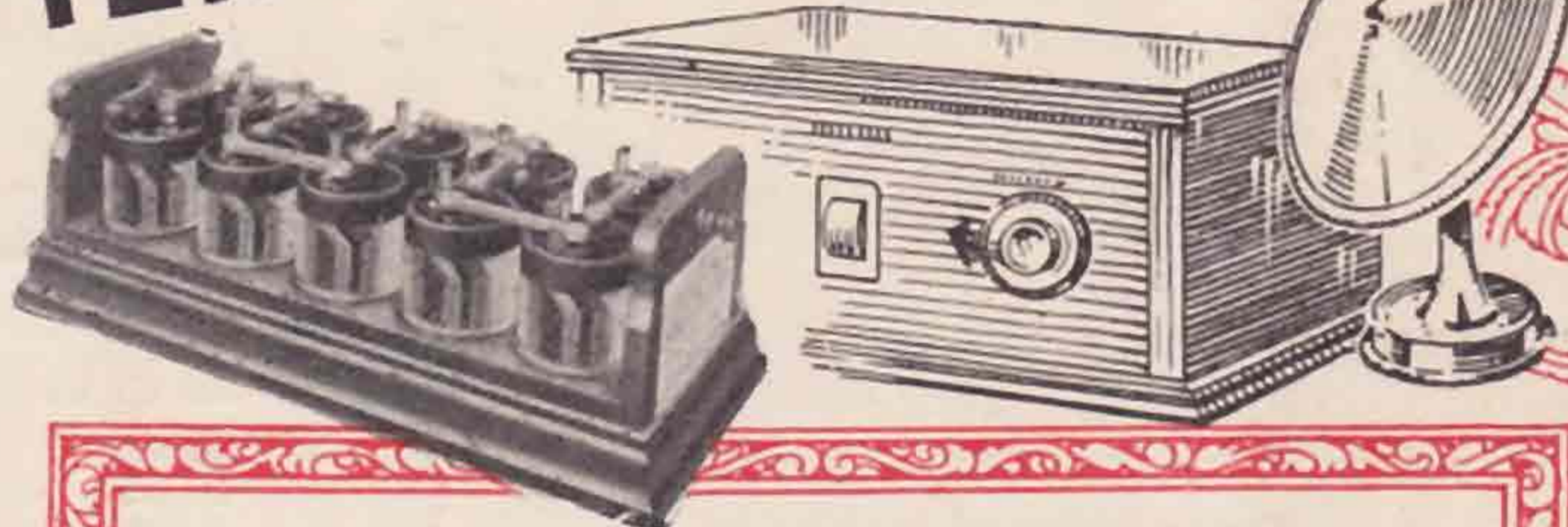


Vol. 2. No. 12. June, 1927

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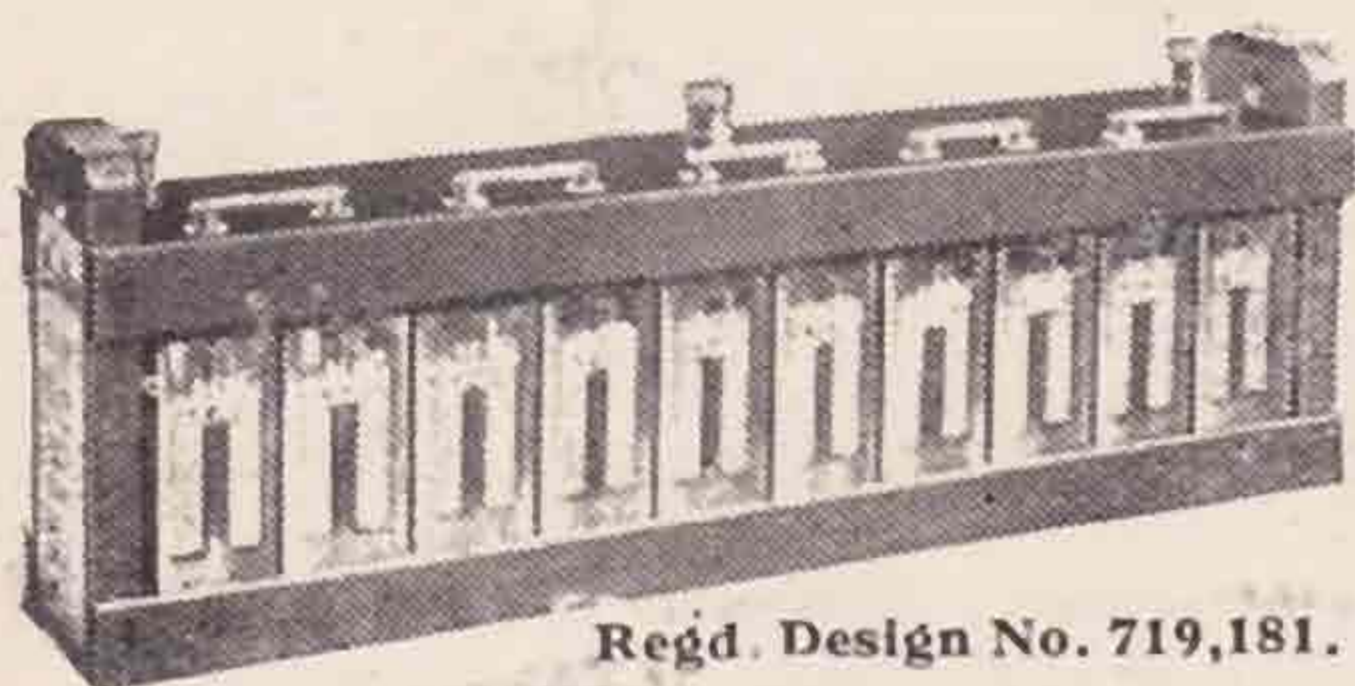
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If allowed to remain in an ordinary room, it gets damp—and does not work.

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If you attempt to adjust the wavelength by a small amount—it does not work.

But you can use such a neat little holder,

And you don't have to watch meters—you merely judge when the crystal is oscillating by the improvement in the QSB.

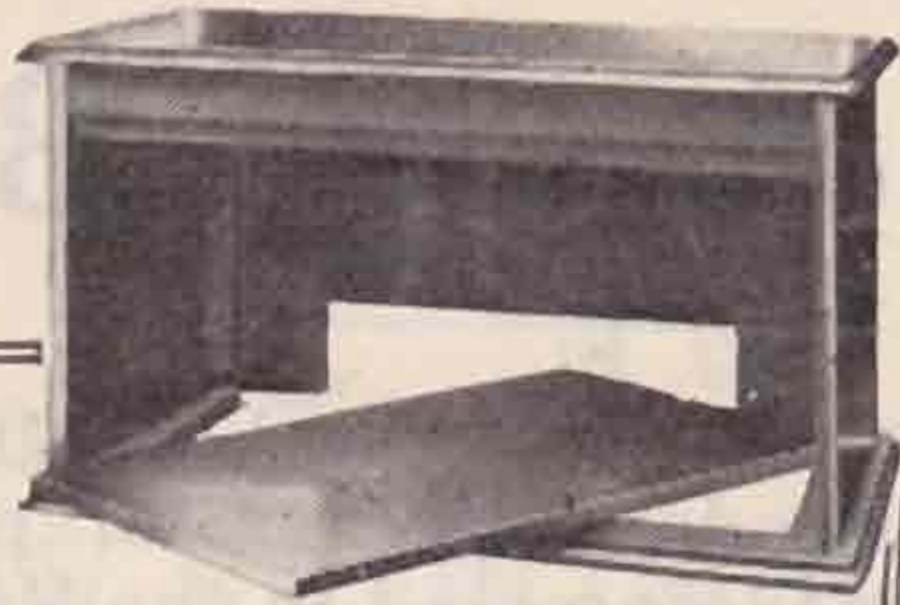
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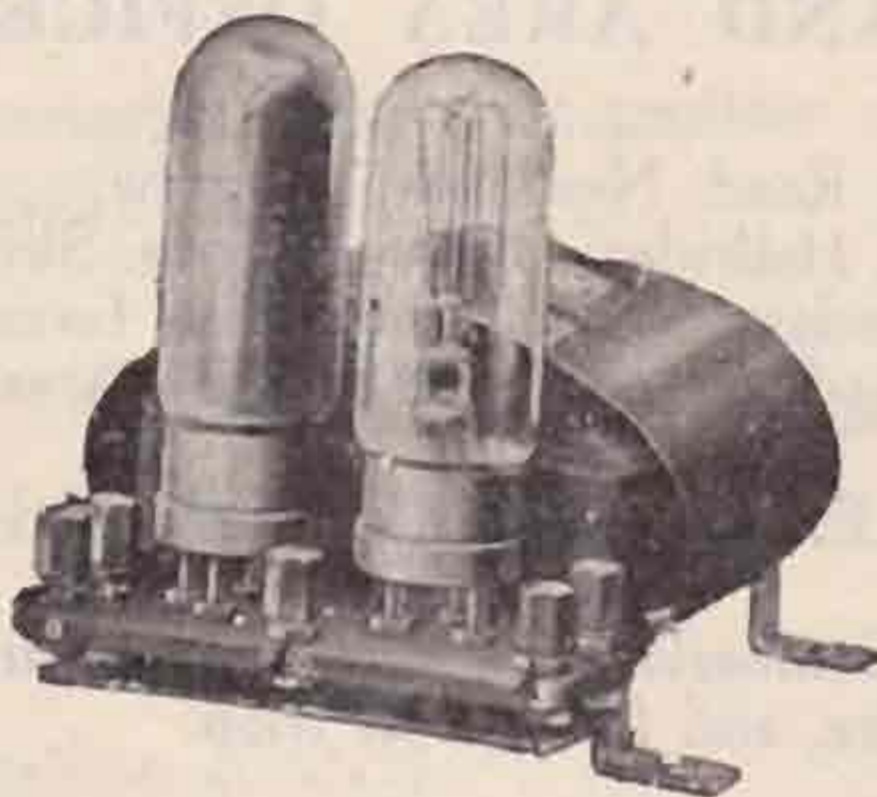
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T. & R. Bulletin

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53, Victoria Street, S.W.1



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The apparent high price of crystals is causing some comment.

How's this for a change? A crystal, between 2 and 3 mm. thick and $\frac{3}{4}$ -in. across, guaranteed to oscillate without reaction when used as suggested in "Experimental Wireless" for January, 1927.

Nett price 10/- each, cash with order.

Of course, there's a catch somewhere! That specification is almost worthless, you want yours for crystal control of your station. If you want to try crystals, have a cheap one—if you want to control your station have one of my regular lines as advertised last month.

A. HINDERLICH, 1, Lechmere Road, London, N.W.2.
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T. & R.



BULLETIN.

The only British Wireless Journal Written and Published by Amateurs

JUNE, 1927.

Vol. 2. No. 12

EDITORIAL

WITH the appearance of this the last number of our second volume, we are very glad to be able to announce that "fusion" has become an accomplished fact, and from now onward all members of the T. & R. Section are corporate members of the Incorporated Radio Society of Great Britain. So far as the T. & R. aspect of our work is concerned, this is continuing as the Transmitter and Research Section of the Society, and all the old Transmitter and Relay Sectional members are members of this Section. Any of the original corporate members of the Society may become members of this Section without any additional payment of membership subscriptions. Therefore all members are now primarily members of the Inc. Radio Society of Great Britain or, shortly, M.R.S.G.B. The letters T. & R. now indicate a corporate section of the Society which is mainly concerned with transmission research and may be used to indicate that the member is a member of this Section. Formerly the individual member of the T. & R. Section had no say in the government and control of the Society unless he paid two subscriptions, one for corporate membership and the other for sectional membership. Now, however, every member has a vote which he can use in all matters affecting the government of the Society or other matters as, for instance, the annual election of Council, which is really a board of directors. All applicants for membership holding a Post Office licence for working a transmitter are accepted into the T. & R. Section automatically, but special application will be necessary on the part of those applicants not holding such a licence. Is this all clear? Right.

Certain technical difficulties have been responsible for the fact that this announcement has been so long delayed, but the great bulk of these have now been overcome, and the following is a brief summary of the terms under which the long expected "fusion" has been effected:—

1. All existing members of T. & R. to be admitted to corporate membership without payment of entrance fee.

2. All new applications for membership to be in accordance with the amended Articles of Association of the Society, *i.e.*:—
 - (a) To pay an entrance fee of 10s. 6d. if he is not already a member of a section.
 - (b) Town members (resident within a 25-mile radius of Charing Cross) to pay an annual subscription of 21s.
 - (c) Country members (members other than (b) or (d) below) to pay an annual subscription of 15s.
 - (d) Foreign members to pay an annual subscription of 12s. 6d.(All the above subscriptions embody a subscription to the T. & R. BULLETIN.)
3. All town T. & R. members [see 2 (b)] to pay forthwith the sum of 6s., this being the difference between their present subscription and that of an R.S.G.B. corporate member.
4. All R.S.G.B. corporate members already existing (all fully-paid members) to become subscribers to the BULLETIN, and an annual subscription of 5s. per member to be deducted from their annual membership subscription for this purpose.
5. All R.S.G.B. country corporate members to pay an annual subscription of 15s. in order to bring them into line with T. & R. members. (The present subscription is 10s. 6d. per annum).
6. The present T. & R. Committee to remain in office and to be the Transmitting and Research Committee of the Society.
7. The present Editorial Committee to remain in office for the purpose of dealing with Editorial and Publicity matters.

Now, everybody, there are two things which have to be done to complete this bargain. Every town member as defined in 2 (b) must remit 6s. to R.S.G.B., 53, Victoria Street, S.W.1, and we have to return one year's T. & R. subscription to all town members who have paid both R.S.G.B. and T. & R. subscriptions. Will you let us have your 6s. early, please?

***R.S.G.B. Calendar.**

Wednesday, June 8.—Editorial Committee at 53, Victoria Street, S.W.1 (5.45 p.m.).

Monday, June 20.—Meeting of Council at 53, Victoria Street, S.W.1 (5.45 p.m.).

Wednesday, June 22.—*†Lecture by H. A. P. Littledale, F.R.A.S., "Fading of Wireless Signals; Studies and some Conclusions and Records." (6 p.m.)

Friday, June 24.—T. & R. Committee at 53, Victoria Street, S.W.1 (5.45 p.m.).

July 3.—Editorial Committee at 53, Victoria Street, S.W.1 (5.45 p.m.).

*Indicates that meeting is open to all members.

†Indicates preceded by tea.

Presentation to C. A. Jamblin (6BT).

QRA MANAGER.

Members will recollect that three months ago we opened a fund for the purpose of presenting Mr. Jamblin with a memento of our appreciation of his pioneer work on the QSL Section.

On Friday, May 20, a real first-rate tennis outfit was on view at the Institute of Electrical Engineers with a card worded as follows:—

"To be presented to OM Jamblin as a slight token of our appreciation of his pioneer work on the Q.R.A. and Q.S.L. Section, which idea he conceived and very successfully put into execution."

NOTE.—The amount collected was £4 15s., mainly contributed by provincial members and Northern Ireland (Radio Transmitters' Union). The cost of this outfit was £3 17s. 9d., and the balance is being sent to Mr. Jamblin to spend on his station!

We think that members will be interested to learn that the type of present was selected by Mr. Jamblin, and that he is very well pleased with it, and desires to thank all those members who so very kindly subscribed toward the sum collected.

Wavemeter.

The Section wavemeter is finished at last and now is installed at the headquarters in Victoria Street. It has been calibrated at the National Physical Laboratory through the kindness of Capt. Eckersley, and a report and curve of the calibration has been obtained. The wavemeter is of the heterodyne type and covers a range of between 32 and 46 metres. We hope to give a photograph and full description in our next issue. The wavemeter is now available for the use of members who wish to check their own instruments, and anyone wishing to take advantage of this facility should communicate with the Hon. Secretary, 53, Victoria Street, S.W.1, when arrangements will be made.

The scale of charges for calibration is as follows:

16-24 metres, 2s. 6d.; 31.3-38 metres, 2s. 6d.; 38-48 metres, 2s. 6d.; 90-200 metres, 2s. 6d.

Apparatus for calibration must be sent carriage paid, and at owner's risk.

*Members are warned that this constitutes the sole notice which they will receive, but that urgent notices may from time to time appear in *Wireless world*.

SOLAR ECLIPSE.

June 1927.

Details of arrangements for observations on the effects of the solar eclipse on radio reception.

Transmission.

In our last issue we outlined very briefly the scheme which we had under consideration for enabling members to make aural and quantitative observations on the effects of the eclipse of the sun on radio reception on short waves. Arrangements for a number of stations to transmit have now been completed, and these are as follows:—

100 metres G5YG (Glasgow) (unmodulated carrier).

90 metres G2NM (Surrey) (unmodulated carrier) 1.5 k.w.

46 metres G2WJ (Palmer's Green, N.) (modulated C.W.).

32 metres G2OD (Gerrards Cross).

44 metres G6WW (Leicester) (modulated C.W.).

23 metres 6IZ (Aberdeen) (modulated C.W.).

These stations will please note the programme laid down in May BULLETIN and adhere to this as strictly as possible. Code words will be sent to the 23-metre and 44 and 46-metre stations in due course, and these will transmit their call signs at intervals which will be communicated to them. All stations will transmit their call for five minutes at the beginning of their transmission so that listeners can tune in and identify their station, and unmodulated stations (NI3AG and G2NM) will transmit their call sign every quarter of an hour three times only. In the event of a station having to close down for a brief period he should send a suitable message to this effect, and state how soon he expects to be "on the air" again.

Reception.

It is obvious that most useful work can be done by every member, and therefore all are asked to prepare to carry out some test or other (other than transmission) during the period named. We cannot emphasise too greatly the fact that all transmitters, except those above mentioned, will perform the best service by devoting their undivided attention to the receiver only and forgetting for the moment that they have a transmitter at hand. The experiments which can be carried out will depend upon the individual and his equipment. The object of the transmission of the unmodulated carriers on 100 and 90 metres is to enable those equipped with suitable instruments to carry out observations of a more or less quantitative nature. Needless to say, apparatus used for this purpose must be very stable and perfectly reliable as regards valves and sources of current supply. Valve voltmeters may be used with a certain amount of success if the high-frequency end of the set is perfectly stable, but this is not likely to be so if the valve is erratic in its emission or noisy in operation. The sensitivity of the instruments used will play an important part in the results obtained, and only those with a minimum amount of lag should be used.

In the March issue of the BULLETIN apparatus useful for these tests was described by Mr. D. Shannon in his article entitled, "The Moon's Influence on Radio."

Programme.

The programme will cover five days—June 27, 28, 29, 30 and July 1—and is as follows:—

5.40 a.m. B.S.T.—Transmitters start up.

6.46 a.m. B.S.T.—Transmitters close down.

Receiving stations taking part should set their receivers at the beginning of the test each day, and they should not be touched for the remainder of the sitting. Listeners should note any unusual phenomenon which occurs; such phenomena might take the form of increasing strength, fading, atmospherics of unusual intensity, and the like. Such happenings should be plotted on a log sheet against the time of the occurrence to the nearest five seconds. The B.B.C. will transmit a time signal from Greenwich every quarter of an hour (dot seconds) for two and a half hours daily during the five days, and members should avail themselves of these.

To Find Your Station.

In order to ensure that all stations transmitting receive a certain amount of attention from receivers the following scheme has been devised:—

First procure a map of the British Isles and which shows your nearest town or village. Next take a piece of tracing paper or thin tissue paper and draw a circle about two inches in diameter, and divide this into six equal segments (angles of 60°) as shown in Fig. 1. The sketch made by you should be large enough to cover your map. Now place the tracing paper over the map so that the line Z-Z intersects Borth (Cardigan Bay, Welsh Coast) and Birmingham, and so that the point A comes immediately over Birmingham. Your area now comes within one of the wedge-shaped pieces which converge on Birmingham, and you now find the station which you are to observe from the table given below:—

Sector No.	Station WL
S1 ...	23 or 90
S2 ...	44 or 100
S3 ...	46 or 100
N1 ...	23 or 90
N2 ...	44 or 100
N3 ...	46 or 100

Consult the table of transmitters to find the call sign of station transmitting on a given wavelength.

It will be seen from the foregoing that each sector has one modulated station to observe, or, if observations are being made on the unmodulated stations for instrument observation purposes, the experimenter can observe on one of these stations. Members will greatly assist by adhering to this table throughout their observations, as by this means we are assured of a variety of reports.

Observation stations in the Birmingham area may carry out the indicating method on a large-scale map of Birmingham, the line Z-Z being used as the East-West points of the compass and the point A laying over the Town Hall.

Form of Reports.

