

ZAP	Please acknowledge.	**ZOK**	We are receiving at maximum speed. *
ZDD	Make your dots and dashes thus . . .	**ZPE**	Send everything.
ZDU	Our duplex is out of order.	**ZPP**	Send text only in plain language.
ZFT	What are the conditions for triplex ?	**ZRO**	Are you receiving at maximum speed ?
ZHS	Send at the rate of . . . w.p.m.	**ZSG**	Stop automatic traffic and examine transmitter. *
ZHY	We have your . . .	**ZTV**	Transmit rapid automatic.
ZMP	Automatic transmission bad.	**ZWD**	Send word . . .
ZNN	Everything stopped provisionally.		

* Corrections to previous list.

The Q Code.

The Q-code in full is to be found in copies of the "International Radiotelegraph Convention of Washington, 1927," published by His Majesty's Stationery Office, London, price 2s. 6d.

The following is a selection of abbreviations likely to be of use to amateurs; this was first published in the T. & R. Bulletin in December, 1928.

Abbreviation.	Question.	Reply.
QRA	What is the name of your station ?	The name of my station is . . .
QRB	How far are you from my station ?	The distance between our stations is . . . miles (or kilometres).
QRE	What is the nationality of your station ?	The nationality of my station is . . .
QRG	What is my wavelength (or frequency) ?	Your wavelength (or frequency) is . . .
QRH	What is your wavelength (or frequency) ?	My wavelength (or frequency) is . . .
QRI	Is my note bad ?	Your note is bad.
QRJ	Are my signals weak ?	Your signals are too weak to read.
QRK	Are my signals good ?	Your signals are good.
QRL	Are you busy ?	I am busy (with . . .), please don't interfere.
QRM	Are you being interfered with ?	I am being interfered with.
QRN	Are you troubled by atmospherics ?	I am troubled by atmospherics.
QRO	Shall I increase power ?	Increase power.
QRP	Shall I decrease power ?	Decrease power.
QRQ	Shall I send faster ?	Send faster (. . . words per minute).
QRS	Shall I send slower ?	Send slower (. . . words per minute).
QRT	Shall I stop sending ?	Stop sending.
QRU	Have you anything for me ?	I have nothing for you.
QRW	Shall I tell . . . that you are calling him ?	Please tell . . . that I am calling him.
QRX	Shall I wait ? When will you call me again ?	Wait until I have finished with . . . I will call you immediately (or at . . .).
QRZ	Who is calling me ?	You are being called by . . . .
QSA	What is the strength of my signals	The strength of your signals is . . .
QSB	Does the strength of my signals vary ?	The strength of your signals varies.
QSC	Do my signals disappear entirely at intervals ?	Your signals disappear entirely at intervals.
QSD	Is my keying bad ?	Your keying is bad and your signals are unreadable.
QSE	Are my signals distinct ?	Your signals are sticking.
QSK	Shall I stop sending ? When will you call me ?	Stop sending. I will call you at . . .
QSO	Can you communicate with . . . direct (or through the medium of . . .) ?	I can communicate with . . . direct (or through the medium of . . .).
QSQ	Shall I send each word or group once only ?	Send each word or group once only.
QSU	Shall I send on . . . metres or (kc/s) ?	Send on . . . metres or (kc/s).
QSV	Shall I change to . . . metres or (kc/s) ?	Change to . . . metres or (kc/s).
QSW	Will you send on . . . metres or (kc/s) ?	I will send on metres . . . or (kc/s).
QSX	Does my wavelength (frequency) vary ?	Your wavelength (frequency) varies.
QSY	Shall I send on . . . metres (or kc/s) ?	Send on . . . metres (or kc/s).
QSZ	Shall I send each word or group twice ?	Send each word or group twice.
QTR	What is the exact time ?	The exact time is . . .
QTU	At what hours is your station open ?	My station is open from . . . to . . .

The abbreviation is followed by a note of interrogation when it is understood as a question.

Book Review—(*Continued from page* 420).

from 250 to 5,000 cycles per second. It is possible to design such a recorder, he tells us, with a level characteristic from 250 to 8,000 cycles per second with a drop of only 4 decibels from 250 to 30 cycles per second ; the difficulty is in getting the higher frequencies from the record with proper tracking.

The third lecture describes the processing of disc and film records and deals with the characteristics of both types. Horns, motors and pick-ups are also treated in technical detail.

The fourth and last lecture is concerned with reproduction—amplifiers, loud-speakers, light-sensitive cells, and reproduction under home and theatre conditions.

The subject is of itself fascinating and Captain West's treatment adds very considerably to that fascination.

The pamphlet is clearly and very helpfully illustrated, and being priced so modestly is an opportunity which should not be missed.

T. P. A.

The Z Code.

We are indebted to G2ZC, G6YL, G5UT and Mr. Carter for the additions to G6FY's list of Z-code abbreviations published in the last BULLETIN. In two cases the meanings supplied by these contributors did not agree, but we hope the meanings given are correct. The corrections appear on the opposite page.

The Beaufort Notation

G5UT has supplied the following code designed for reporting weather in detail. It is seldom used by amateurs, but is published in the hope that it will be of use to some.

b	blue sky ($\frac{1}{4}$ covered).
bc	sky cloudy ($\frac{1}{2}$ covered).
c	sky generally covered ($\frac{3}{4}$ covered).
d	drizzle.
e	wet air, without rain falling.
fe	wet fog.
g	gloomy.
ge	ground fog (German).
h	hail.
j	storm with thunder and lightning } (French).
k	nearly overcast. } (French).
kq	line squall.
l	lightning.
m	mist.
n	sky $\frac{1}{2}$-covered (German).
o	overcast.
p	passing showers.
q	squalls.
r	rain.
rs	sleet.
s	snow.
t	thunder.
tl	thunderstorm.
u	ugly, threatening sky.
v	exceptionally good visibility.
w	dew.
x	hoar frost.
y	dry air (relative humidity 60%).
z	dust haze.

When used in correspondence : Capitals indicate **Intensity ;** the suffix ₀ indicates **Slight** ; repetition of letters indicates continuity.

When used in Radio : **a** preceding a letter indicates **Heavy** ; **n** indicates **Light** ; **i** indicates **Intermittent.**

U C S—(*Continued from page* 411)

only being capable of copying at 15 words per minute.

Now, if the answering station had used a little common-sense he would, before sending K when answering the "Test" call, have inserted some signal, such as QSA5, QRS 15, between his own call and K. The operator calling "Test" would immediately have known what to do—send each word once at a speed of not more than 15 words per minute. Should QRM intervene during the QSO, then the answering station should have sent a new report, such as "Sorry QRM QSA3," if it was considered that the QRM was likely to interfere with future transmissions. The station suffering from interference would send each word twice at not more than 15 words per minute.

It is considered that the absence of a new report indicates that there is no reason to change the method or rate of sending.

Another cause for complaint lies in the use of the signal QSB. Station operators use the signal QSB, but they fail lamentably when it comes to adding information to indicate the degree of strength variation. What is the real value of a report such as "QSA5 R7 QSB." On this report the correct procedure would be single sending, yet, as sure as the writer's tickets still repose in the drum in Dublin, an answer will come back "Sorry QSB—please repeat." It is quite easy for the reporting station to report "QSA5 R7 QSB R5" if fading was not bad enough to make copying, when each word was sent once, impossible. If, during the remainder of the QSO, fading increased, then a new report, such as "QSA4 R7 QSB R4" or "QSA4 R7 QSB QSA3 R3," is required. Either report will convey the change of conditions.

Many other examples and numerous individual cases could be given to prove the case, but it is considered that sufficient evidence has been submitted to prove contention that enough common-sense is not used by operators.

To improve matters, never report a station as QSA5 unless it is possible to copy single sending, and, in addition, U C S.

In conclusion, the writer wishes to apologise for laying deliberate traps in order to produce evidence, and hopes that, if any of the operators concerned should read this article, they will, for the good of the cause, extend forgiveness for being "put on the spot."

G2FN.

STRAY.

During a QSO on March 3, VK4GK was overheard telling VS6AH that he had heard G5ML had scored over 5,000 points. This means, he went on, that he must have worked ten stations in every group on four wavebands, all of which stations must be over ten thousand miles distant. Gosh, some said the rules were vague in parts, so next year we'll get them drawn up by a lawyer—then we *shall* understand them ! !

CONTACT BUREAU NOTES.

By H. C. Page (G6PA).

THERE seems to be a scarcity of material this month, which is probably due to the approach of summer, though little of it has yet been observed in this part of the world.

The 3.5 M.C. Groups have closed down until the end of the summer, and G2KB, the Group Centre of Group 4B, is taking up 56 M.C. work, owing to the severe QRM from Hillmorton.

G5UM reports nothing doing on 1.7 M.C. and asks for more members for the groups working on that band. If possible it is desired to form at least one more group for work on that band.

G6FY reports that there is nothing of interest to us in the foreign magazines, except that *all German Hams wishing to operate a frequency meter must have a special licence for same!*

G2DT asks me to correct a mistake which appeared in the May Notes. The circuit shown therein is incorrect, as it is not a "Gill" type circuit. For the benefit of those interested the accompanying circuit shown in Fig. 1 is the correct one. G2DT points out that either will work well, but the one published last month is sailing under false colours.

There is one bright piece of news in an otherwise dull month. G6XN has now taken over the 56 M.C. groups, and their title is to be altered to include all frequencies above 28 M.C. New groups are now in the process of formation, and I hope to be able to publish further particulars shortly.

Will anyone interested in ultra high frequency work please get in touch with G6XN, either direct, or through Contact Bureau.

28 M.C. Work.

G6VP, Group Manager.

Conditions continue very poor on the band and seemingly few members are active.

Most of my news comes from abroad, and again it will be seen that whilst this frequency seems almost useless here, in other parts of the world it is giving very promising results, and so again it would appear that we cannot attach too much importance to the sun-spot cycle theory.

Group 1*C*.—G6WN has as usual spent some time on the band and thinks that things are looking up a bit. They have heard :—

May 1—Rome R5, Sardinia R5; May 12—Rome R6, Sardinia R6; May 15—EAM R5, C T1AY R3, Rome R6.

G6VP ran a sked with FM8CR and FM81H without any result, although 14 M.C. signals were reported by FM8CR at R10+.

Group 1*F*.—G2OA says he has been on quite a lot and that his transmitter is now giving a good output and note. He has heard G5CY's 16th harmonic. G5CN is joining this group and so G2OA will now have some local co-operation.

2BHK (ex-BRS615).—This station is now A.A., and is building QRP in anticipation. He has heard on April 16 and 20 Italian fone; April 24, HBJ; May 8, UN2GL, EAR98, 1RJ, EAM and OC3; May 9, 1RJ, FYQ; May 11, HAF9R.

Both FM8CR and FM81H are on 28 M.C. Sunday morning looking for G signals.

VK4XN writes me that from April 24 he will be on every Sunday, from 17.00 to 18.00 G.M.T. He will call "CQ ten" for ten minutes, then listen for 10 minutes, and so on, till the hour is up. Even a report that the signals were listened for would be appreciated by him.

He is using a T.CO4/10 in a Colpitt's circuit, with 25 watts. His QRA is Dalby, about 100 miles from Brisbane, some 2,000 ft. above sea-level.

VK4XN has had considerable experience of this frequency, having been "on" since March, 1930, with inputs of 1.8 to 2 watts has worked ZL, VK5, and VK3 stations consistently.

Using the higher input of 25 watts, he seems to have worked all (with the exception of the 6th) districts of Australia, and been heard pretty generally everywhere in the Antipodes.

