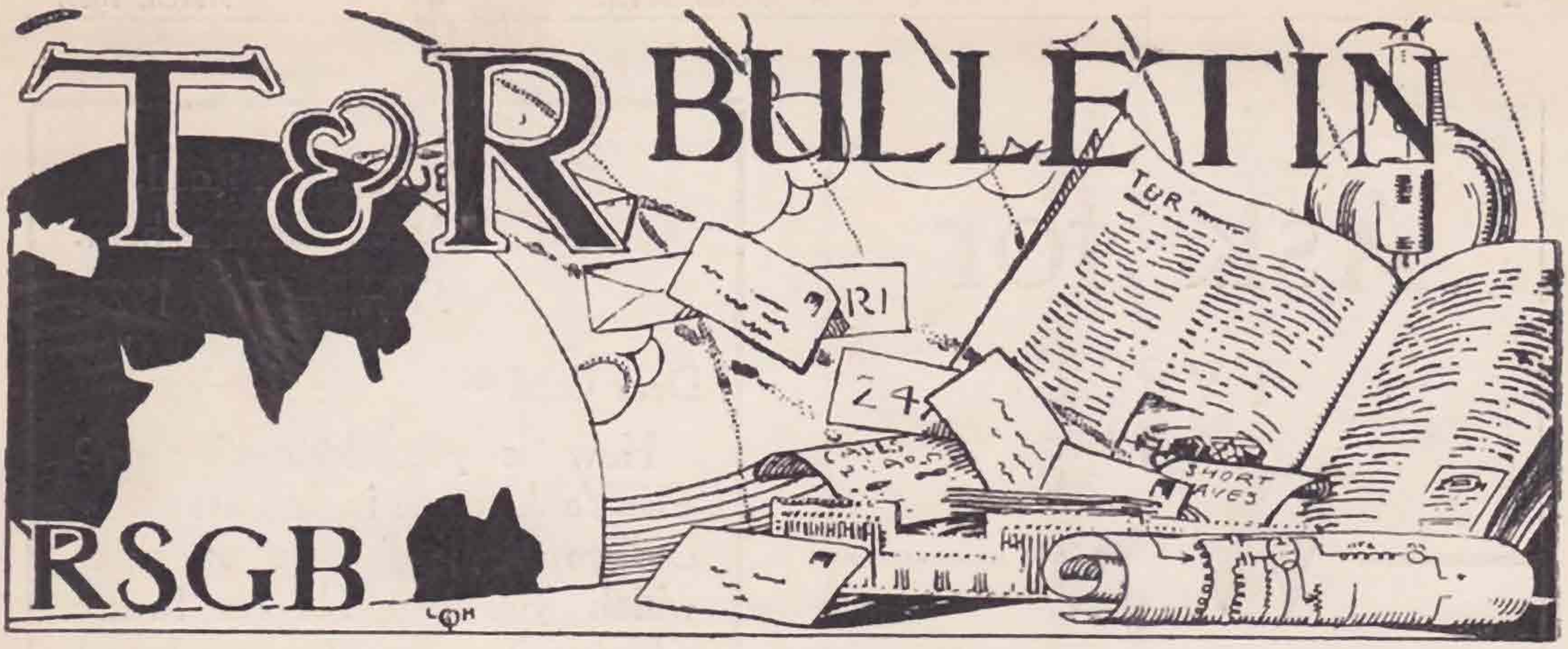

Vol. 2. No. 9. March, 1927. Price 1/-

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THE T. & R. SECTION,
Inc. Radio Society of Great Britain.

THIS SECTION of the Radio Society of Great Britain is a virile and progressive body of amateur radio experimenters bonded together for promotion of knowledge and brotherhood of those interested in the Radio Art. It exists also with the object of the advancement of the Art, the representation of the amateur in legislative matters, and for the disciplined use of the ether in so far as amateur experimenters are concerned.

The Section is governed by a Committee which is elected annually in accordance with rules approved by a Convention held at the Institute of Electrical Engineers, London, in September, 1926, and the Constitution is democratic in character.

The policy of the Section is to accept to its Membership any person or persons who are able to satisfy the Committee that they are interested in Radio Art, or who in their opinion are persons whose Membership is desirable in the interests of the Amateur Experimenter.

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T. & R. Bulletin

Devoted to the Interests of the Radio Amateur Experimenter.

THE INC. RADIO SOCIETY OF GREAT BRITAIN,
53, Victoria Street, S.W.1

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T&R BULLETIN.

The only British Wireless Journal Written and Published by Amateurs

MARCH, 1927. Vol. 2. No. 9.

EDITORIAL

We Complain.

NOW, everybody, we are going to complain, just by way of a change in the scheme of things. The official "woufhong" is being taken from its cupboard and is in process of dusting up for a regular round of straffing of those people who simply cannot keep to their proper wavelength on the short waves. We have had many complaints about this, and it seems that the evil is increasing.

We naturally wonder why it is that the amateur cannot steer his gear into the proper place; we wonder is it that he has not got a properly calibrated wavemeter? On many occasions we have heard one or two stations slopping about all over the spectrum. A radio transmitter in the hands of a man who does not know how to tune it to the proper place is like a field gun in the hands of a novice; it is a common danger, and as such it must be stamped out. So look out, those whom we have in mind; we do not want to be rough, but if we have to, you cannot say that you were not warned. Don't blame us if you get into difficulties with H.Q. over this matter in a week or so if this notice is not heeded.

That Convention.

Another complaint. Last issue we asked for some ideas about the projected Convention, and we have had a few but so scanty a number that we are wondering whether you want a Convention this year. In view of the paucity of ideas we are going to place two or three before you. First, do you think that you would like the Convention to be held on the coast, say West, or East, so that members can enjoy their vacation at some watering-place, or do you want it somewhere in the Midlands. Would you like it to be held in London? We have had suggestions to hold it to synchronise with the exhibition again as last year, as many members seem to like the idea of killing two birds with one stone. By the way, we are booking a special stand at the exhibition to show "ham" gear this year in addition to our ordinary stand. We hope that we shall get sufficient support from the trade in this matter.

Also, we propose to hold an initiation ceremony of candidates for the Ancient Order of Trans-Atlantic Brasspounders. There must be many members who are eligible for the Order, so role up in your thousands, all of you, but for goodness' sake let us know what you want and do not leave it until the week of the show and then complain that it is not all you would desire. Also what about that idea of a charge for the Convention alone of one guinea? Let us know what you want while you have time; in a few weeks it will be too late.

Labour Saving Devices!

With the growth of the BULLETIN we have to make more definite rules for the guidance of various contributors for we have to save both time and paper so far as possible. Moreover, the period is fast approaching when we shall be publishing a larger quantity of technical matter such as the Proceedings of the Society, and we hope that in many cases we shall be able to give fully illustrated reports of the excellent papers which are read from time to time at the Institute of Electrical Engineers, London. Also we are expecting to enlarge the BULLETIN slightly and to embody more technical articles on various radio matters contributed either as papers to be read or as articles for our pages.

In view of these circumstances we have outlined a number of rules for contributors to Traffic Reports, Correspondence and Calls Heard on their respective pages and by these means we hope to be able to make these services the more interesting to all members and at the same time to save those responsible. for the BULLETIN a considerable amount of time. Will "CQ" please help by observing these simple rules?

Ourselves and Advertisers.

Members must appreciate that their subscriptions at present only defray a small proportion of the cost of the BULLETIN, and that the remainder of the money has to be found through the medium of advertisements appearing in our columns. Obviously, advertisers do not pay for the insertion of their advertisements merely for the pleasure of it, and members are asked, whenever it is possible to do so, to trade only with advertisers and mention this magazine.

Station Design at G6NF.

WHERE experimental work is to be undertaken which necessitates the frequent change of components, etc., there can be no doubt that the table lay-out is the most convenient. There is one objection, however, unless care is taken in wiring up there is a great danger from short-circuits. The writer remembers an occasion when a visit was paid to an amateur station which favoured this form of lay-out. The mode of wiring must have been inspired from a drawing by a great artist who is well known for his sketches on remote mechanical control. The operator desired to alter a variable condenser which was located beneath a number of wires. The wiring was skilfully negotiated by his hand, but his sleeve happened to push two wires into closer proximity than the P.D. between them would stand. The result was a blinding flash accompanied by a cloud of smoke, and all the lights went out in the house !

The writer has tried practically every form of station design for both QRP and QRO transmitters. After concrete ideas had been formed as to suitable conditions, the most convenient system found for a 250 watt transmitter is that shown on the right of Fig. 1. No research work should be undertaken without being able to place a measuring instrument in every circuit, and in the table lay-out this takes up a lot of room. If the table be inverted in the form of an upright panel a considerable economy in space will result, and a great deal of the wiring can be done behind the board.

Where rectified A.C. is to be used the panel may be conveniently divided into two halves, the rectifier and the oscillator, and if telephony is desired a modulator panel may be included, together with an amplifier. The modulator panel is best built separately, then it can be suitably placed to minimise induction effects, and it can be coupled to any other transmitter if necessary.

The framework of the panel is made up of square section wood 1½ by 1½ inches, to which is screwed matchboarding where desired. The back of the panel has two shelves for the reception of smoothing condensers and transformers, etc. The left side of the panel has the necessary condensers and inductances for the oscillator, which is a Mullard O/250. The right side is the rectifier panel which employs two Marconi M.R.1 valves for full-wave rectification. When the rectifier is made in the form of a complete unit as suggested it is an easy matter to switch the H.T. supply over to another set.

In the other photograph may be seen a 5-watt set which is built on a baseboard 9 ins. by 12 ins. and is an amusing comparison with its larger brother. Keying the positive H.T. is accomplished in this small set without chirp even with a low impedance valve of the P.M. type, by working right at the bottom of the characteristic curve. The note has been compared to crystal-control.

In Fig. 2 can be seen another form of transmitter. It is situated in front of the window, and consists of an experimental crystal controlled set for 45, 90 and 140 metres using 50 watts from the rectifier panel. This set used to be operated with a Mullard DFA8 in the first stage with a DO40 as an amplifier. It has been found possible to control the DO40 direct with a much greater efficiency. For this purpose a crystal that is not perfect for a drive circuit has been found quite suitable. The circuit is the usual tuned anode, tuned grid arrangement with the crystal placed across the grid circuit. Some crystals have been found to control on a number of different wave-lengths. In the same way a crystal is found to give a number of resonance clicks when placed between the grid and filament of a receiver.

The H.F. components of the circuit are mounted on the top shelf of the framework while the L.F. or modulator components are on the lower shelf. Choke-control was employed for a time, and to give sufficient modulation two DO40's were used in parallel, which were fed from a sub-modulator. Grid-absorption control is now used and gives quite as good quality when the oscillator is crystal controlled. The best results were obtained with two DFA7's in parallel using a DFA6 as sub-modulator.

With an ordinary carbon microphone a single modulator valve is sufficient.

In conclusion, it may be mentioned that the 250-watt transmitter is operated by remote control from the room beneath, where a second short-wave receiver is installed. This arrangement has proved invaluable during the cold winter months when it is almost impossible to heat the wireless room to a comfortable temperature. In addition, many of what might have been wasted attempts to communicate with Australasia have been saved by listening-in on the remote receiver. If the conditions were bad the writer would compose himself again to slumber, and perhaps dream that communication was being established with Mars with a 1½ volt Leclanche cell as H.T.!

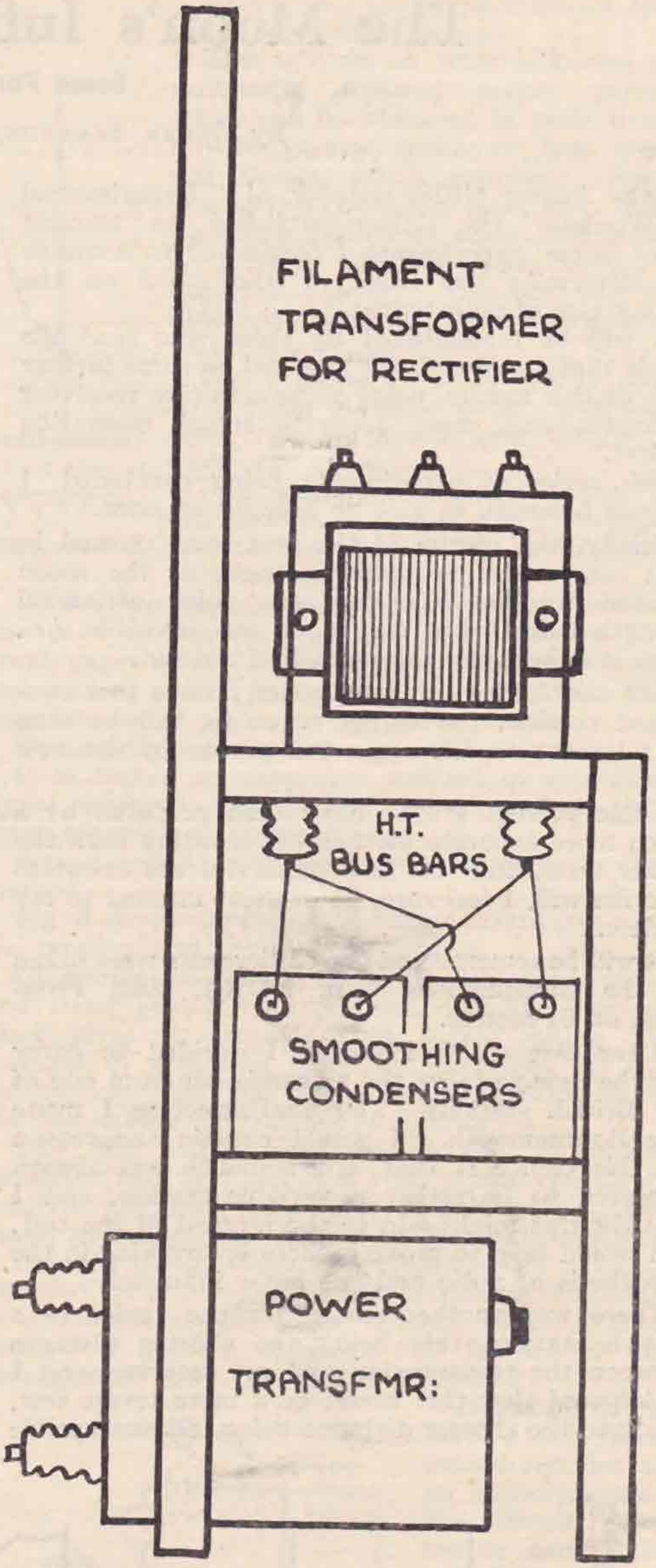
FIG. 2.

Strays.

Readings on the H.W.A., where QRP is concerned, are often so small in the aerial that difficulty is experienced in seeing any movement at all. Where an earth is employed, put the H.W.A. in the earth circuit, when it will be noted that a considerably higher reading is obtained. This applies to Hartley, R.F.B., and Armstrong circuits on actual test. A22C.

* * *

G2BZT, Mr. G. G. Livesey, of Stourton Hall, Horncastle, Lincs., is now working on indoor aerial with O-V-2 and is constructing a super-heterodyne for the short waves to investigate this type of receiver on the high frequencies. He reports also that DX reception has not been good recently, and that he heard A5JA establish his first G QSO with G5XY last month.



SIDE VIEW OF RECTIFIER PANEL

FIG 3

Stray.

W. Proctor Wilson (2YQ) informs us that his QRA is now 54, Princes Avenue, Finchley, N.3. C.Q., please note in Call Book.

* * *

Your Article Please?

The Moon's Influence on Radio.

Some Further Tests.

By Derek Shannon, F.R.S.A. (5PX) (5CG).

IN the August (1926) number of "Experimental Wireless" the Editor published an account of some experiments I conducted to examine and determine the effect of the moon on the propagation of radio waves.

It will be remembered by those who read the article that I stated I was engaged on some further tests of this nature, using more sensitive receiving apparatus and more accurate signal measuring devices.

This series of experiments being concluded, I propose herewith to give an account of same.

Briefly, the results of the first tests showed in each case a rise in signal strength as the moon inclined to the full—the zero point of signal strength being when the moon was invisible, *i.e.*, when it is between the earth and the sun.

The new series of experiments I have just concluded confirm the earlier tests, as will be seen by reference to the appended graphs of the new tests.

These present graphs have been prepared by a much more accurate method of recording than the earlier tests, and this new method I am about to describe will, I feel sure, be of great interest to my readers.

It will be remembered the earlier tests were taken on the transmissions from KDKA, East Pittsburg, on 64 metres.

After careful consideration I decided to carry out the new tests on the transmission from one of the British stations. The final selection I made was Bournemouth. I would explain the reason for this choice is that Bournemouth has always appeared to be rather a variable station, and I thought this might add to the interest of the test, and would help to prove if there is anything in the hypothesis of radio and the lunar influence.

There was another reason for the choice of a British station, this being the shorter distance between the transmission and my receiver, and I anticipated that this would be a more severe test, owing to the shorter distance being less susceptible to large changes in signal strength, and I feel that my choice was justified, as the curves of reception still show the distinct rise of strength at full moon.

I will now describe the apparatus used in the new experiments.

In the early experiments on KDKA I used a simple one-valve circuit, with Reinhertz reaction, followed by two stages of L.F. amplification.

In these latest tests a six-valve super-heterodyne receiver was used, consisting of a combined oscillator and first detector followed by four stages of intermediate frequency amplification, and the second detector.

A very rigidly constructed frame aerial was employed for reception. In the anode circuit of the second detector valve a mirror galvanometer was inserted. The light beam from this galvo, instead of being focused on to a ground glass screen as in the previous experiments, was in this case focused into the lens of the camera, this again being focused in the camera on to the focusing screen, where it showed as a tiny intense spot of light about 1-16th in. diam. A mask was then prepared from black paper which covered the focusing screen. In this mask a slit was cut 1-16th in. wide and the full length of the screen. As the galvo was allowed to swing, the light spot travelled along the slit in the mask.

When all this was working satisfactorily, the set was then switched off, also the galvo lamp, and a photographic plate was put in the camera instead of the focusing screen. The galvo was set at zero with the set switched on, zero being when the light spot was at one end of the focusing screen.

When the carrier wave of the station to be received comes on, the galvo swings, and the light spot travels along the photographic plate, thus exposing it, the apparatus is left switched on for half an hour, during this time the light spot may move about a little, but the highest reading is automatically recorded by exposing the portion of the plate over which it travels.