The reports should contain information bearing only on observations carried out on the above-mentioned stations, and no other information whatsoever will be required. Should information other than that specified be required later, a request to this effect will be sent. The log sheet can best be prepared from a sheet of squared paper (tenths of

an inch), and information required is as follows: Date, time (to nearest five seconds if possible), nature of phenomenon (whether statics extra strong, fading, increased strength of signals, distortion, interference other than statics). Abbreviations for these are as follows: Statics, S; Statics Extra Strong, SES; Fading, F; Increase in signal strength, IS (here also state R strengths, as, for instance, R-4 to R-6); Distortion, D; Station Interference, SI. Any comments of a general nature should be on a separate sheet of paper.

Members sending record tapes should mark the details clearly on the back, and what they portend to show should be stated.

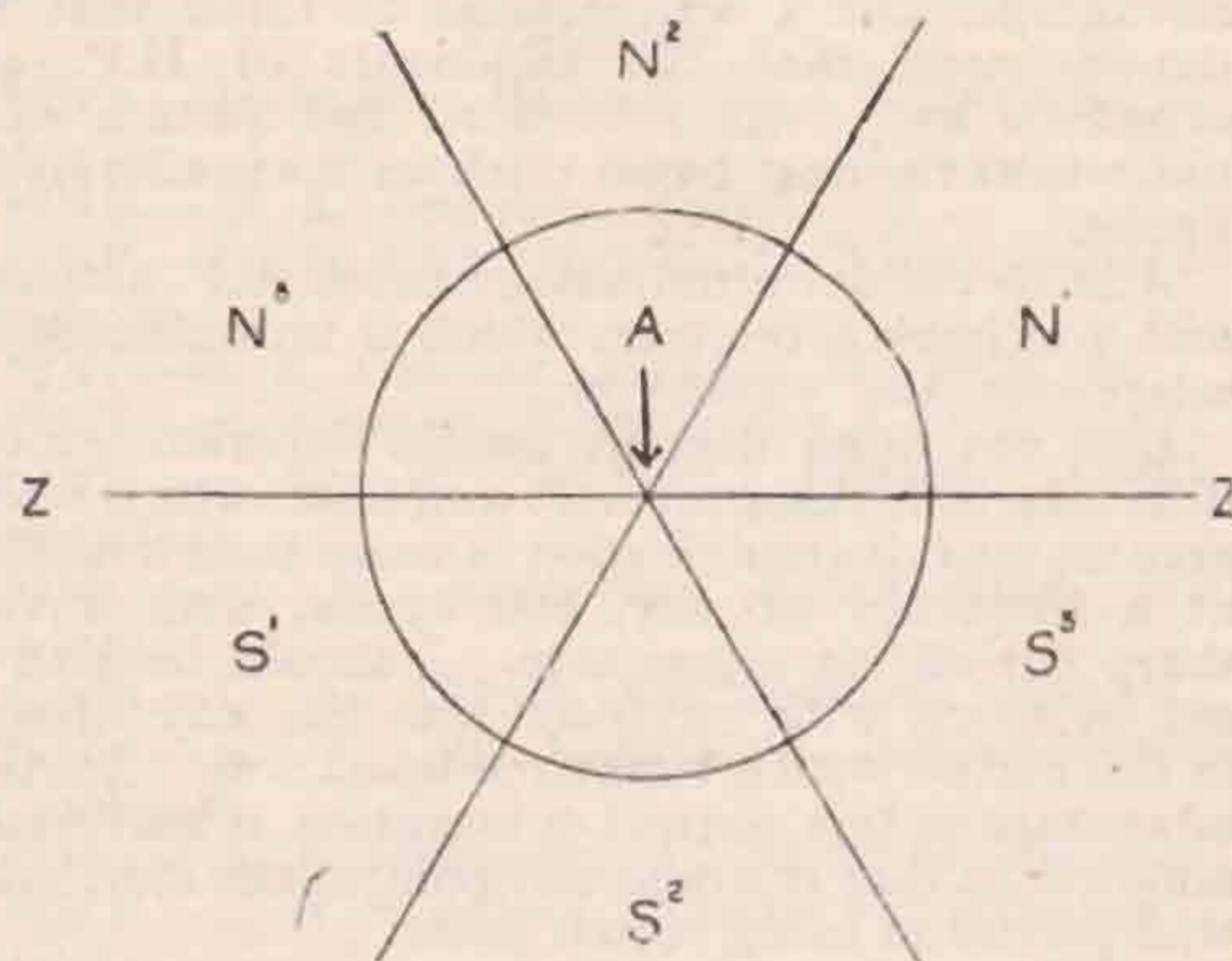
Reports.

All reports and log sheets should be forwarded to Hon. Organiser, Solar Eclipse Tests, Radio Society of Great Britain, 53, Victoria Street, S.W.1, and results will be tabulated and prepared by Mr. E. H. Robinson (2VW) for insertion in the T. & R. BULLETIN. In each case there should appear at the head of the log sheet the observer's sector number and his name and address only.

J. A. J. C.

Notices.

The receiver tests referred to on page 4 of April BULLETIN are postponed until November next. The next issue of THE BULLETIN will be our first appearance as the official organ of the Society.



A - BIRMINGHAM
FIG. 1

Late Advertisements.

TRANSFORMER (G.E.C.). — 220-1,200/1,500 volts; 80 m.a.; 35 cycle; 20 hours use. £4 or offer.—PARGETER, R. Signals, Catterick, Yorks. (G6PA).

AMPLION CONCERT GRAND LOUD SPEAKER, floating diaphragm, high and low resistance base; new condition; cost £8 10s., accept £4 10s. Western Electric Two-Valve "Wecomony" Set, £5. Two-Valve Super Power Amplifier, £4 10s. Both unused.—R. COPE (2MJ), 197, Northdown Road, Cliftonville, Margate.

More Work Wanted on the Receiver.

By A. E. WALKER (G6WW).

The writer considers that we are shamefully neglecting our receiving apparatus for short-wave C.W., and would like to put forward a suggestion, which, though not by any means novel, seems to have been generally overlooked by amateurs.

The problems attending the reception of C.W. are entirely different from those which beset the reception of telephony, and we are able to make use of note-tuning for the former purpose. Since the commercials are able almost perfectly to eliminate the tremendous static prevailing on low frequencies, we, with our much more favourable ratio, should be able, entirely, to remove its disturbing effects.

Therefore, there should be no reasonable limit to the amplification usable, and since the threshold effect of an oscillating detector is negligible (I am open to correction), we ought to be able to hear on headphones anything which is on the air provided its frequency is absolutely constant.

At the same time, the simplicity of the receiver would be admirable.

There is no gainsaying the fact that, for amateur purposes, where rapid searching is the rule, more than one main tuning control is definitely a disadvantage, and I am inclined to think that the det-one-steps that the exponents of H.F. and superhets keep "for reference," get quite a lot of use, whilst the dust grows thick on the multivalver's knobs.

Add to the det a multistage tuned A.F. amplifier and you have a receiver, which is untouchable for selectivity and sensitivity.

I do not think that we should experience much difficulty in making an A.F. amplifier, which would give an overall amplification of more than a million, at a frequency of, say, 800 cycles, with a very sharp cut-off on either side. I should be glad to get in touch with anybody who has any interest in this matter with a view to co-operation. Another advantage of this method of reception, if universally adopted, is that it would put paid to the merchants who persist in using rotten notes.

So far as telephony is concerned, if we must use it, it would be easy to modify the set so that H.F. and flat A.F. could be used optionally.

However, I cannot see that any useful purpose is served by amateur short-wave telephony experiments.

If you can get your C.W. through R6 to R7, and there is no fading, you can usefully modulate it by methods that are well known, if not, it is quicker, if you want commercial accuracy of communication, to use telegraphy.

Besides, it must be evident to anyone who has critically considered the short-wave B.C. that the only way to get telephony of commercial standard is to use a long wave and lots of megawatts to swamp the static.

I feel sure that we can find out all we want to know about high frequencies, without causing additional and unnecessary QRM, with more or less imperfect fone.

I hope that someone will shatter my argument to pieces!

An Interesting Quartz Note.

By M. F. J. SAMUEL.

Some time ago a few tests were carried out at G5HS on the effects of over-running a quartz slice; and it was found that, when the amplitude of mechanical oscillation became excessive, a strong air current came from the surface of the quartz and small sparks jumped from the top plate to a certain flaw in the slice, under certain conditions. The origin of this air current is rather mysterious, and it may be due either to a silent H.F. discharge from the surface, or, as seems more probable, to the tremendous velocity with which the surface of the quartz meets the neighbouring air molecules.

This note is written for the purpose of warning those who notice small sparks, or who detect the draught from the quartz by placing the moistened palm of the hand just above it, to immediately reduce the reaction coil or the H.T. of the C.C. valve, unless they care to risk cracking the crystal.

I seem to have been the first over here to notice this effect, and Hinderlich asks me to publish it, so that he can use it as a standard method of indicating excessive amplitude of mechanical oscillation.

Trade Note.

We have received a new and very interesting price list published by the Western Electrical Instrument Co., Ltd., of 15, Great Saffron Hill, E.C.1, and this contains a collection of notes on the use of instruments in radio work which should be valuable to the amateur experimenter generally.

The new type Model 506 2in. panel instrument is also described, and several other new and up-to-date gadgets. Readers may obtain copies of this list on application to the firm.

Strays.

5ML.—Re 2BVL, F. W. Miles, 266, Earlsdon Avenue, North Coventry, will be pleased to co-operate with any amateurs on wave-lengths of 23, 45 and 90 metres. Reports are welcome.

GI6MU reports that AI2KX (formerly YDCR) is QRT owing to change of QRA. In the meantime, mail may be forwarded through his old QRA. He is temporarily transferred to AI2KW at Karachi.

6MU is now working on 44.4 and 22.2 metres, with crystal control. Thirty-two metres is also used for C.W. work. At 04.00 G.M.T. on April 23, he worked NU62AT of Los Gates, California, on the 20-metre band, with crystal control.

EF8PY in acknowledging a letter sent by G2AVR on September 17, 1926, on May 9, 1927, states that the delay in replying is due to his getting married on September 21, 1926!

Amateur Radio in Russia.

By V. VOSTRIAKOV (R-05RA), Malaya Dmitrovka 10KV2, Moscow, U.S.S.R.

Amateur transmission in Russia has only just been officially allowed and recognised, and at the time of writing eleven amateurs have received licences. The call signs allotted, which should not be confused with "receivers"

numbers, consist of two numerals followed by the letters "RA."

The power allowed is 10 watts, except in the case of R-01RA (ex RIFL), who is licensed to use 100 watts. They are now all busy rigging up transmitting sets, and some of them, we hope, will have QSO'd Great Britain before these lines appear in print.

There are, too, in Russia receiving stations who are officially permitted to receive short wave signals, and they also have their official signs, which consist of the letters "RK" followed by numerals. There are over 100 such stations at the moment.

Receiving conditions are very different here from other parts of Europe, and certain countries are received well in some places and not at all at others. For instance, near Leningrad one hears plenty of Finnish, Swedish and German amateurs, but only occasionally does an English or French amateur come in. In Moscow the reverse is the case.

Over a period of 30 days the writer heard 80 English amateur stations and 30 French, and only one or two German and Swedish stations, and nothing at all from Finland. Reception from American amateurs is not good, and telephony from U2XAF and U2XAD varies from R3-R6.

This may in part be due to the electrification of all the towns, and the tramway services cause QRM everywhere, and, too, all our houses are covered with iron roofs, and these, too, doubtless, have absorption effects which are not directly noticeable, but, nevertheless, cannot help matters.

English amateurs are undoubtedly the most consistently received here, the average strength being R4-R5, and their steady DC notes are a pleasure to listen to.

The same thing applies to the British broadcasting stations, of which quite a number are regularly received, and even some of the quarter kilowatt relay stations come in remarkably well, and even Spanish stations at 3,500 kms. are heard.

In conclusion, I would like to say that I shall be pleased to forward QSL cards to any of our new amateur stations, if sent to me at the above QRA.

V. VOSTRIAKOV (R-05RA).

More Additions to Call Book.

SOUTH AFRICA.

- A7L.—W. Todd, P.O. Box 5,439, Johannesburg.
 A7M.—H. St. John Randall, 84, Caledon Street, Uitenhage.
 A7N.—A. V. Hollins, 21, Railway Cottage, Sydenham, Port Elizabeth.
 A7O.—A. T. Law, 49, Sixth Ave., Parktown North, Johannesburg.
 A7P.—W. Shakespear, 20, Railway Cottage, Sydenham, Port Elizabeth.
 A7Q.—S. Larsen, P.O., Mayville, Durban.
 A7R.—A. G. Curtin, 45, Fifth Ave., Parktown North, Johannesburg.
 A7S.—W. Wilson, 12, Lonadown Place, Port Elizabeth.
 A7T.—T. Kleyn, Irrigation Dept., Addo, Cape.

A7U.—D. B. Truter, 40, Coleridge Road, Salt River, Cape.

A7V.—W. H. Rhodes, 9, Sidney Road, Bertrams, Johannesburg.

A7W.—N. Paver, 72, Smith Street, Aliwal North, Cape.

A7Y.—J. Downing, Fordyce Road, Walmer, Port Elizabeth.

A7Z.—E. M. Aspeling, 18, Mackay Street, Port Elizabeth.

RHODESIA.

3SR.—E. Jephcott, c/o G.P.O., Salisbury.

4SR.—D. Mail, Box 165, Buluwayo.

1SRA.—Portable Station of ISR.

2SRA.—K. C. Fynn, Box 387, Salisbury.

3SRA.—Rev. Tull, c/o Post Office, Mrewa.

4SRA.—E. C. I. Ade, Box 267, Salisbury.

ARGENTINE.

BH5.—M. Cardeñosa, Caseros 960, Cordoba.

JAPAN.

HHB.—E. Takagishi, Electro Tech. Laboratory, Ministry of Communication, Tokio.

SWEDEN.

SMRG.—Gösta Siljeholm, Kristianstad, Sweden.

DENMARK.

7ZG.—H. T. Petersen, Fribo, Ostergade, Nørresundby.

7FJ.—A. J. Faurhøj, 5 Humlebaekgade, Copenhagen.

FINLAND.

*2NA.—Helsinki Radiokerho, Kiuuvink 7D, Helsinki.

*2NB.—B. A. Petrelius, Malmi.

*2NE.—Björn-Erik Björkbom, Villa Solbacka, Grankulla.

*2NI.—S. R. Peacock, Estnäs, 7C, Helsinki.

*2NJ.—A. Valmari, Siltasaarenk 8-10, Helsinki.

*2NK.—S. R. Manner, Flinkin Huvilla, Leppävaara.

*2NL.—F. F. Andersin, Konstanting, 9A, Helsinki.

*2NO.—U. A. Aittola, Santahamina, Helsinki.

*2NP.—R. K. W. Lundquist, Korkeavourenk 30, Helsinki.

*2NQ.—A. A. Häkkinen, Pietarink 12, Helsinki.

*2NT.—G. R. Nordfors, Brändö Pilviksvagen 7, Helsinki.

*2NU.—A. U. S. Schroeder, Ahlquistink 9, Helsinki.

*2NV.—T. I. Leiviska, Linnak 5D24, Helsinki.

*2NW.—K. E. Brummer, Katajanokank 4D, Helsinki.

*2NX.—H. B. Jalander, Nylandsg. 3-5, Helsinki.

2NY.—E. Heino, Runebergink 29, Helsinki.

3NL.—E. E. Kolehmainen, Lasitehtaan Kansakoulu, Riihimäki.

3NM.—O. A. Alho, Otavallank, 5C, Tampere.

6NK.—K. E. Heinonen, Taufumäki, Jyväskylä.

*7NF.—J. S. L. Jääskeläinen, Kuninkaank 35, Kuopio.

*7NO.—K. Finne, Suok 30, Kuopio.

(The stations marked with a * are corrections of those QRA's given in the Log Book.—G2BZC.)

EDITORIAL NOTE.—*These additions and those published in the February Bulletin are both due to Mr. M. W. Pilpet. We are always glad to receive these lists for publication.*

Safety First.

WE are not sure whether there is any special copyright upon the above slogan, but we are going to adopt it in this instance when we make a plea for transmitters to take more care of themselves.

It has been our business lately to visit several ham stations and to observe the utter callousness displayed by many to the risks they run for incurring sudden death. Now that powers have generally gone up, and as it is customary to use a plate voltage of some thousands of volts, you have all the elements for producing a vacancy not only in your family but also in the T. & R. Section. If we related all the horrible things we observed during our visits your insurance premiums would suddenly rise. We will merely state that in one case a member was conveying his plate current up to the choke by a piece of ordinary bell wire, with its cheap paraffined cotton covering, and this was under his elbow while he was copying, while the aforesaid choke was within six inches of his forehead. In another case a ham was using the H.T. transformer under the table as a footstool.

Now, we admire nerve, and further think that while many of the elaborate precautions demanded by the authorities in Factory Acts and other rules are often unnecessary, we must consider it our duty to demand that hams shall take more care, not only for preventing the loss of members but also for the purpose of wakening up our relations to the fact that transmission is precarious occupation. Think what would happen if one of us got a packet which laid him out stiff. How the daily Press would make copy of it and produce no end of a scare. Not only would the life insurance people sit up straight, but also our relations might have something to say.

We were, however, very pleased to see in a few stations, namely, those where systematic tidiness prevailed, that special care had been taken to guard against accident by a few simple precautions which could well be observed by all. We refer to the careful placing of all positive high tension wires out of reach and painting them a bright red. In most cases the familiar Hartley circuit is used with choke feed to the plate. In this case the only dangerous elements are the H.F. choke, plate leads and the blocking condenser. These few components can easily be placed at the back of the table well out of reach. The chief element of uncertainty is the blocking condenser, and we must see that this is a sound one. A breakdown in this will spread the high tension current all over the station, with possibly fatal consequences. Above all do not buy a cheap fixed condenser of the B.C.L. receiver variety for this purpose. It is simply asking for trouble. Go to a reliable maker and tell him the voltage it has to withstand and, if possible, see it tested to well over the maximum pressure you propose to put upon it. If there still is any doubt of reliability in the condenser you are going to use, put two large ones in series.

Then there is the H.T. transformer. If you had to comply with authoritative rules in the use of this, you would find it would have to be caged in with automatic means to ensure disconnection before access could be gained to it. We can hardly expect the ham to go to this expense, but

he can at all events fix it up on the wall out of reach. Please also remember that the iron core or case should be connected to earth. It is nothing unusual for a transformer to go to earth or break down its insulation when the whole case becomes alive. Damp upon a porcelain terminal block due to condensation has been sufficient to make the iron enclosure case alive, and trouble would have occurred if it had not been earthed.

It is also better not to put a switch on the secondary side of the transformer. Put it in the primary only and in such a position that it can easily be turned off when it is proposed to make any adjustments.

Rectifying arrangements are also a source of danger and must be treated with caution. In the case of valves for rectification, these are best supplied from a small transformer with efficient insulation to withstand the pressure of the main transformer. It is always best to let the maker of the main transformer also make the filament transformer, when he will be able to see to the points to render the insulation quite safe. If accumulators are used to supply the filaments of the rectifier valves, remember that the whole accumulator will be at high potential and must be carefully insulated from earth. The writer once had a hole pierced in the bottom of a celluloid case by a discharge owing to neglect of this precaution. With chemical rectifiers special precautions must be taken, and the oil cup insulators obtainable from accumulator makers are the best thing to use for the support of these.

We once saw in a diagram of possible positions to place the key in a transmitting set, a place marked between the H.F. choke and the valve plate. We only can hope that nobody copied this, at least all but the person who made the diagram.

Finally, do not forget the charge in this big smoothing condenser, which is quite as ready to lay you out after you have turned off the primary switch. It is a fine idea to put an extra pair of contacts on the change-over switch to discharge the condenser when you change over to "receive." The discharge should be made through a few turns of wire acting as a choke, which lets the condenser down gently damping out the oscillations. The customary practice of discharging a big condenser by placing a screwdriver across it and obtaining the usual "smacky spark" is very bad for a condenser and imposes great strain upon the dielectric.

We trust these few remarks will lead our readers to pay respectful attention to their H.T. supply and regard it as a thing not to be played with. Remember, we have not nine lives like the proverbial cat, and one dose of a couple of thousand volts with any power behind it is usually sufficient for a human adult. He generally does not come back for a second helping for obvious reasons.

Station Procedure.

By G6CL.

IT is considered that a short description of up-to-date station procedure may not be out of place at this time.

It is appreciated that no very hard and fast rules can be laid down by any one person, but a

general description of current-operating methods may be of interest.