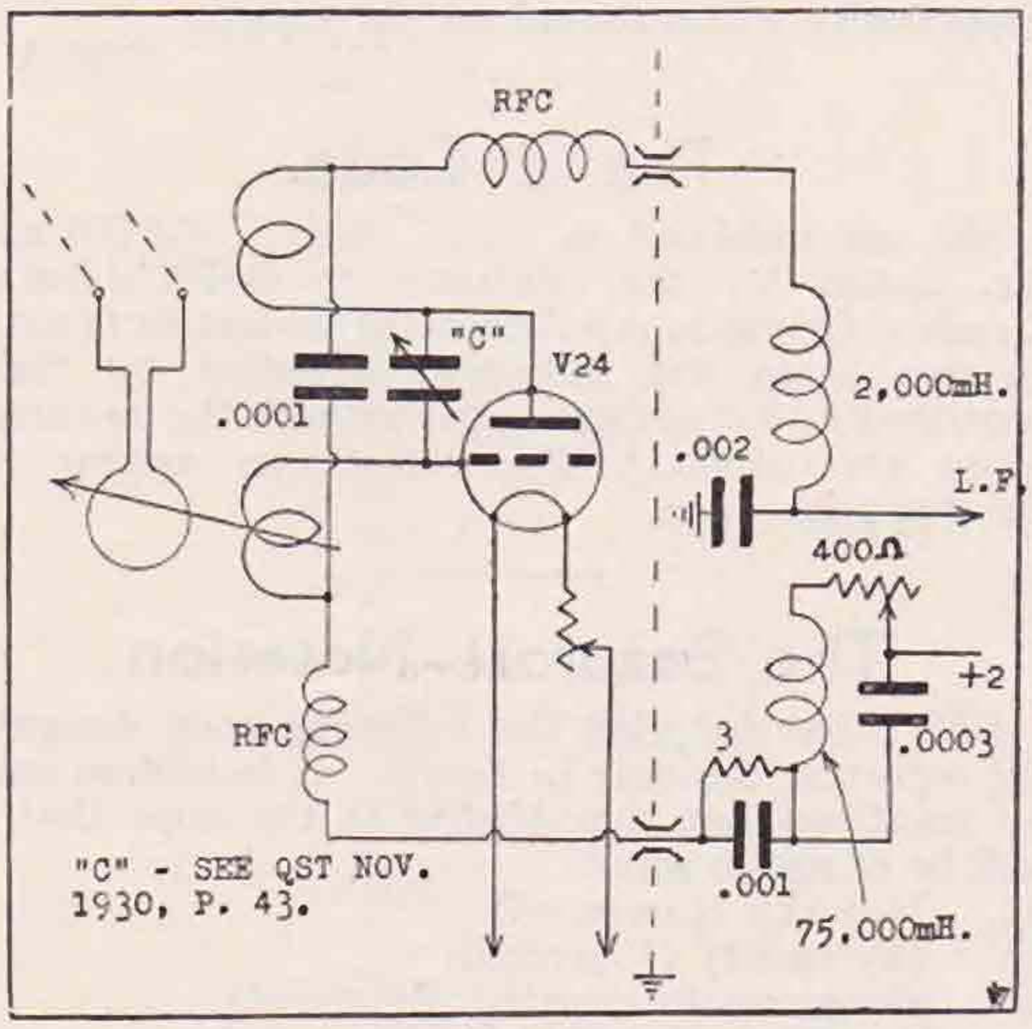

Fig. 1

The lines he has chosen have not been tried yet in Australia, and he hopes that they may be favourable for VK-G work.

Let us make an organized effort to hear this station. The achievement would be well worth while. Remember CE3CH and those that *did* listen.

In conclusion again I ask that we pull ourselves together and utterly refute the idea that 28 M.C. will always be impossible.

Fading, Blindspot, Blanket and Skip.

This month I have an encouraging report to make, as another group (2D) is forming, with 2AVR (R. H. Rolings, 25, Dawes Street, Gillingham, Kent) as G.C. This group, like 2C, means to be almost exclusively an observation group. In passing, some of the members of our groups would like to have a list of regular schedules carried out on the different bands by amateurs, and I would appeal to those who run such schedules to let me have the days, times, band, and with whom the schedules are run, so that I can pass these to the

G.C.'s, so that their groups can have reliable stations to observe upon. 2D intend having as their members, amateurs from different parts of the world, so as to widen the scope of their observations, and the first member of this group is a YI station, and it is hoped to get SU, etc., into it. As the individual group reports are somewhat long this month, I shall now pass straight on to them.

Group 2A.—The Heaviside Layer is still under discussion, and the question of multi-layers has been under review. The question arises as to whether a second layer proceeding outwards has a greater ionic density than the first one. An affirmative answer is not favoured generally, and consequently we are led to inquire why a signal, which has penetrated the first layer, can be reflected at the second.

Several ideas have been advanced, one being that although a signal passes through the first layer, it is there refracted to such an extent, that the angle of incidence on the second layer is small enough to allow reflection.

The group are busy with listening schedules, and charts of reception are being prepared, and it is hoped to give an outline of the methods of analysis adopted in the near future.

Group 2B.—An increasing interest in our list of earthquakes amongst amateurs seems to be taking place, as we have had several extracts from log books giving valuable data. This month we have quite a formidable list, and it is interesting to note that peculiar conditions occurred during the eruptions in South America. One member suggests that the bank of ashes caused conditions to be such as to reflect signals normally not heard in Britain. It would appear that something did cause an alteration on the refracting or reflecting agencies.*

Hollow signals have been under review, and while the group are by no means agreed on the subject, it appears that this is possibly due to some sort of condition that gives echoes from the Heaviside Layer.

Group 2C.—This group is now at full strength, and has started to work upon a scheme to determine the relationship between physical phenomena and radio. Observations are carried out on the 1.7, 3.5, 7, and 14 M.C. bands, and records are taken of QRA, QRK, and QSB of stations heard, while details are noted of weather, barometer, phase of moon, sunspots, and earthquakes.

The scheme is thus comprehensive and will take a little time to get into matter suitable for a report. The first letter budget contained only a description of the receiver and locality of each member, as well as a short note on each member's opinion of which phenomena may affect wireless signals, so that the above lists may yet be considerably supplemented.

Television Group.

G5CV, Group Manager.

Group 11A.—2BFO has made considerable progress since last month and his experiments have chiefly been concerned with the radio set and amplifier. He has obtained successful results using four valves with a single PM252 output.

BRS759 has completed his receiver and is all ready to try it out on actual vision reception. He is using an ordinary Osglim neon lamp with resistance removed. Ground glass helps to prevent an image of the electrodes being visible. The neon is connected to a 0-V-3 receiver, with a three-watt output valve. G5AW has not been very active, due to bad QRM by work, but reports that in spite of the AC/PEN output he can obtain very little modulation of the neon.

G5GJ has at last got his lattice mast up and is still tackling the light source problem. G5CV is still testing out various L.F. amplifiers. Although the marked superiority of resistance-capacity coupling for vision reception is well-known, it is doubtful whether its advantages over transformer or choke coupling are apparent when receiving the B.B.C. transmissions, owing to the restricted side bands. Tests are therefore being conducted with a set incorporating a crystal detector and three L.F. stages (transformer, R.C., transformer-coupled). The 5-6 metre Super-Regenerative RX is now working very well.

Antenna Group.

G2OP, Group Manager.

I am now able to give some further details of the aerial used by G5QY, which was described in these notes for March, 1932. I have already stated that the best results are obtained on 14 M.C., but I have no doubt that with a different length counterpoise the system could be made equally efficient on other bands. The coupling coil should be approximately the same size as the plate tank coil. Actually in his case it is just a little larger, and the two coils are coupled about 3 in. apart. With 5 watts input, other results are R4 from W6CRI and R5 from CZ1BU, while ZS6Y has sent along a report covering d fferent dates and showing that G5QY's signals out there are quite as QSA and consistent as the QRO G stations. I welcome reports on this antenna from all who try it out.

ZS6Y sends a very thorough and interesting report. He uses a 66-ft. Zepp. He, too, gets 45 deg. angle of radiation. The end remote from the station is suspended between two poles, and can be pulled along in a horizontal plane from one pole to the other. The best results for England are obtained with the top pointing N.W. and S.E. On the same setting China, Japan, Java, India, Ceylon, are all workable, while if the top is moved E. to W., he can work a W. every time he puts his key down. On 7 M.C., the same arrangement seems to have a 90 deg. angle of radiation, and to raise G's it is therefore necessary to run it East and West.

An antenna in which I am particularly interested at the moment for 14 M.C. is a vertic 133 ft. It might be fed Zepp style, with, say, 16-ft. feeders, or otherwise as a Windom, that is, the single wire-feeder attached 4 ft. 6 in. or 4 ft. 7 in *from the centre*, and again I would welcome reports on this by anyone interested enough to try it out. Let me again emphasize that reports should cover a period. Don't sling up something and because it won't give you DX straight away condemn it. Give it a fair trial. I shall soon have some more to say on the 33 ft. single wire-fed Windom, as G2BI has a scheme of this variety which will work on 14 M.C., 7 M.C., 3.5 M.C., and 1.7. M.C.

* [See a letter from A. E. Livesey (G6LI) in correspondence.—Ed.].

ONE WATT WEEK.

By H. C. Page (G6PA).

THERE were nine logs received for this contest, which is not a very large number, but the scarcity of contestants is made up for by the good work done by those who did send in their logs.

G2JH, of Tunbridge Wells, is the winner, with a score of 54 points ; he is closely followed by G2VR, with 50 points, while G5IB is third, with a score of 31 points. It is interesting to note that in each case the stations concerned kept to one band the whole time, and did not change about. G2JH and G5IB favoured 7 M.C., while G2VR kept to 3.5 M.C., and certainly did exceedingly well there.

Perhaps a few words as to the gear used at the stations will be of interest to all. G2JH was using a series fed Crystal Oscillator on a frequency of 7101 K.C. His aerial was a 66-foot "Windom" directly coupled to the plate of the oscillator. The valve was a Mazda P240, and the H.T. supply was from dry batteries. His H.T. voltage was 60, which gave him a plate current of under 14 milliamps. G2JH remarks that the best time for working appeared to be from half an hour before dark until two hours after dark. He worked stations in nine countries, including Spain, Yugoslavia, Poland, Portugal, and Czechoslovakia.

G2VR, as previously stated, remained on 3.5 M.C. all the week, and seems to have found that band very useful, though he remarks on bad QRM from Trams. His QRA is at Nottingham, so he is not quite so favourably situated as G2JH. Nevertheless he seems to have found no difficulty in working foreign stations, as his log shows seven countries, and a total of 35 stations worked.

His station was run from a 100-volt dry battery. The aerial was a 66 ft. 6 in. horizontal Hertz, 47 ft. high, and was coupled to the transmitter by 40 ft. feeders.

G5IB does not give any details of his station, apart from certifying that his input was under one watt, but remarks that he was on the air for thirty hours in all. His best DX was FM8CQ. He worked nine countries in all, including Portugal, Spain Czechoslovakia, Poland, and Switzerland.

The next station on the list is G5JU, who gained 28 points. But, as he remarks, he was only on the air for 14 hours, so could not expect much. However, he has not done at all badly. He worked seven countries, including Lithuania and Finland. Unlike the first three, he used both 7 and 3.5 M.C., and also attempted 14 M.C., but without any success. His aerial was a 33 ft. Windom, with 33 ft. counterpoise. On 7 M.C. he was using a Locked T.P.T.G., and on 3.5 M.C. a Push-Pull Self-excited Hartley.

G5LQ was next with 19 points. He was using a T.P.R.G. set with a PM256A and 80 volts at 12 milliamps.

(*Continued on page* 429).