FIG 1

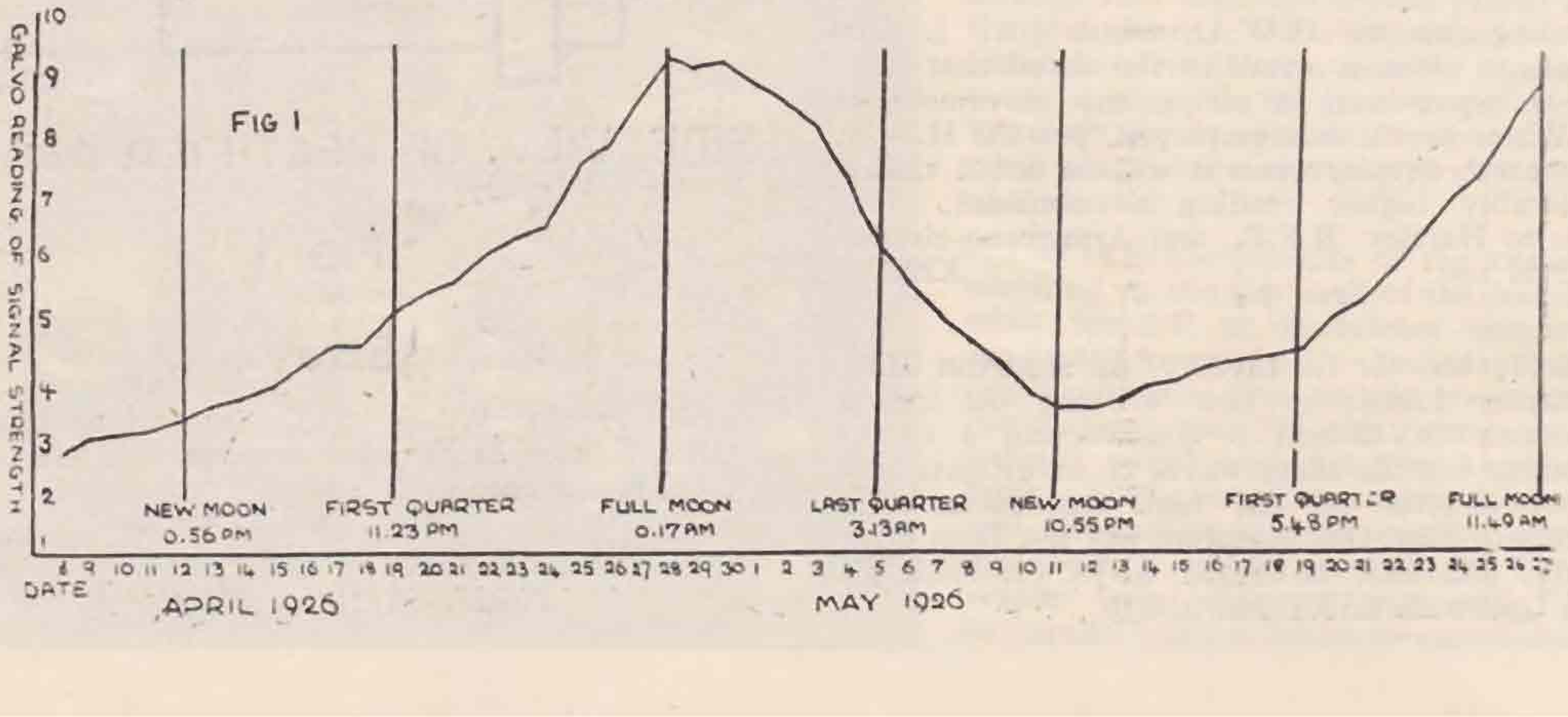
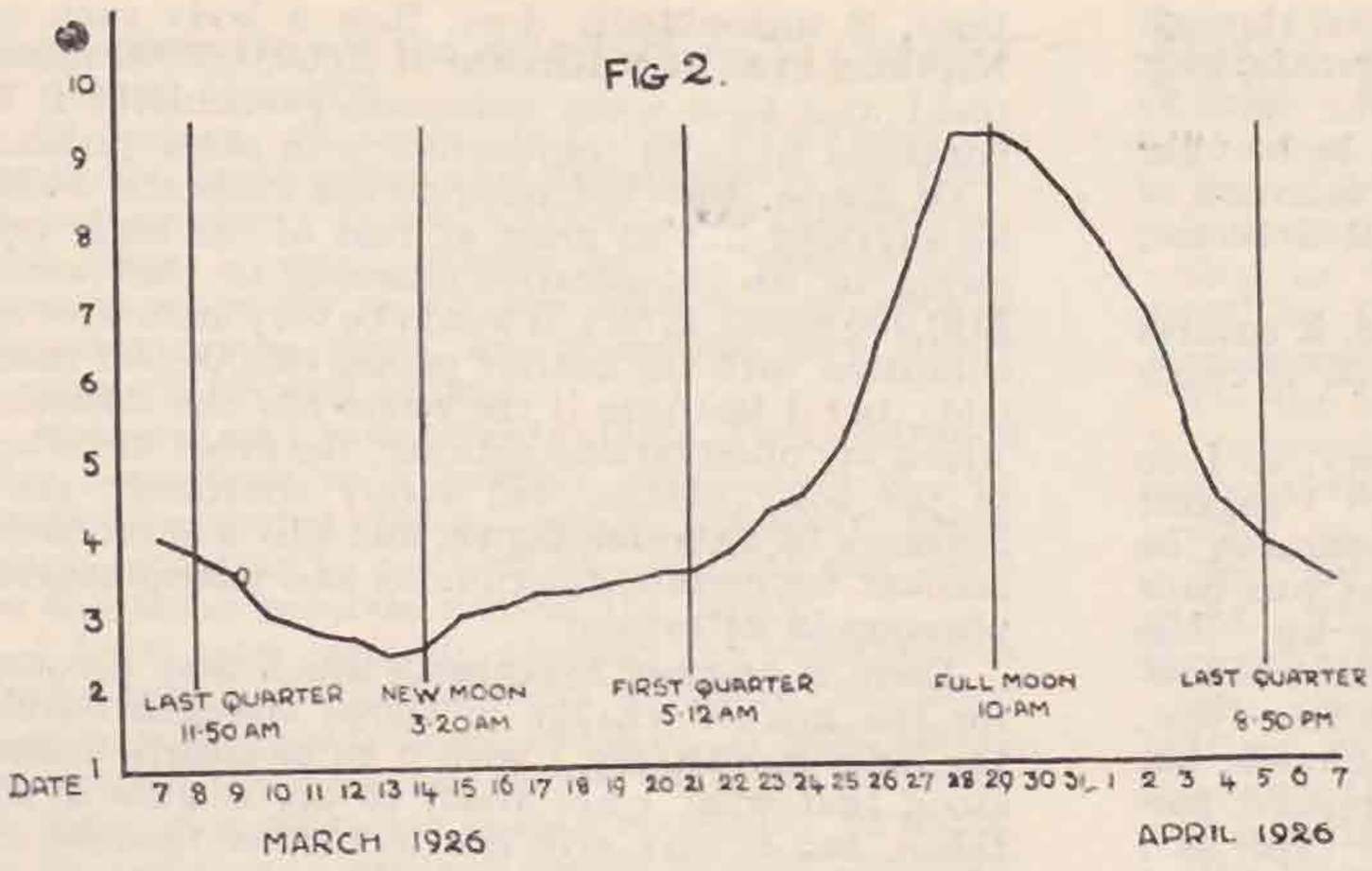


FIG 2.



(The camera and galvo have, of course, to be completely screened from any outside source of light, otherwise the whole strip of exposed plate will be fogged. The screening is best done by having a black lined box which will fit over the camera and galvo, the bottom edges of the box where they rest on the bench should be lined with strips of black velvet, or the room may be illuminated by a ruby lamp, provided, of course, that no light from the valves is visible in the room.)

In my own apparatus the set is automatically switched on and off at the beginning and end of half an hour by an electric clock.

These clocks keep perfect time when correctly adjusted, and can therefore be relied upon to switch the set on and off at exactly the same time each day. All that one has to do is to take out the exposed plate after each half hour period and insert a fresh one.

I should say that the light on the galvo is also controlled from the clock, so that all you have to do if you are taking a nightly reading during the lunar month is to take out the exposed plate and insert a new one each day.

When you have developed the plate you will find it clear except for a strip 1-16th in. wide; the length of this strip on various plates alters with the received signal strength.

Now comes the preparation of the graph from these plates.

This is done on what is known as millimetre squared graph paper, which can be obtained in pads from any instrument maker or firm who sell draughtsman's supplies. Then you have to obtain a glass rule, split up into a millimetre scale, this scale is printed into the glass in dark lines and figures. This also can be obtained from any good instrument maker for 2s. 6d.

The plate to be measured is laid on a piece of white paper, and the glass rule is placed over the part where the black line is.

I should have mentioned that a full scale deflection of the galvo light spot on the plate should be arranged to travel over a length of 10 cm.

We will assume the first plate measured shows a line of 4 c.m in length; this is entered on the graph paper at 4. The next plate is then measured and entered and so forth, until you have taken the complete set of plates for one lunar month.

Twenty-eight plates are required.

It is rather an expensive method of recording signal strength, but it has the advantage that great accuracy is obtained.

Figs. 1 and 2 show two graphs obtained by this method.

Fig. 3 shows the complete circuit arrangement of the receiver and recording apparatus.

Of course the clock may be dispensed with, and hand switch control used, but the electric clock gives an accurate time period within the fraction of a second per day, including all the metres, etc., and the galvanometer arrangement, the description of which is as follows :—

The first valve functions as the supersonic oscillator and first rectifier, then comes the intermediate amplifier, consisting of four stages, followed by the second rectifier, in the anode of which is inserted the galvonometer circuit; this is again followed by a two-stage audio frequency amplifier to allow the signals to be listened to on a loud speaker if desired, although this feature of the arrangement may be omitted if desired.

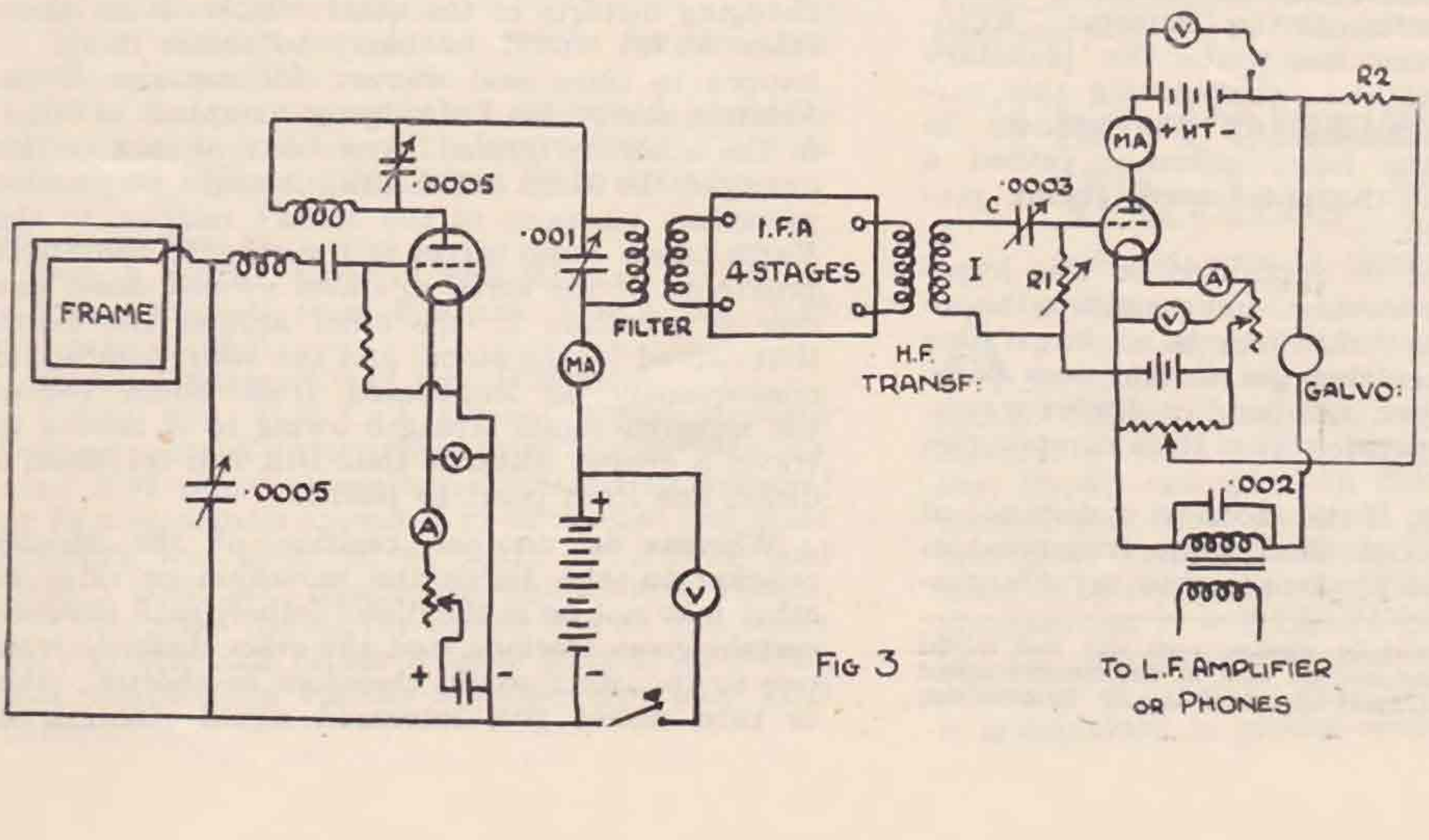


FIG 3

It will be noted here that the second rectifier is an entirely separate circuit, and has its own H.T. and L.T. supply, also its own set of meters, plate milliampmeter, plate voltmeter, filament volt and ampmeters. In fact, it is a separate little receiver deriving its signal current from the supersonic unit.

The functioning of this circuit is as follows :—

By careful adjustment of S. the current fed through R.2 to G. in one direction can be approximately balanced against the plate current in the opposite direction, so that a very small galvo can be brought to zero by fine adjustment of C. Any variation of C. or I. will then displace the galvo several divisions ; same applies to any alteration of R.1.

The great advantage of this method is, it ensures great accuracy and a minimum of signal strength to operate it.

The circuit, I think, is self-explanatory, so I do not propose to describe it in detail, but I suggest that only the very best makes of apparatus be used. The actual set I used on this test was built up from the McMicael super-heterodyne kit. The valves used were B.5 B.T.H., except the two low-frequency amplifiers, which were B.6 B.T.H. type; of course, any good make of valve is suitable, but it is advisable to use valves of good repute, particularly if they are of the dull emitter type, as I am sure by now my readers must have realised the absolute necessity of securing the utmost stability in the arrangement. As stated in my previous article, it is very necessary to secure all the apparatus to the test bench in the most rigid manner possible, * and also when the apparatus is actually in operation one should not go too near to it, owing to the danger of body capacity affecting the signal reading ; this, of course, is not so likely on the broadcast band of wave-lengths, as on the ultra short wave band on which the previous experiments were made.

Before concluding there are one or two other suggestions I would like to make with regard to outer terrestrial bodies influencing the transmission and reception of radio waves.

The first is that besides the lunar influence the other planets may have some additional effect.

For instance, during the winter of 1924 and 1925 reception from the American stations was on the whole very good, but during the past winter, 1925-26, reception from across the Atlantic has been very indifferent.

It has been suggested that the present period of "sunspots" is the cause, but I am inclined to disagree with this hypothesis, because at the time of writing (September and October, 1926) reception from American stations is quite good, and "sunspots" are very active at the moment, and I suggest as an alternative to the "sunspot" hypothesis of poor reception last winter the planetary disposition hypothesis, *i.e.*, that during this particular period the position of the planets in conjunction with the lunar influence caused a greater deflection of the radio waves being propagated on the earth.

It may be argued in opposition to this hypothesis that the radio waves do not penetrate the so-called heaviside layer ; that may be so, but it does not preclude the fact that gravitation does penetrate this ionised layer, and bend or distort waves, which are being propagated from stations upon this earth.

To sum things up, if the moon at a distance of some 240,000 miles can affect radio transmissions upon this earth, which, according to my observations, it undoubtedly does, then a body such as Neptune, even at a distance of 2,000,000,000 miles, could also have some influence, particularly if it happened to be in conjunction with other planets.

Of course, I do not imagine the influence would be anything like so great as that of the lunar orb owing to its comparative nearness to the earth (240,000 miles), in fact, it would be very minute, or as compared with the nearest planet (40,000,000 miles odd), but I feel sure if the moon has the influence which my observations indicate, the other members of the solar system will surely contribute their influence to a certain degree, and this will probably account for certain descriptions and unaccountable phenomena at present.

There is another hypothesis which may account for the marked change in signal strength during the lunar month, but I wish it to be clearly understood that what I am about to say is pure hypothesis, but it may give rise to further thought on this subject. It is this : In Einstein's theory of relativity he says there is no such thing as gravitation as expounded by Newton, instead (according to Einstein) every kind of matter distorts the ether around itself, and causes it to heap up or form creases or ridges (mountains if you like) in the ether, which cause the body of matter to follow a certain definite path (that is, they are held in position in space by the crease they cause in the ether, and not, as Newton says, by mutual attraction to each other). I can only explain it very roughly here as the theory is very abstruse, as it is difficult to explain without going deeply into mathematics, and I wish to avoid these in this article, but the rough description will serve my purpose. Well, to continue, given this takes place and a body creases or distorts the ether in its own vicinity, could we not assume that two bodies as near together as are the Earth and the Moon, and constantly changing their positions in relation to each other, cause quite a considerable and complicated amount and form of ether distortion (I mean the complicated form of ridges or mountains caused by each other might overlap and mix in the orbits of each other—the Earth and Moon).

Now comes my point. If this is so, and radio wave propagation uses the ether for the medium of transit from place to place, is it not likely the changing distorts in the ether which carries these ether waves would be likely to cause things to happen to these said waves : for instance, if (as Einstein says) a kind of ridge or mountain of ether, in the ether, is formed by a body of matter (for example, the Moon and Earth), it might be possible in certain positions of the Moon's relation to the Earth cause radio waves in the ether in the direct proximity of the earth to travel *up and down and over* a mountain in the ether around the Earth (but caused by the Moon) and the *ether path* would consequently be lengthened (this would reduce the received signal strength owing to it having to travel a greater distance than if it had traversed a direct line from point to point).

Whereas in another position of the Moon's relation to the Earth the mountain or ridge of ether may not be in the direct (ether) path between certain given stations, and the ether distance from one to the other would therefore be shorter ; this in turn would give increased signal strength in

* All meter readings should be checked each day and should register the voltages and currents used at the commencement of the tests. This is extremely important as any variation will give a false reading.

the receiver than if the wave had had to pass over or around the ridge.

Of course, in considering this hypothesis, it must not be forgotten that Einstein says the ether is not necessary to his mathematical calculations, but there is much dispute at the present time among scientists as to the existence of such a medium as the ether, and there are very strong arguments for and against.

However, as I have already stated, I only advance this hypothesis as a possible explanation of this particular period fading which definitely takes place according to my own observations and tests, as the Moon revolves around the Earth.

I have very carefully checked the observations many times and found them to follow the same routine from time to time, which to my mind leaves no doubt that they are caused by lunar influence in some way, whatever it may eventually be found to be, but even if Einstein can do without the ether hypothesis in his calculations, I, in my humble opinion, prefer to believe at present that it does exist, and that it is the only solution to many of the electrical phenomena we observe, and cannot at present, at any rate, account for in any other way.

In conclusion, I append a few extracts from my laboratory note books which I have collected from time to time, which I think help to confirm the hypothesis set out in the foregoing notes.

EXTRACT No. 1.

"Thermion," writing in "Amateur Wireless" for January 17, 1925, says: "During the past week I noticed that reception was exceptionally good from the American broadcasting stations."

NOTE.—In this case the Moon was full on January 10, 1925. As "Amateur Wireless" is published on 17th, he would be writing his notes about the time of the full moon.

EXTRACT No. 2.—From "Popular Radio," Oct. 24, page 420.

"DOES MOONLIGHT AFFECT RADIO?

"According to the American Radio Relay League there has been some evidence in the course of long wave tests with transatlantic telegraphy that radio transmission is better at times of full moon than at other times.

"It is difficult to see any reason for this, but anything is possible in radio.

"The League suggests that interested amateurs make a series of careful observations, which is something that certainly ought to be done."

EXTRACT No. 3.

Feb. 8, 1925. Night of Full Moon.

Moon eclipsed from 8.8 p.m. G.M.T. to 11.15 p.m. G.M.T.

Greatest phase at 9.42 p.m. G.M.T.

"8.40 p.m. G.M.T. I noticed signal strength became reduced up to time of totality; immediately after 9.42 signal strength commenced to increase; at 10 p.m. signals appeared to be normal and great strength was observed on 2BD, 5IT, 6BM (and French posts and telegraphs—from North Wales).

"Reception during the eclipse was on the whole very erratic and rather a large amount of fading was observed on various stations, especially 2BD (Aberdeen)."

EXTRACT No. 4.—From a letter in "Wireless Weekly," December 16, 1925.

To the Editor.

Sir,—I have had such excellent results with the low loss short wave two-valve circuit fully described in "Wireless Weekly" for November 19, 1924, by Percy W. Harris, M.I.R.E., that I feel I must write and tell you how pleased I am with it.

On the evening of November 28, at 11.20 p.m., I received KDKA on 63 metres (4762 Kc) without the slightest trouble, loud and clear as crystal, and not a trace of atmospherics or morse.

This, by the way, was on a beautiful moonlight night. The programme which they gave came through splendidly and without distortion.

Mr. David Rennie, one of the Westinghouse officials, gave a talk on "Learning a Trade," and following this was a talk by an Indian orator. It was now 12.28 a.m.

The next item was the children's corner, and I switched off after a most interesting hour with KDKA.

(Signed) J. J. MCCONOCHIE,
London, N.9.

N.B.—There was more of this letter to follow, but on subjects having no bearing on the objects of this article.

It will be noted that Mr. McConochie received KDKA on the night of Nov. 28.

In this case the moon was full on November 30 at 8.11 a.m. This, I think, is a very good example, and still further increases the proof of my hypothesis.

I have a large number of other examples which I could quote, but I think the foregoing are sufficient for the present purpose.

And I think the few notes will be of help and use to other experimenters who are endeavouring to further the art of radio science.

Since writing these notes I have taken a month's readings on the tuning note from the Daventry station's 10.30 a.m. transmission, and the same rise and fall in strength takes place. This reading was taken with a Weston galvanometer reading 0-30, and shows variations of strength between 7 and 25 during the lunar month, although, by listening to the note upon the loud speaker no appreciable difference in strength can be observed. These experiments were all conducted at my laboratory in North Wales.

The Polarization of Wireless Waves.

By MARCUS G. SCROGGIE, B.Sc.

A GOOD deal of attention has recently been devoted by both professionals and amateurs to short wave aerials which radiate in a rather different manner to the type which is commonly used. The horizontal Hertz is the best known example. In discussing the action of these a clear idea of certain aspects of radiation is necessary, and particularly an understanding of what is meant by polarization of waves. This phenomenon is well known in the study of optics, but the practical radio man sometimes has a little difficulty in grasping exactly what is meant when it is explained in precise scientific terms. It may

help, therefore, to take a homely illustration, in the shape of a child playing with a long rope. If the end of the rope is shaken rapidly up and down, waves will travel outwards along it, and these waves will be in a vertical plane, that is to say, every little particle of the rope will move up and down in a regular manner, though, of course, when one small section is moving up another further down may be moving down. This alternation of movement takes place at intervals of half a wavelength all along the rope. It is important to notice that it is the waves that are moving along, not the rope. This gives an illustration of what happens when oscillatory currents flow in a vertical aerial. These may be likened to the child's hand, and just as the hand cannot move without setting up a disturbance in the rope, so electric charges cannot alternate in the aerial without setting up disturbances in the ether. In each case the waves are said to be vertically polarized because they set up disturbances in a vertical plane only. But suppose the child waggles the rope from side to side, horizontally polarized waves will be set up in it. And if the end of the rope is moved at all possible angles, sometimes vertically, sometimes horizontally, sometimes diagonally, equally distributed in all directions, the waves will be described as unpolarized. The point to observe is that if the far end of the rope is free to move in one direction only, say vertically, it will be unaffected by horizontally polarized waves and affected most of all by vertically polarized waves. It is also clear that the wave may start off vertically polarized and, being affected on the way, end up polarized in another plane.

The whole of this may be applied to radiation from an aerial. If waves are radiated from a vertical aerial, *and if they suffer no alteration on the way*, they cannot be received at all on a horizontal aerial, but the degree of reception is greater the more nearly the receiving aerial approaches the vertical.