Considering, firstly, the method of call up. It is still debatable whether or not a G station is within its rights in calling "Test," and until an official ruling is given we must assume that it is the invitation signal for communication with another station on or about the wavelength of the transmitter. The question as to the length of such a call has been discussed by many, but it is felt that no very definite rule can be fixed; however, suggestions are as follows:—

(1) If the band is free from serious interference, call "Test" three times, followed by the call sign three times, and repeat all three times. If keying is made at about 15 w.d.m., the test call will take about one minute to send.

(2) If the band is busy, use the same procedure as above, but extend the length of the call to three minutes.

In the case of test calls designed to be acted on by some particular country, it is suggested that the intermediate only be used after each word "Test"—thus, an invitation for communication with the States would be sent as "Test U," "Test U," "Test U de G—."

In the case of a test being required on a different band to that of the transmitter, the suggested method of call is: "Test 35 de G—."

The misleading call up "Test dx" is of very little use, as "dx" may mean in the case of the 45 band any station over a 1,000 miles away operating between 30 and 45 metres.

In the case of replies to a "Test" or "Cq" call, it is suggested that the duration of reply be entirely governed by the amount of traffic on the band of the calling station. Providing no serious interference is being received, a two-minute "triple repeat" should suffice, but when interference is bad, it is considered advisable to call the station by its own call sign, for at least one minute before signing, and then repeat again at least twice for the same length of time.

Before calling any station, it is advisable to listen on your own exact wavelength for jamming. This is of particular importance, when operating low-power transmitters, and saves much useless "Key Punching."

Considering, now, procedure as applied to actual test reports, we find at the moment all sorts of contractions and methods of imparting information in use.

Gathering up all of the many reports which have been received recently, the following general methods, after initial contact, seem to be the best for easy interpretation and conciseness:—

2.A.E. G.G. 2.C.E.—R O.K. all
 R most } Usual thanks.
 R part only } etc., etc.
 UR Sigs. R on 2.V.S.—No QSS.
 on 3.V.S.—SUM QSS.

QSB DC { PURE
 RAC { GUD
 AC { ROUGH
 I.G.W. { WOBBLY } { STDI
 { UNSTDI
 { CHIRPI } (QRH (if asked
 for and add
 word APPROX
 unless you have
 your receiver or
 wave meter a c-
 curately cali-
 brated).

QSSS (if noticeable or asked for) QTC?

QRU (or if a test is required)
 QRV FOR TEST OF VALVE
 WAVELENGTH }
 FONE } ?
 COUPLING }
 ETC. }
 2AE—G—G—2CE—K.

It is realised that this example is only one of many that could be given, but it will serve as an illustration of correct current procedure.

It should be mentioned that, when seeking your QRK and QSB, it is only necessary to use the group "HW?"; it is almost certain that the other man will give you this information without using the conventional abbreviations.

In asking QRA the following procedures are recommended:—

(a) In the case of a G station: ask QRAR?
 (Is your address as published in call book?)

By the time these notes appear, it is anticipated that the T. & R. Section will have published an official call book.

Alternatively, query his town as given in your latest call book.

(b) In the case of French, Dutch and Belgian stations, ask for town and suggest QSL via RSGB.

(c) In the case of all other stations ask for full QRA, or query the town as shown in your latest call book.

In giving QRA, the following methods are suggested:—

(1) In the case of G stations, state town, and give full QRA if asked.

(2) In the case of French, Dutch and Belgian stations, give town and state that you will QSL via RSGB.

(3) In the case of all other stations, give full QRA or check back if your QRA has been already correctly given by the other station.

Considering now the international abbreviations. In the form as laid down in most handbooks, the meanings of several seldom-used groups are rather obscure.

The following free translation has been made, and it is thought will prove of some interest, especially by the newer amateurs:—

QRA Locality of station.
 GRAR? Is your address as published in call book?
 QRB Distance between stations (in miles, unless otherwise stated).
 QRH Wavelength.
 QRK Signal strength.
 QRM Interference.
 QRN Atmospheric interferences.
 QRO Increase power.
 QRP Reduce power.
 QRS Send slower.
 QRT Finishing transmission.
 QRU No further test.
 QRW Busy.
 QRX Stand by.
 QRZ Signals are weak.
 QSA Signals are strong.
 QSB Character of signal.
 QSC Poor sending.
 QSP Time.
 QSL Receipt Card.
 QSO Communication established.
 QSR Request to relay message.
 QSS Fading.

QSS Swinging.
 QSUF Land Line (telephone).
 QSY Wavelength change.
 QSZ Send each word twice.
 QTA Send each message twice.
 QTC? Have you any test to make?

Certain other abbreviations which have come into more or less general use are set out below:—

DX Long distance.
 WX Weather.
 RX Receiver.
 XMTR Transmitter.
 TNX }
 TKS } Thanks.
 PSE Please.
 HW? How are you receiving me?
 VY Very.
 CUL See you later.

CUAGN See you again.

SN Soon.

DE From.

ES And.

The conventional methods for describing the number of valves and their purposes as used for reception are as follows:—

O—V—1 No stages of high frequency detector and one low frequency stage.

O—V—2 Same as above, but two low frequency stages.

1—V—0 One stage of high frequency and detector.

The first digit indicates the number of high frequency valves (if any) used; the letter "V" shows that a valve is in use as the detector, whilst the last digit indicates the number of low frequency valves (if any) in use.

Australian Best Times for Reception.

Month.	State of QRN.	Loudest Signals Heard. From Europe.	Loudest Signals Heard. From Europe.	
	Average.	Sydney Time.	G.M.T. Time.	
JANUARY	Fair Bad	5 a.m. to 6 a.m. 6 p.m. to 7 p.m. (Sundays)	7 p.m. to 8 p.m. 8 a.m. to 9 a.m. (Sundays)	Evening before
FEBRUARY	Fair Bad	5 a.m. to 6.30 a.m. 6 p.m. to 7 p.m. (Sundays)	7 p.m. to 8.30 p.m. 8 a.m. to 9 a.m. (Sundays)	Evening before
MARCH	Fair Fair to Bad	5.30 a.m. to 7 a.m. 4.30 p.m. to 6 p.m.	7.30 p.m. to 9 p.m. 6.30 a.m. to 8 a.m.	Evening before
APRIL	Fair Fair	5.30 a.m. to 7 a.m. 4 p.m. to 5.30 p.m.	8.30 p.m. to 10 p.m. 7 a.m. to 8.30 a.m.	Evening before
MAY	Fair Fair	5.30 a.m. to 7.30 a.m. 4 p.m. to 5.30 p.m.	8.30 p.m. to 10.30 p.m. 7 a.m. to 8.30 a.m.	Evening before
JUNE	Fair Fair	5.30 a.m. to 7.30 a.m. 3.30 p.m. to 5 p.m.	8.30 p.m. to 10.30 p.m. 6.30 a.m. to 8 a.m.	Evening before
JULY	Fair Fair	5.30 a.m. to 7.30 a.m. 3 p.m. to 5 p.m.	8.30 p.m. to 10.30 p.m. 6 a.m. to 8 a.m.	Evening before
AUGUST	Fair Fair	5.30 a.m. to 7 a.m. 3 p.m. to 5 p.m.	8.30 p.m. to 10 p.m. 6 a.m. to 8 a.m.	Evening before
SEPTEMBER	Fair Fair	5 a.m. to 6.30 a.m. 3.30 p.m. to 5.30 p.m.	8 p.m. to 9.30 p.m. 6.30 a.m. to 8.30 a.m.	Evening before
OCTOBER	Fair Fair to Bad	5 a.m. to 6.30 a.m. 4 p.m. to 5.30 p.m.	7 p.m. to 8.30 p.m. 6 a.m. to 7.30 a.m.	Evening before
NOVEMBER	Fair Bad	4.30 a.m. to 6 a.m. 4.30 p.m. to 6 p.m.	6.30 p.m. to 8 p.m. 6.30 a.m. to 8 a.m.	Evening before
DECEMBER	Fair Bad	4.30 a.m. to 6 a.m. 5 p.m. to 6.30 p.m.	6.30 p.m. to 8 p.m. 7 a.m. to 8.30 a.m.	Evening before

T. H. HARRIS.
 Sydney, Australia.

Members are reminded that they are represented on the Broadcast Advisory Committee. Therefore should they desire that any matter concerning Broadcasting be brought directly to the notice of the B.B.C., they should communicate with the Hon. Secretary.

It cannot be too strongly emphasised that a report, unless accurate, is useless—better is it by far that the greetings and trimmings be omitted if the report is to be skipped. In this matter, it is of great importance when giving signal strength to state definitely the number of valves used for reception.

Analysing nearly 200 cards received during the past six months, it was found that 16 per cent. of stations were using either one or three valves, whilst eight cards failed to give any particulars of the receiver.

The actual figures being: 152, two-valve; 19, three-valve; 11, one-valve; 8, no particulars.

From these figures it is a conclusive proof that, unless this information is given, the report loses much of its value.

It is hoped that these few suggestions will prove of general interest to all, and of special interest to the many new amateur enthusiasts who have recently entered the ever-growing circle of seekers after radio knowledge, as it is to be found in that branch known as Ham radio.

Wanted—Data on Your Short Wave Sets, 23 Metres.

We are open to consider brief articles bearing on this subject and containing the following particulars:—

Circuit diagram of transmitter.

Power supply, filter and chokes, etc.

Aerial and degree of coupling.

QSB. DC seems impossible unless crystal control is used.

Type of receiver, filament, chokes, etc.

We hope to publish a special 23-metre number very shortly if the material is forthcoming, and many members should have gathered valuable data as the result of the recent tests.

“Am I Wasting My Time on You?”—or the Brassfounder's Anthem.

Am I wasting my time by thinking you're mine.

And calling the way that I do?

Will the Heavside layer just answer my prayer

To QSO QSA you?

Will I lose in the end and just hear you send

Another five hundred “CQ”?

At the end of the day will you send me away,

Plus a QSO 6th NU?

With prolific apologies to the composer and the libel on 6th Dist. NU!!

R. BLOXHAM (EG5LS).

Strays.

GI6MU reports that SS2SE, of Singapore, informs him that the local government has fixed the prefix for Malay as “VS.”

SS2SE is now working on 21.5 metres, and says that the higher wavebands are almost useless out there during the summer owing to QRM and QRN. He hopes to be home in May, 1928, when he hopes to meet his radio friends “in the flesh.”

GI6MU wishes to know whether any other members have ever worked any of the Malay

stations on phone, as he has just succeeded in working VSIAB (ex SS2SE) on phone, power about 65 watts input, wavelength 22.2 metres.

Syllabus for 1928-1928.

We are now open to consider papers for presentation before the ordinary meetings at the Institution of Electrical Engineers during the above-mentioned session. These papers will be published in full in the BULLETIN if they are first submitted in M.S. form and clear illustrations are provided. These illustrations need not be a finished product, but must be clearly drawn. Members who wish to read papers or give lectures in respect of which they have not previously prepared a manuscript should state clearly the title of the lecture and the ground which it is proposed to cover. Abstracts of the papers will also be published in “Wireless World” in certain cases. We are particularly desirous of preparing the syllabus well in advance, and would therefore be glad if members would get into touch with the Hon. Secretary early.

Convention Date.

It has been arranged that the Convention will take place at the Institute of Electrical Engineers on September 30th and October 1st, 1927.

News and Notes from the Areas.

Instructions for Contributors.

These Notes have now begun to assume great proportions and owing to the large number of stations involved, they take up a considerable amount of space in the BULLETIN. Moreover many members do not appreciate that Area Managers have plenty of work on hand and that if they rendered concise and pointed reports much time would be saved.

The following rules have therefore been prepared in order to assist both Area Managers and reporting members:—

- (1) *State total stations worked.*
- (2) *Give details of localities, i.e., whether G's, Z's, G.I.'s, U's, etc.*
- (3) *State power used.*
- (4) *State source of power supply, whether home-made A.C., D.C., Dry Batteries, etc.*
- (5) *Best D.X. for month and brief detail of report by the station worked.*
- (6) *Any remarks relative to your station, to be brief and not more than 30 words.*
- (7) *If you write your Area or District Manager and expect a reply, write on separate sheet of paper and enclose a stamped addressed envelope for the reply.*
- (8) *Your report must reach your Manager by the date mentioned at the head of his Notes from now onward.*
- (9) *Avoid the use of abbreviations and wrongly-spelled words.*
- (10) *Area Managers should submit their reports to Headquarters by the 16th of the month preceding publication.*

If it is apparent from the Manager's report that any member has not observed these rules or should a Manager report that a member is not observing them, the Editor reserves the right to delete the paragraph referring to his station.

QSL Section Report.

This Section has been kept fairly busy this month, and one cannot help deploring the lack of envelopes, which, although some may not realise it, causes a considerable amount of extra work.

May I put forward a suggestion to members using this Section, *i.e.*, when you send in your cards for distribution, enclose an envelope each time, that will keep your supply well up.

DO NOT FORGET TO PUT YOUR CALL SIGN IN THE TOP LEFT-HAND CORNER. TNX.

All cards below claimed before this issue are cancelled.

2ab, 2agw, 2az, 2wal, 2aj, 5am, 5al, 5ak, 6ak, 6ao, 6ai, 6ar, 6ad, 2bb, 2bq, 2bvn, 2bri, 2bw, 2bp, 5bx, 5by, 5bc, 6ba, 5cz, 6ci, 6cj, 6ds, 2zg, 5za, 6zb, 6zm, 2fu, 6fg, 2gy, 5gs, 6gf, 2hp, 5hw, 6hf, 6hz, 6hh, 2ig, 2ju, 2jc, 5jw, 5it, 6ic, 6ig, 2kf, 2kt, 2kx, 2ka, 5kz, 5ka, 5kz, 5ka, 6ks, 6ku, 5lx, 6ld, 6lp, 6lv, 2mw, 2ma, 2mh, 5mx, 5mi, 5ma, 6mk, 6ma, 2nk, 2nr, 2nj, 5nz, 2oq, 5of, 6oh, 6ot, 5qz, 5qw, 6qb, 6qu, 6qz, 6qw, 5pg, 6pu, 6qh, 6pg, 2rr, 5ru, 5ra, 2sz, 2st, 5sq, 5sw, 5so, 5sn, 6sr, 2ty, 6tx, 6td, 2un, 2vq, 5ut, 6vt, 6uv, 2wa, 5wq, 6ws, 2xs, 5xo, 5xb, 6yq, 2yd, 6yu, 6yv, 5ym, 6yq.

QRA Section.

I am informed by French 8DQ that French amateurs calls from 8KF to 8SSU, as published in the R.S.G.B. Call Book, have now been cancelled.

I have had a letter from H. Russell Boyle (ex G6YT). He is now in New Zealand, and working on 32 metres, with the call OZ-2AS. He wishes to arrange tests with "G's," and is always on from 23-00 hours G.M.T. each Saturday, using 90 watts input. His QRA is P.O. Box 26, Napier, N.Z.

SS-2SE, R. E. Earle (Member T. & R.), whose new call sign is given in its proper sub-section, is anxious to QSO fellow-members of the T. & R. He is at present working a schedule with SMTN, and this latter station would be pleased to arrange any schedule for "G" stations with Mr. Earle. (Inf. 2AHP).

I am indebted this month, for a full and comprehensive list, up-to-date, of all South African QRA's, to Mr. Basil Hodson (G2KA).

QRA's Found.

SS-8MAX.—French Destroyer *Léopard* (Inf. A. M. Robertson, T. & R.).

AR-8LHA.—H. Lambert, Box 86, Beyrouth, Syria (Inf. 2AFD).

AB1.—U.S. Army Station, Fort Sheridan, Illinois, U.S.A. (Inf. C. D. Connerton, T. & R.).

SB-1BU (ex BZ-1QA).—A. F. de Lima Campos, Rua Humayta 36, Rio de Janeiro, Brazil (Inf. B. Smith, T. & R.).

SB-1BR.—J. Esjindola, Rua Latino Coelho 27, Olario, Rio de Janeiro, Brazil (Inf. A. G. Burgess, T. & R.).

SB-2AG.—C. Yaabek, P. Box 286, Sao Paulo, Brazil.

SB-2AR.—A. Rees, Caixa Postal 3513, Sao Paulo, Brazil (Inf. A. G. Burgess, T. & R.).

AQ-1MDZ.—Sgt. Williams, Mosul, Iraq.

EGEZ.—A. Nahmias, 5, Rue Emad-el-Dine, Cairo, Egypt (Inf. 2ADA).

EA-PY.—O. Petrasch, Hohenau, Nieder-Oesterr, Austria.

EW-KI.—Istvan Kemeny, Tarogato Ut 62, Budapest, Hungary.

(QSL under cover). (Inf. H. E. Cook, T. & R.).

EI-1CY.—F. S. Salimei, Piazza S. Salvatore in Lauro 15, Rome, Italy (Inf. 2BWB).

EI-1PL.—Doct Picchioni, Ripetta Nr. 80, Rome, Italy (Inf. 2AUH).

ED-7HP.—H. Petersen, Hattseminairet, Tønder, Denmark (Inf. 2AJI).

NR-1UR.—Box 54, San José (Inf. Miss Dunn, T. & R.).

GBH.—Grimsby "Beam" to Australia (Inf. Miss Dunn, T. & R.).

KTC.—Box 177, Khartoum, Sudan (Inf. G5XY).

QRA'S ("G")

2ABA.—E. P. ALLEN, "Meadowcourt," Radcliffe-on-Trent, Notts.

2ACQ.—F. W. WOODWARD, 5, Portland Gardens, Harringay, N.4.

2BNB.—J. K. FENBY, 546, Chester Road, Erdington, Birmingham.

2ANO.—E. H. WALKER, Woodgrange, Overton Road, Sutton, Surrey.

2ANU.—J. W. KNIGHT, 203, Yorkshire Street, Rochdale, Lancs.

2BIP.—R. M. KAY, 82, Daisy Bank Road, Victoria Park, Manchester.

2BIX.—J. BUTTERWORTH, 1088, Manchester Road, Castleton, Lancs.

2BJC.—E. H. PIDCOCK, 31, King Edward Avenue, Worthing.

2BLG.—E. R. MARTIN, "Castlemount," Worksop. (Not 2BNG as stated in May BULLETIN.)

2BOD.—A. HARGRAVES, 5, Ridge Street, Barnoldswick, Via Colne, Lancs.

2BOQ.—A. CROSS, 337, Anlaby Road, Hull, Yorks.

5BQ.—S. J. STYLES, 15, Pickwick Road, Dulwich Village, S.E.21.

5ML.—F. W. MILES, 266, Earlsdon Avenue, N., Coventry.

5MN.—P. B. MOON, 95, Richmond Road, Leytonstone, E.11.

5ZC.—F. J. CLARK, 2, Acre Road, Colliers Wood, Merton, S.W.19.

6BB.—H. BRABROOK, 31, Court Lane, Dulwich, S.E.21.

6FY.—R. A. FEREDAY, 37, Wallwood Road, Leytonstone, E.11.

6WT.—CAPT. G. C. WILMOT, 20, Parkfield Road, Sefton Park Liverpool.

CHANGE OF QRA.

G2FV.—Now: 24, India Street, Glasgow.

NU-2ARM.—Now: 7306, 19th Avenue, Brooklyn, New York U.S.A.

G5NQ.—Now: Straithgate, 222, Rooley Lane, Bankfoot, Bradford.

Change of Call Sign.

G2OW now 2ACQ (Inf. G6UT).

2AJC " G6BB.

G6JR " 2BPU.

SS-2SE " VS-1AB (Inf. 2AHP).

QRA's Wanted.

(Communications await the following stations.)

NX-AKT2, AQ-1HH, NX-1NX, G2BL, 2BJR, 2BV, 2BWT, 2BZG, 2GM, 2MA, 2MW, 2WX, 2YD, 2ZF, 5AL, 5PG, 5WG, 5YU, 5YV, 6AZ, 6DL, 6WK.

G6BT,

Q.R.A. SECTION,

82, York Road,

Bury, Suffolk.

Reports on Research.

6HZ, who has been having troubles to get H.T. supply, at his new QRA, has at last got going. He is devoting a lot of time to fone, and has been working all Europe and Algeria.

22C, apart from observed periods of fading as outlined in the notes, has little to report. No DX was attempted in any form. SKU was worked when at sea on 8 watts, during daylight. Eight watts is the maximum power now used at 22C.

5GW is still busy with exams, etc. He is expected back in June, but is QRT till then. 23 metres interest him, and he has a receiving set, and is willing to listen for G hams on 23 metres. As a QRP station, he wishes to know what other Hams have done with QRP on 23 metres. (This might interest quite a number of Hams—22C.)