Earthquake Report.

Date (1932).	Time, G.M.T.	Situation.	Remarks.
April 5 ? April 6 ?	?	Shock lasting several seconds felt in the Hangkow and Nanking districts of China	Reported in GBR PX, April 6
April 8 ?	?	Earthquake of considerable violence in part of the district of Kibali, Ituri, in the Belgian Congo	Reported in PX, April 9
April 10	Early a.m.	Three volcanos in the Andes in eruption	Volcanic cinders fell over Montevideo, Uruguay
April 11	?	Shocks felt in the South of the Province of Buenos Aires (Argentine) and in Valparaiso (Chile)	Remarkable electrical discharges interrupted telegraphic communication
April 12		Eight volcanos in the Andes in eruption	Dust and ashes fell from the Pacific to the Atlantic
April 12	16.20	Shock felt at San Miguel, Azores	Reported by CT2AN *via* G2VH
April 13		Quizapu Volcano in violent eruption (on the Chilean side of the Andes)	——
April 13	At night	Severe shock felt at Cordoba, in Northern Argentina	Imperial and International Communications announced that telegraphic communications with South America had NOT been affected by the disturbances
April 15	?	Volcanic eruption on Svinoy, an island in the Caspian Sea	Five people killed
April 15		Volcanic eruption in the Andes (Northern Argentina) (Southern Argentina). Shocks felt in Cordoba	——
April 23	02.12	Slight shocks at Horta, Azores	Reported by CT2AN *via* G2DZ
April 25	Early a.m.	Three shocks felt in Lower California (Mexico)	The longest shock lasted 40 seconds

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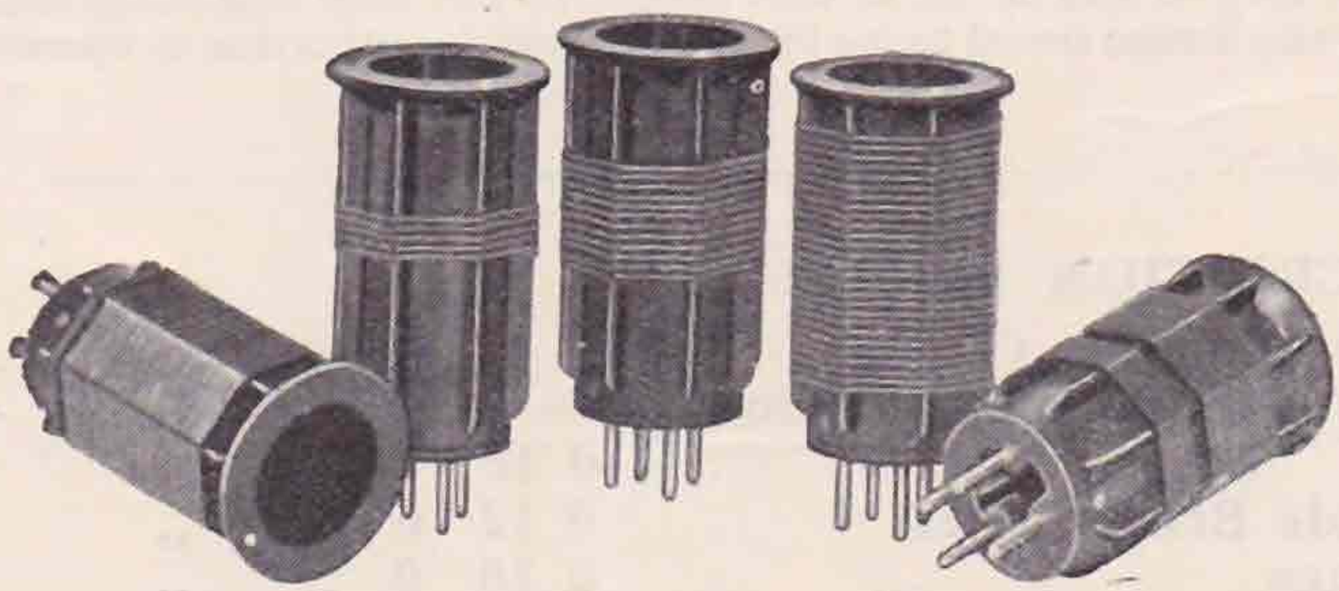

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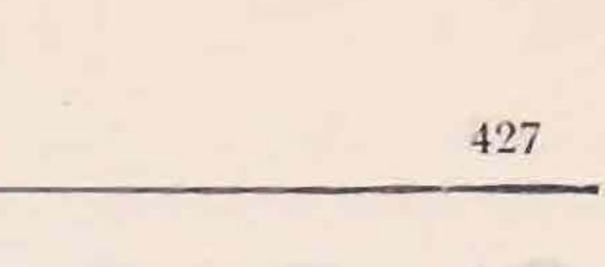
" Y, 18/45 " " **3/6** " W, 80/220 " " **4/-**
Type G, 210/550 metres, price **4/6**



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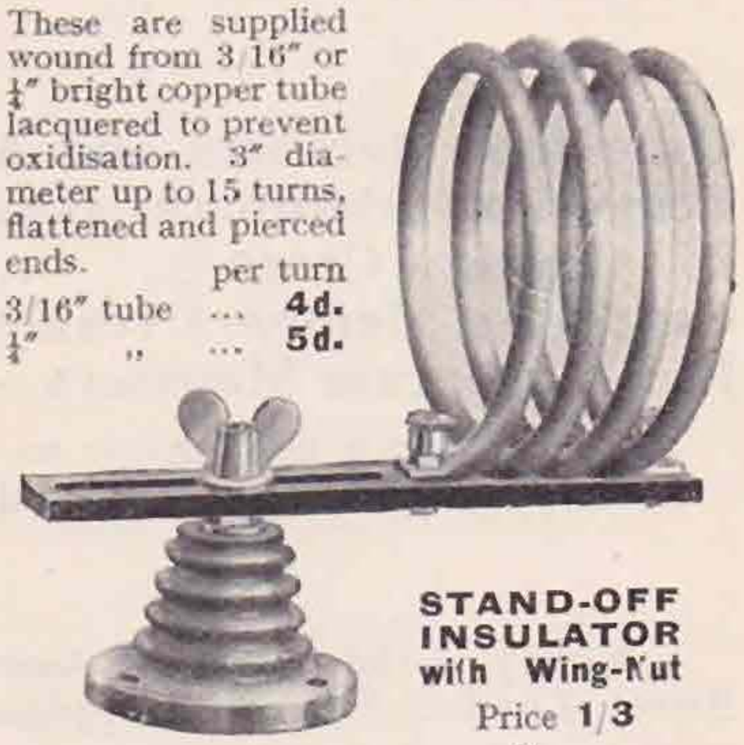

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APPLICATION FORM.

The Hon. Secretary,

Sir,—I beg to make application to be enrolled as a member, and shall be obliged if you will submit my name to your Council. I agree, if elected, to act and abide by the Rules of the Society as expressed in its Articles of Association and By-laws.

Signature.....

Name in full (please use Block Letters) .....

Address (to which all communications may be sent) .....

Nationality..... Age (if under 21).....

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NOTE.—*Members not having Call Signs are allotted B.R.S. (British Receiving Station) or B.E.R.S. (British Empire Receiving Station) Numbers, which are used for identification purposes only.*

Proposed by..... Seconded by.....

NOTES.—*Applicants who do not know any member may accompany their forms by references in writing by persons to whom they are known. Such persons should be householders, and should state profession and length of acquaintance with applicant.*
The Council reserve the right to refuse any application without reason.

UNDERTAKING TO BE SIGNED BY APPLICANT.

I, the undersigned, agree that in the event of my election to membership of the INCORPORATED RADIO SOCIETY OF GREAT BRITAIN, I will abide by and observe the Rules, Regulations and Articles of Association of the Society, and that in the event of my resignation from the Society given under my hand in writing, I shall, after the payment of all arrears which may be due by me at that period, be free from this obligation. I further agree to observe strictly the terms of any licence issued to me by the responsible authorities to operate transmission or receiving apparatus.

Witness my hand this.....day of..... (*signed*)..... ..

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(*Continued from page* 426)

After him came G5IO and G6PP, each with ten points and G5IX with nine points. GI5UR follows on with four points.

That concludes a most interesting test, and one which might have been better supported. It undoubtedly shows that low power can accomplish a great deal, but as one competitor remarks : " In these days of QRM it is becoming increasingly hard to contact on very low power, though it is quite simple to maintain a contact, once it has been established."

THE 1.7 M.C. TESTS.

By H. C. Page (G6PA).

PROBABLY few people will be surprised to learn that these Tests have proved to be the most popular of the series of Tests run this year. This is the case, however, for there are many more logs, and much more time appears to have been spent than on the other Tests.

Probably few will be surprised to learn that the winner is G6IZ, of Aberdeen. This station is very favourably placed for a contest under the present rules, and has had no difficulty in leading the remainder, though it must by no means be thought that G6IZ does not deserve his success. His log shows that a great deal of time was spent on the job, and it also is a model of what a good log should be. Well set out, and with full details of weather, etc., which so many stations seemed to ignore.

Judging by the reports on weather it seems doubtful if this has very much effect on signals on this band. G6IZ has forwarded a copy of his barograph readings for the whole month, but this again does not seem to show any marked variation for change in barometric pressure. This may be partly due to the fact that the variations were never very great, the lowest pressure being 29.25 and the highest not more than 30.30.

Several of the stations taking part in the Tests have remarked on the absence of any severe QRN, though G6IZ does seem to have had a little now and again. This was particularly the case during the late period on the 3rd of April.

There is little doubt that had we postponed the Tests for another month there would have been considerably more trouble from this source. Already QRN begins to make itself apparent from about midday onwards.

There can be little doubt that these Tests have once more proved the excellence of this band for reliable work at all times among ourselves, and with parts of the Continent. Perhaps one ought to add the proviso that it must be at this time of year. For it is rather doubtful if the same thing could be said even a month hence, when QRN becomes worse.

Now let us take a look at the different stations taking part in the Tests. Firstly the winner—G6IZ. This station is situated at Aberdeen—an excellent position.

The transmitter used for the Tests was a CO-PA, operating on 1780 K.C. The aerial used was 80 ft. long, and 30 ft. high, with a 20 ft. lead-in. A counterpoise was also used. This consisted of three wires 80 ft. long, spread fan-wise, and a 20 ft. lead-in from the point of junction of the three wires. The height of this system was eight feet.

The receiver used was an aperiodic SG-SG (detector) and L.F. The transmitting aerial and counterpoise was used for the receiver.

G6IZ scored 110 points in all. His largest score for one week-end was 33 points. This was for the second week-end of the Tests.

G5FP, also of Aberdeen, takes second place with a score of 84 points. Like his neighbour, G5FP's log is well drawn up, and full details of weather are given. He states that the first two week-ends were the best, while towards the end of the Tests QRN began to make its presence more strongly felt. He also complains of the general QRM during the Tests, both from other contestants, and from the everlasting fone stations.

The next station on the list is G6OO. Situated at Bridlington, he is not in such a good position geographically, but nevertheless he managed to make a very good score, and runs G5FP very close with 80 points. He found the second week-end excellent, and made his highest score of 27 at that time. The first week-end was poor, while the last two were better, but did not come up to the second. During the third week-end he complained of severe QRM from spark stations.

Fourth place is a tie between G6SY and G6UJ. The former is situated at Ashford, while the latter is at Driffield. G6SY used only 5 watts during the Tests, but has done very well for the power. His only H.T. supply is from dry batteries. He remarks on the enjoyment he obtained from these Tests, and hopes that more will be organised. Like G6OO, G6UJ found the second week of the Tests to be the best. The score of each of these stations was 65 points.