In the above explanation only *electric* waves have been referred to. But it is a fundamental principle of electromagnetic radiation that simultaneously a *magnetic* wave is radiated, at right angles to the electric. That is to say, if the electric wave is vertically polarized, the magnetic must be horizontally, and vice versa. So a little ambiguity arises in describing the polarization of an electromagnetic wave. As the term is borrowed from optics, one naturally enquires what is the custom in that science. Unfortunately, the matter was settled before the true nature of light had been made known, and just as was the case in settling which was " positive " and which was " negative " in the case of electricity, the pioneers made a bad shot, for it became the convention to refer to the plane of what is now known as the magnetic wave in specifying polarization. As the electric wave is the more fundamental of the two, and the magnetic wave is the by-product, so to speak, it would have been more logical to decide otherwise. Strictly speaking, therefore, one should describe the waves from a vertical aerial as horizontally polarized, but as this is apt to lead to confusion in the mind of one approaching the question from the radio point of view, and as numerous eminent authorities can be quoted for precedent, the writer proposes to use the unconventional but logical method of referring the plane of polarization to the electric wave, which is in the same plane as the aerial responsible for its existenee.

A vertically polarized radiation can be represented diagramatically by a vertical line, and horizontal by a horizontal line, but waves may be somewhere between these two extremes, *e.g.*, they may be exclusively at an angle of 45 degs. (see Fig. 1*c*), or strongest horizontally but still partly vertical (1*d*). The latter is called elliptical polarization. Or they may be quite irregular (1*e*), the diameter of the figure at any angle indicating the relative strength of radiation at that angle. Now, suppose we have a vertical aerial radiating long waves, say 5,000 metres, they start off as in Fig. 1*a*, but are found at a distance to be as represented at 1*f*. The strongest signals will still be obtained on a vertical receiving aerial. If waves of below about 100 metres are radiated, however, the diagram for waves at a

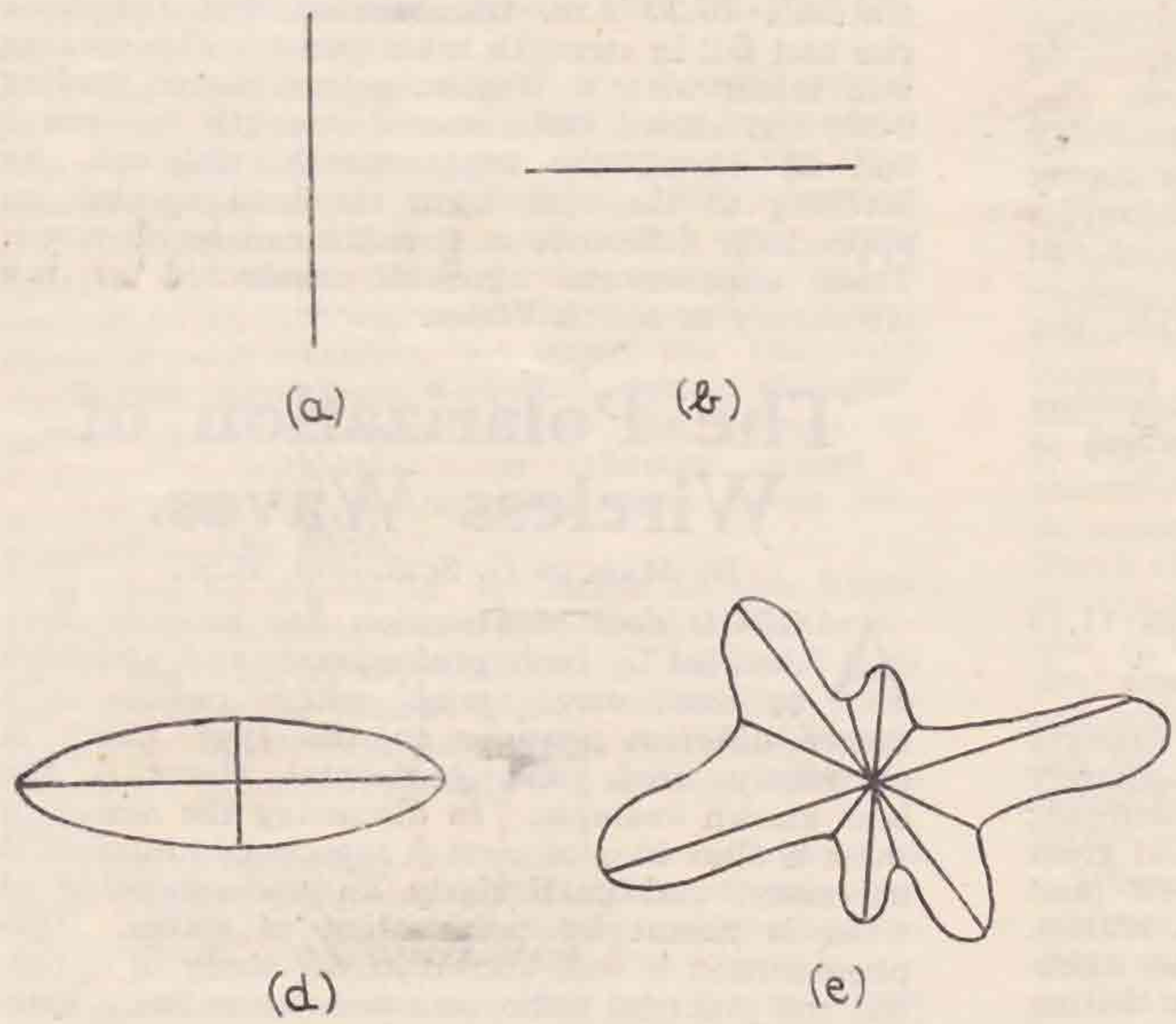
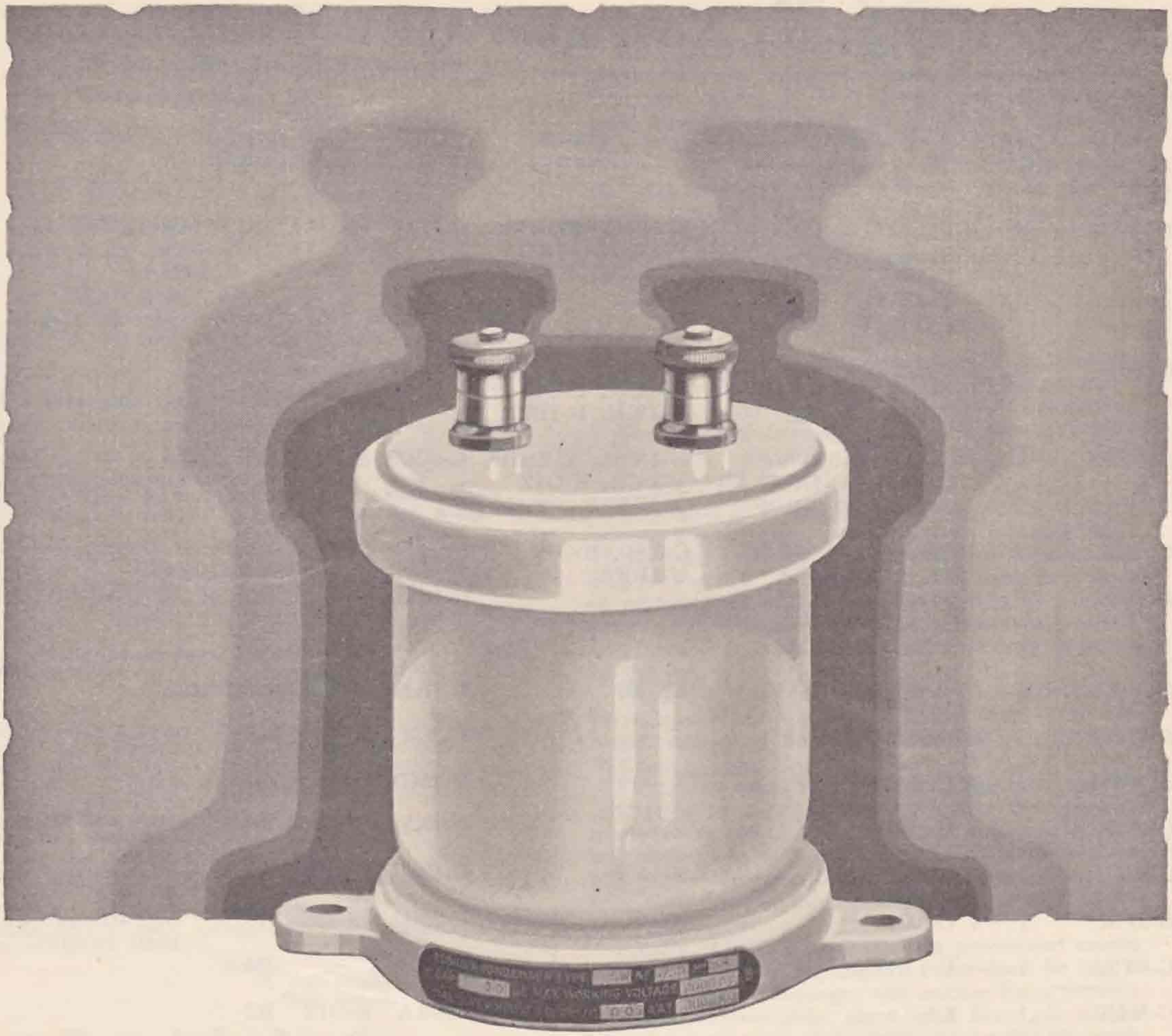


FIG 1.

Contd. on page 26.



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Our range of Condensers for Medium and Low Power Transmitters covers all normal requirements, and we shall be pleased at all times to advise those engaged in research as to the Types best suited to their needs.

The AF range, designed primarily for Anode Feed purposes, and the SWAF range, designed to operate in circuits where the wavelength is below 100 metres, have capacities between 0.00005 MF and 0.05 MF for working voltages up to 6,000 D.C.

As will be seen from the illustration (which shows a Type SWAF 750) these condensers are enclosed in porcelain containers. Adequate insulation is thus provided for the high potentials above earth at which the condensers will generally be required to operate.

These condensers may be employed as high frequency by-pass condensers or as grid condensers for transmitters.

The Type SWAF are also suitable for use as Aerial Series Condensers, Oscillation Circuit Condensers, etc.

The prices for these condensers vary from 35/- to 70/- according to the type required, and we shall also be pleased to quote for any condensers constructed to meet special requirements.

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ADVERTISEMENT OF THE DUBILIER CONDENSER CO. (1925) LTD.
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M.C.235

Report on November QRP Tests.

Station.	No. of Contracts over 1,000 miles	No. of Reports over 1,000 miles	Stations Worked.	Stations Reporting.	Best QRB Worked.	Best QRB Report.	Average QRK.	Remarks.
GI-6YW	8	8	FM-8PMR, EAR-10, SMZV, U-3LW, C2AX, U-2CUQ, U-2AGQ, U-2BW	U-2CVJ, PR-4SA U-2MD, U-1ABA U-3BQP, U-3LW, R1GA	U-3LW	PR-4SA	R-5	U-3LW reports hrd on 2 occasions. KC-2U and U-2MD report R9 sigs.
G-5HS	6	6	U-2ANX, U-1ACI, U-1CH, U-1AKM, U-2GX, U-1UE	U-3BQP, C-3FU U-3LW, E-O12 Y-DCR, U-1BZL	U-2GX	Y-DCR	R4-5	
GI-6MU	6	4	LA-1A, U-3LW, U-8CCR, U-1ACI, U-1AXA, U-3BQP	U-1ABA, U-2BIR, Y-DCR, E-O12	U-8CCR	Y-DCR	R5	
G-5KU	2	3	U-1ASU, U-2TP	C-3FU, E-O12 U-1BKE	U-2TP	C-3FU	R4	
G-2DR	3	0	U-1CVJ, EAR26 LA+1SE		U-1CVJ	—	R3	(U-2CVJ ?)
GI-5WD	2	1	U-1AXA, U-1AYL	KC-2U	U-1AXA	KC-2U	R3	
GW-19B	2	0	U-2CVJ, KC-Z1	—	U-2CVJ	—	R3	
GC-6VO	2	0	U-2MD, P-3FZ	—	U-2MD	—	R4	
GI-5MO	1	1	U-1AYL	RIGA	U-1AYL	RIGA	R6	
G-5JX	1	1	U-1ASU	U-1ABA	U-1ASU	U-1ABA	R3	
G-5PM	1	1	U-2MD	KC-2U	U-2MD	KC-2U	R9	Sig. strength in both cases !
G-6TX	1	—	U-1XW	—	U-1XW	—	R4	
G-5HX	1	1	LA-1A	E-O12	LA-1A	E-O12	R3	

These results and the conclusions arrived at as the result of careful analysis and consideration were discussed by the T. & R. Committee on Wednesday, February 16, when the Chairman allotted stations in the following order of merit :

1. 6YW Mr. Allen. 2. 5HS Mr. Samuel. 3. 6MU Mr. E. Megaw.

Members are asked to note than no correspondence, verbal or otherwise, can be entered into on the subject of the decision.

Lower Power Tests.

45 METRES, NOVEMBER, 1926.

Owing to the fact that certain investigations have had to be made, this report has been delayed, but such delay has been unavoidable. The report contains the actual result of the tests, and the stations enumerated have the best number of contacts and reports over 1,000 miles when working under the conditions of the experiments. The amount of work entailed has been more than trebled owing to the fact that hardly more than three stations submitted their reports and log sheets in the same manner. The log sheets were issued to enable quick checking to be done, but apparently failed in this object. There appears to be dissatisfaction amongst members who did not receive log sheets.

We should like to point out that every member who signified his intention of taking part in the tests received log sheets by post.

It should be obvious that we cannot send things to those who do not intimate their desire to receive them !

About 92 stations sent in their names, but only 29 returned the log sheets. This is unfortunate, as several stations have been reported on by checking stations, and the reports are valueless without confirmation.

The beginning of the tests was marked by abnormally bad conditions, and little real " DX " was done,

Continued on page 16.

R.S.G.B. Meetings.

R.S.G.B. FORMAL MEETINGS.

Wednesday, March 23.
" April 27.
" May 25.
" June 22.

R.S.G.B. (T. & R.) MEETINGS.

Friday, March 18.
" April 22.
" May 20.
" June 17.

All members may attend both sets of meetings. A syllabus is in course of preparation.

QRA Section—*Concluded from page* 16.

2AOT.—W. J. L. Parker-Ayers, 61, Carey Street, Lincoln's Inn, W.C.2.
2BCA.—E. W. B. Briscoe, Home Lea, The Fordrough, Four Oaks, Sutton Coldfield, Birmingham.
2AQ.—H. Davis, 41, Hunter Road, Thornton Heath, Surrey.
2HJ.—K. E. B. Jay, "The Quinta," Elm Close, Amersham, Bucks.
5YX.—N. C. Smith, 117, Chesterton Road, Cambridge.
6HU.—E. P. T. Miles, 7, Eynella Road, E. Dulwich, S.E.22.
6JA.—A. Jameson, 60, Clifton Road, Bangor, C. Down, Ulster.
6VV.—J. A. McKinnon, 22, Medway Street, Chatham.
6XP.—L. C. Snowden, "Hillfield," Weybridge, Surrey. (Inf. R5YX).
GW15C.—R. Bryan Bates, Baltrasna, Ashbourne, Co. Meath, Irish Free State.

CHANGE OF QRA.

G.

2BAX.—Now 3, Ambery Road, Huntingdon.
5RT.—Now "Dorchester," Mile End Road, Colchester.
5YG.—Now 31, Lubnaig Road, Newlands, Glasgow.

CHANGE OF CALL SIGN.

G2AYB.—Now G5YX.
G2BMM.—Now G2HJ.
GI2BTT.—Now GI6JA.
G6IX.—Now G2AZD.
K4MCA.—Now K4DBA. (Inf. L. L. Parry, T. & R.).
ICBG1.—Now ICAG1.

QRA's WANTED.

G5NA, G5WB, G6GB, G6WL, G6ZN, SWS, SS8MAX, GLQ, EIN, VGJL.

G6BT,
82, York Road,
Bury, Suffolk.

Special Notice.

A.R.R.L. and R.S.G.B. SUBSCRIPTIONS.

T. & R. Memberships.

By reciprocative arrangements established with the Radio Society of Great Britain, members of the A.R.R.L. residing in the United States and Possessions and in Canada who desire to belong to the Transmitters and Relay Section of the R.S.G.B. may join via A.R.R.L. Headquarters at Hartford, which will transmit the remittance to London, eliminating the inconvenience of an international remittance, etc. The dues are $3.50 per year and include a subscription to THE T. & R. BULLETIN.

Notice to U.K. Members of A.R.R.L.

By virtue of the same arrangement, members of the Radio Society of Great Britain who desire to belong to the American Radio Relay League may join or renew their membership by addressing the same to the Hon. Secretary, R.S.G.B., 53, Victoria Street, Westminster, London, S.W.1, who will forward the same to Hartford. The dues are 12s. 6d. in the United Kingdom and include a subscription to QST, a splendid amateur magazine.

QSL Notice.

Arrangements have just been completed for forwarding all QSL's for Spanish amateurs, and members of the T. & R. Section may, therefore, now forward any cards for Spanish "Hams" to the QSL Section for free transmission to their destination. For this co-operation on the part of our Spanish colleagues, our thanks are due to Senor Miguel Moya, ER1, of Mejia Lequerica 4, Madrid, who has kindly undertaken the work of forwarding any cards sent over by us.

Book Review.

HISTORY OF RADIO TELEGRAPHY AND TELEPHONY. By G. G. Blake, M.I.E.E., A.Inst.P. (also member R.S.G.B. and T. & R., The Royal Institution, The Röntgen Society and the Society of Radiographers). Published by Radio Press, Ltd. Bush House, Strand, W.C.2.

This book as its title implies, is a record of many achievements, both amateur and professional. In its pages will be found details of experiments and gear which have almost passed from the minds of many of us and which even at this date might provide the nucleus of some experiments which will bring to fruition the work of these early pioneers of the Art.

From the point of view of academic interest the book leaves nothing to be desired, and it is well worth reading if only to refresh our memories as to what has gone before.

The great bugbear of the inventor and experimenter is to repeat the performance of others of many years ago and to think that a new discovery has been made, alas, only to find that the invention has long since been discarded. A handy book of reference such as the History obviates this possibility.

Finally, if the amateur wants a permanent record of what his fellow enthusiasts have done he has it here. There is no longer any excuse for ignorance of past achievements, they have been placed on record for all time along with the invaluable work of Thompson, Marconi, Preece, Fleming, Eccles, Pickard, de Forrest, Lodge and dozens of others too numerous to mention here.

It's a book for your bookshelf, *and to read.*

REPORTS ON RESEARCH.

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* 16*th 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.

As mentioned in last month's report, the QSL Section is now being handled at headquarters and the work is proceeding smoothly.

With the facilities which exist at headquarters we are able to get the cards away to their respective destinations with a minimum of delay, but the organisation required is quite considerable, and we have been all the more able to appreciate the vast amount of work which our old friend 6BT has had to expend on this task. It should also be appreciable to all that we are only carrying on an organisation already built up by Jamblin and built up so efficiently that the work at headquarters is merely routine work which, we repeat, we have well in hand.

Every month there is published in the BULLETIN a list of cards awaiting delivery to our own members ; these cannot be delivered for the reason that we are not in possession of stamped envelopes in which to forward them. It seems extraordinary that members should see their call signs appearing month after month and still make no endeavour to claim the cards. In order to put a stop to this state of affairs, unclaimed cards will only be retained at headquarters for a period of one month from the date of publication in the BULLETIN of their existence, after which they will be destroyed. The list of unclaimed cards below will be forwarded to the rightful owners upon receipt of a stamped addressed envelope ; if, on the other hand, they are still unclaimed one month from the date of this announcement, they will be destroyed without further notice. This rule will apply each month to the list of unclaimed cards published.

With the advent of the new organisation it is suggested that it is a ripe moment for all members to let us have a few stamped and addressed envelopes, which will greatly facilitate the work of the section.

The following have cards waiting to be claimed. Will they kindly forward the necessary envelope to headquarters, when they will be immediately sent on. In the event of their remaining unclaimed one month from this date they will be destroyed.