6PU is going strong with fone, but was unlucky enough not to sit up on the one or two nights the DX was good, and sat up all the dud ones! So has little to report.

Is 6OX dead? (22C).

Northern Notes.

Area Manager: S. R. WRIGHT, 2DR.

(Reports to collectors by the 8th.)

The summer slump has set in with gusto this month, and reports are by no means numerous, except in some areas. The conditions for DX have not been any too good of late, but some people have found a few Americans about and worked them, but the hour of maximum DX, to coin a phrase, seems to be getting later, and the NU's are at their best about 03.00, but the SB's and others of that area may be heard around 23.00 still.

There is a little work being done on 90 metres, and it will be interesting to see what DX, if any, can be done on this wave during the summer months, as compared with DX as we have come to know it on 45 metres.

Congratulations are due to 6OO, who is the proud possessor of a second Junior Operator. May I remind him that application forms for membership of the T. & R. are obtainable from headquarters?

The reports:—

STAR STATION THIS MONTH.

5MQ, E. MENZIES, Esq., School House, Fazakerley, Liverpool.

(For details, see Lancashire).

Yorkshire.

Reports to G-2 DR.

6BR has had rectifier trouble, but has been carrying out tests with Europe on 4 watts with good results.

5US and 6BR are carrying out some good work on 5 metres, using about 3 watts, and would be glad to work schedules with stations using this wave.

6IG has been experimenting with radiating systems, and has got down to an aerial working on the fundamental. With this, good European work has been done on 4 watts. He finds an earth better than a counterpoise for 45.

2BOQ is a new member, and duly welcomed to the fold. He sends in a good list of stations heard totalling 315. The best DX (reception) was SA-EN8, and SC-2AR. He uses an R.F.B. transmitter.

6DR has little to report, but has worked three new countries and also the S.S. Hanø, off Madeira. Total QSO's and power not given.

2XY is smitten with a conscience, and sends a welcome report. He has been having trouble with crystal control, and is not settled

yet. Some 45 metre phone has been done on 120 watts, and 90-metre tests with 5SZ are proceeding. South Africa reports r7 and Indo-China r5 on 45 metre c.w.

2YU reports 82 QSO's for the month, power under 5 watts from dry batteries. Best DX was ET-2 XQ (Riga), on 4 watts. EAR and EC were also worked on 3 watts. This work is done under difficult conditions.

5KZ is busy trying a master oscillator prior to going on to crystal control. He will be off the air for DX for two months except for short tests with new gear. An r4 report has been forwarded from Tasmania, power 16 watts.

6XL has not been on the key much this month, but has put up a very fine 50 ft. aerial, and finds an enormous increase in range. Best DX FM-8VX on 4 watts, r6, and EU-1UA on 7 watts, r4. A Zenith transformer for 500 volts R.A.C. is shortly to be used here.

6OO has been carrying experiments with a C.F. Hertz but has had QSS (feeders radiating OM?), so has gone back to inverted L for the moment. Good work done on low power with Europe, best DX S.S. Lithuania in mid-Atlantic, and FM-TUN.

2DR has been busy with rectifier experiments all month, and best DX was with 5NU's, one 4th, using 24 watts. He is now licensed for 32/34 metres, and this wave will be in use shortly.

FAILED TO REPORT.—6TY, 5SZ, 2IH, 5US.

Lancashire and Isle of Man.

Reports to G-25XY.

Isle of Man, no reports.

5MQ takes the star station position this month, with a bag of 16NU, 2NC, PR 4SA, 2NE and Iceland, all on 8 watts only. This is very good work OM. 9NU's and one NC were worked in one sitting. Keep it up, OM.

2AUH sends in a good list of calls heard, but suffers from domestic QRM!

5XY again captures the high-power flag, and if 5MQ had not sent in such a good low power report, 5XY would have held the fort this month. On 33 metres, ALL U.S.A. districts have been worked, 48 NU's total, including 5-7th district, giving an average r6 report. Power 150 watts. The Soudan has also been worked. There is something to be said for 33 metres OM. Congrats.

FAILED TO REPORT.—The rest of Lancashire. Hi!

Cheshire and North Wales.

Reports to G-6TW.

2SO having completed two months QRP rests, has gained some interesting information (article for the "BULL," OM, please). He is now busy with a current fed Hertz after a visit from the A.M. Wants schedules on 45 with hams over 1,000 miles. 2BOW has been way down south most of the month, but says 20 metre NU's are coming in well. Reception of phone from NC-1AR is the best thing this month. Receiving schedule with NU-9 DR still going strong.

6YQ has been confining most of his attentions to Europe this month with a special type of aerial; he uses an aerial system which differs from that used for U.S.A. I suggest an article on this OM. Europe worked on $\frac{1}{2}$ to 4 watts, DX EAJI and EAJZ. U.S.A. on 3 to 5 watts, DX NU-9ADK r5. Total DX, 58 Europeans, 8 NU's, and Jamaica.

2MF has nothing to report.

6TW has been doing good QRP c.w. and phone work. Power 3 to 4 watts, which has sufficed to cover most of Europe. He is thinking of trying C.F. Hertz (don't think OM, do it!!). He visited 2SO who had the A.M. there, so a good day was spent, information and ideas changing hands rapidly.

Not reported:—5PO.

Northumberland, Durham, Cumberland and Westmorland.

Reports to 2AIZ.

6FG has been working schedule with 6PW (Stourbridge) and gets r8 day or night. Power and wave not stated. He is QRW exams. Luck OM.

6QT despite business QRM has worked 8 European countries on 4 watts. The best DX was Naples on this power.

6YV has worked 15 NU's but does not state power or wave. He reports bad DX conditions but managed to receive VIS (Sydney).

BRS 68 reports fair DX conditions, with S. Americans louder than usual. More exams. here!! More luck OM.

BRS44 has only had NU's this month, and reports poor conditions.

2AIZ is busy having "juice" laid on so is QRT. Still more exams. here!!! Well, still more luck OM., but I say, you are swotters up your way.

It is suggested that occasional meetings of transmitters in this area might be arranged, say once a quarter. Will all interested please say so to 2AIZ? Let him have your suggestions OM's.

Notts, Lincs. and Derbyshire.

Reports to G-5CD.

2AHP reports a visit from 2AUR but no reception report.

2AUR has logged 235 stations this month, so has been busy on the receiver.

2BLG has done good DX receiving but is awaiting a full permit. Good luck to you OM.

2ABA is a new member. welcome. He has logged 200 odd stations, including 24 countries and 4 continents on a single valver. and reports Easter Sunday as being the best DX day of the month.

5OD has been carrying out phone tests with BRS 80 on 2 $\frac{1}{2}$ watts, and has had a report from Berlin on this power.

5CD hopes to get his crystal controlled 45 set going in time for a report next month. Get busy OM.

BRS45 reports good DX, but bad QRN. On April 3, he logged 41 NU's on 20 metres. Says they are best when moon is QRT.

BRS48 is another newcomer. Welcome OM, and send a report for next month.

BRS84 has been busy with tests for 6XH and 2OD and runs eight schedules with G hams.

5BD has had a good month with Europe and FM on 5 to 8 watts from the old dry batts. ET, ES and EU have been worked. A hand generator is in operation but QSB is R.A.C.

Not reported:—2BZT, 2IX, 2VQ, 5DM, 5KW, 5QT.

Northern Ireland

Owing to unforeseen circumstances having arisen at 5NJ, it is impossible to compile Irish Notes of this District this month. Full notes will appear next month as usual.

Mid-Britain Notes.

(Area Manager G6JV.)

The Mid-Britain Conventioneette.

Mr. Jeapes tells me that he and 5JO have burned much petrol roaming the countryside in search of a suitable place, and that he has decided upon The Cock Hotel, Kingsthorpe, near Northampton (about one mile from this city). As this will be the last opportunity of informing members through the pages of the BULLETIN, I must occupy a little space in explaining the provisional programme, which will be something as follows:—Bank Holiday Monday, August 1, members will assemble at the Cock Hotel, Kingsthorpe, between 11 a.m. and 1 p.m. Lunch will be served at 1 o'clock. At 2.30 p.m. it is expected to arrange a talk (what, *more* talks?) by a well-known personage upon "Useful Research for Amateur Radio Workers." This will be followed by the Initiation Ceremonies of the Institute of Cheery Key punchers. Would-be members and Associates must bring their 1927 logs and must be prepared to read therefrom the most amusing extracts upon request by the G.O.K. (Grand Old Keypuncher).

Those who survive the necessary formalities will take tea at 5 pm. By the kindness of 2QM, arrangements have been made for any members who may so desire (and whose physical condition will still permit) to visit the little "perker" at 5XX.

2XV asks me to say that the charge for lunch and tea will be five shillings, exclusive of liquid dopes [but of course the latter information will be of no interest].

All applications for tickets must be made to 2XV direct, and *must* be accompanied by postal order or cheque at the rate of five shillings per person. If you bring friends, please state whether these belong to the fairer or to the sterner sex, and don't forget to pay for them, too! No application can be considered upon any other terms.

Mr. Jeapes concludes thus:—

"The following entries have been received to date provisionally, and I await remittances from them before definitely counting them as "runners." 2AVR, 2AHP, 5JO and friend, 6JV, Mrs. 6JV, 2HK and friend, 2BPI, 2BAX and friend, 2BIM, 2BKY, 2AFS, 2BLM, 5ML.

Please roll up, gang, and let's make a "do" of this little affair. July 11 is last day for applications.

(G2XV) Chandos, Gt. Shelford, Cambs.

May I take the opportunity of seconding 2XV in his appeal for "entries"—in good time—and express the pleasure with which I look forward to meeting you all upon August 1.

By the way, Mrs. 6JV is anxious not to be the only OW! See to it, fellows, please.

Very many thanks to you 2XV for all the trouble you are taking. It is fine work, and the best thanks that we can offer you is to ensure a successful day **by making early application for tickets.**

Shropshire (reports to 5SI).

The best news from this county is poor news. 5SI is down with gastric trouble and could only send a short pencil note. He has had bad luck this year and we wish him a speedy recovery. 6TD has nothing to report.

Cambridgeshire (Report to G2XV).

2DB reports absolutely nothing doing owing to business and holidays, but will be on again soon.

5YK has not reported, so suppose he has done nothing of any consequence.

5YX is most certainly the Star Station of the Area, he has worked three Yanks on 45 metres and been reported R5-6 on this wave in Tasmania; but listen, gang, this is not all; he has been QSO with U.S.A. 42 times on 23 metres—the best report being from U4TV and U9EF, both reporting R6—he also pushed audible signals over to U.S.A. on this wave with only 0.24 of a watt. Good on you, OM. Carry on.

5JO has, on 175 metres, been QSO quite a number of stations, and has increased his range very well since last month. QRM for him OM's; he wants schedules any evening after 11 p.m.

2XV has been off the air for some weeks owing to removal to a new QRA, but hopes to be going again by the time this report appears, using waves of 33.5, 44.5 and 165 also certain tests will

be made on 23 metres upon which reports are exceedingly welcome.

Huntingdonshire Reports (by G2XV).

2BAX is still the only enthusiast reporting from this county and the only items of interest he has this month are that he has received visits from two other keen short-wave friends, namely, Messrs. Maddox and Burcham, and that he is ready to report on any amateur signals from 20—200 metres.

Leicestershire (Reports to 6WW).

6CF is rebuilding and will shortly be testing aeriols.

2WM, one of the old timers, has started work again on 90 m., but complains that the number of stations working on this wave is so small as to restrict his tests. Perhaps those using this wave will write him?

6WW has been testing a $\frac{1}{2}$ -wave Hertz and has received reports of his signals from Tasmania, when using an input of 9 watts to a vertical antenna. He requests monthly reports from all T. & R. members in the county.

Northampton (Reports to BRS30).

2QM has been raising U.S.A. consistently and has received reports from India and Tasmania. He is building a crystal controlled set and hopes to be on the air with this shortly. We thank him for so kindly arranging the visit to 5XX on August 1.

2CH reports phone tests only. He contemplates QRO to 100 watts and we hope that he will use this gently on the congested 45 m. band!

Mr. Shaw and BRS30 are both working (fancy that!) for exams. The latter asks for reports from this county to be sent to P. H. B. Trasler, Peterhouse, Cambridge.

Warwickshire (Reports to 2BPI).

BRS30 has been interesting himself in waves below 20 metres, particularly telephony from 2XG on 16 metres. He wants to know of a reliable wave-meter for 5 metre work.

6YD has gone down to 23 m. owing to 45 m. QRM and is experimenting with aeriols. Using 20 watts, test calls have been freely answered by U.S.A. and Brazil.

BRS29 and 2BMW are neglecting radio in favour of studies for forthcoming exams. Shame!

BRS10 and 2BCA have Nil reports, which is better than passing the date for reporting unheeded.

BRS3 favours 20 m. band for DX now and thinks that NA7MN (Alaska) and NLIP may not have been reported in England before?

6CI is unfortunately ill and therefore QRT.

2BVL is now 5ML and QSO Europe on QRP crystal control.

5SK has been trying vertical antennæ but is not convinced of its superiority.

2BKY, 2AFS and 2BPI report nothing of particular interest this month.

Worcestershire (Reports to 6AT).

6AT reports contacts with three U.S.A. stations. He has received good reports upon his fone tests and has kept a fone schedule with F8JZ who speaks good English and is anxious to work G's on 45 m.

6AT is experimenting with superhet and measurement of signals strengths, using Moullin Voltmeter. (You should get this going for the Eclipse Tests OM. It should be most useful.—6JV.)

Wolverhampton and District (Reports to 5UW).

No reports have been received by 5UW from either Wolverhampton or Staffordshire this month, possibly because nearly all the OM's in the county were present at a meeting of the Wolverhampton and District Radio Transmitters Society held on April 27, when an interesting paper was given by G6HT, who chose for his subject, "Atoms, Molecules and Electrons." The following were present:—6UZ, 6BH, 2WN, 6AT, 2NV, 2OQ, 5AF, 2AAD, 6PB, 5UW, 6HT and 5LK (host of the evening). Apologies were received from 5NU, 2YV, 6OH, and 6MZ. After the lecture, interesting discussions took place relative to members' problems.

2OQ reports working the States 1st district, and SB1AW but has been too QRW for much DX.

5LK has rebuilt. His new Xmitter is a Mesny with Levy Aerial. Like 5UW, he is trying to get good fone while using A.C. for filament heating.

6HT has worked the usual Europeans, and contemplates building a new crystal controlled set, which will set the pace for Wolverhampton.

5UW has been very active with DX, chiefly with schedules. These have been successfully run with SFV (terminated when in harbour at Santos, Brazil). KUMT, completed when this boat was in the Gulf of Mexico, while schedules are still in operation with SB1AW, SA-CB8, SB2AR and SB2AB. Average reports are R7, and fone was sent over to SB1AW, who reported R6 when QRN permitted. Several NU stations have also been worked, chiefly NU-2CVJ. During these schedules, 5UW has completely rebuilt his Xmitter, with greatly improved results as regards QSB and QRK.

2RR has started up on 45 metres and is doing well with QRP fone during week-ends.

5PR, 6PB, 2NV, report nothing out of the ordinary, which is of course better than no report at all.

Norfolk (Reports to 6ZJ).

6ZJ has discovered a new microphone. He uses a dull emitter valve with slender filament and just shouts at it!! We hand him the bun.

6JV has worked SB-1AJ and SB-1BD using the old T.40 again owing to softening of the Big'un, reported last month). Input

40 watts. He is attempting to work a schedule with Earle of VS¹ IAB (old SS2SE of Singapore). For this purpose he has gone down to 23 metres and has had a satisfactory QSO with S.M.T.N. on this wave. The latter has weekly schedules with VSIAB and is kindly acting as relay meanwhile. Earle is a Norwich man—hence the eagerly desired QSO.

CU all August 1. Deo volente and punctures permitting!

London Area Monthly Report.

By G. A. EXETER (6YK).

At a meeting of the Divisional Managers of the London Area on April 29 it was eventually decided that the Area shall be split up as under, in Postal Districts, and Counties within the Area radius:—

Northern Division.—N., N.W. and Herts (under 6CL).

Southern Division.—S.W., S.E. Kent and Surrey (under 6PG).

Eastern Division.—E., E.C. and Essex (under 6LB).

Western Division.—W., W.C., Bucks and Middlesex (under 6YK).

It should be apparent to every station to which Division he belongs, and he should report to his Manager without delay. If any are still uncertain as to this point, drop me a line (and enclose a report) and I'll allocate you to your Division by placing your report under that heading. This means that at present, as far as we are able to ascertain, somewhere about 350 stations, exclusive of A.A. licences and BRS numbers, are in the London Area! If we say 25 per cent. of these are active T. & R. men, we should have at the very least about 85 reports each month!!! Now, just look to it, fellows, and let us see if we can produce 100 per cent. reports, never mind the 25 per cent. The meeting on April 29 produced some very interesting suggestions. First, it has been proposed that we London men get together, and have a merry evening in the near future—say, Mid-June. By a merry evening I mean a good, jolly, convivial gathering, to a dinner at some place that will do it reasonably (say, 7s. 6d. per head at the outside), strictly an informal affair, and don't stop away because you have no time for boiled shirts and collars you have to climb over to get out of!!! If you want to dress, then dress; if not, don't! Now, the object of this is twofold. In the first place, we want to get into personal touch with all of you, and we think that a real "Ham" gathering, where you can do as you please and swap all the "shop" you care to, with the minimum of discomfort and shyness, is indicated. Have any of you ever had a meal together with a few brother "Hams"? Well, that is what this is going to be, only on a larger scale if we can get you to come, and I'm sure you will. We don't care if a dozen or a hundred come, provided we are informed in good time to make the necessary arrangements. As there is no time to publish further particulars, all those who write and say they are coming will be communicated with by post, giving date and expenses. The second point is this. The Convention will soon be here!!!! As it seems to be the general opinion that it will be held in London again, I want all the London boys to welcome with open arms their brother amateurs from everywhere, and give them a real good time while they're here. I want to know just who can accommodate one or a dozen in their own places, so that I can fix up for these men from the country. After all, hotels are chilly places when you're alone, therefore I want to get you all together to talk over this and other points connected with the London Area. I feel that it is up to us to show the others who will be down that we are proud to meet them, and proud of our town and the opportunity of showing it to them. We can't get on to this too soon, so all those who want a good night with each other, my address is 142, Campden Hill Road, W.8, and drop that line AT ONCE. We have heaps more ideas, but I can see 5TR's face getting stiffer every word I write, so I'll have to keep them until we get together. Now for this month's reports.

G5LF says that he has gone back to his first love, and is operating again on 20 metres. Although he will be busy with schedules during the dark hours, he states that he will be pleased to arrange schedules on any wave below 23 metres during the daylight hours. If any member hearing his 20 m. sigs cares to render reports, these should state GMT and amount of QSSS. As the tests are being run on special lines, no other information but the above is required, and would be gratefully acknowledged. He also asks if anyone amongst our membership has done any serious research in connection with the design of R.F. chokes? If so, will they please get in touch with Secretan, who has collected a heap of information, and would be glad to assist others.

2CX has been using an LS5 with a certain amount of success, and dry battery input. He also has a "mangle," with which he has some trouble in getting pure D.C. from.

6HU has rebuilt, and is getting F.B. reports from most of Europe, and managing to extract pure D.C. from his 50-cycle mains.

2BWR has been experimenting with some different types of receiving valves. (Any dope for "BULL," OM?)

BRS63 has logged practically every country in the world, including 472 NU's. He wants to know where the rest of the gang are who have 23 m. permits, and says that this band is top-hole for DX.

Ex 2AJC has now been allotted the call of 6BB, and with 1-4

watts of chem rec A.C. has been working locals. He intends rebuilding.

6WN has worked 21 stns during the month, his best DX being Glasgow R4 with 4 watts. He has obtained permission to work "foreign."

2NH has at last obtained his WAC certificate, completing the total with Brazil. (Vy F.B., OM.) On 23 m. he has worked a number of NU's and OA7CW and OA2NO.

2VJ has quite a lot to say about his fone, and says that, while testing with EB4AR, he was reported by someone who says his French was better in the evening than in the afternoon, and wants to know if the atmospheric conditions would affect it!!!! He has been working with BRS34 on fading tests, and finds the work very interesting.

BRS25 sends in a good list of stns heard during the month, totalling 641, which include OA's, FO's, FQ's, NJ's and SU's, together with many NU's. He says that April was not a very good month for DX. He has arranged a schedule with EU08 to listen for his 20 m. sigs.

BRS88 has been experimenting with underground aerials for reception with some success. He logged AJJKZB with an aerial 5 ft. high and 30 ft. long.