G6BA is sixth, with a score of 49 points. This station is at Gillingham, Kent.

The following stations also sent in logs, but space does not permit of details of their work: G5NS with 23 points; G5OG with 22; G6NZ with 16; G5UM with 7; G6SO, G6UF and G5RX with 5, and G2GG with 2 points.

The receiving side of these Tests was most disappointing, as only 2BRA took part. His score was 27 points. He remarks that he enjoyed the Tests very much, and it is a great pity that some more stations did not take part. Comment on the laxity of our BRS stations has already been made elsewhere, therefore it will perhaps be well to say no more about it. We will not advertise their slackness more.

In conclusion, acknowledgment must be made to G2OI, who sent in logs, though he did not take part. We would also like to thank Mr. Ponting (G6ZR), most especially for sending us a list of stations he worked during the Tests, so that members of the Society should not miss any points.

Strays.

G5VO is now transmitting on 40 and 20 metres and would be very glad of reports from any station. He will be on most evenings from 19.00 G.M.T. onwards and will always QSL.

* * *

If a man you are working says " QSQ," why not stop sending double and get the habit of single sending ? Learn the codes published in this and the last Bulletins, and for Heaven's sake UCS.

Surrey Gang Hold a 56 M.C. Field Day.

A 56 M.C. field day was held on Sunday, May 8, by the Surrey Gang and drew a crowd of 25 hams. Those present were: G2DC (D.R.), G6GZ (C.R., Hants), G2AX (C.R., Sussex), G6NK (C.R., Surrey), G6GS, G2BM, G2DZ, G2MR, G2YD, G2NH, G5MA, G5BY, G6SM, G5IS, G5AW, G5RS, G2RJ (2), G6LK, G2GG, 2BVZ, 2ALZ, 2BMZ, 2BXT, and Mr. James, of Aldershot.

The function was attended by ideal weather and was voted by all a huge success.

The meeting place was at G6GS, and the party produced three transmitters and 12 receivers, all of which functioned after some miles over bumpy roads with valves, etc., *in situ*. G6GS was operated as the base station at his own QRA, and many

56 MC. Transmitter with some of the Ops.

thanks are due to him for staying at home all the morning and operating while everyone else were enjoying themselves.

Two transmitters were taken to the appointed place, which was a clearing in a wood some four miles out of Guildford towards Godalming. These transmitters were operated by G2NH and G5BY and G6SM. Signals were R9 at all times, and duplex and three-way fone was worked successfully throughout the day. The input to all stations was 8 watts.

During the morning G6LK and G6GS were QSO on this band, the distance being 13 miles over fairly hilly country. During the afternoon G2DC, G6GZ, G2MR and G6NK went out in cars and were successful in hearing both G6GS and G2NH at R7 at Godalming, a distance of about five miles, while G2MR and G6NK went on to the top of Hindhead, a distance of 13 miles, and heard quite distinct speech from the base station (G6GS). It was noticed, however, that although signals were received at Godalming and Hindhead, nothing was heard at all in between these places. The aerial used in this case was a piece of cotton-covered wire round the roof of the car.

The transmitting equipment at all stations was *à la QST*, but the aerials varied considerably, G6GS using a ½-wave vertical Zepp, G2NH using a ½-wave dipole, while G6SM used two ¼-wave horizontal copper rods coupled direct to the transmitter, and at a height of only some four feet from the ground.

The receiving equipment was super-regenerative in all cases, but the actual receivers showed considerable individuality, some being on metal chassis and some breadboards, while the majority favoured Pentode output. Signals were easily readable at a distance of 100 yards on the loud-speaker.

It was noticed that when the house came between the transmitter and receiver, signals were inaudible, while a hill between made no difference at all. It would appear, therefore, that any object very close to the transmitting absorbed the signals, while some object at a distance made little or no difference.

Time prevented any further exploration, but it is hoped to hold a similar event later in the year.

Many thanks are due to G2NH and G5BY for bringing car loads of equipment, and to G2DC and G6GZ for power supply and aerial masts.

Mention should also be made of G2AX, who made the journey from Bexhill-on-Sea. This shows REAL ham spirit. Thanks, O.M.!

Reports Wanted

G5XB (Mr. S. A. G. Cook, 2, Queen's Avenue, Snodland, Kent) desires reports on his 7 and 14 M.C. transmissions. Tests are being conducted on aerials and will probably last through the summer. The exact frequencies will be 7158 and 14,316 K.C.

Strays.

From the R.E.P. we have received a copy of the fine commemoration issue of their Bulletin showing the progress which has been made by the amateur movement in Portugal since the formation of the R.E.P. in 1927. Particulars given of the QSL service show that over 55,000 were handled by the QSL bureau of the R.E.P. up to the end of 1931. There are now 263 transmitter-members in the society, and we should like to offer our sincere congratulations to them on the excellent progress made in recent years.

* * *

We are indebted to G5WY for the offer of a prize of two guineas worth of Radio Apparatus for the best improvements submitted in connection with a specified published short wave receiver. We intend announcing full details in connection with this unique contest in a future issue of the T. & R. Bulletin.

* * *

G5PQ, Wilfred F. Moore, 17, Lawn Road, Uxbridge, Middlesex, is on the air most days with 9 watts on 7156 K.C.s or 14,312 K.C.s and would appreciate reports on his C.W. transmissions.

* * *

VK6AG and VK6WP (Messrs. W. E. Coxon and W. P. Phipps respectively) would be glad to arrange schedules on any wave.

Empire B.E.R.U. News.

B.E.R.U. REPRESENTATIVES.

Australia.—H. R. Carter (VK2HC), Yarraman North, Quirindi, N.S.W.

British West Indies, Bahamas, Bermuda, and British Guiana.—H. B. Trasler, No. 2 Mess, Pointe à Pierre, Trinidad, B.W.I.

Canada.—C. J. Dawes (VE2BB), Main Street, St. Anne de Bellevue, Quebec.

Ceylon and South India.—G. H. Jolliffe (VS7GJ), Frocester Estate, Govinna, Ceylon.

Channel Islands.—H. J. Ahier (G5OU), Lansdowne House, 45a, Colomberie, St. Helier, Jersey, C.I.

Egypt and Sudan.—H. Mohrstadt (SU1AQ), No. 1 Co. Egypt Signals, Polygon, Cairo.

Hong Kong.—P. J. O'Brien (VS6AE), 12, Kent Road, Kowloon Tong, Hong Kong.

Iraq.—H. W. Hamblin (YI6HT), Wireless Section, R.A.F., Shaibah, Basra, Iraq.

Irish Free State.—Col. M. J. C. Dennis (EI2B) Fortgranite, Baltinglass, Co. Wicklow.

Kenya, Uganda and Tanganyika.—H. W. Cox (VQ4CRF), Box 572, Nairobi, Kenya.

Malaya.—G. W. Salt (VS2AF), Glenmarie Estate, Batu Tiga, Selangor, Malay States.

Newfoundland.—Rev. W. P. Stoyles (VO8MC), Mount Cashel Home, St. John's East.

New Zealand.—D. W. Buchanan (ZL3AR), 74, Willis Street, Ashburton; and C. W. Parton (ZL3CP), 69, Hackthorne Road, Cashmere Hills, Christchurch.

Nigeria.—Capt. G. C. Wilmot (ZD2A), 1st Battalion Nigeria Regt., Kaduna, Nigeria.

N. India and Burma.—R. N. Fox (VU2DR), C/o VU2FX, Sgt. C. D. Connerton, Aircraft Park, Lahore Cantonments, Punjab, India.

South Africa.—W. H. Heathcote (ZT6X), 3, North Avenue, Bezuidenhout Valley, Johannesburg.

South Rhodesia.—S. Emptage (ZE1JG), Salcombe, Plumtree, Southern Rhodesia.

Australia.

By VK2HC.

March-April.—Conditions on the whole, over the past month, have been extremely variable, both in DX worked from one station and the varying conditions existing between the DX stations and those in different parts of the continent.

The only 28 M.C. contact of note was between VK3JJ and VK4XN. Conditions on 14 M.C. are most unstable—at times the Europeans can be worked between 06.00 and 08.00 G.M.T., but as a rule only the Pacific signals get through.

The 7 M.C. band is excellent for work with the U.S.A. from 08.00-12.30 G.M.T., and an occasional South American can be heard. The other Pacific stations come through rather well. In the early mornings from 19.30-21.30 G.M.T., DX signals from Europe still come through, but it is difficult to break through the QRM of the W stations.

The old 3.5 M.C. gang are awaking to find excellent conditions between ZL and VK. Several W's also have been heard at good strength, and we are awaiting some of the old-time GVK 3.5 M.C. contacts.

A new *entirely amateur* organisation has been formed in VK2, with the co-operation of the WIA headquarters and the WIA in the other States; should be a great success.

Six R.A.A.F. 'planes recently went to Darwin, one equipped with radio. The R.A.A.F. Wireless Reserve co-operated and did some excellent work.

British West Indies.

By VP4TA.

April-May.—VP2JA and BERS105 are new members, and we have hopes of having another in the person of VP2MR, of Barbados, who is getting out very well on low power.

VP2YB (ex V1YB) reports that conditions at present are extremely good to Europe and English stations come in at R6-8 in the afternoon from 20-22.00 G.M.T. Conditions to England and Europe continue to improve, and it seems that shortly V2YB will again be able to run a reliable sked with one of the E.L. stations.

This station won the group award in the recent B.E.R.U. contest, and deserves our congratulations for a very good show.

Canada.

By VE2BB.

April.—I am glad to report that DX conditions are much improved. G stations have been coming in well around 22.00 to 23.00 G.M.T. and a few at 18.00 G.M.T. South America has also shown up well on the 14 M.C. band.

VK and ZL stations come in very well on 7 M.C., and if the thousands of W stations were silent for awhile we might get a chance with them.

Ceylon and South India.

By VS7GT (*via* G6RB).

May.—Firstly, all local B.E.R.U. members thank VS7GJ for the energetic manner in which he has so ably upheld the cause of B.E.R.U. in Ceylon and South India and wish him a healthful furlough at home.

VU2JP has been ill with malaria, but reports conditions on 14 M.C. almost dead, although 7 M.C. is better. He is rebuilding to CC. and would welcome reports.

VS7AP does not report, but it is rumoured that he is about to be married! His many Empire friends will wish him all happiness. We welcome a recruit to B.E.R.U. in VS7AO, and hope that shortly we shall be joined by VU2LJ as well.

(*Continued on page* 438).

NOTES and NEWS from the BRITISH ISLES

DISTRICT REPRESENTATIVES.

DISTRICT 1 (North-Western).
(Cumberland, Westmorland, Cheshire, Lancashire.)
MR. S. HIGSON (G2RV), "Hebblecroft," Egremont Promenade, Wallasey, Cheshire.

DISTRICT 2 (North-Eastern).
(Yorkshire, Durham, Northumberland).
MR. L. W. PARRY (G6PY), 13, Huddersfield Road, Barnsley, Yorks.

DISTRICT 3 (West Midlands).
(Warwick, Worcester, Staffordshire, Shropshire.)
MR. V. M. DESMOND (G5VM), 199, Russell Road, Moseley, Birmingham.

DISTRICT 4 (East Midlands).
(Derby, Leicester, Northants, Notts, Rutland, Lincoln.)
MR. H. B. OLD (G2VQ), 3, St. Jude's Avenue, Mapperley, Nottingham.

DISTRICT 5 (Western).
(Hereford, Oxford, Wiltshire, Gloucester.)
CAPT. G. C. PRICE (G2OP), 2, St. Anne's Villas, Hewlett Road, Cheltenham, Glos.