List of members and others for whom cards are waiting :—

2AQK, 2ASG, 2ATM, 2AVU, 2ANK, 2AWL, 2ANX, 2AGW, 2AL, 2AOX, 2AVL, 2AVR, 2AWD, 2AWH, 2AWK, 2AXL, 5AL, 5ALT, 5AQ, 5AW, 6AX, 6AG, 6AR, 6AN, 6AM, 6AK, 2BS, 2BT, 2BXM, 2BWQ, 2BRV, 2BQ, 2BKC, 2BF, 2BML, 2BL, 2BLG, 2BNR, 2BNU, 2BPC, 2BPG, 2BPU, 2BK, BJM, 2BJT, 2BA, 2BGI, 2BG, 2BWK, 2BDA, 2BD, 2BB, 2BZO, 2BZW, 2BZA, 2BZR, 5BH, 5BI, 5BM, 5BQ, 5BR, 5BW, 6BYQ, 6BU, 6BX, 6BA, 6BB, 2CG, 2CI, 2CL, 2CU, 2CV, 2CK, 5CD, 5CK, 5CO, 5CR, 5CY, 5CZ, 5CQ, 6CG, 6CM, 6CE, 6CD, 6CY, 2DK, 2DM, 2DU, 5DH, 5DU, 5DY, 5DX, 6DF, 6DN, 6DT, 6DV, 2FG, 2FN, 2FQ, 5FF, 5FJ, 5FT, 5FW, 5FY, 6FM, 6FN, 6FP, 6FY, 2GB, 2GM, 2GN, 2GS, 2GZ, 5GL, 6GA, 6GC, 6GK, 6GN, 6GV, 6GB. 5HL, 5HO, 5HQ, 5HT, 5HW, 5HY, 6HW, 6HAD, 5JV, 5IZ, 5JA, 5JB, 6IH, 6IM, 6IN, 6IO, 6IT, 6IY, 6JA, 6JB, 6JG, 6JH, 6JI, 6JO, 6JT, 6JU, 5KC, 5KH, 5KJ, 5KK, 5KM, 5KO, 5KT, 5KY, 6KZ, 6KR, 6KQ, 6KO, 2LJ, 5LY, 5LZ, 5LX, 6LR, 6LV, 6LK, 6LN, 6LO, 6LW, 2MF, 2MG, 2MW, 5MF, 5MI, 5MV, 6MIA, 6MW, 6MH, 6MN, 2NA, 2ND, 2NG, 2NR, 2NX, 5NA, 5NR, 5NQ, 5NP, 5NG, 5NB, 5NF, 6NY, 6NA, 6NI, 6NR, 6NU, 6NJ, 2OH, 2ON, 2OS, 5OB, 5OZ, 5OL, 6OO, 6OR, 6OV, 2PA, 2PY, 2QA, 2QD, 2QX, 5PZ, 5PG, 5PH, 5PK, 5PL, 5QB, 5QM, 5QQ, 6PB, 6PU, 6PX, 6PM, 6QG, 6QM, 6QO, 6QV, 6QW, 2RL, 2RX, 2RY, 5RS, 2RG, 5RR, 6RA, 6RG, 6RW, 2SU, 2SL, 2SG, 5SC, 5SH, 5SA, 5SJ, 5SM, 5SR, 5SU, 5SG, 6SZ, 6SU, 6SH, 6SO, 2TM, 2TR, 2TJ, 5TS, 5TK, 5TM, 6TR, 6TO, 6TAG, 6TJ, 6TU, 6TK, 6TL, 2UH, 2US, 2UX, 2UZ, 2VA, 3VH, 5UA, 5UP, 5UR, 5VA, 5VJ, 5VP, 5VY, 6UD, 6UH, 6UQ, 6VA, 6VG, 6VT, 2WW, 2WQ, 2WA, 2WX, 5WB, 5WT, 5WH, 5WK, 5WL, 5WG, 5WS, 5WU, 5WX, 6WD, 6WM, 6WP, 6WR, 2XG, 2XT, 2XJ, 2YX, 2YB, 2YD, 2YK, 2YO, 2YZ, 5XA, 5XB, 5YI, 5YR, 5YT, 5YU, 5YB, 5YX, 6YU, 6YM, 6YB, 6YL, 6YG, 6YH, 6XH, 6XI, 6XP, 2ZA, 2ZD, 2ZF, 2ZP, 2ZU, 2ZG, 2ZHT, 5ZC, 5ZR, 6ZZ, 6ZW, 6ZC, 6ZB, 6ZQ, 6ZN.

All these cards will be destroyed unless sent for in one month.

A T. & R. member has forwarded cards waiting, to QRA's taken from the RSGB Log Book, but please note that this will not be repeated, and, as stated, all cards not claimed in one month will be destroyed.

It is hoped that members who receive those cards forwarded will remit the cost to the member whose call is on the back of the envelope :—

c/o QSL,
RSGB,
53, Victoria Street,
London.

Statics.

The Area Manager (S.W. District) has been asked by a well-meaning B.C.L. if he will locate some neighbours who OSCULATE on Daventry's wave-length. There is a time and place, etc., etc., and the duties of an area manager would appear to be manifold.

The 6BT Fund is still open

Closing Date 31st March???

London Area Monthly Report.

Area Manager : G. A. EXETER (6YK).

As this is the first report for this new Area, I wish to thank all those members responsible for my election, and to assure them that I shall do all in my power to carry out the duties of managership to the satisfaction of all those who are now involved in this Area.

We have in London some of the best known and most enthusiastic members of the T. & R. Section, and in view of this it should be possible to make this Area the leading one in the country.

Every member can help by sending me reports of their work, as early in the month as possible. Never mind if nothing has been done—we shall at least know you are still T. & R. members, and interested in its work.

To enable me to get these reports in, I propose splitting up the Area into four Divisions—North, South, East and West, and I want three volunteers to take over the first three-named, who will undertake to round up all our members in these divisions, and gather their reports.

Meanwhile, will all stations who are within a 25 mile radius of Charing Cross please let me have a card, so that I can allocate them to their various divisions, and until these are announced, kindly send reports direct to me, or to Mr. Clarricoats (6CL), who has kindly offered to help.

Continued on page 17.

South-Western Notes.

(By 2OP.)

I HAVE great pleasure in announcing that Mr. Geo. S. Whitc (2GW), Fiveways, Chippenham, has consented to act as Assistant Area Manager. The particular attention of Wiltshire members is drawn to this.

This month I had the pleasure of receiving visits from 2AR and 6UG. I shall be delighted to see any T. & R. members who can find time to call on me.

DX conditions during January were found to be moderate, but were distinctly better than December.

I have a few more reports than last month, but am sorry to say that I have heard nothing from the majority.

2AR has been on the air again on 440 metres after a very long time. He has lost none of the purity for which he was noted in the early post-war days.

2BI reports working 4th District U.S.A. at 08.35 hours, also most of the Continent. He is now experimenting with different forms of aerial systems.

2OP has done very little. His whole time has been occupied in trying to raise a little enthusiasm in the district and with organisation and administration.

5OC has worked R1UA "s.s. Masilie" at sea off Swedish coast and two U.S.A. stations 410 Georgia and 2JE New York. He is now co-operating with 6UV trying to find reason for QSB changes from AC to DC and vice versa.

6UG reports that he has been suffering from rectifier trouble, but is now O.K. He has been working on 'phone on 45 metres with G's. He wants QSO's with G's during the week.

BRS27 has a most useful bag of 110 stations from all over the world during January. (See list of calls heard.) He has been specialising on the mid-day reception of A's and Z's and on three Sundays has logged them between 10.00 and 16.00 hours. He has logged A2NO, A4RB, Z4AA, 3AR and Z2XA. The outstanding was on January 16, when between 8.20 and 8.35 a.m. he logged U6AUK, 6ANN, and 6ADP.

BRS28 reports logging of SS2SE on 44 metres at 16.45 hours during bad QRM. He has arranged schedules with I1ER (Milan) for 5 metres.

The following did not report:—2CI, 2CW, 2FB, 2GY, 2HQ, 2LF, 2NL, 2PL, 2ZG, 5CC, 5FS, 5VL, 6JO, 6PT, 6QW, 6RY, 6XZ, 6YN.

Channel Islands Notes.

(By 2ZC.)

AS the Channel Islands have been made into an "area," may I first of all mention that from here in Jersey the nearest point in England is 100 miles away, France being only 16 miles, and as low power is often used here, Hams might bear this in mind when hearing our signals, as none of us are really very near any "G" station.

Our stations here are 2ZC, 5GW, 5WZ, 6HZ, 6OX, and 6PU.

To celebrate our being made into an area, we have organised a new service, which we hope other areas will adopt, and which will come into operation immediately after the distribution of this copy of the T. & R. BULLETIN. This suggestion comes from 5GW, and is on the following lines. Owing to the delay caused by fixing schedules and sending reports by post to the Channel Islands, it has been decided to keep a watch on 40 to 47 metres at the following times:—Every Thursday from 14.15 to 14.45, Sunday 17.00 to 17.30, and every night from 22.00 to 22.30. During these periods there will be at least one Jersey station "standing by." Any station having messages for any Jersey transmitter or B.C.L., or having QSR via Jersey, may call "Jersey de ——," and will then be answered by the watching station on 45 metres, who will QSR his message.

Anyone making use of this service is requested to adhere strictly to the terms of his licence, as regards all matter transmitted. If this service is used by Hams, we shall do our best to carry it on and improve on it. During the last month 5GW and 2ZC visited each other's stations. As regards DX, conditions during January were particularly bad, with few exceptions, blanket periods often settling down early and remaining there late.

Any Ham hearing any F4 instead of F8 will know that it is a French station, as, to put it in one of the F4's own words, "8's are too numerous." Several stations have been heard "Test" or CQing (but not working anyone) using prefix U followed by EA or EA and then the figure 6 or 4, and then two or more letters, both in R.A.C. and D.C. Can anyone throw light on the QRA? W/L is mostly 43 to 44.5 metres.

TRAFFIC NOTES.

6PU reports having worked Canada and U.S.A. on Sunday, January 16, between 21.40 and 23.15. His CW was reported R7 and fone R4 in Mass., and in New York R4 CW was pure D.C. On Monday, 17th, he worked French Morocco, CW on 5 watts R7, and fone was reported R5, with 'phones on the table, of as good quality as FM had ever heard. (That "Hush-hush" bottle must be OK, OM!—2ZC).

5GW closed down for six months on January 16 at noon. No important work was done, conditions veing very unfavourable for QRP work. On the night of January 12, the blanket, which usually falls at 19.00 or 19.30, failed to do so, and CS2UN and FA8VX were worked on 7 watts, both reporting R5.

5WZ is too busy with long wave receiving to do any transmitting, but we want to hear him on the air again. Hw?

2ZC has gone over to QRP for good and all. His D.C. is reported pure everywhere, which is better than generator "spark-really OM!" On QRP, he has at last raised Sweden and Ireland, both hitherto blindspots, had an R7 from Italy on 6 watts (which he he doesn't believe) and was twice QSO with U-WSP, QRA "Atlantic." Around 09.00 he found conditions for D.X. receiving very good during most of January. Other stations worked were FM-AIN (Military station) on 8 watts, and several near by F.B., etc. In conjunction with the new transmitter, 2ZC has erected a 70-ft. indoor aerial for receiving only, which is a great boon, as whenever the key is up, if the "called" station starts up calling someone else, his signals are heard, and much time is saved. Conditions on 22nd were very bad all day, QSS being particularly noticed, but GW3YN (Dublin) was worked, that station using only one watt, and reporting snow and cold conditions.

6HZ reports that owing to a changing of QRA, he has done little during January. His new address is 1, Shirley Villas, La Rocque, Jersey, C.I. Will Hams please note this.

6OX (whom we welcome back to the island) is only getting his gear into order, but hopes to be on the air seriously at an early date. His new address, for the time being, is: Jersey Radio-Electric Service Co., 21, Charing Cross, St. Helier, Jersey, C.I.

Mid-Britain Notes.

(Prepared by G6JV).

IT would greatly help me in preparing these notes if sub-area managers would kindly bear in mind the following points:—

(1) Write on one side of paper only.
(2) Write calls clearly in Block letters.
(3) Avoid the use of un-English abreviations in spelling—e.g., Nite, daylite, thru, wid, es, and so on, which will thus obviate the necessity of re-writing many reports.

NOTE.—In my opinion the use, in reason, of technical abreviations such as QRA, QRW, QRM, etc., is quite permissible.

(4) Take reasonable care in the composition of reports with regard to accepted standards of the King's good English.

I trust that all will sympathise with the desire to maintain as high a standard in these matters as is reasonable and possible, and that no one will allow himself to feel disgruntled because attention has been called thereto. I feel sure that we all take a pride in our BULLETIN (and with good reason), and we wish to see it progress and improve to the best of our abilities as amateur journalists. Now the reports.

Shropshire (via 5SI).

6TD reports that evening schedules with Australia and South Africa lasted until the end of January when signals faded out. He also reports considerable early evening work with U.S.A. having kept a schedule with U1BHM for three weeks. He remarks that conditions are very changeable.

5SI has again a Nil report owing to misfortunes with his batteries.

Cambridgeshire (via G2XV).

2DB has now gone over to full wave rectifiers, using old type power valve for this purpose, and has had two QSO's with U3BWT, who reported his sigs. R5 and R4.

I now welcome 2AYB to the ranks of full-blown hams as he has now been allotted the call 5YX. Let's have a bumper report next month, OM.

5YK has just got a DET1 valve and is pleased with same, but complains that DX is difficult on 45, as DX stations don't seem to listen on any other band except the 32-34.

2XV has had a record month, mostly on 33 metres. He has QSO'd 13 Yanks, and also been QSO New Zealand on four occasions. Unfortunately, this good luck has been temporarily brought to a bitter end with the loss of part of one finger and the crushing of two others in the mechanism of a car. Mrs. 2XV has therefore been called upon to write this report.

Welcome is extended to 5JO, of Cambridge, who has just joined the T. & R. with a view to restarting on the air at an early date on 150-200 metres.

5RT notifies his change of QRA. This is now R. W. Brewer, 21, East Hill, Colchester, Essex.

Ex 2BOR reports that he is now G6WI, and his QRA is T. S. Wilkin, 102, Lisle Road, Colchester. He works on 180.8 metres, crystal control.

Warwick (via 2BPI).

5PX (Sutton Coldfield) has been QSO U.S.A. with his "no aerial" transmitter, working on 35 metres. His signals being reported R7. He is using his second call—5CG—for his no aerial transmitter. We have to congratulate him upon being made an F.R.S.A. on account of his radio research work.

BRS29 (Moseley) reports good conditions generally and has heard a station working fone on 25 metres, which he believes is connected with the Canada-Bridgewater tests.

Report on QRP Tests—*Concluded from page* 12.

although one or two stations succeeded in pushing through. It was noticeable that daylight work was fair and the " blanket " only seemed to drop over things after the night " fade-out " took place.

Conditions improved gradually toward the end of the week, and the closing nights of the tests were marked by one of the best " DX " nights we have had this winter. Although it was a " QSA " night, some of the reported signal strengths are extraordinary, but perhaps these depended upon the mood of the operator at the other end. The contacts reported herewith have not been confirmed at the time of writing.

We hope to get details of the best stations, and include them in a final report.

G. A. EXETER,
G-6YK.

BRS2 is busy with a superheterodyne and forwards the following news :—

Y1FB sends best wishes to all G stations.

A7ES works between 18.00 and 19.00 G.M.T. on Sundays, and would appreciate reports from G's.

BRS3 reports much improved conditions and remarks upon the consistency of the O stations.

2BCA (ex-BRS31), at Sutton Coldfield, is busy upon mains smoothing devices.

2AFS (ex-6JL, Coventry) has been testing indoor aerials for reception, and is busy with other constructional work.

6YD has been so much occupied in " tracing troubles " for other people that he has had little time this month for experiments.

2BLM reports good conditions.

5SK has " got across " to U.S.A. and is pleased.

6CI (Coventry) has joined the T. & R. and will, of course, derive much benefit therefrom!

2BMW reports nothing but 'flu, which appears to be more seasonable than DX.

2BVL is experimenting with crystal control preparatory to taking to the air with full permit. After the usual brass-pounding formalities at the P.O. 2BPI has been working at the problem of eliminating key clicks.

Worcestershire (via 6AT).

6AT reports an attack of 'flu, also some short-range fone work on 8 metres. He has now completed a M.O. Duvi set for 150 metres, and is working on this with a view to using the same circuit on 45 metres.

6MW has not reported.

Staffordshire (via 5UW).

6UZ reports QRW and has been unable to work much.. He has, however, done well with fone, being R7 in Spain and Italy. He has received a report from Australia giving his fone as R3 there. He has been QSO Abyssinia. 6UZ reports poor reception conditions for Australia, New Zealand and Brazil.

2WN reports many fine European QSO's with extreme QRP (about half a watt).

6OH sends a nil report owing to QRW. He has, however, worked three U.S.A. stations in one night.

5NU has been ill, but is better now. He is running a fone schedule with 6AT on 150 metres.

2TN has spent the month in Switzerland, but expects to be working again on 45 metres shortly. Reports will be welcomed.

2KK sent in a report for last month which was, unfortunately, too late for last issue. He reports too QRW at present to put in much time with the transmitter.

2VG, 6BH and 5CW have not reported.

Wolverhampton.

2OQ reports having " pulled 5UW's leg," as the YL mentioned in last issue was U1AYL. The envy of last month has given place to disgust! 2OQ reports a further " bag " of six U's this month.

2NV has not reported, but we understand that while constructing a 45-metre outfit, he is still working 150-metre fone.

5LK has also not reported, doubtless owing to business QRW.

5PR is QRT until change of QRA is effected, but often takes the key at 6HT.

5UW has been QRT most of the month owing to illness, but during the last two nights of month worked four U's. He has received two interesting reports, one from KMI, Nigeria, who reports reception with a portable receiver while out in the African Bush. The other comes from Georgetown, British Guiana, which is of interest because BZ seems to have been a " closed book " for so long.

6HT has not reported, but as he is situated only a few yards from 5UW, his activities are well and truly known to the latter. 6HT only works during daytime, but reaches the furthest corners of Europe. He is awaiting confirmation of a QSO which he believes was an Australian.

6BP is still active with fone on 150 metres, as also is 2PR.

Mr. Trasler, who represents Northampton, says that as he is away from home he has nothing to report himself, and that he has not received any other reports this month.

H. L. Palmer has kindly offered to represent Hereford and Leicester. He has combed out a recent call list and found about seven amateurs in these counties. Will members of the T. & R. residing in either Hereford or Leicester please report to him by the 5th of the month. His QRA is Meadowlea, Gobowen, Salop.

Norfolk.

6JV has had little time for radio this month. He has, however, managed to erect a full-wave Hertz type aerial for 32-metre work. This is voltage fed with two wire " ladders," R.F. feed at the near end. This arrangement promises well, and the spell of bad luck which this station has suffered upon this band seems to have been broken by the new arrangements. The first call with the new system—using an input of 30 watts—resulted in an interesting test with EAR6, who, curiously, was also using a full-wave antenna. The second call resulted in a reliable QSO with U1AUR, with whom a schedule was kept subsequently, signals being reported R5.

QRA Section.

(By G6BT.)

I AM indebted to those members who have so promptly replied to my request for information about certain call signs, published in last month's BULLETIN. I am at present busy compiling a complete list of members of the T. & R., which will soon be published and issued to all members. It is important therefore, that all the information in my possession should be complete and up to date.

I hear the Irish Radio Transmitters' Society is increasing its membership satisfactorily.

Since the departure of W. R. Burne (GW15B) from Ireland, they have moved their headquarters, the address of which is now :—

I.R.T.S.,
5, Leinster Street,
Dublin,
Irish Free State.

SMXA is not the call sign of a Swedish amateur, but is, I hear, used as a " general call " to all Swedish amateurs.

Several members have asked for the QRA of PA3A, and I am sorry to dispel any hopes of a record DX, but I am told on good authority that both the call signs PA3A and PA3B are unauthorised and emanate from Paris.

The journal " Radio Amateurs " has now started a section entirely devoted to short waves, under the direction of Mr. Henry Piraux, to whom correspondence should be addressed at :—

6 Rue Boinod,
Paris 18e,
France.

G6CY (T. & R.), A. Stewart Clacy, of 10, Melrose Avenue, Reading, is conducting QRP tests on 8.23 and 45 metres, and welcomes reports from all distances of his sigs. on any wavelength.

Here was a printer's error in the Spanish forwarding agent's address, which should read :—

SPAIN.—E. A. R. Miguel Moya, Mejia Lequerica 4, Madrid.

QRA's FOUND.

ZVLB.—Radio Awarua, Southland, South Island, N.Z. (Inf. G5XY).

OEHK.—Radio Austria Co., Ltd., Penngasse 14, Vienna 1. (Inf. G6CY and G2RG).

YACS.—L. Jones, " A " Corps Signals; Karachi, India. (Inf. G5WQ and G2RG).

CH2BL.—Box 1653, Valparaiso, Chili. (Inf. L. L. Parry, (T. & R.).

Y2HP.—Cook, Delhi, India. (Inf. G. G. E. Bennett, BRS63).

P1AF.—Antonio Faria, Praça Marquez Pombal 3, Lisbon, Portugal. (Inf. G6CL).

I1PN.—Palma, Scuola Radio, Gorizia. (Inf. G6CL).

I1DR.—Dionisi, via Taranto 26, Rome. (Inf. 2AWF).

SKTR.—Paul Kaatari, Najurink 2, Wipuri, Finland (Suomi); (Inf. B. Dunn, T. & R.).

SIC.—" S.S. Masilia," of Gothenburg, Sweden. (Inf. Curt Lamm, Berlin, T. & R.).

SKU.—" S.S. Hanoe," belonging to Carlbim & Co.; Hull. (Inf. G2RG).

A4BD.—B. D. Grimes, Tarragindi Road, Brisbane, Australia. (Inf. F. G. Pratt, T. & R.).

QRA's.

G.

2ADA.—A. F. C. Adye, 3, Vale Avenue, Tunbridge Wells, Kent.

2AKF.—F. X. J. Abraham, Quarry Hill Avenue, Hartshill, Stoke-on-Trent.

Concluded on page 13.

London Area Report—*Concluded from page* 14.

The reports for this month are few, no doubt owing to the fact that members were not aware that the Area had been formed, but I hope that next month will show a vast improvement.

REPORTS.

2NH reports good conditions existing at his stn, and he has carried out schedules with SMZV and SMXU on 23 metres every Sunday with complete success. (F.B., OM, keep it up.)

YDCR has at last been worked after many reports, and a schedule has been arranged. He also reports that he finds antenna systems excited at even harmonics very satisfactory, and would be pleased to hear from any others interested in this point. (What about the Research Branch and his problem, OM?)

BRS65 sends in a comprehensive list of calls heard (see "Calls Heard" columns), and promises more next month.

The following reports were sent via 6CL: 6KS with 3 watts input has done fairly good work during week-ends working most of Near Europe. Best DX was with WSP when 200 miles off Lisbon. 5XO has been down with 'flu most of the month, but his fone is still to be heard most week-ends. 6CL reports a fairly good month. Poland was QSO for the first time, followed by Russia (R1UA), and finally the "pond" was bridged after much effort. U1BKE being QSO'd at 23.30 on January 18. Power was 4.5 watts. Some interesting low-power tests have been made, R5 being recd from Ghent with 0.17 watts.

5TD has been busy rebuilding, and has only worked locals. He says reception has been good, sigs being FB from A's and Z's at 14.00 on February 7.

Southern Notes.

(Prepared by G2LZ.)