Will those stns included above who sent in their reports to me please note the arrangements now in force, and in future report to their respective Divisional Managers. Several stns did not report. Why, OM's? All reports by the 10th of the month, please, in future, as some are arriving nearly too late.

East London Division (by 6LB).

6LB is busy trying to make a chemical rectifier function, but has met with no success. The same is the case with valve rectifiers. He is filling in his "spare" time by QSO'ing Europe on 2 watts dry cells and calling U.S.A. in vain. He thinks the song, "Am I Wasting My Time On You," requires some new words. (See other pages for the words.—Ed.)

6LL is QRW with a "motor cycle." 6LB thinks he will soon be still more QRW with bits of a motor cycle. Apart from a few 'phone tests on 45 m. he is not doing much Radio.

6TX is also doing fone on 45 m.

6KA is fed up with the QRM from G phone stations on 45 m. (Hear, hear, OM! Committee, please note.—6LB.) that he is QSY'ing to 90 m.

6UT has still been unable to QSO the U.S.A., but has worked Swedish ship *Lituania*, call sign NCO1K, when off Newfoundland. QRK R4 on 12 watts. (F.B.! OM.)

5UP again takes the laurels for East London, having been reported R4 in Tasmania, pure D.C. es stdi when using 30 watts of "mangle." (V.Y., F.B., OM! Congrats.) We hear that 5OW is coming back on the air. (Good biz, OM!) 6LL dearly wants a neighbour, Hi!!

2BOX is still swatting Morse. Keep it up, OM. Try GKU 1,750 m.

5AR is still going strong on 150 m., but we don't hear much of him on 45 m.

2KT is in danger of becoming a BCL, but as we note signs of a QRP Xmitter being rigged up, a la bedside, we trust these fears are groundless.

Will all the other 42 East London stations who have not sent in reports please do so by the 2nd of the month. Come on, OM's. Get to it. My postman loves walking almost as much as he does me.

Southern Division.

5RF will be off the air for a few months, as he is now travelling as operator on a ship round the coast of South America.

5RZ is still keeping his schedule with NUIGA every night, and hopes to go down to 23 m. soon, as the longer days are making themselves felt on 45 m. He has at last got a satisfactory Hertz working voltage fed.

2CB has worked 18 stations this month—all local Europeans—using 3 watts from dry cells and 6 watts of "mangle." His best DX was a QSO with SMWF lasting an hour and a quarter, being R3/4 on 3 watts from dry cells. His future work will be done with the hand generator.

2HP has been QRT since 1925 until recently, when he has been doing local work on 45 m. and 150 m.—best report being from Bristol (R3) on about 0.5 watt. He is now carrying out some aerial alterations in preparation for the A.C. mains he hopes will be installed in a week or so.

6AP reports (through 2HP) that he has been covering Britain with phone, and has received some good reports, but is unable to get outside. He will be shortly changing his QRA owing to the crisis being reached in his attack of "YL-itis." Well, best of luck, OM!

6PG has been very busy with exams, etc., so has done little work except for the usual Europeans. Best DX was with Latvian KCEQ, being reported R4. Input was 5 watts.

North London Division (by 6CL).

Covering North and North-Western Postal Districts and that part of Herts within 25 miles of Oxford Circus. Sub-Area Manager, 6CL. Total number of call signs allotted to this area up to April 30, 109. Total reports received, 4.

Something wrong somewhere, OM. If it's only a post card, send it along with a note of your activity or otherwise.

Two excellent reports from 5HS, who with 5KU are the North London real DX men. During April 18 he had QSO's with four

NU 9th, two NU 6th, and two NC 4th districts, besides which OA2NO and SC3AG have been bagged. All work on 20 m. 5HS queries whether the NC4 contacts are first G's on 20 metres.

5KU has now qualified for W.A.C.! Input 50 watts from M.O. outfit. He reports: "Every QSO on 23 beats the long-wave one for readability and reliability." U.S.A., Brazil and India have been worked.

5AD and 5KU have been evolving curves for DET1 valves. ("BULL. dope," we hope.—6CL.)

5GU reports that "his mangle" gave out for three weeks during April, but is now pepping again. He had 20 QSO's, best DX SMUA (R5/6).

2BZC hopes to be on the air very soon with a radiating licence. He reports a bad month for reception owing to QRN. He has now received 50 countries with FQPM (Cameroons) as the April addition.

6CL seems to be the only North London QRP "merchant" after nine months with 4 to 5 watts from "Ever-Ready's." He has QRP'd to 1 watt steady from 100-volt accumulators. During April 85 stations "came back," 11 counties were worked, and best DX was S2LN (Karis Finland) R4.

Interesting QSS tests arranged by D7MT and D7EW took place on April 10, when many G stations co-operated. D7MT has promised "BULL. dope" if of value when all reports arrive.

North London hams, 6CL extends hearty welcome to you all, and will be glad to visit or be visited, and please REPORT by 10th of the month.

Scottish Area Notes.

By 5YG.

Judging by absence of April reports, transmission in Scotland appears to have struck a bad patch. I say "appears" advisedly, for frankly I do not believe matters to be so bad as the lack of reports would have one believe. Apart from No. 1 District, which yielded three reports of transmitting activity, only two additional reports were received from all Scotland, one each from Nos. 2 and 3 Districts. Now, you fellows, I ask you, is this "playing the game"? These reports are not designed for my entertainment, although some seem to think so, and I think it will be quite obvious that the fewer the reports, the less work I have to do. But does this state of affairs please me? NOT AT ALL! I have many faults. I know, but lack of enthusiasm for the Scottish Area of the T. & R. Section is assuredly not one of them, and I can tell you that the apathetic attitude of many of the Scottish transmitting stations is causing me not a little worry.

The position now resolves itself into this. Do you or do you not wish to make a showing in the BULLETIN? If not, for goodness sake say so, for I cannot go on indefinitely "making bricks without straw." On the other hand, if you are willing to give others the benefit of your work—which attitude is the essence of the T. & R. spirit—let me hear from you via your District Managers from month to month WITHOUT FAIL. "Snow me under" with reports, and I won't complain.

Now for the reports, such as they are.

No. 1 District (by 2WL).

Reports by 5th of each month.

2WL rebuilding.

6MS 33 QSO's, including B, F, N, I, SM, TP, D, K and Faroes. Input, 3.8 watts from H.T. accumulators on charge from 25-cycle A.C. mains after rectification. Best DX:—TPAV "R5, D.C. steady." 6MS has now got his ship's "ticket," and hopes to get placed soon.

5YG. Re-erection at new QRA now completed. Will be QRO during May. Absorption method of keying now in use, very FB. Power derived from H.T. generators in series.

6NX 70 QSO's, including all European countries. Best DX:—IIRV, who reported "R4 RAC." Best reports are always received from Sweden. Reports working OIK, who gave his QRA as being on the Baltic Coast. Input power at 6NX, 10 watts from D.C. mains.

2BPB has been successful in his application for a radiating licence, and will be on the air before this reaches the printer.

BRS87 reports conducting special tests with 5CD. He has just got started, but hopes to put in some good work next month.

No. 2 District (by 6IZ).

Reports by the 5th of the month.

6IZ.—Twenty-six QSO's, including B, E, F, K, N, D (5—6 watts), also Norwegian ship off Madeira: NC, NE (5—20 watts), NU (20 watts). Best reports: NC10M on 5 watts reported "R3 gud DC," took msg for BRS69; NU1ACI on 20 watts reported "R4, DC," all OK without any repeats; NE8JC on 5 watts reported R5, on 6 watts R3, on 20 watts (1st) R3/4, (2nd) R5. April on the whole a good month for DX. Beat all his previous records by working NE four times, NC and NU. A report has also been received from British Guiana, giving R3 when working NE8JC.

BRS69 continues to keep a good log. He states that he finds auto-coupling superior to magnetic for receiving purposes.

No. 3 District (by BRS6).

Reports by the 5th of each month.

6KO.—Eighty-six QSO's, comprising all Europe, Roumania, Brazil, Canada, Porto Rico and Madeira. Power: 8 to 10 watts from hand generator (plus 6KO). Has received the following

reports SB11B, R3; SFV (Santos, Brazil), R5; NP4KD, R5; also a reception report from Tasmania, R5. Experiments with aerial show that "feeder" positions have relative results at different distances. Still conducting tests in this direction, and craves other stations to QRX while feeder is altered and note changes.

BRS6.—At 'Varsity.

BRS71.—QRT owing to change of QRA.

No. 4 District.

No reports.

Southern Notes.

Prepared by 2LZ and 2ABK.

Owing to extreme business pressure 2LZ has been unable to attend to the Southern Notes of late.

However 2ABK has offered assistance, and together we hope to produce a bumper page of notes each month.

The formation of the London area has taken several of our regular reporters, but our area is still one of the largest and we want more reports from our various counties, especially Essex.

Come along 5DY, 5XW, 6WI, 6QO, 5RT, 5SN, 5OK, 6WQ, 5QV, 6BT, 2TI. It's time you sent in a report OM's.

Reports can be sent either to 2LZ or 2ABK, by the 15th of the month. This is 2ABK's QRA. Note it down OM's. —

R. C. HORSNELL,

"The Anchorage,"

Crouch Road,

Burnham-on-Crouch, Essex.

Now for a summary of reports to hand.

2MI is going strong on 150-200 with a new generator, and when he has his QSB adjusted, etc., will be dropping down to 45x.

His postal town is now Broadstairs, but the remainder of QRA is unaltered.

2UD of Chatham, is working on 150-200 also, and will soon be working from mains, in place of a hand generator.

6PG of Dartford, is now reporting under the London area.

2MJ is expected to launch forth on 45 soon with a bang.

There are dark rumours of glass panels and 50 watters!!

6VV of Chatham, is going strong now on 150-200 and strongly received by 2MI.

2MI is collecting reports from Kent and wants to hear from 5JG, 5DT, 2QN, 2QC, etc., so write to him OM's whether you have worked or not.

BRS31, of Dover, has joined the T. & R. and we welcome him. He is troubled with A.C. mains affecting his reception. Write to 2MI and report DX OM. TNX!

5UY, of Mayfield, has done some good DX on 45 with 1.8 watts.

R7 reports being received from Riga and Vienna. He is still attempting to raise a Yank. 23 metres is being tried, and he wants reports on this, and also on QRP fone on 45 metres.

Try and raise some more Sussex hams up, OM, pse.—2ABK.

5YM has put up a new stick 46 feet, hi! His QSB is so stedi that he has now the crystal in use only for checking the wavemeter.

6NZ, of Portsmouth, is working on LS5 on dry cells!! NOLY has been QSO on 45 using only .3 of a watt. A RFB circuit is used on 23 and 35 metres.

6CY, of Reading, sending his first report, tells of relaying 2LO and 5XX via 6CY to various parts of his own house! QSB FB. He works on 45 and 8 metres and reports and QSO's are urgently required. Let's have further regular reports pse. OM.

5SN, of Westcliff, it is rumoured is about to QSO matrimony. Best of luck OM!

6WQ and 6WI have both been heard at 2ABK using crystal control on 150-200. Speech quality is excellent from both.

5OK, of Southend, is putting out some good music on 150-200, and is experimenting with a pick-up, with FB results.

BRS83 sends in his first report. He offers to take listening schedules for transmitters, his QRA is:—22, Caxton Gardens, Guildford. Let's hear from u again, OM!

BRS42 has done some FB DX on a vertical indoor aerial. His best being the logging of FO-A5X on 20 metres at R5-6 in daylight.

5QK, the portable station of the Southend and District Radio Society, will be in action again shortly.

A Field Day has been arranged for June 26, at Rochford, Essex. It is hoped to QSO as many stations as possible.

Transmission will be on 150-200 metres from 10.30-12.30 a.m. Reports will be welcome. Look out for them OM's.

2ABK is at present building a lo-loss short-wave receiver on a glass panel with all FB parts (O-V-2). Excellent results are expected, but he has his doubts.

This receiver has to be used at the Southend Radio Society's field day, so things must be pushed on.

Let me have those reports OM's; I hear many of you working, but no reports.

2LZ is on 22 metres, and various aeriels are being tried.

The present is a Hertz with the top protruding out of his mast, which is 105 feet high. Usual world-wide DX is being worked.

Stop Press.

(Phone only.)

It was said not long ago work on 150-200 metre band was flagging. Indefatigable OM's of the old fone gang—2KT, 2QN, 2MI, 5AR, 5QV, 5TR, 5XW and 6QO—have been most consistent workers during these years. Recently new stns have opened out in London district and freshly awakened interest has been noticeable in the Home Counties. The following are logged most week-ends:—2SV, 2UD, 2XV, 5DY, 5JO, 5OK, 5RT, 5SN (soon to be " & Co." Good luck OM!), 5ZW, 6NH, 6WI, and 6WQ, the two latter stations using Xtal control to great advantage. 6WI is now all set for 23 2LZ may be back on this band at any moment. (By the way, there appears little doing between London-Bristol, and the South.) All these stations named appear to get most excellent QSO for tests; it is rarely any complaint is made of QRM beyond that emanating from the local oscillator. Compare this with 45.

Speaking of local oscillators and perking morse of all things, 5XW, Claudius of Camulodunum, would like to meet his L.O. in the ramparts one morning before consuming his usual pound of steak for breakfast.

5QV failed to charm the powers that be for 32 and is "all in" on 23. His log shows a thorough testing out of horizontal and vertical aeriels for transmission and reception. Half and full wave Hertz, current and voltage feed, also 2nd and 3rd Harmonic. Result—Order for pea sticks countermanded, runner beans are encircling the myriad Hertzian remains. Still more to come. Says 32 and 45 are anathema to-day. 23 is great fun.

During March 26-March 27, when conditions were very FB, JWZ (Kemikawa, Japan, 26 metres) was heard on both evenings for several hours; 1600 to 2250 G.M.T. Signals disappeared with the advent of full daylight in Japan. This is the band for exotic DX (19 to 26 metres). Silk hats, and 9d. for 4d. every time. NC3's, NU7's, NA, 7MN (Alaska), AC, P9AB have been heard before supper recently. All this goes to prove the fascinating fields open to those who camp thither.

6QO, after faithfully depicting the battle of Kelvedon, would like to discourse upon the merits of local wavemeters.

Channel Islands Notes.

By 2ZC.

Conditions have been most extraordinary during April, though on the whole DX has been very poor.

An almost daily schedule between 2BI (Wilts) and 2ZC has brought out some interesting facts, almost worthy of the Research Section's attention, and which certainly were most peculiar. Morning (0820 GMT) and evening transmissions took place, and time after time, with evening signals OK. Mornings were most erratic. Two points might be noted. On the 14th a complete fade-out blanket of all signals was noticed from 0830 to 0840, after which stations were heard, having obvious difficulty in keeping communication. On the 19th 2BI and 2ZC had a satisfactory QSO ending 1755, and the latter's sets were left untouched on that tuning till the next day, the 20th, at 0819. WX in Jersey was calm, very hot, and barometer 30.15. On the 20th 2ZC called 2BI under similar WX conditions (Bar 30"20) and was reported very QSA, on exactly the same power (8 watts), 2BI being his usual steady R6. During the QSO, a lot of swinging was noticed, and it got worse and signals dropped in strength, and what is more, a QRM station was noticed swinging and fading badly, a pause being made to observe. This phenomena of rapid fading of morning signals extended over several days at a time, would stop for a day or two, and then start again, and was confirmed from various directions. All possible precautions were taken in Jersey to keep input, etc., exactly the same.

G5YX proposes coming over to Jersey this summer, and the gang here will be glad to show him (or to any other Ham for that matter), what they have to show. Being on an island we appreciate such visits, and to exchange opinions with those from the mainland.

The third week in April will be memorable for daylight swinging of signals—all stations being effected on short waves (even some of the well-known crystal controlled stations), but even here periods of swinging were erratic.

Just as I close these notes, F8OLU writes to say he is coming over to Jersey to pay the gang here a visit. This is F.B., and I can only repeat, we shall be glad to see him or any other Ham visiting Jersey.

Owing to our QSR service not being needed, judging from it never having been used, we are reluctantly going to drop our special "Watch hours," but will restart again whenever there is a demand for it.

Irish Free State Notes.

By GW-11B.

As I thought it possible that many GW's might not see the "BULL" and my grouse of last month on the paucity of reports, I sent p.c. reminders to many of them and have a few more reports this month, though not nearly as many as I had hoped for.

18B has had serious generator trouble and is not yet getting his normal output. He has also had complaints of interference from nearby BCL's which he attributed to the use of a voltage fed Hertz aerial. He is now on 45m, using an MO and a current-fed Hertz, and is getting very good reports from all Europe. The only DX which he reports is NE-8RG, Newfoundland, at 10.30 G.M.T., R4, and he is also working a schedule with EP-3CO, Madeira. He was down on 23m. for some time and found reception conditions fb on that wave, his log including, amongst many others, Australia, S. Africa, Japan, Canada (1, 2, 3, and 4 dists.), d U.S.A. (all dists. 1-9), and Newfoundland; but he only had 3 QSO's, Denmark, Belgium and France, being R5 in each. He will be on CC soon as he is expecting delivery of his crystal shortly.

19B reports only European QSO's. He is at present on QRP of 4 watts max., and is doing successful 'phone work on this power. He has installed a bank of H.T. accumulators as a standby, as his mains are cut off at midnight.

14C reports that he has been too busy with exams., etc., to do much during the past month, and he has consequently been practically QRT. But in other ways he has not been idle as he tells me that he has got two new members for the Section, which is good work. He has had a report from AI-2KX of reception of his sigs. R6 in March.

14C has not reported. (How about that p.c. OM?). I hear, however, that he has been QSO EU-08, Leningrad, and also with the Swedish Motor Boat SFV when she was 200 miles south of C. Verde.

12B also has not reported. He is more on the air now, and his QSB has improved considerably.

11C and 12C both appear to have vanished; at any rate they have not been heard for some considerable time.

13C, 14C and 15C have not reported.

11B has been practically QRT since the last week in April owing to fishing and other frivolities of a like nature. His best QSO's were FI-1CW Tripoli, and FM-8JO, Oran, both on 6 watts. He is in serious difficulty owing to QRM on his crystal wave and it looks as though he would have to quit CC, for the time being at all events, if he is to get out at all. The most serious trouble is from a commercial of the ABC type.

R.T.U. (N.I.) Notes.

EDITOR'S NOTE.—Last month we published a letter from the Hon. Secretary of the newly-formed Radio Transmitters' Union (Northern Ireland) which gave details of this new organisation. This month, we, in the name of all British amateurs radio experimenters, extend to them our hearty congratulations on this attempt to consolidate the position of the amateur in Northern Ireland and assure them that we shall assist the new organisation in every way within our power. It is pleasing to note that all R.T.U. members must be members of our Society and we note that many of our old friends, such as GI-6TB, 5NJ, and 6MU, are well to the fore in founding what will undoubtedly be a useful acquisition to the amateur movement. We reproduce below some notes received from the Hon. Secretary, Mr. John A. Sang, of 22, Stranmillis Gardens, Belfast (GI-6TB) and from these it is clear that the Union is already doing some excellent and useful work.

The Radio Transmitters' Union seems to have thoroughly justified its formation in September last, and one of the principal factors in its success is the comradeship which is created by the monthly tea-fights. These bring the members together and widen friendships made over the ether, in a striking fashion. After tea an informal meeting is held when matters of interest to GI's and to the fraternity in general are discussed. The work of individual members is helped along on more or less definite lines and collective researches arranged for. At the time of writing, tests are under way with France on Saturday nights from 23.00 to 24.00 G.M.T. and Sunday mornings 00.01 to 00.10 and 00.80 to 01.00 G.M.T. At each week-end a different section of the R.E.F. is scheduled on watch and each of a number of GI members is allocated a half hour watch on this side.

Results of previous ED-GI tests, extending over a week were disappointing, and the number of QSO's much less than was expected.

The R.T.U. has tackled the problem of interference to B.C.L.'s caused by amateur transmitters, and appears to be the first society to deal with this seriously. (No, no, Mr. Hon. Secretary—have you ever been with us in London? We could write books about it! Ed. Note.) It was felt that many valuable working hours were lost owing to the impossibility of transmitting during B.B.C. hours, without causing bad QRM. A sub-committee was appointed, consisting of 6MU, 5WO and 5MO, to approach the problem from the receiving end. After exhaustive tests it was found that valve sets were not interfered with and that interference to crystal sets was entirely eliminated by increasing the capacity and reducing the inductance of the set. It was found that in the worst conditions, a capacity of .001 microfarads in parallel with the coil or variometer eliminated all interference even in cases where a complete "wipe out" had been experienced before the extra capacity was added. In the case of a crystal set very close to the transmitter there was a slight generator hum, even with the additional capacity, but it was found that a .002 microfarad across the 'phones cured this.