DISTRICT 6 (South-Western).
(Cornwall, Devon, Dorset, Somerset.)
MR. H. A. BARTLETT (G5QA), 95, Old Tiverton Road, Exeter, Devon.

DISTRICT 7 (South-Eastern).
(Berkshire, Hampshire, Kent, Surrey, Sussex.)
MR. J. DRUDGE COATES (G2DC), "Burleigh," Farnborough Park, Hants.

DISTRICT 8 (Eastern).
(Cambridge, Huntingdon, Norfolk, Suffolk.)
MR. S. TOWNSEND (G2CJ), 115, Earlham Road, Norwich.

DISTRICT 9 (Home Counties).
(Bedfordshire, Hertfordshire, Essex, Buckinghamshire.
MR. F. L. STOLLERY (G5QV), "Kingsmead," Lancaster Gardens East, Clacton-on-Sea, Essex.

DISTRICT 10 (South Wales and Monmouth).
(Monmouth, Glamorgan, Breconshire, Carmarthen, Cardigan Pembroke.)
MR. A. J. E. FORSYTH (G6FO), "St. Aubyns," Gold Tops Newport Mon.

DISTRICT 11 (North Wales).
(Anglesey, Carnarvon, Denbighshire, Flintshire, Merioneth, Montgomery, Radnorshire.)
[To be appointed.]

DISTRICT 12 (London North).
Mr. S. BUCKINGHAM (G5QF), 19, Oakleigh Road, Whetstone, N.20.

DISTRICT 13 (London South).
MR. A. D. GAY (G6NF), 49, Thornlaw Road, West Norwood S.E.27.

DISTRICT 14 (London East).
MR. T. A. ST. JOHNSTON (G6UT), 28, Douglas Road, Chingford, E.4.

DISTRICT 15 (London West and Middlesex).
MR. H. V. WILKINS (G6WN), 81, Studland Road, Hanwell, W.7.

SCOTLAND.
MR. J. WYLLIE (G5YG), 31, Lubnaig Road, Newlands, Glasgow.

NORTHERN IRELAND.
Mr. C. MORTON, (GI5MO), 27, Bristol Avenue, Belfast.

District Notes for publication should be written as concisely as possible and should be in the Editor's hands by the 25th of the month preceding publication. They should be of a general rather than personal nature. Individual reports from County Representatives will not be accepted for publication.

DISTRICT 1 (North-Western).

OWING to slight indisposition of the C.R., no official meeting was held in the Liverpool Area this month. We hope everything will be O.K. for next time. A period of inactivity seems to have taken place this month, at least in West Cheshire, as most of the reports come from the eastern area. We welcome G5PO back on to the air, using push-pull T.P.T.G. on 7 M.C. G5FC has come back after his examination. G2CG has gone C.C. G5OL and G2VP are testing fone on 7 M.C. G5OZ has had his first contact outside Europe with FM8 on 14 M.C. G5CN is struggling to get his Rx to perk on 28 M.C. G2OA is active on 14 M.C. and "keeps his eye" on 28 M.C. The Manchester Gang had an FB meeting as usual, and 18 members were present, including the first YL to attend any of these meetings. It is rumoured that a new YL transmitter may be heard shortly! G5CP gave a very interesting talk on his adventures in the Marine service as a "Sparks," and kept the meeting very much alive. G2WQ is to give VS7GT has been off the air this month owing to change of address to Nuwara Eliya (6,500 feet). the next station description at the June meeting. Activity is fairly brisk in this area. G2OI reports 14 M.C. like old times in patches, and has his fone sked with BRS751 at Bristol as usual. BRS617 has put in some work with the Rx. G6GV has worked ZS. A successful field-day was held on May 23 at Frodsham, 16 members attending. G2RV is once more at his home QRA and hopes to be on the air again before this is in print. I should very much like to have some individual opinions about these notes, so the next time you send a report to your C.R. just tell him whether you like them or not, and if you have any good suggestions let him have them, so that they will come to me in his report. Thanks!

The following also report active: G5CY, BRS611, 2BOI, G2QB and G5WG.

On April 12 G5KL took a small party over Lotus' works at Liverpool. Members saw both the constructional and testing sides of the works and were very interested in the mass production side, where the sets are conveyed along belts from one bench to another until the finished product arrives for testing. L.F. transformers being wound at

6,000 revolutions per minute also attracted attention, as also did the apparatus for testing faults in these fine-wire windings.

DISTRICT 2 (North-Eastern).

G2VQ has personally asked me to mention No. 4 District Conventionette and wishes all who can do so to attend.

LEEDS DISTRICT.—G6BX is active on 1.7 and 3.5 M.C. Sundays; reports welcomed. G2WS is active on 3.5 and 14 M.C. The following are active on 1.7: G5TQ, G5IA, G5NP, G5XK, G2BH.

SHEFFIELD DISTRICT.—G6UF is rebuilding, but will be active on 7 and 14 M.C. when this is in print. Reports welcomed. G6LF is going again, but troubled with Zepp. G2XH is doing DX with 40 watts and a Zepp. G2BH using a single wire, 66 ft. long, doing fairly well on 14 M.C. G6PY lowering and re-erecting aerial several times daily trying to get a Zepp to zipp. Hi! G5FV has done very well on 14 M.C. this month. He has fixed up a sked with W9GFZ on 28 M.C. and he is hoping for a good week-end soon. G5VO and G2XH have promised co-operation with him on 28 M.C. G5VO, with the help of others, is trying to form a S.W. Club in Bridlington. (I hope this proves a success, OM.) He finds conditions very good during the morning, and on May 14 he had a 20-minutes QSO with ZL3AZ on 7 M.C. with 10 watts input.

DISTRICT 3 (West Midlands).

At G2OQ both G2OQ and G5UW have been busy completing and testing the portable TX and RX for the "Susanette" cruise. [We understand G5VL has kindly supplied G5UW with a list of lifeboat stations on the south-west coast.—ED.] Not much work has been done at the "home station," but some DX on both 7 M.C. and 14 M.C. has been handled on a few occasions. G5QC has not been heard so much, but has been operating. To BRS780 goes the credit of being the only member in Staffordshire to send in a report. [Thanks, OM. —D.R.] He finds static predominant, to the exclusion of DX reception. Now then, Staffs, make your county reports worth while by sending G5UW a line each month by the 18th, stating what has been done.

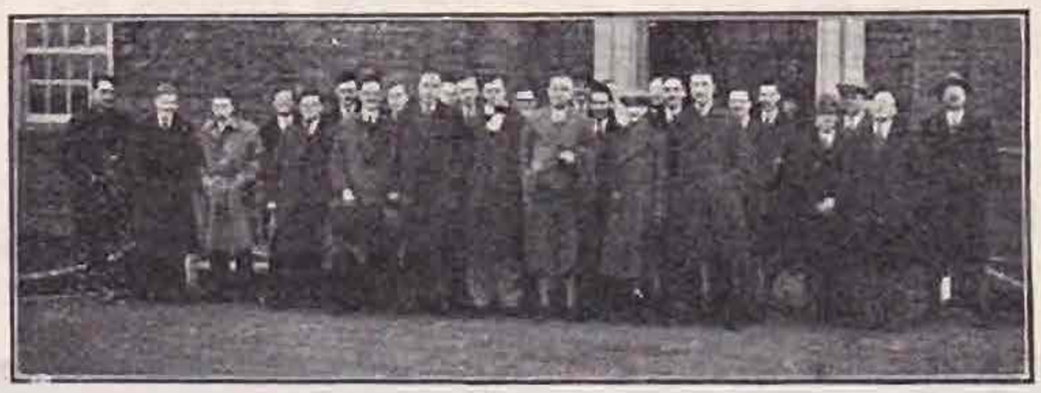
G5BJ, G5NI, G2ZW, G6KI, G2PD, G5TL, G5VM are active and send reports. All have noticed the great improvement on 14 M.C. during the past few weeks and many fine DX contacts have been made. G6XQ has not yet completed the change over to A.C.

No. 4 District are holding their Conventionette on Sunday, June 19, and I am making arrangements to take a large party from No. 3 District over to Nottingham on this occasion. We shall leave Birmingham about 10 a.m., and I shall be glad if anyone interested will let me know if they are coming at once to enable me to complete my arrangements for transport.

DISTRICT 4 (East Midlands).

Lincolnshire.—Our first mammoth gathering for the area was held on Easter Sunday last at the New Theatre, Boston, through the kind arrangement of BRS406 and BRS103. The following were present: G5GS, G5BD, G5CY, G5IX, G2VH, G2QH, G6LI, BRS103, 406, 426, 474, 511, 616, 829. BRS406 and 103 demonstrated the picture apparatus to the party. The question of future gatherings was discussed, and the 80 M. scheme of regular local schedules.

The following stations report by letter that they are active on two or more bands: G5BD, G5CY,



District 4 Outing to Rugby Radio Station, April, 1932.

G5IX, G5LQ, G2VH, G2XG. G6HK is active on 1.75 M.C. and would appreciate fone tests. BRS511, BRS406, BRS103 give reports. We are pleased to welcome into the area BRS829 and BRS871. It is very encouraging to see the great revival of interest in the Grimsby and Boston areas.

The Lincolnshire Area called its second informal gathering at the Pavilion Gardens, at Skegness, on Whit-Sunday afternoon, by the kind arrangement of G5IX. Attendance was poor, but we were delighted to have the company of Notts, Leicester and Cambridge members. A total party of nine later visited the Beam Receiving Station in the vicinity, through the courtesy of International Communications, where a most fascinating two hours was rapidly spent.

Conditions have shown great improvement on 14 M.C., and the Sunday 1130-1230 B.S.T. 80 M. local parties are progressing well.

Please don't forget the Conventionette at Nottingham on June 19. The greatest yet—with YOUR support!

Nottinghamshire.—On April 9 No. 4 District members had the privilege of visiting the many short and long-wave stations of the Post Office at Rugby. After tea in Rugby, the party of 31 visited G2KB.

No. 4 DISTRICT CONVENTIONETTE

SUNDAY, JULY 19

The Welbeck Hotel, Milton Street, NOTTINGHAM.

Meet 12 p.m. - - - Hot Lunch 1 p.m.

Business Meeting 2.30 p.m. - Tea 5 p.m.

Lunch only 3/6; Tea only 1/e.

All those attending please notify H. B. Old, G2VQ, by June 17.

ALL WELCOME.

Old G5SP, of Blidworth, has joined up again and is now in Baluchistan, India.

Leicestershire.—All members in the county are now active and the three active transmitters are working full time.

G2CZ is working on 7 M.C. and has built a push-pull TX for 56 M.C. Would like to hear from other hams who are working on this band. G5VH is

also very active working fone on 7 M.C., using the Aberdonian modulation system. Would also appreciate reports from the BRS stations, to whom he will reply by card. G6GF is active on 7 and 14 M.C. and has worked SU1EC on 7 M.C. All the BRS stations are active, and BRS559 expects his AA ticket at any moment.

DISTRICT 5 (Western).

The annual District Conventionette was held at the Grand Hotel, Bristol, on Sunday, May 1. There were 96 present and, as far as can be ascertained, this is a record for the provinces. It was

DISTRICT 5 CONVENTIONETTE, Bristol, 1932.
Seated, centre: A. Forsyth (G6FO), H. B. Old (G2VQ), H. Bevan Swift (G2TI), J. Clarricoats (G6CL), Capt. G. C. Price (G2OP), Col. Palmer (G2BI).

voted a great success and everybody seemed to have had a thoroughly enjoyable day. Members assembled at noon for lunch at 1 p.m., and we were honoured by our President, Mr. Bevan Swift, being in the chair. Three members of Council were present, also four D.R.'s and no less than eight Empire Link Stations. The toasts were "The King," by the Chairman, "The R.S.G.B." by Mr. Forsyth (G6FO), "The B.E.R.U." by Mr. Old (G2VQ), "No. 5 District" by Mr. Desmond (G5VM) and responded to by the D.R., who also proposed "The Visitors," "The Chairman" by Mr. Weber (G6QW).