5MA reports a few Transatlantic QSO's on 45 metres, but conditions have not been too good. He is now using a large rectifying valve in conjunction with his sync. rectifier, and at last is able to use a filter with success. A little work has been done on 23 metres, using a half-wave Hertz aerial. With this arrangement F8DI and FM8MB have been worked. Several U.S.A. stations have been heard on 20 metres, the best being U8ALY, but 5MA has been unable to raise any U's on this band in spite of many calls. 5MA is now on 23 metres every Saturday and Sunday afternoons, and will be glad of any reports.

2NH has now joined the "outside shack brigade," and installed a B.T.H. generator. Thanks to the T. & R. Section, a transoceanic permit was obtained in December. DX conditions have been very patchy, but several U's and C's have been worked on 44 metres. Little has been found doing on the 23-metre band, although a report has been received from IIER who reports sigs from 2NH R8. 2NH is anxious to fix up schedules on the 23-metre band and would be pleased to hear from anyone interested.

6NK has been sucessful in working U3XK on 11 watts input. Sigs were reported very steady R3. This is his first two-way working with U.S.A.

2ZC has gone over from generator to accumulator H.T. supply, and while having done a little actual transmission, is quite satisfied with low power work on his new transmitter. Conditions have been poor, and he has not worked outside Europe, though Algeria, Portugal, Norway and Czecho-Slovakia are all new QSO's to him. He is investigating "blind spots," and finds that his station seems to be "blindspotted" from Sweden and Ireland, but good to the South. Both 5GW and 6HZ, who seem to be screened to the North, find these countries good but conditions to the South bad. Will any Irish or Swedish station hearing 2ZC please QSO or QSL him?

5GW reports conditions have been bad for DX work. Hungarian WAA was worked on 7 watts, this being the first two-way working between WAA and any British station. Conditions have been good for working northern and north-eastern stations but bad for south and south-eastern.

6WI is now operating a crystal-controlled transmitter on 180 metres and is putting out some very good telephony. The following stations have been heard in Wales on telephony on 150 to 200 metres after dark:—2XV, 5OK, 6QO, 2XO, 5RD, 6KJ, 6LL, 2KG and 5CT. Telephony from 5QV has been received at Albany, U.S.A., on 45 metres.

2NT sends in his first report, having been in operation for about 12 months. With about 4 watts from dry batteries, over 200 QSO's have been obtained with about 20 countries. With 8 watts from a hand generator, R1UA, at Nijni-Novgorod, has been worked. Two main lines of experiment are being followed. Experiments with various forms of radiating systems and observations on weather conditions. Much interesting data is being compiled.

5HS reports some interesting work on the 23-metre band. Stations in all U.S.A. districts have been logged on 20 metres, also Uruguay and Chile. Sigs from 5HS have been received in Southern Rhodesia and by U7EK and C3NI. Three 9th district and many Eastern U.S.A. stations have been worked on 23 metres. A schedule was worked with U7EK for half an hour. This appears to be the first two-way working with the 7th U.S.A. district.

2MJ has started working on 45 metres, having been QSO with 5MS on about 3 watts. He is installing a 50-watt generator shortly and hopes to do some real DX work.

6PG has his new transmitter working on 45 metres and has been QSO all over Europe. He is now endeavouring to get across to U.S.A.

2MI is still off the air, rebuilding his transmitter. He is installing a 80-watt generator next month, so hopes to get down to some good DX work. Will the following and other Kent stations please report to 2MI before the 10th of each month:—2UD, 2QC, 5JG, 5DT, 2QN, etc.?

BRS. 25, 42 and 63 have sent in very interesting reception reports. All have received practically every country, so there is hardly sufficient space to detail each one out. BRS. 42 has received most of his DX on a vertical indoor aerial. He would like to get the QRA of J3XP and TFV. B.R.S. 15 has logged HU6BUC R6.

2LZ is back on the air again after about two months' inactivity through business QRM. Daily schedules are being worked with Z and A stations on 32 metres. A new station has recently been hooked in the shape of ARDI, who said he was the Norwegian whaler "Larsen" lying in the Ross Sea, Antarctic. Wavelength about 33 metres. Signals come through well between 7 and 10 a.m. G.M.T. A schedule is being worked at 7.30 a.m.

Irish Notes.

(By 5NJ.)

FROM reports received this month it is evident that G1 stations continue to do consistent low power work, and although nothing very startling is reported, yet the month has been a good one generally for DX work.

I have only had two reports from the Free State. GW11B has been experimenting on crystal control, and as his input is derived from an anode converter giving 30 milliamperes at most, he has had great trouble in feeding two valves and at the same time getting sufficient power to the amplifier to merit the expense of using a crystal. However, he tells me that he has found a solution to the trouble, and should be OK very shortly. He has worked many Europeans on CC, and also U1ACI, who reported signals R5. Other U's worked on about 7 watts include 2FO, 8ZAE, 2CUQ, 1ABZ and 2NQ—very nice work, too!

19B has been too busy with rugger to do much regular work of late, but has got a new mast up and expects to be going on 23 metres in a week or so. Reports would be very welcome.

In the North, 6MU is still running schedules with YDCR, U8ADE, and U1AQT. The tests with DCR are going exceptionally well, fone being used several times, and CW working usually taking place at 20 words a minute sending words once. Crystal control is in use now up to 50 watts input, and many excellent reports have been received.

Our old friend 2IT has been having a run of very bad luck of late, including an attack of "flu." Situated, as he is, away from any power mains, he has had much trouble in obtaining the necessary power for crystal control, particularly in getting the different voltages required. Resistances in the H.T. have been found almost useless for cutting down voltage, on account of the violent voltage fluctuations when keying. So it has been decided to leave crystal control aside on high power meantime, until A.C. is installed in Armagh. This will probably happen early next winter. Notwithstanding all the trouble, however, excellent DX has been done. A2NO reports signals R8, also R8 in Siberia, R5 in the Philippines, and dozens of U.S.A. stations, including 9th district, have been worked, also Canada. All are delighted with the crystal note.

5MO is still using only 5 watts maximum, but results are excellent. A new aerial is being tried out at present, and several new countries have been worked, including Poland and French Algiers. I hear a rumour that a crystal will shortly be seen at 5MO—hw?

5WD has also been experimenting on various types of aerial systems, on very low powers. Using only 60 volts at 5 milliamperes, he has been QSO many G stations, the average strength being R4. Other countries worked include Germany (R4/6), Spain (R5), T.P. (R3) and France (R5), while with one watt input signals have been reported R7 in France and R6 in Belgium. French Algiers was worked during the month, thus adding another continent (F.B., OM). A.C. mains are now available, and it is hoped to put the station on these shortly.

6YM is being rebuilt and has nothing startling to report.

2BB continues to QSO all Europe, using a portable transmitter and low power.

6QD has made a complete change in his aerial system, and finds results very much improved. The first QSO with U.S.A. took place during the month, and the station will be on regularly now on Sundays. Reports on speech would be very welcome, as choke control is being used, with DET1's as oscillator and modulator. 6QD hopes to go down to 23 metres in a short time, and would be glad to get in touch with others on this wavelength.

5ZY is putting out good speech on 5 watts, and reports are to hand from many parts of England. He has also been QSO various G stations on C.W. The station will be on crystal control as soon as a crystal can be got; great trouble has been experienced in this connection.

I regret that I overlooked mentioning the reception work done by 2AFD in last month's notes. This station, like 2BB, has cards from nearly every corner of the globe, and is always pleased to report on tests. It is hoped to obtain a radiating licence very shortly. QRA: R. S. Holden, 115, Glenwood Street, Belfast.

6JA, a new station, has been QSO 38 stations in two weeks, using 5 watts from a hand generator. Reports are welcomed, and the QRA is A. Jamison, 60, Clifton Road, Bangor, Co. Down.

5NJ has had another month's consistent work. On 75 watts, QSO has been had, during week-ends, with A5WH, A5JA, A7CW (many times), OA6N, Z2AC, Z4AO, Z4AC, A2YJ, etc. Almost perfect speech was put over to A7CW, and excellent speech has been received from the latter also. A morning and evening schedule is at present being run with Tasmania and South Africa.

Scottish Area Notes.

GENTLEMEN, the duty devolves upon me of acquainting you with a few unpleasant facts regarding the Scottish Area. While I do not believe in stressing statistics unduly, they serve at times the very useful purpose of jolting one out of an attitude of complacency. Without crying "Wolf! Wolf!" quite unjustifiably, I think a little stocktaking at this date might be indulged in, with a view to facing facts as they are, and not as they seem.

As far as can be ascertained, there are at present in the Area 27 radiating licences, 12 artificial aerial licences, and four B.R. stations. Of the radiating transmitters, only 40.8 per cent. are active and 59.2 per cent. QRT. Of the A.A. licences, 41.7 per cent. are active, 25 per cent. doubtful, and 33.3 per cent. inactive. The B.R.'s are all active.

Now, personally, OMs, I find these figures a little disquieting, for they represent retrogression as opposed to progression, which was clearly taking place nine months ago. Of course, I know that several of our most active fellows have left us for other spheres, but as this can be offset by the fact that one or two new stations have started up, it does not to any great extent affect the fact that there is a larger proportion of stations inoperative to-day than at a given period nine months ago. Now, why? Is it that interest in this wonderful science is waning? Surely not! Scotsmen are credited with being a race of engineers, and if this is so, surely one of the most fascinating branches of modern engineering should exert a strong pull on their interest. Of course, I know some of you are very QRW, but granting the strain and stress of modern business, it rarely carries one into the "wee sma' hours," or, at least, if you have your own interests at heart, it should not, for, as the old adage has it, "all work and no play, etc., etc." Here, therefore, lies the crux of the matter: you get home at night tired and brain-fagged, and generally lacking in enthusiasm for anything but inertia. Now, I submit that this attitude is wrong, nothing will stimulate a tired brain or body like a complete change, whether it be of surroundings, occupation, or thought, and I hold that the study of wireless transmission furnishes just this stimulus. Try it! Some plead YL's. but this excuse is so thin that you cannot see it edgewise, and I think need not be considered.

We want enthusiasm, OMs, and then some more, and if your transmitting neighbour is getting sluggish and lackadaisical, prod him where it will do him most good, for we desire the Scottish Area to be ALIVE. (I think I hear someone say, "What about 5YG?" Well, 5YG has been QRT owing to dismantling for a pending change of QRA, and I hope will be in operation at the end of March.)

Now to business. January appears to have been a month peculiarly devoid of items of general interest, as far as the area is concerned, and although much excellent DX has been accomplished by several stations, nothing of exceptional interest seems to have emerged. Conditions on the whole have been excellent, and not a few "U" QSO's have taken place as early as 22.00 G.M.T. On 23 metres, the approach of the QRP tests has, apparently, been responsible for the migration of many 45-metre stations to that wave-length, as the 23 band is becoming much more thickly populated. Now, then, you fellows who complain of "nothing doing" on 23 metres, what about it?

The great storm of January 28 has caused considerable havoc at many amateur stations, and few there are whose aerial rig has not suffered some damage. The writer's 50ft. "stick" only just managed to weather it, but when the gale reached 102 m.p.h. t was just touch and go.

Might I again remind District Managers that their reports are requested by the 8th of the month.

The following inter-station visits took place in January: 2WL to 6JS, 2SR to 5NW, 6KO to 5NW, 5WT to 6KO, BRS6 to 5NW, 6KO to 5WT, 5YG to 6NX.

5YG.

No. 1 District (by 2WL).

2FV reports one or two tests with 6MS and 6NX on 45 metres.

2WL succeeded in spanning the "herring pond" three times during the month, once on 6 watts, and on the other two occasions with rather less than 4 watts. H.T. accumulators are in use, and the familiar steady D.C. QSB is the order of the day. He is awaiting delivery of a 90-metre crystal.

5ST reports that he is still domiciled in London, and is wearying to get his "fist" on the key

5YG.—QRT at present owing to pending change of QRA.

6JS has been doing some very useful DX this month, using H.T. accumulators and two DE5's in parallel, and good reports have been received from many quarters, including Canada and French Africa.

6MS had the misfortune to have his mast blown down during the storm, but has been doing some very good work with an aerial 6ft. high at the high potential end. Power is derived from charging H.T. accumulators from 25-cycle A.C. mains, and the QSB is always reported "DC with slight hum." A little duplex fone work has been carried out with 2WL.

6NX.—This station has now firmly established contact with U.S.A., and appears to get across almost any night. In January the following U's were worked: 1AAP, 1ACI, 1AVL, 1BKE, 1JE, 1QX, 1RD, 2CAQ, 3FJ, 3JO, 3SV and 8AJ. Contact has frequently been made with WAA, who gives his QRA as Sabian Estvan, Abony, Hungaria. Reports have been received from Russia and Lithuania, which seem to indicate that the station is going out well in all directions. Efficiency is likely to be impaired for a few weeks owing to storm damage to the aerial, which cannot be put right until some stonework has been rebuilt.

2BQN has, meantime, given up the idea of a radiating licence, and is devoting his time to the re-designing of his transmitter and receiving gear.

The following stations did not report: 2MG, 2TT, 5YQ and 6OW.

No. 2 District (By 6IZ).

2VX, having been laid aside with "flu," has not been able to do a great deal. A little spasmodic working has been done, and useful reports have been received, both of CW and fone.

5JK has been home again for a little, but did not find time to get on the air. He hopes to get back for a longer spell shortly.

6IZ.—A master-oscillator circuit has been experimented with, and a considerable improvement in steadiness of QSB is reported. The usual Continentals have been worked, but the best report received is from U8DCW (INF. 5YG). In addition to the Continental stations, QSO were carried out with Swedish motorships SJB and SIC. A little work has been done on 23 metres, and a schedule is kept on this wave-length with G6PG.

6VO is still reported on the sick list, and his usual FB DX reports are, consequently, non-existent. He has succeeded in getting his crystal to "perk" on 45 metres, and a few European stations have been worked. A little work is also being done on 23 metres.

BRS69.—A new T. & R. member has co-operated with 6IZ in a series of fone tests, and has also been doing some fine reception work. He is a potential transmitter of the future, but lacks means of obtaining "juice" at present.

The following stations did not report: 6GQ, 2JZ.

No. 3 District (by BRS6).

2SR has been QRT while Mr. Sharp was QSO the Continent in person.

5JD has been largely occupied with the perfecting of a "Kone" type loud speaker, after considerable discussion on the matter with 2BFQ and BRS62, and results have been very gratifying.

5NW is rebuilding for 1 Kw.C.C., and hopes to be on the air very shortly.

5WT has been doing very little except to add Austria and Faroe Islands to his list of QSO's. He has been making repeated but unsuccessful attempts to land a "U."

6KO, the "live wire" of the district, this month has been QSO YDCR, U's 1AXA, 2CUQ, 3JO, 3PF, 8ZAE (R6) and C8AC. He is now QSO all continents except "A," and has been heard there on six occasions. The gale laid low both his "sticks," but some good work has been done with a temporary aerial 10ft. high, and by making use of a fence as counterpoise, all the Continent has been worked with this arrangement.

BRS6.—Visited several stations in his district. On January 15 he went to Forfar and spent the evening with 5WT. QSO was established with GC, G, D and Faroes. The station is very compact and easy to work. The other extreme is 6KO's station, which was visited on the Sunday. Although not a "good-looker," it is efficiency in every particle. BRS6 has no love for the "mangle," however, and in his unpractised hands this weapon made the milliameter do the "Charleston," whereas 6KO has no difficulty in keeping it steady. The station is in an outdoor "shack," the walls of which are almost completely covered by QSL cards. During BRS6's visit, most of the Continent and U's 2 and 3 were worked. "J.B." has every reason to be proud of his aggravated Hertz and ragtime receiver, as he himself calls it. On the return journey, 5NW (Dundee) was visited, and Mr. Allan was found to be in the throes of reconstruction for C.C. BRS6 wishes to thank most heartily 5WT, 6KO and 5NW, whose hospitality made the week-end so enjoyable.

The following stations did not report: 2BB, and 6GY.

No. 4 District (by 2TF).

2TF has been much too busy in other directions to do any W/T work during the month, but hopes for a different state of affairs next month.

2BFQ.—QRW at Varsity.

BRS62.—In spite of bad "mush," re-radiated from a neighbouring BCL aerial, has been putting in a power of reception work, and forwards a long list of calls heard. He has also been co-operating with 6UZ in some recent tests.

The following stations did not report: 5BA, 5HC, 5IP and 2ACR.

Northern Notes.

Area Manager: S. R. WRIGHT (2DR).

I HAVE received more reports this month than during any since these Notes were commenced, and it is most encouraging to know that so many hams are taking an active part in making the BULLETIN of use to fellow hams. Reports can help others no end, as if difficulties are met with, a solution can often be found among the Traffic Notes. Some other ham, having come up against the same thing, found a solution, and, most important of all, included it in his report.

Conditions this month have been considerably better for American working, and there have been very many nights on which NU's were coming through at very good strength. The best night, I think, was Tuesday, February 8, when reception was free from X's and very little fading. Anyone tuning in 2XAF on that night should have had no difficulty in putting it on the speaker, employing a couple of valves.

There are two queries this month: Where have the BZ's gone to? and where are the results of the QRP tests?

The Australians and New Zealanders have excelled themselves this month, and have been heard in shoals.

The reports:—

Yorkshire.

Reports to 2DR.

5KZ has worked 52 stations, 31 of them being new ones, and all this on an indoor, current-fed Hertz. He says it is the best aerial he ever tried. The best QSO was with H1CE who gave him R6; power, 15-20 watts. The Hertz is now in process of being moved out of doors, and even better results are expected.

2IH, as forecast last month, has got going with an indoor Hertz, current-fed, and with an input of 15-20 watts has been QSO with Russia, Sweden, France, Germany and Italy. He also worked the s.s. Tjalour, then off the Faroe Islands. Keep it up, OM.

2YU has commenced operations on 45 metres, and using 8 watts from dry cells, has been QSO with LIT1B and BEV33, and other Continentals. His total for two weeks was 27, and working was only irregular.

5SZ has got a new tuned grid, tuned plate transmitter in operation on C.W. and fone, using grid modulation and a 150-watter. He has not been on the air very consistently, but has worked five NU's in the 1st, 2nd, 3rd and 4th districts, and TPAX in Warsaw. A little mild rag-chewing has been carried out with 2DR on 175 metres. 5SZ has caused several large poplar trees to be cut down to 12ft. from 40ft., but the improvement has not been as marked as one would imagine. The trees were very close to the aerial system.

BRS26 requires an apology from me, as I forgot to include his report last month. Sorry, OM. His reception log includes Jamaica, 2PZ; Macao, P9AB; PI, WUAJ; and O, A4Z, as well as a 7th district NU. The total month's bag (December) was over 300 stations, and conditions not too good. During January, 250 stations were logged, including 130 NU's. FB, OM.

6OO sent his last month's report too late, so I have two to go in this month. Using a Hertz and 2-8 watts only, he has been busy among the Continentals, but nearly takes the Editorial bun this month by being QSO with two NU's, 2nd and 3rd districts, on 9 watts, from an Evershed generator. One QSO lasted forty minutes, and both reports were R5. His second report still further encroaches on the aforesaid editorial bun, for on 8 watts, he has worked 10 more NU's of the 1st, 2nd, 3rd, 4th and 8th districts. Florida on 8 watts is the goods, OM. Keep it up.

6YR has again entered the ring after an absence of two months. Using 3 watts from the same old Columbia dry cells (which have been in use over 18 months now), he has been QSO with SM, K, and F, but has been busy rebuilding, and will be on the air shortly with an Evershed generator (hand driven). Hope to hear more from you next month, OM.

5CX is a newcomer to these columns, and at present has been working with an input of 2 watts on 90 metres, for about two weeks, but finds the band somewhat dead. He has worked Belgian K5, however, and wishes for reports and QSO's on this wavelength. Will any hams working on 90 metres get into touch with 5CX?

6BR has emulated 2DR by having an argument with his oil stove!! He says it had a sudden fit of QRO! In spite of this, and an onslaught of 'flu, five more NU's have been worked, including NU8BAG, who was worked on 23 metres in daylight. An aperiodic aerial is in use here, but the fundamental of it is not stated.

6HF is off the air until March, but has done some work on master-oscillator circuits, using a current-fed Hertz aerial. Using an input of 5 watts, he has been busy among the Continentals, and has had R5 reports. He finds that a variable grid leak is a distinct advantage on low power work. Using an L.S.5 valve, a .0005 mfds. condenser, and the leak fixed at 100,000 ohms. are very satisfactory.

2DR is so busy looking after you fellows that he gets precious little time for working! The old 50-watter has given up the ghost, but a hoary 150-watter has taken its place. A new transmitter has been built and will be on the air with a current-fed Hertz by the time these notes are in print. The photo of 2DR published in the BULLETIN for January was a gross libel, having been taken in 1924 when 90 metres was the order of the day.

Northumberland, Durham, Cumberland and Westmorland.

Reports to 2AIZ.

6QT reports that he cannot raise anyone on 45 metres with 4 watts input, except N2PZ. There is something wrong here, OM. Can I help you?

6YV has been very busy on 45 with an input of 50 watts, and a three-wire untuned aerial. Twenty-five NU's have been worked, the second largest number reported to me this month. Best report was from NU9JM of R5, while OA52 says that 6YV is the first G heard for two months. FB, OM.

5IO is on 8 metres at present and has worked 2CC on this wave.

2AIZ is having trouble with the electric trains which invade his domain, and is also rebuilding.

There is a very large number of hams in this area doing good work, but sending in no reports. What about it, OM's? Surely you can find time to drop 2AIZ a P.C. once a month. Please back him up and enable him to forward bags of reports.

Cheshire and North Wales.

Reports to 6TW.

North Wales seems to be without a home at present, so if any hams in this area will send reports to 6TW, they will be duly published, until they have an area manager of their own.

2SO is using 9 watts and is QSO all Europe on C.W. and 'phone. He, like me, is wondering where the results of the QRP tests have got to. He would like to fix up schedules with hams on 45 for March between 19.00 and 22.30 G.M.T. Any offers?