The circuit eventually arrived at consisted of the large capacity condenser in parallel with the small capacity tuning condenser which latter serves as a vernier control—the value of the inductance being reduced to permit of the use of the large "eliminator" condenser. The circuit has been used without the slightest interference being experienced from a 70-watt C.W. and 'phone station about 15 feet away.

QSL cards for GI stations from abroad may be sent in bulk to QSL Section, R.T.U. (NI), 22, Stranmillis Gardens, Belfast, and will be forwarded without delay.

Arrangements have been made to gather in technical articles for regular publication in the BULLETIN. We are glad to reproduce the first of these in the present issue of the BULLETIN where 66MU writes on "The Measurement of Transmitting Valve Efficiency."

EDITOR'S NOTE.—We regret that this article arrived too late for publication in the present issue but will appear in the July number. In this connection will all contributors please note that so far as articles are concerned we have these in hand two months prior to the date of publication.

South-Western Notes.

Area Notes by H. DEAN POULTON (g-6UG).

(For Area Manager).

I am sadly disappointed by the lack of enthusiasm in this district, the reports this month being very few and once again I appeal to members to back me up by letting me have a few words about their work by the 14th of next month.

5BK is very busy on Hertz aeriels and a new type of American Xmitter circuit that he reports very FB. How about some dope for the "BULL" OM? He is still deploring the lack of G stations on 23. 6JK has been closed down for vacation but has been heard again on 43 fone. Do not forget that report OM. 2OP is very QRW biz and will not be on for some time. 6UG has been very QRW but has worked a few Europeans and G's; he tried QRO but found a lot of fireworks, with fatal results to instruments, etc. Hi, what has happened to Gloucester, we hear you but no reports; how about Bristol, also Cornwall and Devon? Are there no Xmitters down there?

Inter-station visits, I was pleased to welcome 6JK, also 2OP and 2YX and 6BR. I visited 5BK and found him very QRW with spring cleaning HI.

I have received many complaints about the slackness of G stations in not answering QSL's after QSO's and must say that I certainly sympathise with the grouse. I know how heavy some of our postbags are but it should be a matter of honour to confirm QSO's.

I must apologise for the shortness of these notes, this month, but if hams in this area are too lazy to report, what can I do? Please OM's make an effort next month and let me have a bumper report or the Area Manager will think that I am letting him down.

Late report:—5FS is re-starting at his new QRA, is QSO Europe on 45 with a temporary aerial and active on 25. He reports that the call-sign of the Bristol Society, 6YO, is being used by a pirate, this station having been off the air for six months. Watch out, OM's.

The following have not reported:—2AR, 2CI, 2CW, 2FB, 2GY, 2HQ, 2LF, 2NL, 2PL, 2ZG, 5CC, 6JO, 6PT, 2QW, 6RY, 6XZ, 6RB, 6YN, 6XI.

5VL reports not working much lately but has QSO's with EU, I, UA. He is also carrying out nightfall fading tests with BRS34.

LATE REPORTS BY 6UG.

6RY reports very QRW but has just installed a 100-watt C.C. set for 23, 45 and 90, so the air will now turn blue round Bath.

2GY reports he is very much alive with 50 watts. C.R.A.C. on 44. QSO's with NU, NC, OA, AI, AC, Nigeria, and most Europe. (F.B., OM, best station this month.)

BRS28, "Ponting of Bristol," has received a visit from Australian 2BB, and reports two new countries logged—Nicaragua and Columbia—and has heard India on 20.

Belgian Notes.

By EB4FT.

The work done by the hams of the Réseau Belge doesn't show any lag, this season being very favourable for DX.

4AX is very active, and is very QSA in the States. The SB's come in crowd, and SBIBU gives his sigs R7 to R9. He has been QSO with AQE in the Pacific, on 20 metres. In three days, he has had 35 QSO's, all DX, including OA2UK, NU5ADO, etc., who told him R6 to R8. He has been received R6 by NU6ZAT.

4WW has a schedule with ARCX. He has had numerous QSO's with the USA, five with the SB's, and OZ4AE, 4AA, 2AE, 3AR. Amongst the 65 QSO's DX of the month, we can log OA7CW, OA2TM, OA2WB, OA2AY, OA4BD, OP1AU, AF1B SAHG1, SVAYRE and SC2BL.

4ZZ has worked new countries with NRCTO, NJ2PZ, and AQE in the Galapagos Islands. Also an interesting QSO with the whaler ARDI which is bound for Los Angeles, and with ARCX, on her return travel via Cape Horn. 4ZZ has been received R9 by AF1B in Saigon.

Returning to 4WW, he has received sigs from OH6AXW, R7. We hope the first QSO Hawaii-Belgium to be done shortly. 4WW has had a FB schedule with AQE during a month when AQE was travelling from N.Z. to Panama. The ship's operator was ever ready to keep the schedule; sigs from 4WW were noted R7 to R9 in all the Pacific!

4CK makes all the DX he wants, since he has got a Lévy aerial, and this with an input of only 12 watts; he has a spare Lévy for 20-metre work, which is mounted in three minutes. (FB, OM!)

4AU makes a big noise on 40 and 20 metres. He is known all the world over. He keeps a schedule all Wednesdays with SC3AG; the two stations have heard each other R6 to R8; another schedule all Wednesdays at 18.00 G.M.T. with NJ2PZ, and another one all Sunday mornings at 08.30 G.M.T. with OA4RB. Besides, he can raise all DX, if wanted—and he wants!

French Notes.

By EF8PY.

The Réseau des Emetteurs Français shows actually a great activity in all circles.

There has been two great events during the month. The first was an attempt of transmitting and receiving in a coal mine at Bruay, 300 metres deep. The party was under the supervision of M. Levassor (8JN), M. Galopin (8DU), and M. Pépin (8JF). The transmitting gear used was under a raw A.C. input 100 watts; the aerial was an horizontal one, inductively coupled to a Hartley device at half its total length; 80 metres far was the receiving station, equipped for reception of waves from 3.50 metres to 25.000 metres.

The results were practically nil. No reception on any wave was possible; the receiving station got results from the local transmitter, but that was all. The call used by the operators was SREF, which is the general call for tests organised by the Réseau.

Another test is to be held shortly with 8JC and 8FC. The second "boom" was the last DX to be done in Europe, i.e., the QSO with Hawaii. This was done by 8YOR who got in touch on April 30 with OH6AXW. 8YOR and the Hawaiian talked freely during 1½ hours; our friend was noted R5, and 6AXW was R8 at times. The Réseau is proud of the fact that one of its members did the first QSO Europe-Hawaii; a special gift is to be given to 8YOR at the Paris Convention, on May 22, for his "exploit."

8YOR is now our best DX-er; some days ago, while tempting as usual to QSO the 6th district U.S.A., he received 23 answers from that district just after a CQ! Isn't it splendid?

I may signal that during the travels of NRRL, Fred Schnell heard, at Honolulu, the sigs of F8QQ, but didn't QSO; this was the first European to be heard there.

The 5-metre band is giving some good results; the A.C. note of 8JN has been heard R6 at 10 kilometres, and expected at 40. Till now, it seems that these waves support no reflection, and that a station that wants to be heard must have a correspondent *under sight*; during the experiments of 8JN, the correspondents were not separated by natural obstacles; signals were stronger when the transmitter was higher, and faded out when hidden by hills.

8JR has made some very interesting tests in a balloon. In general, the operators noticed an increase in QRK on all waves.

8WY will experiment this summer a kite aerial, and expects much of it.

8JF shares the laurels of our DX-ers; he keeps a splendid schedule with NU6HM; he has QSO with NU7DF; also FE1HF, whose QRA is Clarke, c/o P.O., Aboukir, Egypt.

8FIZ has been heard R9 by SU10A. 8PY is tempting to get results from a superregenerative set for the 5 metres, but he lives near an auto workshop; so, pity on him!

4BM has QRT, owing to change of aerial, and will go back on the air using an Alexanderson.

Austrian Notes.

All QSL cards for Austrian amateurs are to be sent only via "Radiowelt, Vienna III., Rüdengasse 11." All cards are sent to the respective amateurs without any charge. All English amateurs (see Editor's note under "Calls Heard") are invited to send their "Calls Heard" to the undermentioned weekly for publication. Please note that the *Radiowelt* is the only radio periodical written in German, with *special pages devoted only to short-wave work*, and is read not only in Austria, but also in greater extent in Serbia, Czecho-Slovakia, Roumania, Hungary, Poland, etc. All QSL cards for the last-mentioned States may be also sent via "Radiowelt, Vienna." In Austria there are now over one hundred active amateurs (all non-licensed; please send all

cards under cover!), mostly working QRP, but several of them QRO up to 400 watts, working regular schedules with Australia, U.S.A., etc. Austrian identification letters are EA with two letters more (don't confound with EAR, please).

We hope to get licences in short time. The officially recognised organisation of Austrian "hams" is the "Oesterreichischer Versuchssenderverband, Ing.Col., F. Anderle, President."

Calls heard to *Radiowelt*, Wein III., Rüdengasse 11, Wein, Austria.

Indian Notes.

By 2KX, ex DCR.

GENERAL.—The chief event during the last quarter is the re-allotment of call signs and wavelengths, the official wavelengths of the Indian amateur are 30 and 45 metres; however, it is possible to get special permits for other waves. The chief changes in call signs are:—ACS is now 2KW, FRJ is now 2KT and DCR is now 2KX.

2BG.—2BG reports a very successful season. QSO has been made with all continents and a total of 27 countries. "Juice" is home-made and derived from a battery which supplies a motor generator giving 2,000 volts; maximum power is 85 watts. 2BG will be no doubt known by some of the very earliest "hams" at home; he started radio as early as 1911 in Scotland and believes that his old 90 ft. masts are still standing near Aberdeen.

2KT.—Probably better known as FRJ, reports a fairly successful season. He has been QSO with practically all countries East of India, also South Africa. However, DX conditions with Europe are not good in Central India, with the exception of stray QSO's with SM, K and F. He has drawn a blank with E stations.

2KW reports excellent conditions prevailing and good DX; he has been QSO with nearly all European countries on a power of 80 watts. 2KW will be better known as ACS; he is now on 30 metres and always ready for DX. Hi!

2KX reports very sorry to lose old call of DCR, but has already made 2KX known on the air. Excellent schedules have been run with Gi6MU and SMTN since last December. 20 single words each way often worked with each station, recently QSO was made with both 6MU and SMTN on 20 metres; this is believed to be the first G and SM 20 metre QSO from India. 2KX total bag for the season is 37 countries all over 3,000 miles; maximum power used 60 watts.

2JY has not reported, but 2KX knows that he has done some excellent work with his 5-watter. QSO's with AM are frequent and reports have been received from France and Australia. QRM from trams are very annoying to 2JY.

7VX reports conditions fair in Ceylon where he is. QSO with OP is the best DX. He transmits on 36 to 40 metres and will welcome reports.

The total active amateur transmitters in India is 8 and all are T. & R. Hi!! We all find the "BULL." vy FB.

Radio 2KX, ex DCR,
Cambridge Barracks,
Rawalpindi, India.

To the Editor of T. & R. BULLETIN.

DEAR SIR,—Herewith a complete list of active short wave amateur transmitters in India. The prefix Ai has been adopted generally. Our official wavelengths are 30 and 45 metres.

2KT.—Lt. F. Rodman. S.T.C. & Depot, Jubbulpore C.P., India.

2KX.—R. J. Drudge-Coates, Cambridge Barracks, Rawalpindi, India.

2KW.—L. E. P. Jones, "A" Corps Signals, Karachi, India.

2BG.—G. W. Benzie, Urrunabund Tea Estate, Udaband P.O., Cachar.

2JY.—W. J. Crooks, c/o Herbert, Ltd., 13, British Indian Street, Calcutta, India.

2KJ.—D. B. Virmani, Simla Hotel, Lahore, India.

2ZY.—R. Perkins, Bodyguard Lines, Raisina, nr. Delhi, India.

2HP (Portable).—C. R. Cook, c/o Chief Inspector, B.B. & C.I., Ajmeer, India.

7VX.—F. Jolliffe, Frocester, Govinna, Ceylon.

Dutch Notes.

(Prepared by en-OCX).

Winter-time is now over, but the activities of the Dutch "hams" are still going strong. It is to be hoped that this will be the last summer that we are transmitting without licences. Perhaps the big Post and Telegraphy Congress at Washington in the coming October will bring us the end of our pirate's life. What about the Zero calls we are using over here?

EnOVN has installed a 100-watter. Has worked Brazil and is still using raw A.C. Why not try a f.c.d.c. note, OM?

EnOWB was heard on the air again for some time ago. Your voice was very weak OM! Hi!

EnOTH still works all Europe with 5 watts. His steady, pure d.c. note is always reported vy QSA.

EnOWJ, also with QRP., same good results as above.

EnOPX has built a Hertz. Is vy QSA with his 12 watts R.A.C. Has often worked U.S.A.

EnOWM has rebuilt and tells me that his "sunny sweet peep" works better than the old hay-wired set. Continues working all Europe with 1-7 watts. Keep it on, OM!!

EnOCO still trying circuits, but also made some QSO's.

EnOCX still working on indoor aerial with 5 watts.

Mind that A.C. stations are still boycotted by him!!

EnRO15.—This is a fine receiving station, seems to hear every station that exists in the world.

EnRO30 is busy checking wavemetres.

EnRO04 is now resistance amplified all over. Less disturbances by QRN than when using transformers.

Danish Notes.

(By ED7MT.)

7BJ is now working with c.c. and has just QRO'd to 50 watts c.c. 7EW has now finished his valve rectifier and is working with 20-40 watts d.c. He is now going to experiment with crystal control; he and 7MT are now preparing the result of their QSS test from 10-4-27.

7JO is rebuilding and will QRO with a tuned plate, tuned grid and xmitter, and will possibly later be on with crystal control. He obtains very good results with a small indoor aerial; 7MT received him R6 on this affair while he was only R7 on the big aerial.

7MT has carried out some crystal control experiments this month and finds it very interesting but hard work! He will build an xmitter for c.c. experiments so that the Hartley set always will be ready for QSO. He has worked AQ1MDZ and got R7, using 5 watts. He now keeps regular schedules with OIC on his trip to Buenos Aires and will also try to work SB lib regularly.

7NI has worked AQ1MDZ and got R6, using 6 watts. He has also worked France on 20 metres and got R9 FB!

7ZG works now with 50 watts and receives many QSA reports from the whole of Europe. His best QSO is Fi-ICW. He hopes to start up with 80 watts very soon.

7ZH is a new station in Aalberg. 7ZG built the xmitter; one of the first QSO's was Fi-ICW. QRK was R7. He uses a Hertz aerial on 44 metres and the power is 50 watts.

7ZM works a schedule with SB lib each Saturday evening.

OIC is a new Danish short-wave station operated by the operator on s.s. *Oregon*. He has by radio told 7MT about his very good work. On 7.5 watts he has worked a lot of DX stations—NE, NC, NU, etc. Now he uses about 3,000 volts on the plate of a 250-watt radiation tube. His note is ICW and best QRH is 46 and 37m. He will be in Buenos Aires about the 6-6-27. His best DX is 4,500 miles. The xmitter is a Hartley and the ship aerial is used. It consists of three wires each 100 metres long. A daily schedule is kept with 7MT on the trip. QSL can be sent via 7MT.

Calls Heard.

New Scheme to encourage World-Wide Interest.

Contributors Please Note.

For some time past we have considered the question as to how the usefulness of "Calls Heard" can be enhanced. The number of lists submitted has increased so considerably that we have been compelled to make the following decision:—

1. In future no Calls Heard emanating from "G" stations or which have their origin with members residing in the British Isles will be published.

2. Instead, our Calls Heard columns are open to Foreign amateurs only or those in the Dominions.

3. Those British members or members resident in the British Isles who have lists of Calls Heard which they desire to be published will render amateurs a service by communicating them to members abroad saying what they wish. A number of contributors to Calls Heard who handle such lists will be found in back numbers of the BULLETIN. Select the Q.R.A. which is best for your list and send it to that member.

4. In return we ask Foreign members or others who receive Calls Heard from our members to exchange their lists of "G" Calls Heard with them for publication in the BULLETIN. No Calls Heard received direct from the source of origin will be published.

5. All Calls Heard should be headed with name, station and Q.R.A. and nothing else should appear on the sheet except the Calls Heard which should be in BLOCK capitals and numbers and arranged under the various International Prefixes.

6. We will publish the Q.R.A. of any member resident abroad who can get British lists published.

g2NM from i 1ER.

DEAR "OM."—Enclosed here you will find some receptions of English stn's signals. Hope this will be appreciate from your and my Friends.

Date.	Tests.	QSB	Wave.	QRK	Time G.M.T.
July 21	test g 2DX	rac	32	6	23.06
" 18	1AFF ug 6YD	cw	44	5/6	03.10
" 17	—g2LZ		32	5	05.35
" 17	test g 5WV		44.5	5	04.15
" 16	1CMX ug 5bk				05.00
" 14	1PM ug 5WH				22.15
" 13	CA g 5DH				22.20
" 7	g5MS				23.00
" 4	test g 2VQ		44	5	23.25

2AVB asks any British hams to send over their lists of calls to him and they will be published in QST. The *N.Y. Telegram* and "Callzeard."

QRA:—NU2AVB, 2805, 8th Avenue, Astoria, Long Island, N.Y., U.S.A.

Calls heard by NU2AVB, 2805, 8th Ave., Astoria, Long Island, N.Y., U.S.A., on OVI since February:—