After lunch an informal presentation of a "cruet" was made to Fred Miles (G5ML), as it had just been announced that he had brought back the B.E.R.U. trophy to Britain. A group photograph was then taken and members proceeded to a different room for a business meeting, at which Mr. Clarricoats spoke. Various subjects were discussed and points raised. This was followed by tea and station visits.

The D.R. would again like to take this opportunity of thanking all members of the District for their support, and at the same time pay a tribute to the sportsmanship of so many visitors from other Districts who came long distances, and, in particular, the Midland gang, headed by G5VM.

Copies of the photograph (whole-plate size) may be obtained from Mr. A. N. Porter (G2ZX), 32, Tyndalls Park Road, Clifton, Bristol, at 2s. each.

Forty members attended the usual monthly meeting at Bristol. Field days are being arranged for the summer and the usual monthly meetings will take place.

In Wiltshire the letter budget still goes strongly and this month is so interesting that it has not yet reached the D.R., who would like to have a look at it and still lives in hopes. The C.R.—Col. Palmer (G2BI)—wishes to keep in touch with his members on the air, and for this purpose he sends out a general call of "R.S.G.B. Wilts de G2BI" on the 15th and 30th of each month, on 1,806 KC., at 18.30 B.S.T. or G.M.T. when in force.

There is no report from Oxford this month, but I understand that things are going well in that direction.

DISTRICT 7 (South-Eastern).

The chief feature during May was a very successful 56 M.C. field day organised by the Surrey gang. Details of this are published elsewhere.

G6NK reports a great activity on 56 M.C. throughout Surrey. The monthly meeting was held on May 1 at Pitcher's Café, Guildford. Nineteen members attended and arrangements were completed for the 56 M.C. field day, which was held on May 8. The latter was voted a huge success by all that attended, 25 Hams, and very good weather!

G6WY reports conditions very bad generally, but that keenness remains very high in Kent. The letter budget is still going strong, 15 contributions received during May. G5FJ is experimenting with the silvering of crystals, apparently with success, greater output being claimed. G5OQ G2IG and G6XO are working on the higher frequency, the latter two running a regular schedule on 56 M.C. G5IH on 3.5 M.C., G5XB with COPA, G6QC with crystal-lens work, G6QG on 1,750 K.C. with grid mod 'phone outfit, are other active stations in Kent reporting. G5FN has had bad luck—one crystal departed for higher frequencies. G5MP is troubled with an elusive spacer and 2BWF is building up the QRP C.C. set, as described in last month's "BULL."

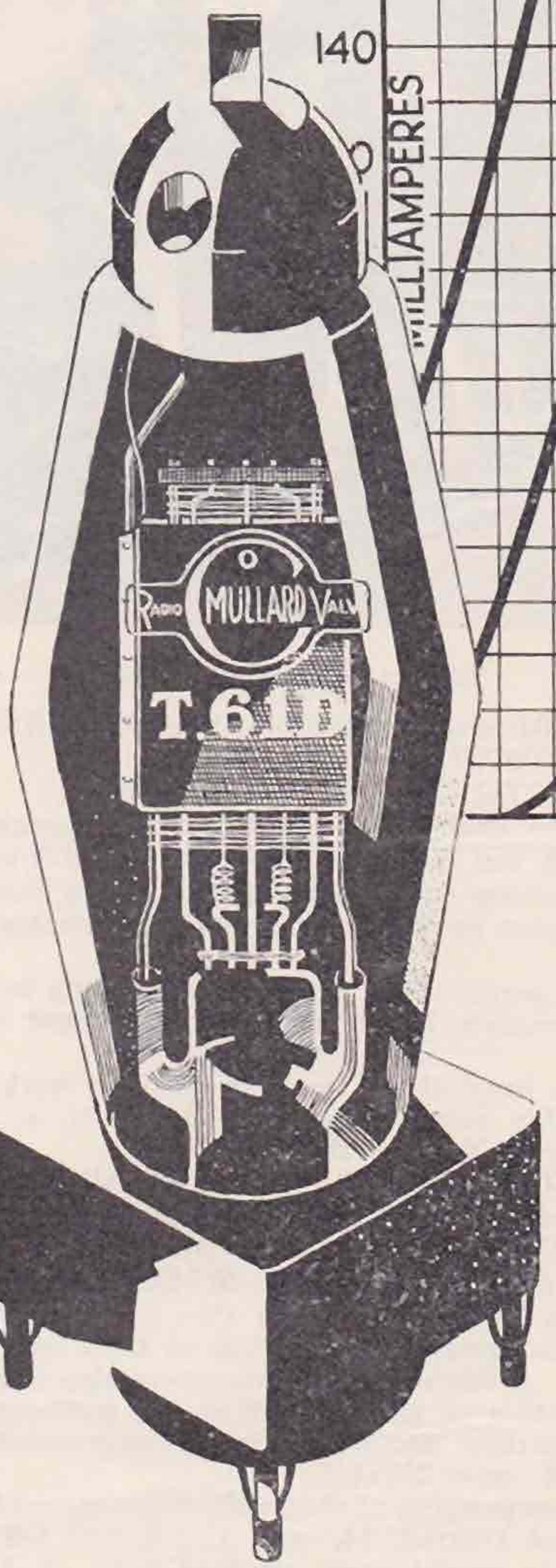
G6GZ reports his combined letter budget still F.B. A report from the Channel Islands states that conditions on all bands show a great improvement. 2BYO recently visited CT1AA and CT1CW. G6NZ reports activity in the recent 2 M.C. test and scored quite a few points. It is hoped to organise a 56 M.C. field day in the Winchester area, probably in July. Will all interested please drop G6GZ a line? The following contributed to the May letter budget: G2DC, G2GG, G2BI, G5RS

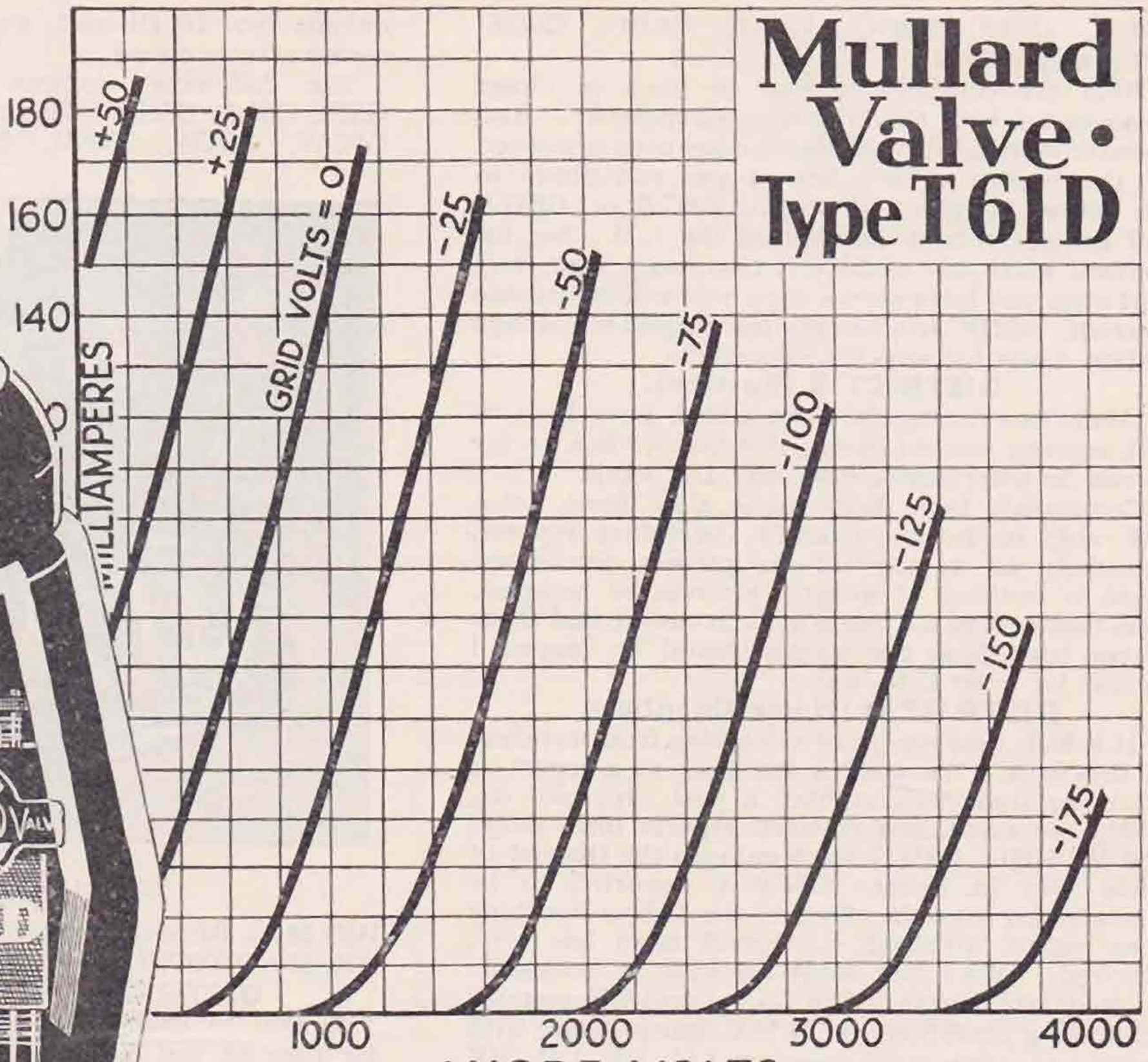
A CONVENTIONETTE AT CARDIFF!

The members of No. 10 District look forward to seeing a large number of their brethren at the Angel Hotel on Sunday, June 26, from 11 a.m. to 7 p.m. Inclusive cost of Lunch and Tea, 4/6.

Apply G6FO.

P.S.—See Cardiff and die happy!





Mullard Valve • Type T61D

More Power for Transmitters

The Mullard T.61D valve makes available for the amateur a transmitting valve **with standard transmitting base,** having a power rating 50% greater than any previously available type.

This is made possible by a special double-ended construction incorporating a **molybdenum** anode.

The large total emission and high mutual conductance of the T.61D ensure high electrical efficiency, even when the valve is operated with comparatively low anode voltages, while the wide spacing of anode and grid connections results in low inter-electrode capacity and small di-electric loss. The valve is thus particularly suitable for working on very short wave lengths.

OPERATING CONDITIONS.

Filament Voltage	6.0V
Filament Current	4.25A
Max Anode Voltage	2,000V D.C. / 1,500V R.M.S.

Recommended Power Input:—
at 20 metres—not greater than 100W at 1200V
at 10 metres—not greater than 60W at 800V

CHARACTERISTICS.

Anode Impedance	4,000 ohms
Amplification Factor	21
Mutual Conductance	4.5 mA/V

Price £6 : 10 : 0

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THE MASTER VALVE

MADE IN ENGLAND

Advt. The Mullard Wireless Service Co., Ltd., Mullard House, Charing Cross Road, London, W.C.2

G5UY, G5JZ, G5OU, G6NZ, G6BU, G6GZ, 2BCS and BRS343.

BRS are cordially invited to work in closer co-operation with the fully-licensed member. Also to enter more freely into the various tests organised by the Society. Very few of you contribute to the letter budgets. Write to G6GZ or G6WY and ask for a back number of the L.B. See for yourself what sort of dope it contains. I am sure that once you have seen a copy you will contribute yourself. G2DC will be only too pleased to arrange station visits for any BRS members.