6TW has had trouble with his 45 metre set, but is going strong on 23, except that G's seem to be scarce on this wave. A little rag-chewing is going on with 2SO on 150 metres on Sunday mornings from this station.

There is someone in the Cardiff area using 6TW's call-sign, and if he is a real ham, the practice will cease forthwith.

5PO promised, as a New Year resolution, to report each month, but as not come up to scratch. What about it, OM? Don't stop at your own, but rouse a few Birkenhead hams up as well.

6YQ (N. Wales) sends me by far the best report of the month and deserves the highest praise for his excellent QRP work. He says 5MQ has helped him by giving valuable aerial hints. Using 5 watts only from 210-volt dry batteries, he has worked no less than 32 Americans, 1st, 2nd, 3rd, 4th and 8th districts, and also three Canadians, 1st, 2nd and 3rd districts. This on 45 metres. On 23 metres, he has worked five Americans, 1st, 2nd and 8th. Average reports R3 to 6. Congratulations, OM. He wants reports from hams not further than 250 miles from Prestatyn for data on his aerial system.

Lancashire.

Reports to 5XY.

My note last month has had the desired effect, and reports are rolling up. Keep it up, OM's.

5MS is off the air until Easter.

5RH has not been on much, but has worked U.S.A. 1st, 2nd and 3rd districts.

5BH, it is stated, is going to make a come-back on to 45. He was last heard working U.S.A. on 90 metres.

2SW is now on 45 with 50 watts, and has worked U.S.A. 1st, 2nd, 3rd, 4th and 8th districts, and Canadian 1st, 2nd and 3rd districts with an average R6 report. He runs schedules with the following NU's:—1BQD, 2CVJ, 3SJ, and 5AKN.

6SZ has been too busy to get on the air this month, as he has been putting 6SX on the air.

2QB has been busy getting a high-power licence, and has succeeded. He will be on the air shortly with 250 watts, so we should hear from him in more senses than one!

5MQ is using 7½ watts from H.T. accumulators, and has worked several U.S.A. districts. 180 volts pressure is not high, but a pure D.C. note has a heap to do with successful DX work.

2QV is rebuilding, but has been QSO all Europe and Brazil on 10 watts only.

5WQ also sends in a fine report. He uses a B.T.H. Dynamotor, which is chain driven (some QRM from this, I think!). Taking 10 watts from this source, he has been QSO all Europe, GHB, Brazil, U.S.A. 1st, 2nd, 3rd, 4th and 8th districts, Canada, Australia and India. Hi! OM, when are you going to take a breather?

5XY has been on the 32-34 metre band with up to 150 watts input, and has certainly done some working. His bag amounts to nine Australians, two FI's, ZVBL, three S. Africans, three BZ's, and 24 U.S.A. stations. Also a new QSO in HIK (Dominica), who has not worked a G previously. He says the best report of the month was R7 from Australian 2NO at 14.15 G.M.T. Vy. FB, OM.

Some of Lancashire's 200 hams have rolled up this month, and you have certainly sent 5XY some fine reports. Please keep it up. You have got a sub-area manager who is a real live wire, and will look after your interests in fine style, so back him up in return.

Isle of Man.

Reports to 5XY.

5XD is the only hero this month. Has not been on the air at all, but provided himself with a little excitement by taking a

flashlight photo of his outfit, and nearly setting the happy home alight! Damp the flash powder next time, OM, and emulate the photographer at the Convention!

5JW (Manchester) sends a report just in time, and says he is rebuilding, and will shortly have a 250-watter on the air. Let us hear how you burn the ammeter out, OM.

Notts, Derby and Lincolnshire.

Reports to 5CD.

5CD has apparently forgotten that reports must reach me from sub-area managers not later than the 12th of each month, so I have only one report from this area, which has reached me direct.

BRS34 has spent a busy month with his receiver, and has logged most things. He reports bad conditions at first, improving towards the end of the month. The best thing he has bought this month is a stove! Hope it does not smoke, OM.

Irish Free State Notes.

By 11B.

THE secretary has just told me that I have been appointed area representative for Southern Ireland, which was quite a surprise to me.

Reports for this month have no doubt been already sent to 5NJ for inclusion in his Irish Notes; but next month I hope all GW's will send in their reports to me *not later than 10th of the month.*

We are a comparatively small body of transmitters, so it is up to us to keep our ends up and to let others know what we are doing, so don't forget to report OM's.

Remember that I cannot invent reports or undertake to include anything which I may have heard casually during the month. Once again, reports by the 10th of the month, *please.*

Danish Notes.

By E. Poulsen (D7MT).

7BX has worked a U station this month on 28 watts: he was R5. 7DM works with about 10 watts, and has now worked several countries in Europe.

7EW works occasionally a schedule: he will now entirely rebuild the station. The new station will be a 70 watts crystal-controlled FB! The new transmitter will first be QRV in May, but he will work with a very fine RAC note the next month.

7FJ has this month done his first DX work: he connected with U.S.A. and got R3.

7JO does it very well. He now uses only D as intermediates: no more DF, as many stations had mistaken it and thought it was F, etc. He has worked FA8VX in Algeria and got R5 with 14 watts. His first OE station worked was OEGP. With 13 watts he has worked U1AXA and got R7.

7MT has no DX to report. His best QSO this month is P1AF, who gave R6. He can now QRO to 20 watts DC, but he says that he prefers the "five watter" for DX because the notes are much more constant. Hi! He can only get more QSA reports by QRO-ing on short distances, such as 200 k.m. He has heard from a friend in Paris that PA3A is a F8 station. In Paris they use this call sign to raise many more stations! Indeed awfully!

7NI works a coupled Hartley with an input of 7 watts. He has been QSO Y'S and I, and is the first D station to work Greece: he got R7 there. He has also worked PA3A and got R5. He would like to know the exact QRA.

7XF has received z report from YDCR,

7ZG has sent me five G reporting cards. They tell him that his sigs. are heard very good on about 20 m., the reports varying between R2 and R7. He is transmitting on 47 m. with an Hertz aerial. He can't understand that the G's can hear him on this wave but it a fact.

French Notes.

By EF8PY.

I AM starting these regular notes, hoping they will be of interest to all our English-speaking friends.

We French have been since long laughed at, as mostly all our stations used raw A.C. One can now hear a great improvement in that way, and the DC notes are quite numerous in Finland.

Our most consistent station is 8JN, who has only to press the key to have answers from all the world round. But he is now QRT for a short time.

8CT is working hard on 20 and 45 metres; he has been QSO the Hong-Kong station VPS; his phone has been received with perfect clearness by NU8ALY.

8GZ has been heard on phone in Melbourne, his power being comparatively small.

8JZ phone is heard very QSA in all Europe, though his input is only 10 watts.

An unlicensed ham I am not authorised to describe more clearly has had the pleasure to make the first QSO between France and Peru; his sigs were quoted R5. The same ham received a QSL from AJ1KO (Tokio, Japan), who heard him R5 at 07.00 G.M.T. He is also the first French who has worked AF8FOK, Saigon.

8ZB, who works with a power which never exceeds 2 watts, has been QSO the States and AIDCR.

8GM, a very interesting station, is working hard on the antennæ problem; he has worked the Aussies with 6 watts *on raw A.C.*

8NOX is going mad since he has been QSO with OP1AU; his antenna system is by force of circumstances very near the soil and surrounded by metallic roofs.

8RBP has worked NU3AKZ at 11.00 G.M.T., being received R6; power 70 watts.

On 20 metres active stations are FM8MB and FM8ST.

A group of non-licensed hams, with a call-sign beginning with the figure 4, is using very little power.

4RL has QRT for change of QRA; he will then use 4PM. Till now, with 1 watt his best DX has been SMVG, R5. Watch for him, gang.

4BM, with a plate voltage varying from 60 to 90 volts, has got QSO with 1A5B, who received him R8. Who can do better?

In the dominions, AF1B, old FI8QQ, is anew on the air, as he has now recovered from his illness.

AF8FOK has a QRP transmitter which is in touch with every point of the globe.

We are informed that a ham in Madagascar is signing TF6; anyone heard him?

Amongst the receiving hams, some good work has been done. R268 has received OA2NO at 15.30 G.M.T. (the same Aussie was worked by 1A1X at 14.05 G.M.T.).

The 6th District U.S.A. is received fairly well on 20 metres from 15.00 to 16.00 G.M.T., but it seems that these sigs are weaker here than in England.

R091 has heard R8, the new commercial station HZA1, in Saigon.

Very best 73's to the gang.

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.*

Calls heard by Radio DCR, R. J. Drudge-Coates, Cambridge Barracks, Rawalpindi, India, up to February 9 (received by Amateur Radio via GI-6MU): G—2nh, 2rg, 2ih, 2ao, 2xv, 2cc, 2jp, 2dx, 2vr, 5up, 5hx, 5by, 5fq, 5tz, 5wq, 5ma, 6uz, 6ta, 6qh. GC—5nw, 6ko, 6nx. GI—2it, 6mu. GW—18b, 11z. F—8ei, 8yor, 8ger, 8jj, 8gi, 8bp. D—7bx, 7zm, 7fzj, 7bd, 7mt. U—1ast, 2cvj, 2ath, 6acg, 6cku, 6dcq, 9cpu.

Receiver O-V-1 Hartley: B—b7, k3, k44, n33, o5, s4, v33, 4aa, 4ls, 4xs, bx-1aw, c-1ac, cs-2un. D—7bx, 7ip, 7jo, 7lo, 7mt, 7ni, 7wa, 7zg, 0xz, ear18, ear52, é-7ac. F—8akl, 8arm, 8bp, 8cp, 8esp, 8ez, 8fy, 8gdb, 8gi, 8hsf, 8hu, 8il, 8iu, 8kl, 8kz, 8msm, 8nn, 8oi, 8olu, 8oo, 8oqp, 8pam, 8pj, 8gw, 8rip, 8rra, 8ssw, 8tis, 8ut,

8vvd, 8vz, 8wel, 8wy, 8zai, 8zet, 4bm. FA—8rit, 8vx. G—2ab, 2bi, 2bd, 2hq, 2nm, 2rg, 2sz, 2vq, 2vr, 2xa, 2xv, 2xy, 2yx, 2zc, 5ad, 5by, 5dn, 5fq, 5gs, 5gq, 5gu, 5hs, 5ls, 5ms, 25qv, 5ru, 5sk, 5uy, 5xh, 5xy, 5ym, 5zg, 6bd, 6br, 6ci, 6er, 6fd, 6hw, 6hz, 6lr, 6nh, 6oo, 6pu, 6vp, 6za. GC—6ko, 6nx, 6vo. GI—2it, 5wd, 6mu. GW—18b, 19b. I—1ce, 1cn, 1cu, 1do, 1er, 1mt, 1na. K—4aac, 4aca, 4abf, 4dbs, 4gd, 4ls, 4mca, 4px, 4qa, 4rm, 4sa, 4sar, 4ul, 4xu, 4xr, 4xy, 4yae, y8. LA—1e, 1x. N—odk, oly, onm, oqq, orf, ors, owb, owf, owm, pb7. O—FZ—hp, jz, ke, py. P—1ae, 1af, 1aj, 1aw. R—1ua. Sic, sktr, sku, smsh, smtc, smtx, smuj, smus, smuv, smxu, smzn. S—2bs, 5nf. Tpav. U—ktp, 1bes, 8abw. UO—3nb. W—Aa. Y—crp. YS—7dd, 7kk, 7xx.—D. Grove White, 5GW, Le Chalet La Chasse, Jersey.

2ba, 2cc, 2dl, 2db, 2gg, 2ju, 2nt, 2qy, 2sk, 2sq, 2qw, 2st, 2wn, 2vs, 5ad, 5al, 5ax, 5au, 5bs, 5by, 5gq, 5gw, 5hk, 5mo, 5ms, 5nw, 5pg, 5sz, 5td, 5uw, 5yk, 5wq, 5xd, 6do, 6fa, 6ft, 6ga, 6cl, 6ks, 6ko, 6lr, 6nk, 6nx, 6oo, 6os, 6oh, 6pg, 6rt, 6qb, 6qa, 6vp, 6wk, 6xl, 6yr, 6yz, 6za, gi6mu, gi2it.

Received by F8RVL in Laval (250 kms. West Paris) (December 24, 1926, to January 1, 1927.)

QRK F8RVL? Cre QRP, radiomicro 20 volts, plate 2 millis. Pse QSL. Everybody will be answered. (QSL pse direct to J des 8.)

To Radios.—J2az, 2cs, 2nm, 2nu, 2oq, 2qc, 2vq, 2xy, 5ad, 5bu, 5ec, 5fj, 5jw, 5gq, 5lo, 5hx, 5kc, 5ku, 5mu, 5so, 5sw, 5us, 6xy, 5za, 6at, 6ep, 6bj, 6br, 6fa, 6ci, 6kk, 6ot, 6ou, 6rm, 6ry, 6su, 6yd, 6yk, 6yc, 6tg.

TNX fr QSO, but I have never rcd. mi QSL. Have u rcd. mi crd. Pse QSL nw. direct to J.d.8. TKS. 23's. Happy New Year.—F8RVL.

U—1aac, 1aap, 1aci, 1acr, 1ahv, 1ajx, 1aqi, 1aqt, 1asa, 1azl, 1bhm, 1bhw, 1big, 1bom, 1cjr, 1cki, 1cre, 1ga, 1kp, 1lc, 1nf, 1or, 1vj, 1vw, 1vz, 2ag, 2ajf, 2ann, 2arm, 2aue, 2awq, 2awu, 2bir, 2bs, 2bwa, 2cbg, 2ce, 2cev, 2cuq, 2cvj, 2cyx, 2czr, 2dh, 2fo, 2ie, 3akq, 3bwt, 3cel, 3jm, 3ay, 3jo, 3kr, 3ef, 3pf, 3ps, 3uv, 4bn, 4ck, 4dv, 4fi. 4ft, 4iz, 4kf, 4lx, 4mw, 4oc, 4pr, 4st, 4wh, 8adg, 8aim, 8agq, 8alu, 8amu, 8anc, 8arb, 8ayf, 8axx, 8bpl, 8brc, 8bvt, 8byn, 8cau, 8cnt, 8coj, 8cpk, 8dan, 8djp, 8dmz, 8gz, 8lt, 8oq, 8rh, 8wt, 8xe, 9bau, 9bkq, 9brx, 9cyw, 9mn, C—1ar, 2be, 3ael, 3fu, 3jl, 3wab. BZ—1ac, 1ad, 1ak, 1al, 1aw, 1bk, 1br, 1ia, 1ib, 2af, 2al, 2ar, sql. R—ba1. Y—2ak. PI—1bd. O—a3b, a5z, a6n, 1sr. A—5ja, 5wh. Z—4ak. FA—8rit. FM—8oxo, 8rbt, ocrb. Miscellaneous—r1ua, f9c, ktr, cs2yd, vgjl, pi, wuaj, 1a5b. Who wants a card. Hrd 1st to 26th January, 1927.—G2BZC, 38, Purley Avenue, London, N.W.2..

Calls heard during January, 1927, on O—V—1 Reinartz A—(5DA).—B—k6, k44. C—1dd. F—8dd, 8do, 8gf, 8jcn, 8ou, 8rk, 8ssk, 8sst, 8yor. G—2gy (2ii), 2lj (2nh), 2wn (2xo), (5dc), 5ac (5ma), 5oo (5sz), (5tr), (5tz), 5ul (5uw). (5xn), 6fa (6hf), 6ia, (6ll), (6nk), (6ot), 6ou (6ql), (6qo), 6ta (6uz), HB—9xn. I—1ap, 1da, 1do, 1dr, 1er, 1ta. K—4sar, y4. LA—1x. O—aso. P—1ay (6pe). SM—(smvj), smwq, smws, smxv. U—1hk, 1js, 1xv, 3akr, 3xg, 8zz, 9ew. YS—7xx. Miscellaneous—fng, poz, wiz, fq4rc, xx2v, prv1a. Parenthesis ( ) means crd rcd. Tnx O.M.'s. Please QSL to BRS15.—C. W. Coomber (BRS15), "Low Fell," 53, The Avenue, Sunbury-on-Thames, Middlesex, England.

P1aj, p3fz, jm2pz, smuk, gw11b, gi2it, gi6mu, i1ce, i1gw, d7mt, g2cc, yckm, g5nj, g5mq, g5ad, g5pm, g5sz, g6og, g6yd, g2xy, g6td, g5uw, g2jb, g6ry, g2qb, a2tm, a2yi, a2mh, a2rb, a2dy, a3bq, a5kn, a5bg, z1fe, z1ao, z2ae, z2ak, z2xa, z3aa, z3ar, z3ai, z4aa, z4ac.—Solomon, Mackenzie Wireless Station, Demerara River, British Guiana, via 5SZ.

30 to 45 metres: A—2no, 2yi, 3px, 3bq, 3ot, 3hl, 4rb, 4ci, 7cs, 7cw. O—acb, a3z, a3v, a4v, a4f, a5x, a5t, a6n, a8p, 1sr. BZ—1ap, 1aw, 1ak, 1al, 1am, 1ar, 1ao, 1aq, 1bi, 1bk, 1br, 1xa, 2ab, 2am, 2as, 1ia. Z—4aa, 4ak, 4ac, 3ai, 3ar, 2ac, 2ae, 2ak, 2xa, 2gc. U—4bl, 4km, 4rr, 4ft, 4iz, 4ic, 4cv, 4si, 5akn, 5atf, 5kc, 5amf, 6auk, 6ann, 6adp, 9xi, 9za, 9hp, 9del, 9dr, 9bjp, 9bkq. Y—1bu, 1cd, 1ci, 2ak. C—1ad, 1ac, 1da, 1dd, 2be, 2fo. R—hd4, db2, aa1, cb8, dm7. Miscellaneous—p9ab, cbf2, da1cw, ys7ll, ch2ab, ch2as, fi1b, pi1bd. 18 to 23 metres: Smzv, smuk, smvj. U—1bux, 1adm, 1rd, 1bdc, 2va, 2jn, 2tp, 3cki, 8aly, 1cmx. I—1cr, acd. Miscellaneous—ohk, f8ct, k4xu, d7bd.—Calls heard by BRS27, January, 1927, at 3, Chertsey Road, Redland, Bristol.

A—2yi, 3bq, 5wh, 7cs, 7dx, B—b7, f4, k6, 4ar, 4mu, 4rs, 4xs, BZ—1bk, 1ao, 1ar, 1aw, 1ib, 2am, 2ap, 2as. C—1ac, 1ar, 1dd, 1wr, 2be, 2do, 2fo. CS—2yd. D—ktr. E—ear48. F—8vvd, 8zet, 8cp, 8fp, 8rz, 8ynb, 8pnh, 8ut, 8gwd, 8ct, 8hsg, 8wtc, 8qrt, 8jw, 8bp, 8jrt, 8lc, 8jj, 8gi, 8eq, 8kz, 8rld, 8ren, 8gaz, 8jc, 8ix, 8wel, 8akl, 8jz, 8oui. FA—8jo, 8vx. FI—1b. FM—8bbp, 8st. GC—6nx. GW—11b. I—1cr, 1dr, 1gw. JM—2pz. K—4abr, 4yae, 4ka, 4sa, 4sar, 4yab, 4caa, 4abg, 4dka, 4mca, 4kav, 4uao, 4abf. LA—5b, 1se. N—oro, odg, oqq, owvi, pcb8. OE, hl, gy, zz, jz, gp. PR—4sa. Q—8kp. R—1as. S—2nm. SM—ws, xv, sh, uk. TP—Tcav. U—1rd, 1awe, 1asf, 1lc, 1amd, 1bhm, 1aof, 1xm, 1yb, 1xsa, 1rb, 1bez, 1cw, 1rf, 1rl, 1lu, 1zs, 1ql, 1da, 1nyl, 1py, 1akm, 1aao, 1yd, 1axa, 1ga, 1avl, 1amj, 1blb, 1caw, 1bhs, 1ej, 1vo, 1amu, 1lj, 1bke, 1iw, 1atg, 1asa, 1bvb, 1bqd, 1ic, 1air, 1bzd, 1kf, 1bj, 1cx, 1uz, 1abz, 1aqt, 1no, 1on, 1mv, 1bux, 1kk, 1vz, 1vb, 1csx, 1nl, 2cw, 2bwt, 2fo, 2uo, 2cxl, 2cuq, 2ayj, 2als, 2cyx, 2md, 2agn, 2ahm, 2rv, 2dh, 2ase, 2buy, 2cvj, 2ahn, 2awu, 2tp, 2uk, 2akz, 2beo, 2kr, 2cbg, 2ctn, 2acd, 2no, 2baa, 2cuj, 2wen, 2anx, 2aac, 2pv, 2ku, 2bm, 3ahl, 3lw, 3jo, 3acm, 3bwt, 3ay, 3ckl, 3kr, 3ef, 3ay, 3iz, 3cdv, 3ckj, 3cv, 3ld, 3bl, 3bm, 3uv, 3cc, 4st, 4uk, 4ll, 4cv, 4ft, 4ut, 4uf, 4io, 4dd, 8brc, 8dem, 8ajn, 8sv, 8pt, 8adg, 8ccs, 8amu, 8drj, 8abv, 8cyi, 8wvj, 8bau, 8zae, 8djg, 8ul. YS—7kk, 7xx. Z—2ac, 2xa, 4aa. Vglj, jv, hjg.

Pse QSL QRK QRM QRN, QSS, QSB, ES WX given.—A. S. Williamson (BRS26, 106, Rushdale Road, Meersbrook, Sheffield.