EG—2cc, 2db, 2dn, 2nh, 2nm, 2qb, 2rg, 2xy, 5ad, 5by, 5kl, 5mq, 5mr, 5ms, 5tz, 5up, 5uw, 5ym, 6da, 6nf, 6oo, 6ta, 6uz, 6ww, 6x, 6y, 6z, 6aa, 6ab, 6ac, 6ad, 6ae, 6af, 6ag, 6ah, 6ai, 6aj, 6ak, 6al, 6am, 6an, 6ao, 6ap, 6aq, 6ar, 6as, 6at, 6au, 6av, 6aw, 6ax, 6ay, 6az, 6ba, 6bb, 6bc, 6bd, 6be, 6bf, 6bg, 6bh, 6bi, 6bj, 6bk, 6bl, 6bm, 6bn, 6bo, 6bp, 6bq, 6br, 6bs, 6bt, 6bu, 6bv, 6bw, 6bx, 6by, 6bz, 6ca, 6cb, 6cc, 6cd, 6ce, 6cf, 6cg, 6ch, 6ci, 6cj, 6ck, 6cl, 6cm, 6cn, 6co, 6cp, 6cq, 6cr, 6cs, 6ct, 6cu, 6cv, 6cw, 6cx, 6cy, 6cz, 6da, 6db, 6dc, 6dd, 6de, 6df, 6dg, 6dh, 6di, 6dj, 6dk, 6dl, 6dm, 6dn, 6do, 6dp, 6dq, 6dr, 6ds, 6dt, 6du, 6dv, 6dw, 6dx, 6dy, 6dz, 6ea, 6eb, 6ec, 6ed, 6ee, 6ef, 6eg, 6eh, 6ei, 6ej, 6ek, 6el, 6em, 6en, 6eo, 6ep, 6eq, 6er, 6es, 6et, 6eu, 6ev, 6ew, 6ex, 6ey, 6ez, 6fa, 6fb, 6fc, 6fd, 6fe, 6ff, 6fg, 6fh, 6fi, 6fj, 6fk, 6fl, 6fm, 6fn, 6fo, 6fp, 6fq, 6fr, 6fs, 6ft, 6fu, 6fv, 6fw, 6fx, 6fy, 6fz, 6ga, 6gb, 6gc, 6gd, 6ge, 6gf, 6gg, 6gh, 6gi, 6gj, 6gk, 6gl, 6gm, 6gn, 6go, 6gp, 6gq, 6gr, 6gs, 6gt, 6gu, 6gv, 6gw, 6gx, 6gy, 6gz, 6ha, 6hb, 6hc, 6hd, 6he, 6hf, 6hg, 6hh, 6hi, 6hj, 6hk, 6hl, 6hm, 6hn, 6ho, 6hp, 6hq, 6hr, 6hs, 6ht, 6hu, 6hv, 6hw, 6hx, 6hy, 6hz, 6ia, 6ib, 6ic, 6id, 6ie, 6if, 6ig, 6ih, 6ii, 6ij, 6ik, 6il, 6im, 6in, 6io, 6ip, 6iq, 6ir, 6is, 6it, 6iu, 6iv, 6iw, 6ix, 6iy, 6iz, 6ja, 6jb, 6jc, 6jd, 6je, 6jf, 6jg, 6jh, 6ji, 6jj, 6jk, 6jl, 6jm, 6jn, 6jo, 6jp, 6jq, 6jr, 6js, 6jt, 6ju, 6jv, 6jw, 6jx, 6jy, 6jz, 6ka, 6kb, 6kc, 6kd, 6ke, 6kf, 6kg, 6kh, 6ki, 6kj, 6kk, 6kl, 6km, 6kn, 6ko, 6kp, 6kq, 6kr, 6ks, 6kt, 6ku, 6kv, 6kw, 6kx, 6ky, 6kz, 6la, 6lb, 6lc, 6ld, 6le, 6lf, 6lg, 6lh, 6li, 6lj, 6lk, 6ll, 6lm, 6ln, 6lo, 6lp, 6lq, 6lr, 6ls, 6lt, 6lu, 6lv, 6lw, 6lx, 6ly, 6lz, 6ma, 6mb, 6mc, 6md, 6me, 6mf, 6mg, 6mh, 6mi, 6mj, 6mk, 6ml, 6mm, 6mn, 6mo, 6mp, 6mq, 6mr, 6ms, 6mt, 6mu, 6mv, 6mw, 6mx, 6my, 6mz, 6na, 6nb, 6nc, 6nd, 6ne, 6nf, 6ng, 6nh, 6ni, 6nj, 6nk, 6nl, 6nm, 6nn, 6no, 6np, 6nq, 6nr, 6ns, 6nt, 6nu, 6nv, 6nw, 6nx, 6ny, 6nz, 6oa, 6ob, 6oc, 6od, 6oe, 6of, 6og, 6oh, 6oi, 6oj, 6ok, 6ol, 6om, 6on, 6oo, 6op, 6oq, 6or, 6os, 6ot, 6ou, 6ov, 6ow, 6ox, 6oy, 6oz, 6pa, 6pb, 6pc, 6pd, 6pe, 6pf, 6pg, 6ph, 6pi, 6pj, 6pk, 6pl, 6pm, 6pn, 6po, 6pp, 6pq, 6pr, 6ps, 6pt, 6pu, 6pv, 6pw, 6px, 6py, 6pz, 6qa, 6qb, 6qc, 6qd, 6qe, 6qf, 6qg, 6qh, 6qi, 6qj, 6qk, 6ql, 6qm, 6qn, 6qo, 6qp, 6qq, 6qr, 6qs, 6qt, 6qu, 6qv, 6qw, 6qx, 6qy, 6qz, 6ra, 6rb, 6rc, 6rd, 6re, 6rf, 6rg, 6rh, 6ri, 6rj, 6rk, 6rl, 6rm, 6rn, 6ro, 6rp, 6rq, 6rr, 6rs, 6rt, 6ru, 6rv, 6rw, 6rx, 6ry, 6rz, 6sa, 6sb, 6sc, 6sd, 6se, 6sf, 6sg, 6sh, 6si, 6sj, 6sk, 6sl, 6sm, 6sn, 6so, 6sp, 6sq, 6sr, 6ss, 6st, 6su, 6sv, 6sw, 6sx, 6sy, 6sz, 6ta, 6tb, 6tc, 6td, 6te, 6tf, 6tg, 6th, 6ti, 6tj, 6tk, 6tl, 6tm, 6tn, 6to, 6tp, 6tq, 6tr, 6ts, 6tt, 6tu, 6tv, 6tw, 6tx, 6ty, 6tz, 6ua, 6ub, 6uc, 6ud, 6ue, 6uf, 6ug, 6uh, 6ui, 6uj, 6uk, 6ul, 6um, 6un, 6uo, 6up, 6uq, 6ur, 6us, 6ut, 6uu, 6uv, 6uw, 6ux, 6uy, 6uz, 6va, 6vb, 6vc, 6vd, 6ve, 6vf, 6vg, 6vh, 6vi, 6vj, 6vk, 6vl, 6vm, 6vn, 6vo, 6vp, 6vq, 6vr, 6vs, 6vt, 6vu, 6vv, 6vw, 6vx, 6vy, 6vz, 6wa, 6wb, 6wc, 6wd, 6we, 6wf, 6wg, 6wh, 6wi, 6wj, 6wk, 6wl, 6wm, 6wn, 6wo, 6wp, 6wq, 6wr, 6ws, 6wt, 6wu, 6wv, 6ww, 6wx, 6wy, 6wz, 6xa, 6xb, 6xc, 6xd, 6xe, 6xf, 6xg, 6xh, 6xi, 6xj, 6xk, 6xl, 6xm, 6xn, 6xo, 6xp, 6xq, 6xr, 6xs, 6xt, 6xu, 6xv, 6xw, 6xx, 6xy, 6xz, 6ya, 6yb, 6yc, 6yd, 6ye, 6yf, 6yg, 6yh, 6yi, 6yj, 6yk, 6yl, 6ym, 6yn, 6yo, 6yp, 6yq, 6yr, 6ys, 6yt, 6yu, 6yv, 6yw, 6yx, 6yz, 6za, 6zb, 6zc, 6zd, 6ze, 6zf, 6zg, 6zh, 6zi, 6zj, 6zk, 6zl, 6zm, 6zn, 6zo, 6zp, 6zq, 6zr, 6zs, 6zt, 6zu, 6zv, 6zw, 6zx, 6zy, 6zz.

Germany.—Calls heard of German origin may be sent for publication to C. LAMM (DFTY), Deutscher Funktechnischer Verb and EV, Berlin W57, Blumenthalstrage 19, Germany. German stations receiving "G" stations will publish "Calls Heard" in the BULLETIN.

G—2cc, 2kf, 2lz, 2nm, 2od, 2sz, 5lf, 5nn, 5si, 5sz, 5xy, 6nf, 6uz, 6v, 6w, 6x, 6y, 6z, 6aa, 6ab, 6ac, 6ad, 6ae, 6af, 6ag, 6ah, 6ai, 6aj, 6ak, 6al, 6am, 6an, 6ao, 6ap, 6aq, 6ar, 6as, 6at, 6au, 6av, 6aw, 6ax, 6ay, 6az, 6ba, 6bb, 6bc, 6bd, 6be, 6bf, 6bg, 6bh, 6bi, 6bj, 6bk, 6bl, 6bm, 6bn, 6bo, 6bp, 6bq, 6br, 6bs, 6bt, 6bu, 6bv, 6bw, 6bx, 6by, 6bz, 6ca, 6cb, 6cc, 6cd, 6ce, 6cf, 6cg, 6ch, 6ci, 6cj, 6ck, 6cl, 6cm, 6cn, 6co, 6cp, 6cq, 6cr, 6cs, 6ct, 6cu, 6cv, 6cw, 6cx, 6cy, 6cz, 6da, 6db, 6dc, 6dd, 6de, 6df, 6dg, 6dh, 6di, 6dj, 6dk, 6dl, 6dm, 6dn, 6do, 6dp, 6dq, 6dr, 6ds, 6dt, 6du, 6dv, 6dw, 6dx, 6dy, 6dz, 6ea, 6eb, 6ec, 6ed, 6ee, 6ef, 6eg, 6eh, 6ei, 6ej, 6ek, 6el, 6em, 6en, 6eo, 6ep, 6eq, 6er, 6es, 6et, 6eu, 6ev, 6ew, 6ex, 6ey, 6ez, 6fa, 6fb, 6fc, 6fd, 6fe, 6ff, 6fg, 6fh, 6fi, 6fj, 6fk, 6fl, 6fm, 6fn, 6fo, 6fp, 6fq, 6fr, 6fs, 6ft, 6fu, 6fv, 6fw, 6fx, 6fy, 6fz, 6ga, 6gb, 6gc, 6gd, 6ge, 6gf, 6gg, 6gh, 6gi, 6gj, 6gk, 6gl, 6gm, 6gn, 6go, 6gp, 6gq, 6gr, 6gs, 6gt, 6gu, 6gv, 6gw, 6gx, 6gy, 6gz, 6ha, 6hb, 6hc, 6hd, 6he, 6hf, 6hg, 6hh, 6hi, 6hj, 6hk, 6hl, 6hm, 6hn, 6ho, 6hp, 6hq, 6hr, 6hs, 6ht, 6hu, 6hv, 6hw, 6hx, 6hy, 6hz, 6ia, 6ib, 6ic, 6id, 6ie, 6if, 6ig, 6ih, 6ii, 6ij, 6ik, 6il, 6im, 6in, 6io, 6ip, 6iq, 6ir, 6is, 6it, 6iu, 6iv, 6iw, 6ix, 6iy, 6iz, 6ja, 6jb, 6jc, 6jd, 6je, 6jf, 6jg, 6jh, 6ji, 6jj, 6jk, 6jl, 6jm, 6jn, 6jo, 6jp, 6jq, 6jr, 6js, 6jt, 6ju, 6jv, 6jw, 6jx, 6jy, 6jz, 6ka, 6kb, 6kc, 6kd, 6ke, 6kf, 6kg, 6kh, 6ki, 6kj, 6kk, 6kl, 6km, 6kn, 6ko, 6kp, 6kq, 6kr, 6ks, 6kt, 6ku, 6kv, 6kw, 6kx, 6ky, 6kz, 6la, 6lb, 6lc, 6ld, 6le, 6lf, 6lg, 6lh, 6li, 6lj, 6lk, 6ll, 6lm, 6ln, 6lo, 6lp, 6lq, 6lr, 6ls, 6lt, 6lu, 6lv, 6lw, 6lx, 6ly, 6lz, 6ma, 6mb, 6mc, 6md, 6me, 6mf, 6mg, 6mh, 6mi, 6mj, 6mk, 6ml, 6mm, 6mn, 6mo, 6mp, 6mq, 6mr, 6ms, 6mt, 6mu, 6mv, 6mw, 6mx, 6my, 6mz, 6na, 6nb, 6nc, 6nd, 6ne, 6nf, 6ng, 6nh, 6ni, 6nj, 6nk, 6nl, 6nm, 6nn, 6no, 6np, 6nq, 6nr, 6ns, 6nt, 6nu, 6nv, 6nw, 6nx, 6ny, 6nz, 6oa, 6ob, 6oc, 6od, 6oe, 6of, 6og, 6oh, 6oi, 6oj, 6ok, 6ol, 6om, 6on, 6oo, 6op, 6oq, 6or, 6os, 6ot, 6ou, 6ov, 6ow, 6ox, 6oy, 6oz, 6pa, 6pb, 6pc, 6pd, 6pe, 6pf, 6pg, 6ph, 6pi, 6pj, 6pk, 6pl, 6pm, 6pn, 6po, 6pp, 6pq, 6pr, 6ps, 6pt, 6pu, 6pv, 6pw, 6px, 6py, 6pz, 6qa, 6qb, 6qc, 6qd, 6qe, 6qf, 6qg, 6qh, 6qi, 6qj, 6qk, 6ql, 6qm, 6qn, 6qo, 6qp, 6qq, 6qr, 6qs, 6qt, 6qu, 6qv, 6qw, 6qx, 6qy, 6qz, 6ra, 6rb, 6rc, 6rd, 6re, 6rf, 6rg, 6rh, 6ri, 6rj, 6rk, 6rl, 6rm, 6rn, 6ro, 6rp, 6rq, 6rr, 6rs, 6rt, 6ru, 6rv, 6rw, 6rx, 6ry, 6rz, 6sa, 6sb, 6sc, 6sd, 6se, 6sf, 6sg, 6sh, 6si, 6sj, 6sk, 6sl, 6sm, 6sn, 6so, 6sp, 6sq, 6sr, 6ss, 6st, 6su, 6sv, 6sw, 6sx, 6sy, 6sz, 6ta, 6tb, 6tc, 6td, 6te, 6tf, 6tg, 6th, 6ti, 6tj, 6tk, 6tl, 6tm, 6tn, 6to, 6tp, 6tq, 6tr, 6ts, 6tt, 6tu, 6tv, 6tw, 6tx, 6ty, 6tz, 6ua, 6ub, 6uc, 6ud, 6ue, 6uf, 6ug, 6uh, 6ui, 6uj, 6uk, 6ul, 6um, 6un, 6uo, 6up, 6uq, 6ur, 6us, 6ut, 6uu, 6uv, 6uw, 6ux, 6uy, 6uz, 6va, 6vb, 6vc, 6vd, 6ve, 6vf, 6vg, 6vh, 6vi, 6vj, 6vk, 6vl, 6vm, 6vn, 6vo, 6vp, 6vq, 6vr, 6vs, 6vt, 6vu, 6vv, 6vw, 6vx, 6vy, 6vz, 6wa, 6wb, 6wc, 6wd, 6we, 6wf, 6wg, 6wh, 6wi, 6wj, 6wk, 6wl, 6wm, 6wn, 6wo, 6wp, 6wq, 6wr, 6ws, 6wt, 6wu, 6wv, 6ww, 6wx, 6wy, 6wz, 6xa, 6xb, 6xc, 6xd, 6xe, 6xf, 6xg, 6xh, 6xi, 6xj, 6xk, 6xl, 6xm, 6xn, 6xo, 6xp, 6xq, 6xr, 6xs, 6xt, 6xu, 6xv, 6xw, 6xx, 6xy, 6xz, 6ya, 6yb, 6yc, 6yd, 6ye, 6yf, 6yg, 6yh, 6yi, 6yj, 6yk, 6yl, 6ym, 6yn, 6yo, 6yp, 6yq, 6yr, 6ys, 6yt, 6yu, 6yv, 6yw, 6yx, 6yz, 6za, 6zb, 6zc, 6zd, 6ze, 6zf, 6zg, 6zh, 6zi, 6zj, 6zk, 6zl, 6zm, 6zn, 6zo, 6zp, 6zq, 6zr, 6zs, 6zt, 6zu, 6zv, 6zw, 6zx, 6zy, 6zz.

Calls heard by AI-2KX, Cambridge Barracks, Rawalpindi (Via GI-6MU).—G—2rg, 2xy, 2qb, 2oq, 2kf, 2gy, 2od, 2sz, 5gq, 5yx, 5vp, 5uy, 5uw, 5ym, 5xo, 5xy, 5kh, 5ms, 5ku, 5qv, 6ta, 6oo, 6vp, 6hx, 6yu.—GI. 5nj, 6mu. GW—14c. NU—1yb, 1aao, 2ahm, 4iz, 6jn, 8zg, 9cpm.

Calls heard by N. DOLOUX, Paskevitcha 6, Tiflis, Caucase, U.S.S.R. Russia. (Heard 1-20 April, 1927). G—2pz, 2rg, 2sw, 5nj, 5uw, 5xl, 5xy, 6pu. Full details on request. Receiver O-V-1.

Off Malta, February 11, 1927: G2MA, G5KU, G2RG, G6BR, 380 miles East of Malta, February 13, 1927: G6WQ, G2CC, G6UZ, G5JP, G5BY, G2AO, G2RG, G2VJ. March 10, 1927: Arabian Sea, Lat. 21-30 North, Long. 59-37 East: G6VP. Suez, March 20: G2QB, G2RG. Please QSL via 6ZJ.

Calls heard in Latvia. Extracted from *Latvian Radio* by G6BT:—By KC2A—G—2ay, 2gv, 2gy, 2it, 5ma, 5ms, 5mq, 5ys, 5nj, 6ij, 6iz. By KC2B: G—2dn, 2nj, 5kl, 5uw, 5wq, 6hp, 6ko, 6xs, 6za, 6zm, 6o2gy, 6nx, 6i2it. By KC2K: G—2cc, 5ku, 5xd, 6dr, 6ko. By KC2r: 5td, 6jv, 6ko, 6nk. By KC2U: G—2ay, 2cc, 2qv, 2wj, 2wr, 2xy, 5ad, 5gq, 5kh, 5kl, 5ku, 5ma, 5rz, 5td, 5uw, 5yx, 6da, 6fd, 6iy, 6js, 6lc, 6lr, 6oo, 6ta, 6uz, 6vj, 6yd, 6yv, 6za, 6xs.

Correspondence.

Instructions to Correspondents.

We are always glad to hear from members. Correspondence published in these columns should be written clearly on one side of the paper and marked "For Publication."

All correspondence should be addressed to the Editor, T. & R. BULLETIN, who reserves the right to refrain from publishing any material which is lacking in general interest or for other reasons. Correspondence for publication will not be acknowledged.

Correspondence must be kept reasonably brief.

A QRP TEST.

To the Editor of T. & R. BULLETIN.

On January 27 a very interesting QRP test was made by AiDCR to the American yacht "Warrior" (KFSX) then at Colombo, Ceylon. The H.T. of the receiver at DCR was keyed and a transmission made on 39.8 metres to KFSX at Colombo, a distance of 1,700 miles. Signals were reported as R2 steady, the receiver was a O-V-1 Reinartz using 75 volts on to V24 valves.

(Signed) R. J. DRUDGE-COATES, Ai-DCR.

To the Editor of T. & R. BULLETIN.

DEAR OM'S.—Firstly let me back up every word G2FB says about complaints in the March BULLETIN, and carry on.

I know there is discontent on the mainland over representation of districts, but surely this lies with the members themselves to rectify, if they want? We "foreigners" here are perfectly contented!

About missing QSL cards. I know of a case of a "T. & R." member applying direct to "J des 8" and he got some long overdue cards from various countries.

I don't know the cause of contention why "J. des 8" will not forward "G" cards, but surely if they were approached somehow, a big bunch of cards might suddenly come to light, and in view of the above fact, the experiment might be tried from Headquarters. I have quite a number owing here from foreign stations myself, and I owe none, not even to B.C.L.'s!

I wonder if you could reprint from *Wireless World*, Exeter's specification of the Armstrong transmitter in the T. & R. BULLETIN?

Since I built it and using QRP, I have done better than I ever hoped to do, and others might benefit.

Here in Jersey 2ZC, 6HZ and 6PU all rebuilt to this, and excellent results have been got (5AW will probably do so next leave on shore)—and as all used the same circuit before, it just shows what lay-out can do.

On 8 watts and using harmonic aerial, I have been lucky in getting across to NU, NE, and several of the outlying European countries, and near Africa and Asia.

This idea might not be feasible, but it holds great possibilities—it might even be rewritten with constructional details, as so far as I know, nothing of this type has yet appeared in the BULLETIN except my own article, showing wiring of rebuilt Mark III transmitter.

Many hams would welcome such a constructional lay-out.—Yours faithfully,

A. M. HOUSTON FERGUS.

PROCEDURE.

To the Editor of T. & R. BULLETIN.

I was very much interested in 5NJ's article on Procedure in the January BULLETIN, as I have myself noticed the same points as he mentions. May I advance a suggestion with regard to speed of sending and repetition of words. The practice of sending the audibility figure after the "K" in answering a call is extensively used in commercial and military procedure. For instance, a station ABC answering XYZ and receiving him at strength R7 would send "XYZ de ABC AR K7." Could not amateurs send a "readability figure" after the "K" in answering calls. It is obvious that a station receiving an R4 signal through heavy QRM and QRN cannot receive at the same speed as when the air is clear of interference. Therefore, the audibility figure is no guide to the readability of the signal. I would suggest that for any signals under readability 7 speed should be ten words per minute or less, and that for those under readability 5, words should be repeated twice, the speed being lowered as the readability figure drops. At readability 9 the transmitting station could send at any speed he liked. Thus, British 2EA answering 2EB and feeling capable of receiving at 18 words a minute or thereabouts would send "2EB de G2EA AR K8." Hoping that this suggestion may be of some use.

Yours faithfully,

D. GROVE-WHITE (G5GW).

H.M.S. "Excellent," Portsmouth.

MYSTERY STATIONS.

AN EXPLANATION!

To the Editor of T. & R. BULLETIN.

DEAR OM,—For several months I have been amused by 2ZC's remarks about the "UEA" stations that he has been receiving, and as no one has yet enlightened him I think it is time for me to do so. Take, for example, that "mystery" station "UEA4ED." Draw two close parallel lines and between them fill in the Morse characters in approximately their correct proportions.

Now examine the white spaces, and lo and behold! part of a test call from our friend 6MU, who has apparently succumbed to using the spacing wave method of keying! The "i" in the prefix Gi has apparently got lost, but the form "EL4ED" noticed by 2ZC puts that right. Similarly, "ELEETAU" appears to be the "backwash" of a "G2" station. By the way, I should be glad of a report from anyone hearing "EA4VU" on 23 metres!

73's.

M. F. J. SAMUEL,

16, Blenheim Road, N.W.8

To the Editor of T. & R. BULLETIN.