DISTRICT 8 (Eastern).

Conditions during the past month have been as bad as ever, and no one in this district has, so far as can be ascertained, done any DX work.

Complaints have been made that these notes will not, in future, contain individual reports, expecially as, in view of the present conditions, there is nothing of general interest to mention. This matter was discussed at Convention, and those of you who think the matter should be reopened should let your C.R. know.

DISTRICT 9 (Home Counties).

It is high time we heard something from members in this area. We want a few lines as a report of activities from each station, a post card will do. G2HJ, as usual, has received reports from G2QJ and BRS490. G2WG much enjoyed the District 14 Field Day in Essex. G5FB is reported to be convalescing from the effects of the Abbess Roothing time signal, although no actual news has been received. G2AF and G5QV are busy at week-ends on modulation tests (1.7 M.C.). Local DX stations are finding conditions on 14 M.C. much better with spasms of quite good working, LU, PY, CM, VE and W signals coming in nightly in mid-May, but it is generally agreed the spring, our best season, has yielded poor results on this band. G6QO is expected to be quiescent for a week or two owing to change-over to A.C. Our old friend SU8RS is full of joy at the advent of a baby daughter. G6DH has become a benedict, and is busy rigging up in new home. We want a full area report for next month. A card to your C.R. before the 15th please.

DISTRICT 10 (South Wales and Monmouth)

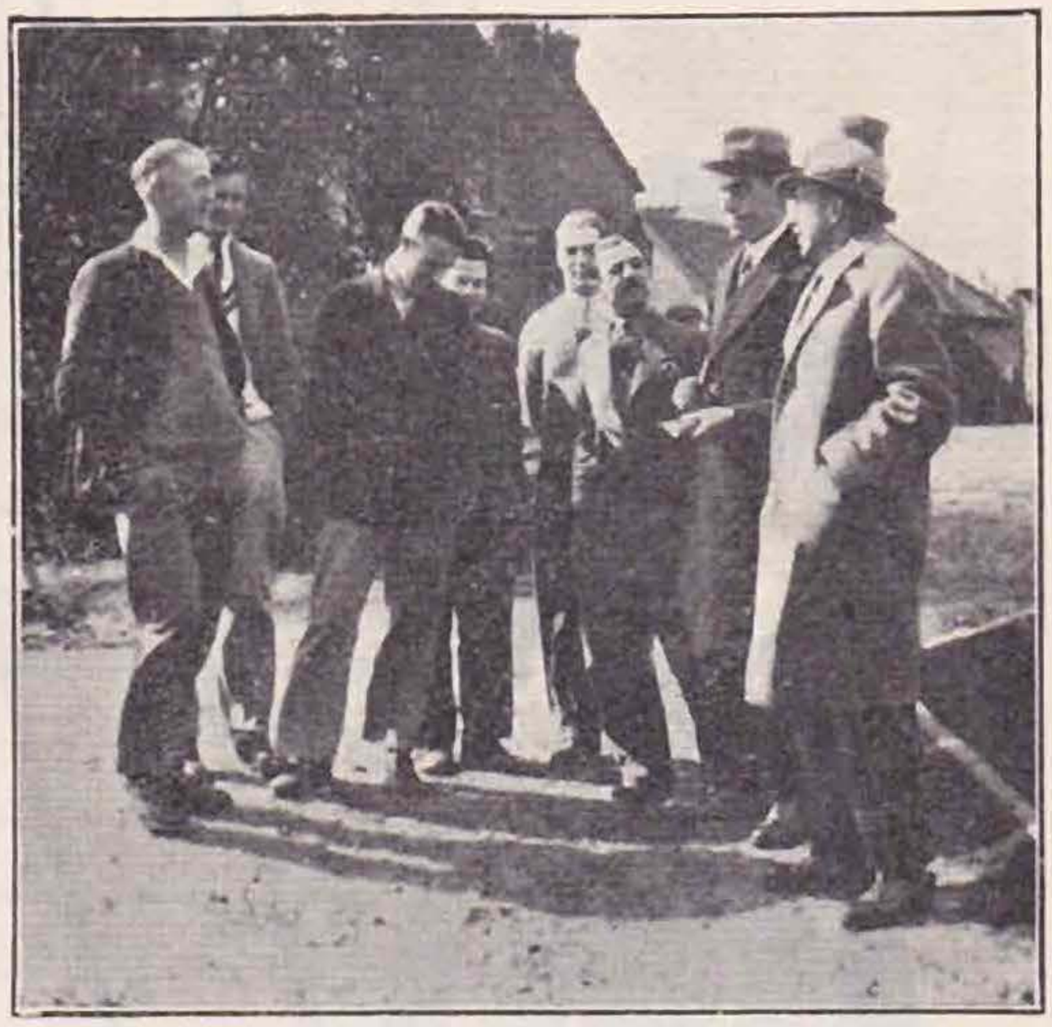
Activity in the District is being well maintained in spite of bad conditions on the high frequency bands, and at least two stations will be re-commencing serious work on 28 M.C. during the summer.

The Area meeting held at Cardiff on May 5 resulted in the appearance of the following :—G2PA, G5NS, G5WU, G6FO, 2BRA, BRS525, and BRS727. A meeting was held at G6FO on Whit-Tuesday and attended by G2PA, G5KK, G5NS, G5WU, G6GW, 2BPM, 2BRA, and BRS727.

I regret to have to record that 2AIS has been compelled to give up amateur radio temporarily. In his place we welcome BRS854, also of Swansea, while Mr. Bodman, of Tredegar, becomes BRS860.

The Conventionette for this District has been fixed for Sunday, June 26, at the Angel Hotel, Cardiff, the inclusive cost for lunch and tea being 4s. 6d. All members will have had individual notices by the time this appears, and it is up to *everyone* to attend, not only because it is the event of the year in the District and you will have a jolly good time, but because it is *your show*. We also welcome the presence of any R.S.G.B. member from outside No. 10 District, and we look forward to seeing a large crowd.

The following stations are active :—G2PA, G5FI, G5LP, G5NS, G5PH, G5TW, G5WU, G6FO, G6GW, G6TH, 2AKG, 2BPI, 2BPM, 2BRA,



District 14 Field Day.

BRS245, BRS518, BRS525, BRS570, BRS573, BRS659, BRS727, BRS766, BRS827.

DISTRICT 12 (London North).

A visit to Brookman's Park has been arranged for June 18, but the time of meeting has still to be fixed ; everyone contributing to the Letter Budget will have been notified by the time these notes are printed.

Activity seems to be very poor according to the reports I receive, but hope for improvement with conditions.

G6CL is busy (Hi !) between Society work re-designing his new station. Welcome to a new transmitter G5XA—all the best OM.

DISTRICT 14 (London East)

At a well-attended meeting at Chingford last month 2BXO exhibited a 28 M.C. transmitter, together with a receiver, and a 28 M.C. receiver was also shown by BRS855. All this gear was duly admired and great credit is due to these younger members. A fair number of members also notified their intention of taking part in the forthcoming London districts' summer outing. Congratulations to BRS813—now 2BAI.

The accompanying photograph shows some of the members of District 14, with G2LZ and G6WG, during their recent series of field days at Abbis Roothing, in Essex.

Work was carried out on the 1.7 and 3.5 M.C. bands, and a total of 60 stations were worked on C.W. or 'phone. On 3.5 M.C., telephony was worked to France, Germany, Poland, Czecho-slovakia, and Holland.

The transmitter was crystal-controlled, push-pull P.A., using two LS5B's in the last stage. Power was obtained from an ML generator, driven from 12-volt accumulators. Modulation was on the grids of the P.A. valves.

The next field day of this district will take place

on the first week-end in July, and further details may be obtained from G6UT, the D.R., or at our next monthly meeting on June 28 (Tuesday) at G6TX, 24, The Broadway, Woodford Green, Essex.

DISTRICT 15 (London West and Middlesex)

Owing, I suppose, to the very bad weather, the May area meeting was not too good. The June meeting will be at G6WN, on Wednesday, the 22nd, at 7.30 p.m. Please note the bus service is now 188 during the week.

Very few reports have come to hand and it almost seems a waste of time trying to get them from some members.

G6VP has again been trying out aerials and has found all DX signals very QSB. G5PQ has also been studying aerials and couplings, also worked his first W's (four). G5CV has been working DX on both 'phone and C.W. G6WN has been on 7, 14 and 28 M.C., but only found DX on 14 M.C. On 28 M.C. HAF has again been heard.

SCOTLAND

June as a rule sees a considerable falling off in radio matters in Scotland, due, no doubt, to the incursions of holidays and outdoor sports on the members' time. I propose, therefore, in the matter of these notes to follow the same procedure as last year; in other words, to discontinue them during July, August and September, and to resume in the October issue.

District meetings have been discontinued for the summer, and so far as " A " District is concerned, will be resumed at G5YG on Wednesday, September 28, and this holds whether I am re-elected or not.

I was privileged, along with G5XQ, to be present at the final meeting for the session of " D " District in Edinburgh. This meeting took the form of a dinner, at which there was a large turnout. I cannot allow the occasion to pass without complimenting in the highest terms Mr. Rowden and his predecessor, Mr. Bamford, on the success of their labours in the district, also the members themselves on their splendid enthusiasm, which augurs well for the future of amateur radio in this part of Scotland. It is an honour to lead you, gentlemen, and I hope that the other districts will soon fall into line with you. At this meeting I was privileged to meet Mr. Ewen Cameron, W6CFP, who was also a guest. Mr. Cameron has come home from U.S.A., and as he expects to be in this country permanently, he intends to start up in his home town (Edinburgh) before long. I am sorry to note, however, that ill-health may deter him for some little time, and I am sure we wish him a rapid recovery.

While speaking of illness, I regret to learn that our old friend G6UU has been having a very rough passage. He had a bad motor smash a little over a year ago, and as a result he has recently had to undergo an operation. He is, I am glad to learn, keeping better, and is shortly to be on the air with a new C.C. Tx.

A new arrival to Scotland is G2UG, who is connected with the new B.B.C. station at Westerglen. Mr. Burton is as yet without a house, but once he gets settled, he intends to resume his amateur work in Scotland.

BRS417 has, I understand, turned in a log which ranks second in No. 1 Zone in connection with B.E.R.W., and is therefore to be congratulated on an excellent performance. He owns a first-class P.M.G. certificate, and expects to have his radiating permit very shortly.

BRS339 has now received his A.A. call, which is 2BNU, and has purchased from G5XQ a crystal which has a fundamental frequency of 3,536 K.C., which transfer please note.

I had the pleasure of a visit from both Messrs. G2UG and G2YU. The former I have referred to above. The latter expects to be here periodically. and will make a point of looking up various amateurs, He expects to call on G6RG in June.

BRS815 and Mr. Duncan, BRS?? have both gone up for their " A.A." tickets, and if enthusiasm counts for anything will soon be among the fully licensed.

G6FN advises me of two new crystals, the first having a fundamental of 7,112 K.C. and that of the second 14,220 K.C. The 7,112 K.C. crystal may eventually interfere on 7 M.C. with that of 2BTT, the fundamental of whose crystal is 1,778 K.C., but " F.N." assures me that if it does so he will adjust matters.

Please do not purchase crystals without querying the proposed frequency to me.

NORTHERN IRELAND

There is a very welcome increase of activity in GI, judging by the number of reports received this month, and I hope it will continue, even in spite of the approaching holiday season.