A—7cs, 7la. B—a4, ch5, h5, h6, m8, o5, 3ac, 4rk, 4xs. BZ—1aa, 1ac, 1ad, 1am, 1ao, 1ap, 1aq, 1ar, 1aw, 1ia, 1ib, 2ac, 2af, 2ag, 2as, 5aa, 5ab, sq1, snf. CH—2ah, 2ar. D—7fp, 7ni, 7zg, 7zm. EAR—1, 6. F—8bp, 8ca, 8gi, 8if, 8jn, 8kg, 8ku, 8kv, 8mm, 8mw, 8vl, 8wy, 8zb, 8dnx, 8fwb, 8jrt, 8kmz, 8ncx, 8nox, 8olu, 8pob, 8rbp, 8ssw, 8tis, 8vvd, 8ynb, 4bm. I—1co. K—ku, 2do, 4abf, 4mca, 4ra, 4sa, 4sar, 4xr. LA—1x. N—pc68, 0ag, 0dk, 0ko, 0nm, 0pm, 0qq, 0th. O—a4l, a5x, a6m. OE—gp, hl, jz, ke. P—1aj. R—db2. S—2nm, 2nx. SM—fn, sh, tn, to, tt, tx, us, vr. U—1aox, 1aqa, 1asf, 1axa, 1bcn, 1bux, 1bzp, 1ckp, 1cmp, 2gv, 2md, 2qu, 2ait, 2arv, 2cvj, 3af, 3uo, 3bwt, 4eq, 4ob, 4oy, 8aju, 8bbc, 8ben. Y—dcr. Z—2ac, 3ad, 3ar. Miscellaneous: bxy, gked, kfsx, ref, gbm, gfa, poa, nau, sp1, wiz, ocdj, sab, sad, sbm, ain, ido, ap4, fw, pcrr. Heard between November 14 and December 31, 1926, on O—V—1 Modified Reinartz (all below 50 metres) by BRS25, T. A. Iserbyt, "Lynmouth," 18, Broughton Road, Thornton Heath, Surrey.

Australia: QSO 2rg, 2no, 5ja, 5wh, 5hg. Hrd 2cm, 6ag, 6kx, 3ls. Belgium: QSO 3aa, 3ab. Hrd n5. Brasil—QSO sn1, 1aw, 1af, 1ar, 2af, 1bi, 1sj, 2ag, 1ao, 1aa, sq1x, 1aq. Hrd hundreds! Borneo—QSO sk1, sk2. Ch.—QSO 2id. Egypt—ktc. France—QSO 8jn, 8sz, 8brn, 8kf, 8fj, 8tuv, 8ix, 8rbg, 8hu. Hrd 8jf. Fi.—QSO 8fok, 1b. Hrd 8qq (now 1b). G—QSO 6vp, 2kf, 5xy, 6td, 5nj. Hrd 2lz, 2od, 2sz, 5ld. Hu—6clj, 6buc (daylight). I—QSO 1co. Hrd 1gw. J—QSO 1ts. N—QSO owc. O—! Pe—Hrd 6zk. Pi—QSO 1bd, 1dl. Hrd 3aa, 1cw, 1au. R—QSO de3, db2, dw4. Hrd aa8, dm9, ba1, dh5, fa1. S—QSO smtn, smuk. SS—Hrd 2se. U—QSO 1cmx, 1ic. Hrd too many. (Too lazy to rise early AM's for QSO.) Y—QSO 1cd, 1bu. Hrd 2ak, 1bv. Z—QSO 1cx. Various—QSO and ir Java, giup. Hrd every commercial on the air, they are all in our band. Hi.—Stations heard and worked by OA5X, 30-45 metres, V-1 receiver.

B—z9, m8, s5, b1, p8, o8, k44, v33, n33. BZ—1br, 2ar. C—1ii, 1ak, 2be, 2bh, 2fo. D—7mt, 7bx. EAR—44. F—8eo, 8wll, 8dgs, 8ei, 8rcc, 8apo, 8gaz, 8je, 8fp, 8jrk, 8ow, 8ko, 8nox, 8oeo, 8kz, 8wy, 8ut, 8ef, 8bvd, 8ugr, 8dd, 8ho, 8sst, 8ssw, 8udi, 8zet, 8yoic, 8ih, 8yos, 8zb. FA—8ay, 8rit. G—2ih, 2gf, 2zc, 2nh, 2od, 2jj, 2nt, 2cb, 2lj, 2nm, 2ze, 2gy, 2wl, 2xy, 2xo, 2bm, 2dx, 5fq, 5ad, 5xy, 5li, 5yr, 5by, 5za, 5xd, 6fd, 6qh, 6ms, 6fa, 6cl, 6ko, 6tx, 6ih, 6wq, 6yq, 8vp, 6cj, 6zz, 6qb, 6ll, 6ci, 6oh, 6ka, 6rd, 6bt, 6ia. I—1uvz. K—4rm, 4abf, 4xy, 4vo, 4xu, 4cmk, 4yab, 4gd, 4abg, ss28. N—0ly, 0hb, 0uc, 0dg, pc68. P—1ao. R—fc6, en8. Russia—2wl. SM—ws, vr, us, xt. TP—vv. Latvia—t1a, 2xa. U—1amd, 1amu, 1ajx, 1bfp, 1avn, 1cki, 1ckp, 1bke, 1isu, 1ga, 7lj, 1uo, 1ro, 1lc, 1nl, 1hh, 2ahm, 2avk, 2azk, 2ayi, 2bui, 2bbb, 2beo, 2cyx, 2cej, 2ah, 2av, 2ay, 2je, 2jo, 2or, 3ahl, 3ef, 3kr, 4ak, 4iz, 8arg, 8akv, 8ben, 8dal, 8ltv, 8pmr, 8bpl, 8aw, 8ax, 8ka, 8kz, 8lt, 8vj, 9dw. Y—2ak. Gi—2it, 5mo, 5wd, 6mu, 6wg. CW—11b, 14b, l8b. Miscellaneous—hm, ohk, ktr.—Week-end DX heard during January, 1927. Heard at BRS41, J. B. Scott, 9, Upper Garville Avenue, Rathgar, Dublin, Ireland.

U—1aae, 1aam, 1abz, 1ag, 1air, 1ap, 1ava, 1aw, awf, 1bez, 1bhm, 1chp, 1cmf, 1dci, 1is, 1mv, 1ny, 1qn, 1vc, 1vz, 1xm, 1za, 2anx, 2ayj, 2azk, 2bch, 2beo, 2ce, 2ej, 2fo, 2ie, 2kx, 2om, 2um, 2va, 3akr, 3bwt, 3cc, 3dh, 3jo, 3vf, 3xk, 4bn, 4cv, 4fa, 4ft, 4hx, 4iv, 4mi, 4rh, 4sl, 8ba, 8bj, 8ccq, 9bvr, 9ck, 9eev, 9hp. F—8aro, 8bum, 8dm, 8eb, 8ez, 8fk, 8fp, 8gi, 8ho, 8il, 8jj, 8jo, 8kz, 8ms, 8py, 8qrt, 8smf, 8vx, 8zet. FM—8jo, fm8pm, nowb, nocmx, nopm, doxz, d7bi, d7ni, d7zg, d7xx, k4ya, k4sa, k4cs, k4ld. B—e9, 4ar, k6, o8, n33, k44, o5. I—1na, 1fc, 1gw, 1cw, 1dr, 1da. P—1af. EAR—42, ear 52, ear44, ear 19, smto, sjds, sktr, smsh, s7nb, r1ua, ohu, oes, la1x, c8af, c8aw, c1ak. BZ—1ak, bz1aw, q8kp, q8or, oa7h, oa8p, a5mh, a5wh, ydcr, m1dh. Miscellaneous—wik, wiz, fw, rcrl, sgl, sjb, sme, pcmm, ghk, rxm, anf, and.—Hrd on O—V—1 from January 1 to February 8, 1927.—Ronald J. Denny, G6NK, Waverley Road, Weybridge.

A—2bk, 2yl, 5tu, 7cs, 7rh. B—b1, ch2, h5, z9. C—1am, 1ar, 3aj. D—7bd, 7ew, oxz. ET—2dk. F—8ak, 8bp, 8gi, 8pz, 8ew, 8kz, 8nox, 8olu, 8ynb, 8cax, 8wel. FA—8jo. GW—11b, 11z, 13c, 14c. I—1au, 1bd, 1gw, 1do. K—4au, 6aea, 4uak, 14.

M—5Y. N—oly, owb, opm. O—hv. O—a3u, a4m. SS—2se. U—1hk, 1rd, 1pd, 1aao, 1ckp, 1cmp, 1ajx, 3yo, 7jf, 8aul, 9ek, 9xi. Y (India)—dcr. Y (Uruguay)—1ak, 1ar. BZ—1ac, 1aa, 1ak, 2am. Various—ohk, pcrr, pctt, zdc, q6yr, p1aw, lpz.—Calls heard between January 1 and February 9, 1927, outside England, Scotland, Northern Ireland and Wales. Glad to QSL giving QRK, QSB, QRH, QSS, WX. Please QSL to F. C. Mason (G2BXM), 80, Forburg Road, London, N.16.

DX received at G2BCA, E. W. B. Briscoe, Home Lea, The Fordrough, Four Oaks, Sutton Coldfield.

Date.	Time.	Call.	W/L.	QRK.	QSB.	Calling.
29.1.27	21.15	U3OY	35	R3	AC	CQ
	21.16	C8RG	40	R6	AC	CQ
	21.22	NU2MD	41	R6	AC	CQ
	21.25	NU1BMS	42	R3	AC	CQ
	23.06	U1XM	35	R3	AC	A3ZO
	23.07	C2BE	35	R3	AC	G2RG
	23.09	U4RM	36	R4	DC	CQ
	23.09	U3BJT	36.5	R5	AC	CQ
	23.12	U8BPQ	37	R2	DC	CQ
	23.20	NU2ANN	39	R4	DC	CQ
	23.24	NU2CUR	41	R5	AC	NU8CYM
	23.57	MU2AYJ	36	R4	AC	CQ
30.1.27	00.01	U2FO	37	R3	DC	G5YK
	00.05	C2DO	42	R3	DC	CQ
	00.10	CH2AS	32.5	R4	DC	BZ1AR
	00.11	BZ2AK	34	R6	DC	CQ
	00.12	B21AW	33	R6	DC	CQ
	00.20	BZ1BL	34	R4	DC	CQ
	00.30	BZ1AR	32.8	R7	DC	CQ
	00.44	BZ1AO	34	R6	RAC	CQ
	00.50	BZ2IA	34	R3	AC	CH2AS

Received on o-v-1 mod. Reinartz.

A—2yj, 7dx. BA—2a. BZ—1al, 1br, 1ia, 1ib, 2ag, ptr, snf. C—2be. CH—2ab, 2au. FI—1b. O—a3b, a4z, a5j, a5x, a6n. PI—3aa, wuaj. R (Russia)—1ua. U—1aae, 1aep, 1aer, 1akm, 1ani, 1aqt, 1asr, 1bez, 1bjk, 1cd, 1cmf, 1cue, 1dc, 1gp, 1qa, 1qb, 1rd, 1xm, 2afo, 2amf, 2amj, 2aqw, 2avb, 2cyx, 2dh, 2fo, 2qr, 3afg, 3ahj, 3bqz, 3ce, 3ds, 3ckl, 3gx, 3jo, 3ue, 4cv, 4du, 4if, 4ul, 5aaq, 5ajs, 5asw, 5atf, 5jf, 6rn, 8arg, 8avj, 8bf, 8bsu, 8mc, 8qb, 8rh, 9ark, 9avi, 9beq, 9bhz, 9bmm, 9ess, 9dro, 9dsr, 9sd, 9eli, 9hp, 9sj, 9tlm. Various—anf, lpi, ws, cb3, not, ref, jes, 5ua, hza1, u2xg. Y (India)—2bg. Y (Uruguay)—2ak. Z—2bx, 3ar, 4ac. At BRS2, December 4—January 7, 30-50 metres on o-v-1.—K. B. Davis, 140, College Road, Moseley, Birmingham.

U.S.A.—1aao, 1adm, 1aff, 1ahv, 1air, 1ajx, 1amu, 1aqt, 1asf, 1awe, 1axa, 1bfx, 1bhs, 1bqt, 1byx, 1ch, 1cmf, 1cnp, 1cnz, 1ixa, 1lj, 1mal, 1ql, 1wl, 1xj, 2ahm, 2akz, 2amb, 2amj, 2avk, 2ayj, 2bir, 2cbg, 2cuq, 2cvj, 2cyx, 2dy, 2gb, 2gy, 2kx, 2tp, 2uk, 2uo, 3bqp, 3cdv, 3cin, 3jo, 3jt, 3kr, 3ld, 4ab, 4du, 4tz, 8afq, 8bau, 8ccs, 8xe, 9cia 9eas. Canada—C: 1ac, 1co, 1dq, 2be, 2do. Brazil—BZ: 1ac, 1ad, 1ak, 1ao, 1aw, 1ic, 1iv, 2ab, 2af, 2ag, 2ar, sq1, rg. Argentine—R: cb8, hb5. Sundries—ss8max, pi1bd, cbf2, cz1ia, oa4l, ch2bl, lw, icag1. January 23 to 31, 25-50 metres, by L. L. Parry (BRS29), 106, Church Road, Moseley, Birmingham.

G's—2db, 2xv, 5sk, 5so, 5sz, 5uy, 6ci, 6fs, 6ms, 6rd, 6yu. B's—3xx, p7. F's—8ut, 8uga, 8fr. GW—18b, sq1q. SB—2aj, nuixm. K—4ap, gfy.—Received on a Loss Reinartz, es 1 step AF. P. N. Goulston, 2AFS, Edgeleigh, Warwick Avenue, Coventry.

B—4aa, n33, f8yor, f8gi*, car44, klyae*, p1af, p1ao, g6tf, g6yv, g5by,* g6ua, g6oo, g6yq, g5nw,* g2jp.* Unknown—BLL (QRA ?) *(QSOd). All cards answered. Heard by Radio, January 21-24, U2AVR, 7708, Bay Parkway, Brooklyn, N.Y., U.S.A.

U.S.A.—1aac, abn, abz, acg, ach, adm, afj, ag, aic, air, akm, amd, aom, aqt, asa, asf, asr, avg, avl, awe, axx, azd, bcn, bez, bfz, bhm, bhs, bhv, bhw, bnm, bux, bxl, cbg, cjc, ckp, cnf, cnz, cre, cx, dee, di, ic, in, ka, lc, lj, lw, lz, ql, rd, tz, vz, wz, xm, yb, zs, 2adh, agn, ags, ah, ahm, alm, amj, aop, apd, apu, apv, aqw, ari, arm, ase, avr, ayj, azk, bbb, beo, bui, bum, cbg, cdr, cfz, cqo, cuq, cuz, fa, fj, fo, jn, mk, tp, vh, wl, 3afv, ahl, ajc, anr, aun, ay, bg, bnz, btq, bwl, cc, cdv, ce, cin, ef, jo, kx, ld, zm, 4ab, ak, aah, dd, gz, hx, iz, ll, nh, 8aad, afq, aka, ajn, aly, bja, byn, cau, cyi, dae, dbe, dsy, lt, rh, sh, xe, zae, 9abn, bwo, clp, cn, ctp, eev, kgdq. A—2no, 3bm, 3bq, 3qa, 3xo, 4an, 5hg, 5ja, 5wh, 7cs, 7cw, 7dx. Z—2xa, 3ar, 3mg, 4ac. BZ—1ad, 1af, 1ak, 1al, 1ao, 1aq, 1ar, 1aw, 1bl, 1ia, 1ib, 2ag, 2ar, 2as, 2ia, 5ab, ptf, ptq, ptil, snf, gmd. C—1ar, 1dq, 2al, 2be, 3adn, 3adl, 3akb. C—bf2. CH—2aj, 2as, 3ag. R—db2, ga2, hd4, en8, dm7. Y—1cd, 2ak. O—1sr, a3b, a3z, a4f, a4l, a4v, a4z, a5x, a5z, a6n. M—1j, 1n, 1p. West Indies—hik, pjc, q8kp, jm2pz. Japan—jes. Java—anc, and, anf, eipk9. China—fi1b, fi8fok, vps, bxy. India—2zy, dcr. Cameroun—fopm. 20 metres—u1rd, 2jn, 8aly, g5hs, 5yk, 2kf, 1acd, 1dm, 1er, K—4xu. Heard on Reinartz plus 1 LF, January 1-31.—B. & F. Smith (BRS3), 101, Highfield Road, Saltley, Birmingham. Full reports waiting for all the above who QSL for same.

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.

SPEED!

To the Editor of T. & R. Bulletin.

Guess this is deserving of publicity:—Heard on the 90 metre band by G6YQ during a lull in 23m. DX. G6MK calls G5JA for 17.5 minutes, then QRT's with "6MK over to 5JA over over"—*all performed with 5 w.p.m. key.* Hi!

Isn't it priceless?

73's, OM.

Geo. A. Massey,
G6YQ.

"Holmleigh," Hillside, Prestatyn.

P.S.—Pse spare them pain!

SPACERS AND CHIRPS.

To the Editor of T. & R. Bulletin.

Dear Sir,—With reference to the letter from the pen of G5MQ in your current issue on the subject of "Chirps and Spacers," may I be permitted to voice an added protest against the now all too-common practice of keying transmitters by the "spacer" method.

I hesitate to prescribe any specific method by which chirps can be eliminated without recourse to a spacing wave, but some sage gentleman should rise upon his hind legs to inform me that my "dope" is all rot. Nevertheless, a few remarks on the subject, directed chiefly towards the "input 10 watts maximum" men, may not pass wholly unheeded. In parenthesis, I would coyly remind the high power (?) performers that even our good friends WIK, WIR, and WIZ, each keying Xn Kw., find it practicable to work without spacers.

Now, you 10-watt OMS, it simply isn't necessary to pollute our Lilliputian band of kilocycles with those ear-splitting spacing waves. Time was when, for lesser offences, men were neatly skewered to oak-trees—aye, and lamp-posts—just as to-day you rivet QSLs to your shack walls!

Let us see what may be the cause of that horrible chirp or violent QSSS you seek to cure. Of course, it may be that ubiquitous flash-lamp bulb which adorns the nodal point of your Hertz, and by the light of which you watch the snail as he feeds on your cabbages. Or, is it that you work without a grid condenser and leak because their inclusion results in QRP by a watt? Give them another trial, OM—arm yourself with .0005, .001, and .002 mf. condensers, a variable water-leak constructed from an ex-pickle jar, and some patience. Then try each condenser in turn, keying the H.T. You will surely find a combination which produces a chirpless note. My experience is that a leak resistance very little below the value which results in a "howl" causes the keyed wave to appear crystal-controlled. (D7MT and 6GFD asked if it was so.)

Perhaps you have found all that out for yourselves, cured the chirp, but are harassed by spasms of QSSS. I wouldn't dare suggest loose connections—oh! dear no!—you are sure to have soldered everything possible, and wrenched all your nuts "home" with a footprint. But what about that grid leak electrode which is connected to LT? A piece of 4BA brass rod, naturally, and seaweed and lichens are growing round it in the electrolyte. Pour the liquid down the sink, OM, and start afresh with clean water and an obliquely pointed carbon rod in lieu of the brass one.

Maybe you own a splendid spacer, yet are in ignorance of it. Possibly you have 2 mfs. worth of the finest foil and mica across your supply terminals, oscillator side of the key. In a moment of madness, I had. On working G6NX, his first request was that I should remove my spacer before we talked business. As I was keying HT, I argued that it was not my property at all. Of course, 6NX must have "tin ears" to say that it was, but—6NX won! (My apologies, OM.)

Now, fellows, if you look at it seriously, don't you think recourse to spacers is an admission of defeat, quite apart from its being a wicked waste of juice? That they are unnecessary and superfluous is my opinion, but if any OM will come forward with a reasonable and convincing argument in their defence, I will willingly reply with "QSK."

Until such time, may I echo the entreaty of a higher authority—"Please don't do it!"—it isn't cricket.—Yours sincerely,

Geo. A. Massey, G6YQ.

"Holmleigh," Hillside,
Prestatyn.

FRENCH QSL DIFFICULTIES.

To the Editor of T. & R. BULLETIN.

Is it not time something were done by the T. & R. Section officially to get a line up on the French QSL difficulty?

At the moment I have over forty cards unanswered, and I know that many more stations are in the same position.

Surely it would be worth the £1 or so asked for to get cards over? We all know J. des 8's attitude, but because they are unsportingly inclined, it seems rough luck on the many stations who expected service from France when they joined up with T. & R.

Is it useless to ask F stns not to qsl via J. des 8, they will do it, even when they are asked to send via J. des Ems.

T. & R. should make a move *at once*; in the meantime, I would suggest that no QSL cards to France be sent until some guarantee is given that we shall get a card for a card.

I shall be glad if you will publish this letter, as suggestions may be forthcoming.—Yours faithfully,

J. CLARRICOATS (G6CL).

107, Friern Barnet Road,
London, N.11.

FALSE CLAIMS.

To the Editor of T. & R. BULLETIN.

DEAR SIR,—I read in a recent issue of *The Wireless World* a letter from a young transmitter stating that he has worked Iceland, and claiming to be the first to have established communication with that country.

I would suggest that it would be to the advantage of all concerned if such communications were sent to the T. & R. BULLETIN, the Editor of which is better able to gauge the wisdom or otherwise of printing such matters.

Although there may be others who will claim priority, I do happen to know that Iceland was worked by G2KF (Partridge) in 1923. It is not this specific instance, but the general policy which I condemn, of young transmitters rushing into print over such trivial matters; if they must find an outlet for their enthusiasm, why not help the correspondence columns of our own journal by sending up the result of their work to the BULLETIN? Not only is the "matter" of more interest to readers of the BULLETIN, but an opportunity is also given of preventing foolish claims from appearing in print.—Yours faithfully,

KENYON SECRETAN.

105, Castelnau,
Barnes, S.W.13.

THE RANGE OF ATMOSPHERICS.