On my return from abroad my attention has been drawn to a letter published in the T. & R. BULLETIN for May, written apparently by Mr. D. E. Campbell, 45, Wellington Road, Enfield, Middlesex, in which he mentions my name.

Apparently my education is not quite complete as it is impossible for me to understand the letter in question. Perhaps you can translate it for me. I imagine that Mr. Campbell is claiming that he has been allotted my old call and that I am receiving his cards. If this is so, he has made a mistake, as he states his call is G5AV whereas my old call was G5AU. I surrendered this call some twelve months ago but I am still receiving cards as per the enclosed received to-day, and I have no knowledge as to whom my old call G5AU, has been allotted. If Mr. Campbell's call is G5AV, and I have been receiving his cards, then it is high time he transmitted his call correctly.

I imagine that it would only be a reasonable act of courtesy if before writing a letter such as that published, the writer would communicate with the person whose name he mentions therein.

Yours truly,

W. H. GOODMAN.

Managing Director,

Dubilier Condenser Co., Ltd.

ED. NOTE.—It is obvious that Mr. Campbell has made an error in his conclusions concerning Mr. Goodman's intentions regarding his QSL cards. We certainly think that Mr. Campbell should watch his key more closely and see what he signs.

To the Editor of T. & R. BULLETIN.

I have the honour to bring it to your notice that my signals, transmitted on a wavelength of 30 metres, were received by Mr. Ern Wensor, 6, Harding Street, Ascot Vale, Melbourne, Victoria, Australia. The transmitter used in this test was no other than a home-made Reinartz, O-V-1 receiver. The signals were transmitted to Australia by putting a telegraphicallyke in the plate circuit with less than 60 words on the plate of a Marconi DE5b valve, burning at about 4 volts, on account of discharge battery, instead of 5 to 6 volts, as specified by makers. I believe by this communication we have established a record on low powers. Mr. Ern Wensor reports my signals at 3 strength very steady, no fading, and nice to copy with a pure D.C. note. I was using Ever-ready 4½ volt flash lamp Indian-made batteries for my plate supply.—I am,

Yours faithfully,

B. D. VIRMANI (Radio 2KJ).

To the Editor of T. & R. BULLETIN.

DEAR SIR,—Will you please insert the following announcement in your paper:—

Following QSO's, Belgian amateurs BV8, M2 and 4RK claim QSL's from the following:—G2PP, 2QC, 2CS, 2VS, 2EC, 2LZ, 2VG, 2VQ, 2VL, 2NT, 5WI, 5YK, 5FF, 5WP, 6HY, 6IA, 6VP, 6KK, 6JU. Ireland—5WD, 6NX, I4C.

Please QSL via RB, 11, Rue du Congrès, Bruxelles.

Thanking you in anticipation.

J. RICHARD.

To the Editor of T. & R. BULLETIN.

DEAR OM,—I think G6CL is fully justified in the point he raises over exaggerated R strengths, especially where foreigners are concerned, though I cannot agree regarding the "sri QM, QSS, and QRM" exactly.

I have had cases of B or N stations coming in R7, say, and then my nearest neighbour (F) starts in with R9, and the original ham sounds weak, in comparison.

As far as QSS is concerned, F's, N's, and B's have been noticed to fade from, say, R8 to R4, and at times lower.

If one's own station is being received under similar conditions, and if a doubt exists, I suppose it is only human to try and please, and the highest R is given.

As I claim my station to be the furthest south G station, it will be seen that being near RAC hams, I get most of them at full strength, and there is no exaggeration when some of them are concerned. (Hi!)

A point is puzzling me, and perhaps some other hams may be interested, and be able to give a ruling?

2ZC stands high, unscreened, aerial pointing NNE, loose end North, and I have only to call a BNF or I station, and get a QSO.

6HZ is screened from the North, stands low, aerial pointing N, with loose end South, and has only to call SM, Ireland, etc., and he gets a QSO.

6HZ worked his first Italian last month, and 2ZC has never yet worked SM, and in a year has only logged three.

Seemingly what is a blind spot for one, isn't for the other. Why?

I found this island very directional on some long waves, as an aerial erected on low ground brought in Birmingham (BBC) and Glasgow was silent.

On high ground (just above) Glasgow, on the same set was OK, and Birmingham silent.

Five miles separate 2ZC and 6HZ, and each station has noticed a decided inclination to get "types of R strengths" from different directions.—Yours,

A. M. HOUSTON FERGUS.

QSL CARDS.

To the Editor of T. & R. BULLETIN.

DEAR SIR,—Several letters have recently appeared regarding QSL cards not turning up. *

It has always been my custom to send a QSL card to every station worked or who reports on my signals, though the compliment is not always returned.

Mere wall paper collections are not wanted in every case, and from my own point, reports on my own signals are of the greatest use in collecting certain data I am trying to gather together.

A "G" ham told me recently that by writing to "J des 8" several cards of over one year's standing turned up from various countries, but this ought not to hold now.

On the other hand, a foreigner tells me that he sent me three cards via T. & R., and only the second and third have arrived here.

I give below a list of cards due to me during the past two years, to all of whom I sent cards:—G2LZ, 2CS, 5DY, 5GS, 6RY, 6ZC, F8APO, 8BU, 8BW, 8BBU, 8DU, 8FT, 8GDB, 8JRK, BP7, O8, 2SSK, CH2, 4VU, NOPM, IICO, 1CN, 1DM, 1NA, KJ1, 4VO, 4AU, UWSP, LAIE, FMAIN, ET2XA, NE8RG.

Should any of my own cards not have arrived at their destination, I shall be glad to send fresh ones.

Yours faithfully,
A. M. HOUSTON FERGUS, G2ZC,
(T. & R. ARRL).

* ED. NOTE.—We do not propose to publish any more letters of this description. We regret that we are forced to this decision by the very considerable amount of correspondence of this nature which we are receiving.

REPORTS WANTED BY EH9OC.

To the Editor of T. & R. BULLETIN.

DEAR SIR,—Mr. A. Wyss, an official of my staff, is allowed to operate a small powered short-wave transmitter in the laboratory of the Radio Service of the Swiss telegraph direction placed under my control.

The transmitter is equipped for telegraphy on pure and tonic C.W. and for telephony. His input is 64 resp. 20 watt and the wavelength used about 32 metres. The Radio-Berne programmes are relayed regularly on Mondays, Thursdays and Saturdays from 20.30 to 21.45 B.S.T. The call is EH9OC.

May I ask you to bring the above notice to the knowledge of the member OM, of your society and to draw their attention to our experimental transmissions, in order to get some QSL reports on them. The receipt of any such report will be acknowledged with our QSL card.

Our transmitter is a Mesny symmetrical one, with two 5R.S. Telefunken valves, an input of 80 M.A. under 800 volt in telegraphy and 40 M.A. under 500 volt in telephony. The modulation relies on the Heising principle, and two B.E. valves from Telefunken are used as modulators. The aerial is energised on his 1/3 fundamental λ . It consists of a six wires cage 15 m. long connected to a counterpoise of 8 wires of 8 metres long each and arranged in a fan shape. The cage is inclined about 45 degs.

Up to now, after a few days' transmissions, we got 7 QSL reports from England, one from Norvege, one from Holland, and one from Germany.

Trusting that these few notes may retain your attention, I hope to be honoured with your prompt reply.

Yours faithfully,
La Direction Générale des Télégraphes,
p/o. Le service Radio-électrique,
E. NUSSBAUM.

Berne, Switzerland.

HERTZ ANTENNAS.

To the Editor of T. & R. BULLETIN.

DEAR SIR,—With regard to the points raised by Mr. A. G. Wood in connection with the above subject in the BULLETIN of April, he will find this matter gone into in some detail in my article in "Experimental Wireless" for March, 1927, but I should like to add a note or two in reply to Mr. Wood's questions.

He is in error in supposing that there is a node of current at the centre of the double-feeder system, as indicated in his Figure 2a. The C and V diagram is the same as in Fig. 1a, and the length of horizontal wire is the same. The aerial can, of course, be worked harmonically, in which case there are a larger number of loops, but the conditions at the ends and centre must always be the same. For example, if the horizontal wire is three times as long, and the wavelength the same, the aerial is being worked on its third harmonic, and this is also true if the length of the aerial is unaltered while the wavelength is reduced to one-third. All these effects can be perfectly demonstrated with a stretched wire which is caused to vibrate mechanically by passing alternating current through it in the presence of a magnetic field. The wire actually assumes the shape of the current diagram for the corresponding aerial, and can be made to vibrate at its fundamental frequency, or any harmonic.

The feeder is *not* part of the aerial, as the field due to the two lines very nearly cancels out as far as radiation is concerned. It is simply a means of transferring energy. I think Mr. Wood would



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T. & R.

be advised to substitute the circuit shown by me in the issue of "Experimental Wireless" referred to.

The condenser is purely for adjusting the electrical length of the feeder, this being a more convenient method on a wet night than going out and tacking on or cutting off bits of wire. The ammeter reading has no fixed relation to the true aerial current, but with any given aerial indicates when the feeder is correct. The aerial itself is presumed to be correct when its length is first chosen.

The chief disadvantage of the aerial loading coils is that they make the determination of the electrical length of the aerial a matter of difficulty, but that they do not to any extent detract from the efficiency is shown by the fact that 5 watts into such an arrangement worked most of the world in a short time.

It should be noted that in the article referred to above, Figs. 2 and 3 have inadvertently been transposed.

In conclusion, the double-feeder system is undoubtedly sounder than the single-feeder, provided it is used correctly, and once the functions of the various parts are clearly understood it is extremely easy to operate.

Yours faithfully,
MARCUS G. SCROGGIE.

19, St. Mildred's Road,
Lee, S.E.12.

To the Editor of T. & R. BULLETIN.

DEAR SIR,—I have carefully read 5YM's kind reply to my queries, and it has certainly cleared the air considerably. I might mention that my diagram 2 and 2a in the April BULLETIN was meant to represent a full wave Hertz, hence the introduction of loading coils to reduce the overall length. However, I found that system very unsatisfactory and have since installed a half-wave current fed arrangement.

I agree with 5YM that the shorter the wavelength, the looser the coupling, but there is another point which occurs to me and which the experience of other experimenters would be welcome. That is the L/C ratio of the coupling coil.

When I erected the new aerial, it was cut to the measured length and was apparently too long. I found that a coupling coil of low L/C ratio—i.e., large capacity—was superior to high L/C. Since the aerial was too long for my crystal controlled wave, and was therefore considerably out of tune, it seemed to me that a higher current would feed it better, since the resistance was lower. On the other hand, when the aerial is in tune with the drive, then the resistance would rise to a high value, and therefore a higher voltage would be required to feed it efficiently, obtained by increasing the L/C ratio of the coupling coil. This theory seems to be borne out in practice.

With the aerial cut to the correct length, allowing for the feeder wire displacement, I find resonance is very sharply defined, with a hot-wire meter across the centre point insulator. With 100 watts input I obtain approximately .75 amperes with about .25 amperes in each feeder.

Upon removing the meter, however, from the centre point, I cannot get any appreciable current in the feeders, although when short-circuited with a screwdriver, there is a considerable p.d. between them—a short way away from the coupling coil.

g2it, g2nh, g2vq, g2oq, g2xy, g2wj, g2oj, g5by, g5hs, g5ad, g5ms, g5mq, g5wq, g5qg, g5ku, g5qh, g5uw, g5vl, g5qp, g6og, g6ry, g6pa, g6pu, gw11b, b2a, bn33, b4zz, b4rs, b3uu, by2, bq8, eilda, fm8st, f8ui, f8gi, f8pr, f8ft, f8tis, fa8rra, sjb, plaf, p3fz, plaj, rchfp, bz1aj, nam, chro, r9cp, prlau, sa7wo, deek, wwdo, kfsx, ao32, jaad, axfm.—All heard by NUIAOF.

EXCHANGE & MART.

Many amateurs are on the look-out for second-hand apparatus at a moderate figure. Look through your junk and see what you have worth selling and turn it into money. This is your best medium for disposing of your surplus experimental gear.

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"Very many thanks; generator sold by telegram half an hour after BULLETIN arrived by post; three other prospective purchasers within two days.—73's, A. H. WILSON (G2WN)."

The above refers to the result of a small ad. in our Exchange and Mart columns. Can anybody beat it? If not, why not try?

I presume the introduction of the centre point meter doesn't effect the wavelength of the wire, but since I cannot measure the feeder current with the centre point meter out, I'm not too sure on the subject.

Thanking you for taking up so much valuable space in the BULLETIN, and 5YM for his kind assistance, I remain,
Yours truly,

A. G. WOOD, 5RZ.

93, Upper Tulse Hill, London, S.W.2.

HERTZ ANTENNAS.

To the Editor of T. & R. BULLETIN.

DEAR SIR,—In the February issue I notice an article by B. J. Axhen on the subject of "Short Wave Aerials," in which he describes a peculiar phenomenon and offers an explanation thereof. Since this seemed to me highly improbable, I examined his specification more closely and found that the aerial acted precisely as theory would predict. As Mr. Axhen points out, the aerial is 45.8 metres long, corresponding to a wavelength of about 46-47 metres. It is a full wave Hertz, and therefore has voltage at the middle. Hence, Mr. Axhen was not likely to be able to transfer energy with inductive coupling. If he were to use a voltage feeder to the middle of his loading coil he would find the aerial take plenty of power at 45 metres.

At 37 metres the aerial is acting as a 6-4 wave Hertz, which has current at its middle and therefore works well with inductive coupling. If you think an article on the subject to be worth while I should be pleased to get one up. (Yes, please.—ED.)

A. E. WALKER, G6WW.

Bulletin Standing Notices.

All members are asked to read carefully the following notices before writing.

Always write your letters relating to different subjects on separate sheets of paper. Do not send in an order to the Sales Department and ask somebody else a question in the same letter or ask a question about your licence.

When sending cheques or postal orders do not embody payment in respect of several items in one sum, but make out separate sums for the various items.

Orders for all articles except enamelled emblems should be addressed to the Sales Manager and nobody else, and cheques should be made payable to Sales Department, T. & R. BULLETIN. Cheques and orders for enamelled badges should be made payable to the Secretary, Radio Society of Great Britain, and also subscriptions.

Questions concerning licence matters should be addressed to the Hon. Secretary.

Reports concerning other activities should be addressed to your Area Manager.

Changes of QRA should be addressed to C. A. Jamblin, Esq., QRA Manager, 82, York Road, Bury St. Edmunds, Suffolk, and these will be embodied in a monthly report in the BULLETIN, and will be noted by Headquarters.

QSL cards should be forwarded properly addressed and stamped in the case of known QRA's to QSL Manager, Radio Society of Great Britain, 53, Victoria Street, S.W.1. In the case of the free delivery countries, however, it is only necessary to address the card and not to stamp it.

When corresponding with the Editor T. & R. BULLETIN, and if a reply is required, always send a stamped addressed envelope unless you are sending an article for publication. Replies cannot be guaranteed unless this rule is observed.

Read these notices month by month in order to ensure that no change takes place without your knowledge.



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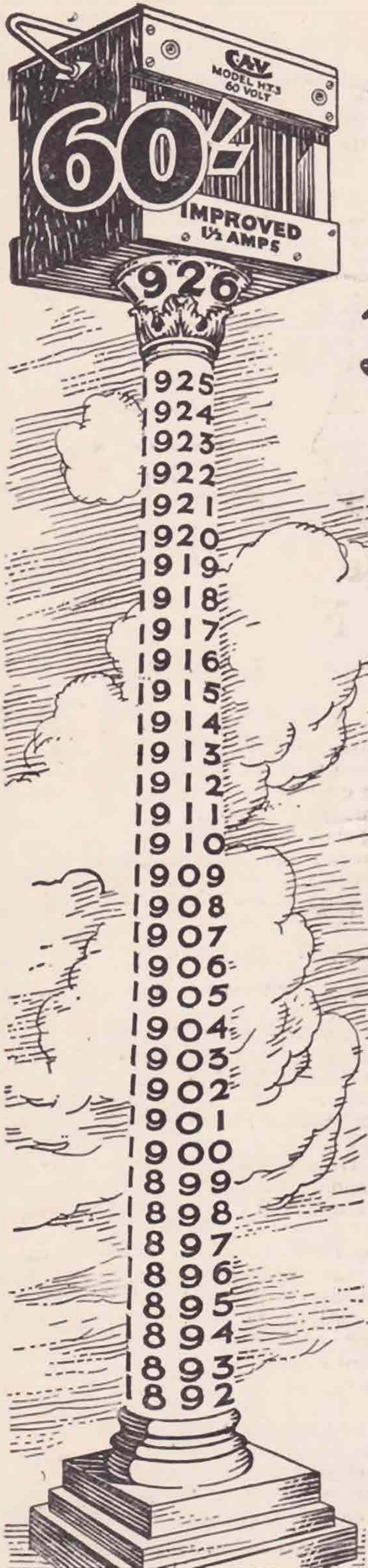
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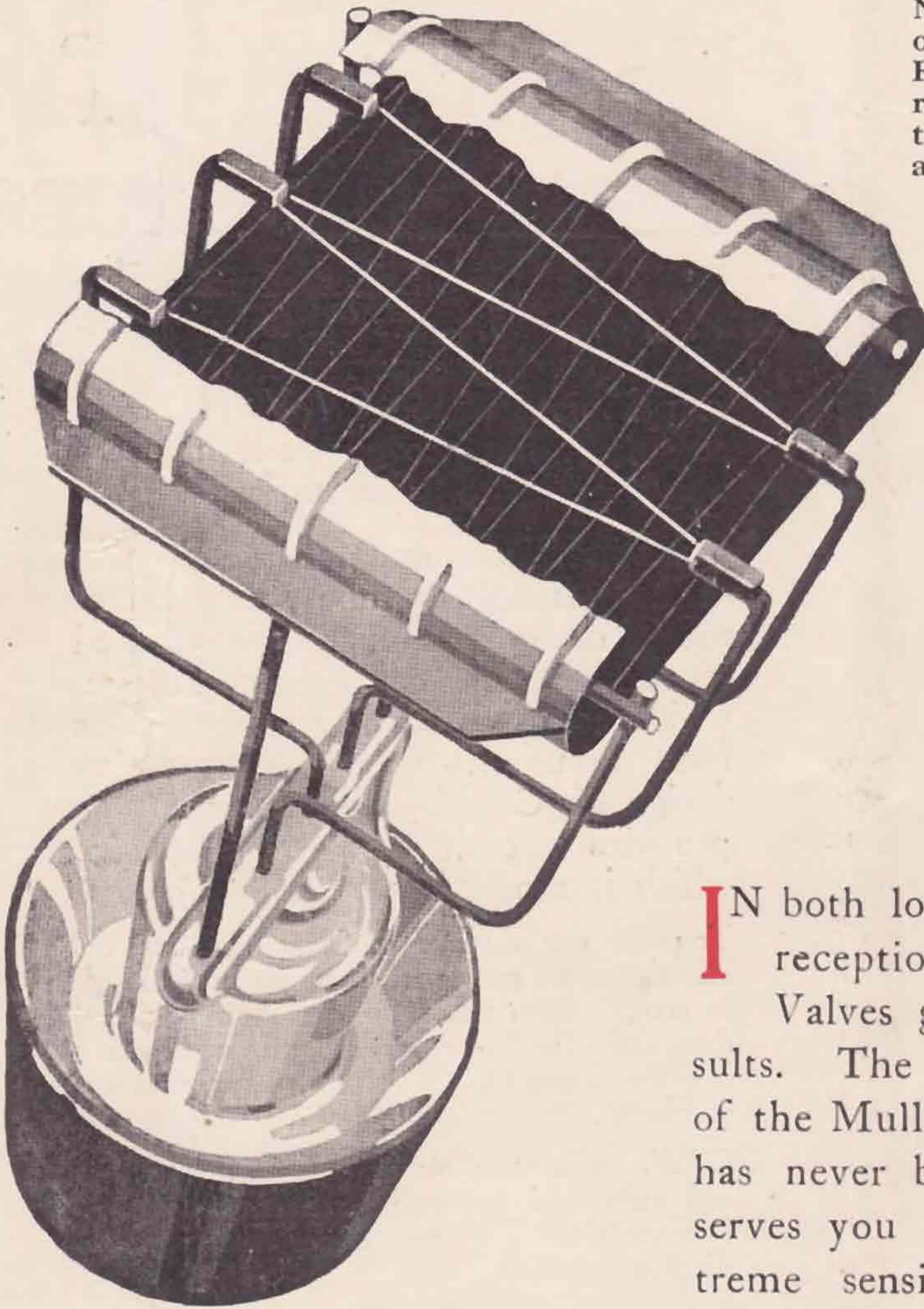
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