GI6YM, the Y.M.C.A. station, has been entirely rebuilt and is now crystal-controlled. A further member has passed the P.O. Morse test, and this now makes a total of 12 operators appointed since the club started. Amateurs visiting GI are cordially invited to call at the 6YM club (third floor, City Y.M.C.A.). 2AXW has now passed his Morse test and is ready to transmit as soon as the licence arrives from the P.M.G. GI5QX, having been rebuilt during the month, continues to do excellent work. The month's contacts include several W stations, VE, VO, VU and AU, and he has also been heard in Tasmania, using an input power of 10 watts. BRS701 sends his first report, and I welcome him to the " gang." He has been active on 7 M.C. and 14 M.C. bands, and reports conditions better than last month; best DX heard OA and LU. GI5UR has been active on 7 M.C. with very low power. GI6YW reports 14 M.C. looking up a little. Central American stations coming in well, but not easy to work. Best contacts PY, K5 and W4. GI5DU has spent a considerable amount of time and energy erecting a 60-ft. steel mast, and hopes to be " on the air " before the end of the month. GI5MO is inactive at present.

European Notes.

The most important item of news which we have this month comes from France. We refer to the flight of the aeroplane FALHG " Saint Didier," with Reginensi Touge and Lenier on board. The flight, which was to be to Madagascar, met with bad luck through lack of petrol, and the aeroplane descended in the Sahara Desert, where there was a delay of eight days. The machine was equipped with a transmitter operating on long and short waves, and communication was established with various members of the R.E.F., through whom many messages were handled.

The R.E.F. is desirous of directing attention to

the Experimental Section of the Society, which consists of eight groups, each of which is engaged in the study of a particular branch of radio connected with the higher frequencies. The co-operation of foreign amateurs is especially desired, and all communications with regard thereto should be directed to M. P. Godfrin, 80, Rue Thiers, Boulogne-sur-Seine. A summary of the work of the above-mentioned section appears in the official organ of the R.E.F., *Radio R.E.F.*

Pirates !

Mr. E. F. Baker (G5OQ), of Tunbridge Wells, complains of his call being used by some unlicensed amateur, probably in Norfolk, on 7 M.C. He would appreciate reports from B.R.S. and A.A. stations in order to obtain more evidence regarding the offender.

G5YG does not use Telephony and any station heard making use of this call in connection with Telephony transmission is illicit and should be boycotted.

B.E.R.U. NEWS—(*continued from page* 431).

Power supply only now remains to be installed when interrupted schedules will be resumed, conditions permitting.

Iraq.

By YI6KR (*via* G5LA).

May.—Hearty congratulations to G5ML, VS7GT, G6QB, and zone winners in our great Empire contest last February, and to headquarters staff on their untiring efforts to make it such a success. YI6KR has now returned to Mosul from Kurdistan, and finds a great improvement in conditions on 14 M.C. From 12.00 to 20.30 G.M.T., J, VS6, VUVS7 and VP2 signals are fair, Europeans and PK good, VK weak, and W and LU very weak. No ZS, VQ4 or ZL sigs. are coming through the fan QRM now.

The WKS (SKW) would be glad of any reports on some further 28 M.C. tests that they are organising in June. Transmission will take place on the following dates at the times stated, and it is requested that reports be forwarded to WKS-ODR, Ipatievsky per 14 Moscow, U.S.S.R. :—

June 17 : 17.00-19.00 G.M.T.
June 23 : 17.00-19.00 G.M.T.
June 29 : 17.00-19.00 G.M.T.
June 18 : 11.00-13.00 G.M.T.
June 24 : 11.00-13.00 G.M.T.
June 30 : 11.00-13.00 G.M.T.

Channel Islands.

By G5OU.

May.—During the past month a few hours have been spent on 28 M.C., but results are almost nil, except on 18/5/32, when F4 (?) was heard at R2, QSC ; I take this to be an HAF amateur as there is no F4 prefix ? 14 M.C. was abnormally good on the above-mentioned day, and several W's on fone were heard at strengths varying up to R7. G2ZC reports steady progress with his building of a four-frequency transmitter, which was mentioned in last month's notes. Reporting activity are : G2ZC, 2BCS, 2BDP, BRS775 and G5OU.

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2B.H.D. Ex. BRS366. The modern printer of QSL Cards and Log Pads. Samples on application.—QRA, "Inglenook," Orlando Drive, Carlton, Nottingham.

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H.T.9

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These new METAL rectifiers will meet the needs of most radio enthusiasts, and circuits will be published next month showing how even large amateur transmitting stations may be worked entirely from the A.C. mains by means of a Westinghouse Metal Rectifier.

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H.T.11

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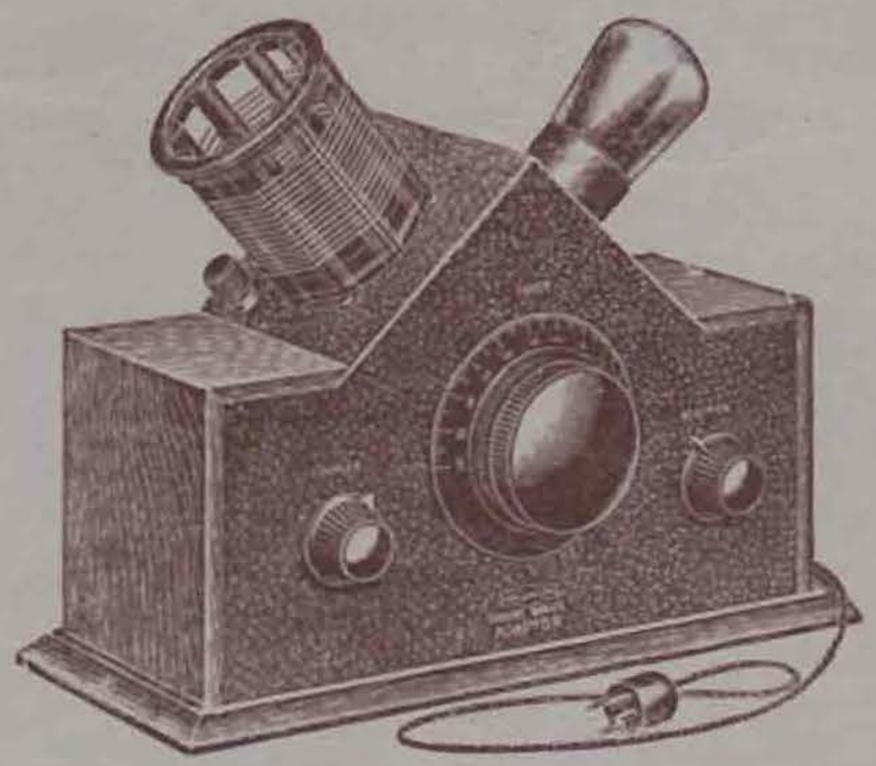

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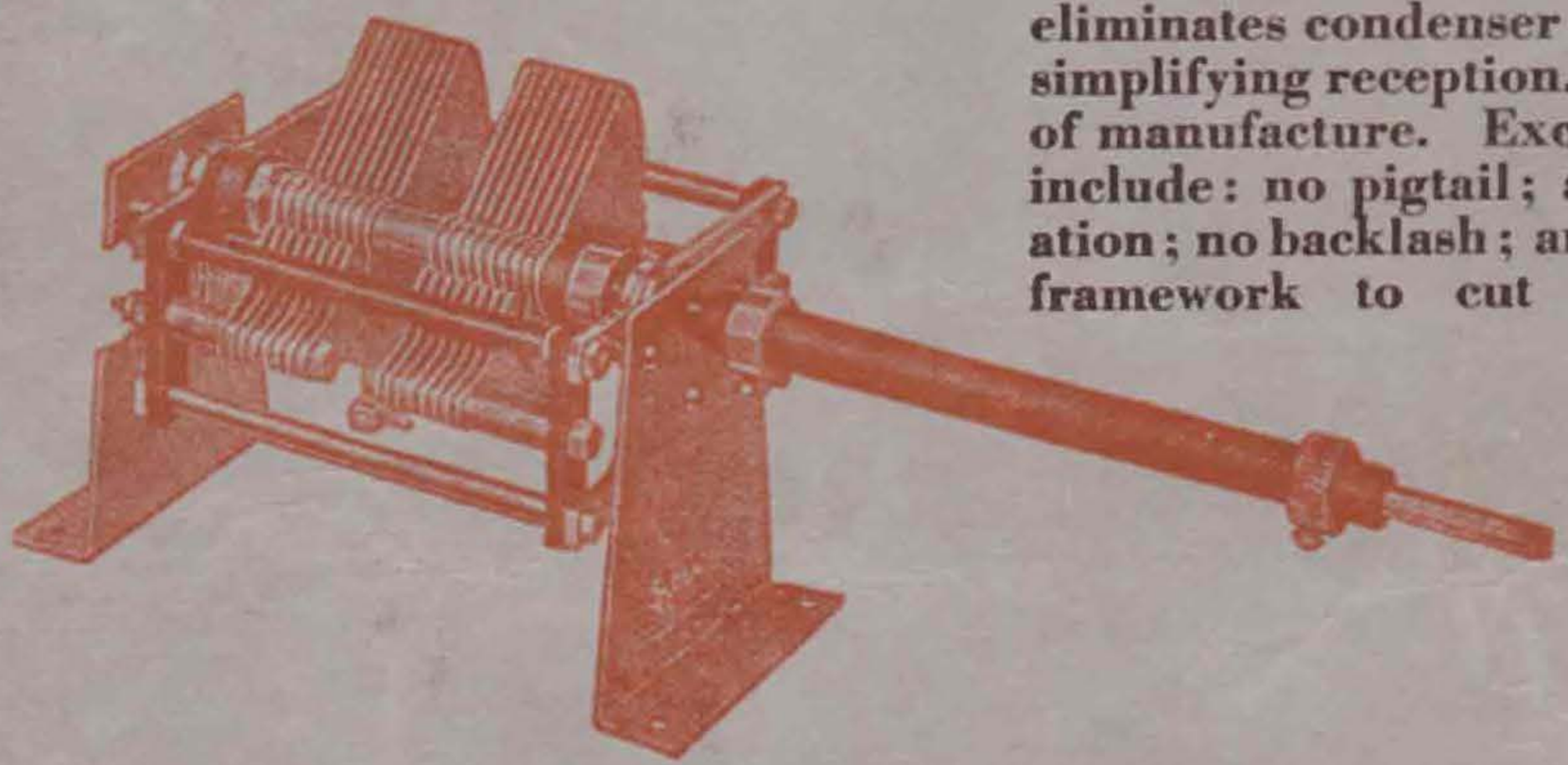

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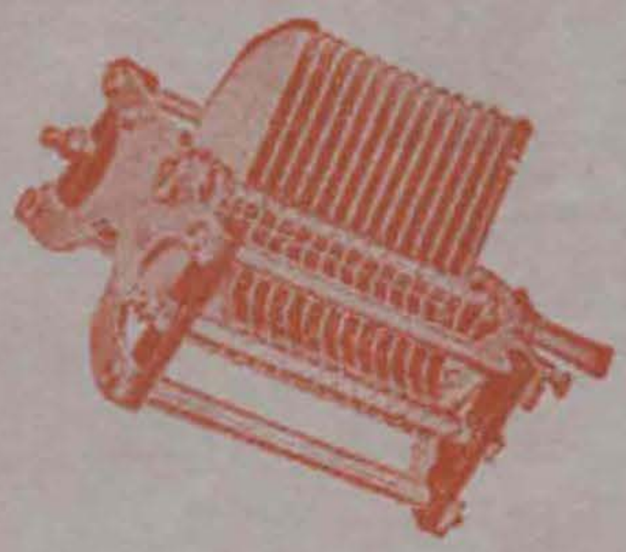

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