To the Editor of T. & R. BULLETIN.

I note in the T. & R. Log Book in a letter from the Chairman of the N.P.L. that mention is made of the probable range of atmospherics. A brief report on some tests which I made with a New Jersey station last spring may possibly be of some interest to others.

We were on schedule every night for a period of approximately seven weeks, and during the course of our tests we made use of th break-in system of transmission, with great success.

Thus it was possible to transmit whilst receiving the distant station, without a trace of interference from the local transmitter; and it occurred to me, one night, that it would be interesting to check whether the same atmospheric disturbances which were worrying me were affecting the distant station. Accordingly, I indicated that I would transmit a short dot for every static "crash" and a long dash for every continuous roll of static.

This was done, and after a few minutes silence, my friend broke in and intimated that the transmission and static discharge coincided in each case. We then reversed the process, and it became my turn to listen. It was certainly interesting to hear the two signals coinciding in each case.

We repeated these experiments on a number of nights, and with one exception, they always checked up. The exception was when static this end was slight and rather bad over the other side. On this occasion they still checked up in a number of instances, so we assumed that the centre of the disturbance was on the further side —*i.e.*, towards the Pacific Coast—of the American station.

These tests, as far as they went, prove, I think, that atmospheric storms have a range of *at least* 1,500 miles—assuming that in the first instance the centre was midway between the two stations, and possibly 4,000 or 5,000 miles at the last instance.

In conclusion, I would add that great use was made of this knowledge, inasmuch as it was possible to maintain considerably more reliable communication under bad conditions, by just pausing a moment during a bad spasm of static and resuming as soon as conditions permitted. The distant station was thus confident that he had not missed any words during the bad intervals—this system is well worth cultivating, since it enabled us to fix up important engagements, and carry out our tests on nights which normally would have made it n.g.—Yours faithfully,

A. G. WOOD, G5RZ.

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

P.S.—I am now on the air crystal controlled on a wave of 45.5 metres. Please QSL OMs.

WE STILL WANT TECHNICAL ARTICLES!

EXAGGERATED "R" STRENGTHS.

To the Editor of T. & R. BULLETIN.

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 neighbours (F) start 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 sim lar 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 N.N.E., loose end North, and I have only to call a B, N, F or I station to 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, A.M.I.W.T.
(G2ZC and TBA).

La Cotte, La Moye, Jersey, Channel Islands.

QSL's WANTED IN BELGIUM!

To the Editor of T. & R. BULLETIN.

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, 2GC, 2CS, 2VS, 2EC, 2LZ, 2VG, 2VQ, 2VL, 2NT, 5WI, 5YK, 5FF, 5WP, 6HY, 6IA, 6VP, 6KK, JU. Ireland.—5WD, 6NX, 14C."

Pse. QSL via R. B., 11, Rue du Congrés, Bruxelles.

Thanking you in anticipation. J. RICHARD.

To the Editor of T. & R. BULLETIN.

Knowing that you are interested in DX conditions with the Antipodes, I thought possibly the few details given herewith may be useful, as apparently very few G stations are aware that A and Z signals can be received and worked during the midday hours.

During the past few weeks, I have logged the following stations at times shown hereunder:—

1926.	*G.M.T.*				*QSB*	*Strength.*
Dec. 19	10.30	Z4AA	wkg	FC8EM	DC	R4
	10.40	Z3AR	clg	CQ	AC	R3
	11.00	Z3AR	wkg	G15NJ	AC	R3
	11.37	Z3AR	still wkg	5NJ	AC	R4
1927.						
Jan. 2	13.59	A2NO	wkg	LAIX	AC	R2
	14.23	Z2XA	clg	F18FOK	DC	R3
	14.45	A5WH	clg	CQ	DC	R3
	14.57	A2NO	clg	OA5X	AC	R4
	17.50	A2NO	wkg	G6TD	AC	R4
Jan. 9	09.20	Z4AK	clg	F8YOR	AC	R4
	12.35	A2NO	wkg	A7LJ	AC	R4
	12.45	A4RB	wkg	UICMF	AC	R3

All on wavelengths between 32 and 36 metres.

As you will observe from this extract of my log, Z and A sigs appear to be audible throughout the day time; and as the period covers three separate week-ends, apparently this reception is no freak. Of course, the weather conditions lately have been very much the same, with barometer on high side for some weeks.

I have heard several European stations calling them LAIX, S2NM, I1GW, etc., but with the exception of 5NJ no G stations.

The strengths of the sigs given by me are very low, but as my aerial is an absolute "dud," other amateurs very likely will get them better.

Trusting these few details may be of some use to yourself and other transmitters.

73's,
R. A. BARTLETT (BRS27, T. & R. R.S.G.B.).
3, Chertsey Road, Redland, Bristol.

To the Editor of T. & R. BULLETIN.

Msg from SHBZL, Demerara, British Guiana, January 31, 02.19 G.M.T., to EBY8 for QSR to England amateur stations:—

Pse would you be so kind to listen my sigs in QRP ten watts next night between February 1 and 15, at 23.00 G.M.T., here new on the air, DC wavelength 42. Will bvy glad to]QSO.

Best 73's,
SHBZL.

MEASURING SMALL QUANTITIES H.F. CURRENT.

To the Editbr of T. & R. BULLETIN.

May I call attention to an error in the article by "L. E." on 'An Accurate Method of Measuring Small Quantities of High-frequency Current" in the February BULLETIN.

The author assumes that when a resistance carries an A.C. current, together with what may be termed a DC polarising current, the heating effect is proportional to the square of the sum of the two currents. This is not so.

Let the DC current be a and the AC current be $b \sin \theta$, i.e., the max. AC current is b and its RMS value $\frac{b}{\sqrt{2}}$ or $0.7b$.

Then the instantaneous current through the resistance is $a+b \sin \theta$; and the heating effect is proportional to the square of this:—

$$a^2 + 2ab \sin \theta + b^2 \sin^2 \theta.$$

The average value of this for one complete cycle gives the heating effect which must be compared with that given by direct current. This average is obtained by integration and is:—

$$\frac{1}{2n} \int_0^{2n} (a^2 + 2ab \sin \theta + b^2 \sin^2 \theta)\, d\theta$$

This simplifies down to:—$a2 + \frac{b}{2}$

Remembering that b is the max. value of the AC, and that the RMS value say $c = \frac{b}{\sqrt{2}}$ we see that the heating effect is given by (a^2+c^2).

Now if $(a+d)$ is the DC giving the same heating effect, we have the relation:—

$$(a+d)^2 = (a^2+c^2)$$
$$\text{or } a^2+2ad+d^2 = a^2+c^2$$
$$\text{or } c^2 = d^2+2ad$$

From which c may be calculated.

The assumption made by the author is that:—

$$c = d$$
$$\text{or } c^2 = d^2$$

which is obviously incorrect.

Note that we have assumed that the resistance of the filament remains constant for the above calculations. Since this is not so, however, further corrections are necessary if the method is to give an *accurate* result.

I trust that "L. E." will not be discouraged by this criticism which is intended to be quite friendly, but as I have known other people make the same error, it seemed that a letter of this kind might be useful.

Possibly you might spare a little space for a simple explanation of what is taking place in the case considered. Although the heating effect is usually referred to as I^2R, we should remember that it is really given by the watts absorbed or I.E.; now when the DC value is increased from $a+d$ the volts go up from (aR) to $(a+d)R$. If, however, there is AC superimposed upon the DC, the DC volts remain the same as before the AC was added. The additional heating is therefore due to AC volts $\times$ AC amps (since the filmaent is a pure resistance).

Hence, using the same symbols as before, and in addit!rn R= resistance of filament

DC heating effect $= a \times aR = a^2R$
AC " " $= c \times cR = c^2R$
Total heating $= a^2 + c^2R$

A result which is in complete agreement wtih that obtained above, but being obtained by simple reasoning instead of by maths. may appeal better to many of your readers.

Should you or "L. E." be interested, I should be pleased to work out the corrections, allowing for the change of resistance of the filament of the valve and making them into a short article showing how the method may be used for accurate measurement.

Apologising for the length of this letter.

I am,
Yours faithfully,
F. AUGHTIE, M.Sc. (G6AT)
28, Ferry Street, Dudley, Worcs.

To the Editor of T. & R. BULLETIN.

English hams. If you have not yet received QSL from EB4AR from your QSO, write to QTC, 38, Rue de Suede, Bruxelles.

4AR.

MORE QSL's WANTED.

To the Editor of T. & R. BULLETIN.

I would be much obliged if you could find room in the BULLETIN for a complaint about QSL's.

I always endeavour to QSL every station worked or every person who sends me a report, but on looking through my QSL records I find that many stations have never replied to my cards acknowledging QSO's.

In case my cards have gone astray, would you mind publishing the following call-signs of amateurs who have worked my station but have not acknowledged my cards?:—

KY4, G2CC, G5ZA, YS7XX, BS4, G6BR, D7BX, OCMV, G2MX, G6OU, S2NS, BA8, G6NX, BT1, F8XH, BH5, G5SO, F8LZ, G5IO, G6IA, G5US, GW14C, G6DA, G6WP, G6YU, G6AI, G5SK.

I remain,
Yours faithfully,
M. H. WYNTER-BLYTH (G6HF).
Tankersley, Nr. Barnsley, Yorks.

QSO INDIA.

To the Editor of T. & R. BULLETIN.

I would be obliged if you would let T. & R. members know that I am carrying out daily tests with YDCR (R. J. Drudge-Coates, Cambridge Barracks, Rawalpindi, India). I work with this station at 18.00 G.M.T. each evening, and will be pleased to QSR experimental messages bound for India or the Far East. DCR is anxious to have reports from Europe on his signals (on 40 metres, DC, QSB), which should be forwarded either directly by card or by amateur radio via 6MU. I have arrranged with Mr. Drudge-Coates, who is a T. & R. member, to let me have calls heard and other reports at regular intervals for the BULLETIN.

Here is the first list of calls heard during the past week, during which reception conditions have been decidedly poor at Rawalpindi:

G.—2KZ, 5BY, 5UW, 5W4, 6ZM, 6UZ.
GI.—2IT, 6MU.
U.—1ASF, 2ATH, 6CVW, 6BUC, 8CCS, 8CAU, 9HP, 9EIV

Yours faithfully,
E. MEGAW (GI6MU).
Arden, Fortwilliam Drive, Belfast.

BEST TIMES FOR RECEPTION IN AUSTRALIA.

To the Editor of T. & R. BULLETIN.

I have recently received a letter from a Mr. T. H. Harris, of Sydney, Australia, in which he tells me that the following times are the best for reception in Australia of European stations:—

Summer, in Australia (November to April), Sydney time 4 a.m. to 6 a.m. Afternoons no good owing to QRN.

Winter in Australia (May to October), Sydney time 4 a.m. to 7.30 a.m., and 3 p.m. to 5.30 p.m.

Best and strongest reception in mornings.

Mr. Harris will report to each European station he hears.

Perhaps the above information would be of interest to other hams.

Yours truly,
B. J. AXTEN (G2VJ).
Ravenscourt, 78, Ealing Road, Wembley.

A PURE DC NOTE AND DX.

To the Editor of T. & R. BULLETIN.

The great advantages of the use of a quartz crystal to control the *frequency* of a transmitted wave are well known, and it will, I think, be generally agreed that crystal control is the best method known at present of ensuring an extremely steady signal being transmitted.

When, however, one comes to consider the relative merits, for DX purposes, of an *extremely* pure DC note as compared with one having a slight ripple, the advantages of the DC note are not, to

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my mind, so obvious; and it is upon this point that I wish to obtain some information, or the opinions of other readers.

I have been using, at 5NJ, a very pure DC note now for many months, and have no grumble against it as far as DX is concerned, except this: my signals are *never* reported as being very strong, although they are *always readable* in practically any part of the world. The input to the set is 75 watts.

Lately, however, I have purposely introduced a slight ripple into the note, with the result that, in almost every case, signals are reported stronger than previously. Now as the input power remained the same in all cases, and as no adjustments whatever were made to the circuit, it is obvious that the signals are not *really* stronger, but only *appear* to be so to the distant station. The question thus arises: Which is the easier note to read, a perfectly pure *weak* crystal controlled note, or a *weak* note of constant frequency but which is not pure DC?

My own opinion, at present, is that while a pure DC crystal-controlled note is undoubtedly a delightful one to listen to, yet, unless it is of fairly good strength, great care is required in reading it, and I think I prefer a note, no matter how weak, having a slight ripple. This is, of course, provided QRN is not very much pronounced, in which case the DC note would probably be the better.

At all events, I find it difficult to form any definite opinion on the matter, and would be interested to know what others think.

With best wishes, and apologies for taking up so much space, I am,

Yours sincerely,
FRANK R. NEILL (GI5NJ).

"Chesterfield," Whitehead,
Co. Antrim, N. Ireland.

CORRECTION TO YEAR BOOK.

To the Editor of T. & R. BULLETIN.

I thank you for the 1927 Annual Diary and Log Book duly to hand, but regret to notice that the city where I reside (Bath) has been omitted from my name in the international list of amateur transmitting stations, thus rendering the insertion useless. I should esteem it a great favour if, in the circumstances, attention can be drawn to the omission in the next issue of the T. & R. BULLETIN.

I am unable to account for the error, as my name and address has correctly appeared in various publications for the past five years.

Yours faithfully,
F. J. HUGHES, A.M.I.E.E.,
(G2NL, T. & R. Section, etc.).

Ashdene, Wells Road, Bath, Somerset
January 27, 1927.

CORRECTION TO YEAR BOOK.

To the Editor of T. & R. BULLETIN.

I shall be extremely obliged if you will correct in an early issue of the BULLETIN the following mistake in the first issue of the R.S.G.B. Year Book and Log, *re* my QRA. This should read: H. Dean Poulton (G6UG), 18, Albion Street, Cheltenham.

The name is spelt wrong, reading H. D. Polton, and causes confusion in postal delivery of reports, etc.

Thanking you, etc.

Yours faithfully,
H. DEAN POULTON (G6UG).

18, Albion Street, Cheltenham.

THANKS.

To the Editor of T. & R. BULLETIN.

I should like to thank the writers of the Crystal Control articles in Christmas number who shed the light to darken our platis. I was working with crystal control and could not get further than three valves without white-hot platis until the December issue came along. I adopted Goyder's method and found it solved all the problems; to get CC sigs. out via this method is as easy as falling off the proverbial log. Using this method, I have now 250 watts controlled by three LS5 valves, and have found DX QRK very much up—R7 from U.S.A. and R8 from Australia. To those who are doubtful, I say get on to crystal control—it's now too easy—and help to clean up the 45 band.

That issue of T. & R. saved me pounds. Best of luck in 1927

73's,
BERTIE WALSH (2IT).

Clovelly, Armagh, North Ireland.

ABOUT COMPLAINTS.

To the Editor of T. & R. BULLETIN.

I have read your remarks "About Complaints" in this month's Editorial. What is the matter with some of the members? Are there none amongst them who have the common decency to say "Thank you" to a number of their fellow members who give their time and services free for their benefit, but must be continually grousing about what they do as if they were paid a huge salary. I suggest they should get up and do a bit themselves.

I for one have nothing but praise for your efforts and for the fact that you give your time free, for our benefit, and I am certain that many others feel the same.

So do not be discouraged by these grousers, but ignore them.

Yours faithfully,
W. Ison (G2FB).

Avonview, Harnham Road, Salisbury.
January 8, 1927.

RUSSIAN DX TESTS.

To the Editor of T. & R. Bulletin.

I beg to inform all G oms that beginning from March 1 to 15 there will be arranged a test of Soviet amateurs. Time for test is fixed from 21.00 till 23.00 G.M.T.

Transmission will occupy a range of 35 to 50 metres. The majority of participants will use low power.

It is very desirable that G oms will take part in the second test of Soviet amateurs by QSO.

All QSL cards should be sent via "R.W.T." on the address: George Anikin, 51, Swerdlow's Str., Nijni-Novgorod, Russia.

Best 73's,
G. Anikin (RIUA).
51, Swerdlow's Street, Nijni-Novgorod, Russia.

QSO 7th DISTRICT U.S.A.!

To the Editor of T. & R. Bulletin.

Dear Sir,—I have a bit of 23-metre work to report direct to you. On 30-1-27, U1ADM informed me that U7EK was calling me at 19.00 G.M.T. Accordingly I gave 7EK a call and listened carefully for him, but could hear nothing of him. During the week I received a message that he was going to call me on 6-2-27 at 19.00 G.M.T. I listened and received him a good RS, but in spite of long calls on my part, I could not get into touch. Accordingly, I sent him a message arranging a schedule for every Sunday. To-day (13-2-27) at 17.45 I listened for him. Conditions seemed very bad indeed, and the East Coast, U.S.A., stations were not coming over at all. However, I received U7EK at strength R3 calling me to schedule. (He was the only U.S.A. station audible at that time), and on replying to his call, he reported my signals as R2. We then exchanged signals for half an hour, and he said that my note was not so good as when he last heard me. Although he had great difficulty in reading me, I think I can claim first QSO with 7th district, U.S.A. As we are continuing our schedule, I hope soon to work him again under better conditions. 73's.

M. F. J. Samuel, G5HS.

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.

FOR SALE.—Mortley Sprague Double Generator, 2,500 to 3,000 volts 220 milliamps., fitted interpoles and cooling fan; gives beautiful D.C. note without smoothing of any kind; L.T. side 20 volts 16 amps.; terminals to fit rheostat to control H.T. output; new; just received from makers; £30. B.T.H. R.A.F. Generator, 600 volts 90 milliamps., perfect condition, £3. 1½ h.-p. Petrol Engine, self-starter, new (drives large generator), £18. Owner going on to R.A.C.—B. Walsh, Clovelly, Armagh, North Ireland.

ROTARY RECTIFIER, M.W., Model 1c, output 50 volts 6 amps., for 100-volt A.C. mains, new type model, cost £12, perfect condition, £6. TRANSMITTING VALVES: Mullard's 0/20, 0/15, 0/10A, 0/10B, 12s. 6d. each; two Mullard Rectifier Valves, U/30A, 15s. 6d. each; one Cossor Rectifier Valve, U/30, 12s. 6d. All guaranteed O.K. Dynamo, Westinghouse, 30 volts 7 amps., ring-oiler bearings, carbon brushes, good condition, £2.—G2KU, 66, Edward Street, Burton-on-Trent.

TANTALUM.—Tantalum metal sheet for A.C. rectifiers.—Blackwell's Metallurgical Works, Liverpool.

THE POLARIZATION OF WIRELESS WAVES

Concluded from page 10.

distant receiver will probably be as at *d*, and strongest signals will be received on a horizontal or mainly horizontal aerial. On the other hand, waves from a horizontal aerial which start like *b* may be well received on a vertical aerial.

Of course, the above is only a brief outline of this phenomenon; actually the subject is a very big one, and would occupy a great deal of space to treat at all fully.

Bulletin Standing Notices.

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

Address all your correspondence to the particular Officer in whose province it is to deal with the matter under discussion. These are the Advertising Manager, The Hon. Organiser T. & R. Bulletin; The Hon. Secretary, T. & R. Section; The Sales Manager, T. & R. Bulletin; Secretary, Experimental Section; Q.S.L. Manager; Q.R.A. Manager, and the Chairman, T. & R. Section. Each one of these officers has his own Department and method of dealing with correspondence.

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 the Hon. Organiser a question in the same letter or ask a question about your licence. Also do not mix criticisms of the Bulletin with criticisms of some other Department of the Section.

When sending cheques ar 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, T. & R. Section.

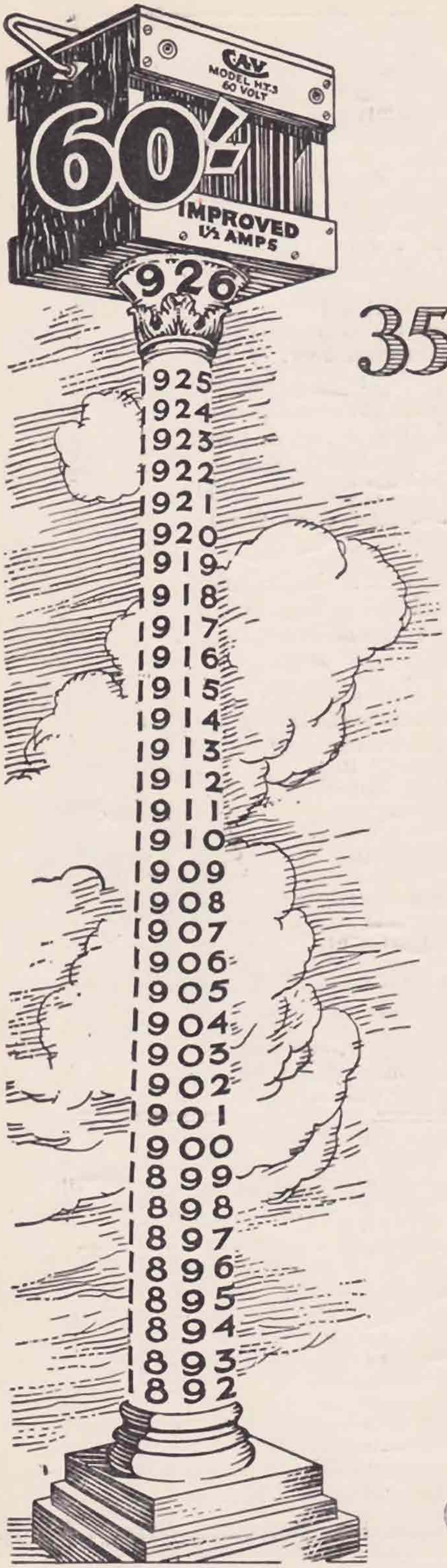
Reports concerning other activities should be addressed to your Area Manager (see notes over Traffic Notes).

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 stamp it.

When corresponding with the Hon. Organiser, 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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