THE T. & R.

BULLETIN

THE INC. RADIO SOCIETY OF GT. BRITAIN

AND THE BRITISH EMPIRE RADIO UNION

Vol. 8 No. 2 AUGUST, 1932 (Copyright) Price 1/6

T.C.C.

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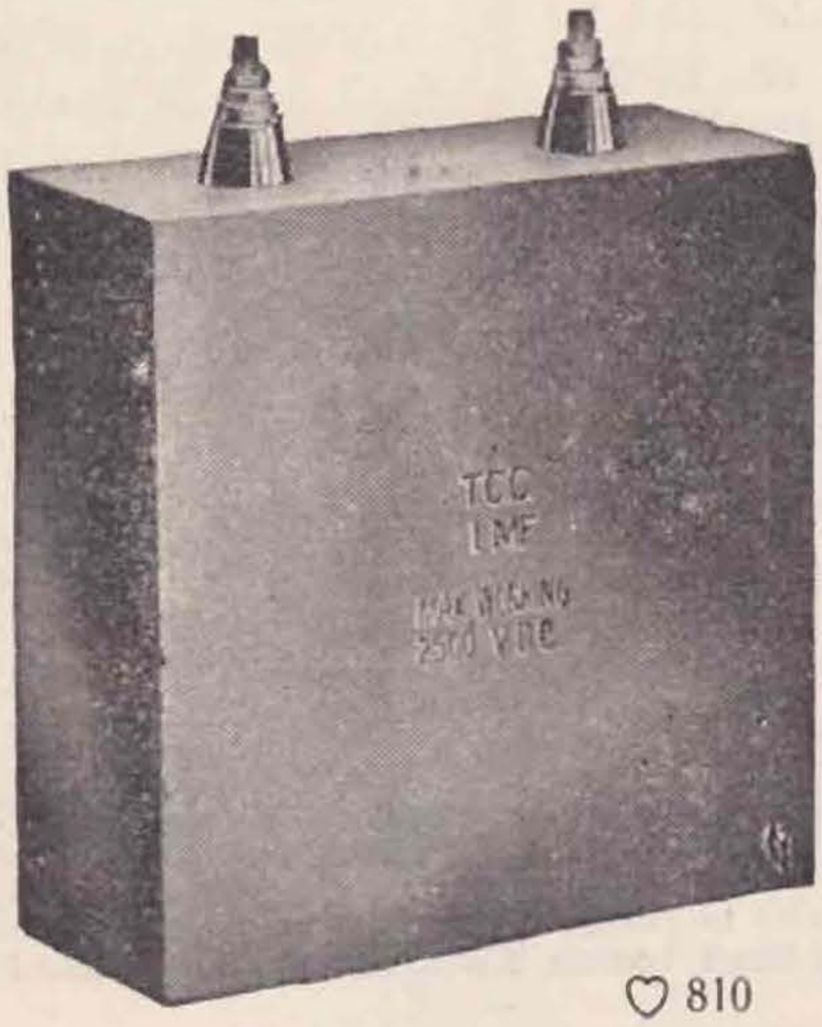

The Telegraph Condenser Co., Ltd., Wales Farm Rd. N. Acton, W.3.

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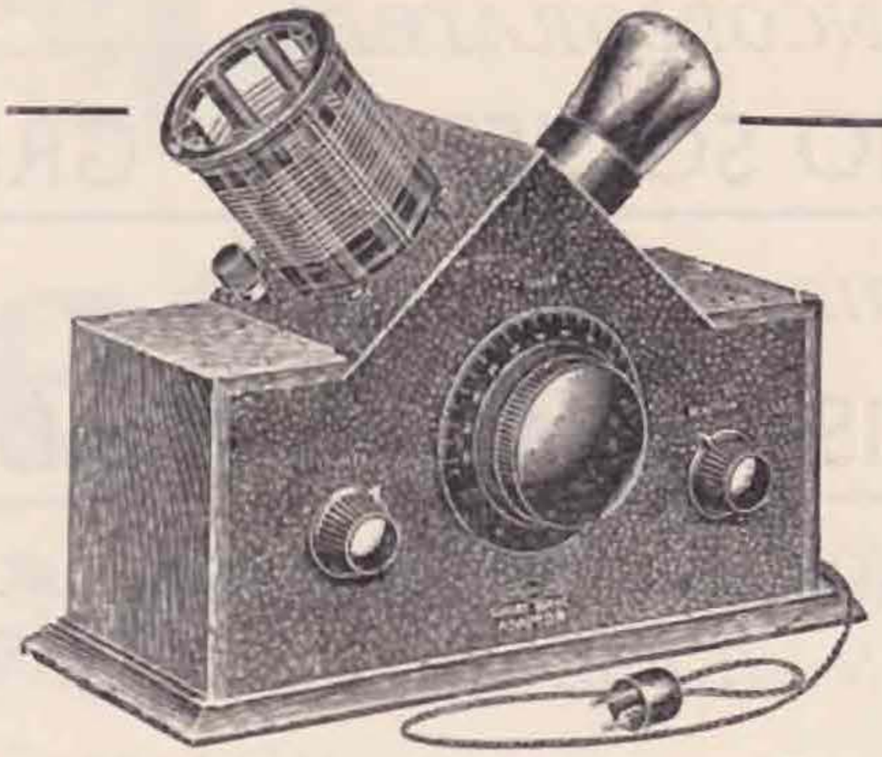

THE LATEST MAGNUM SHORT WAVE ADAPTOR is suitable for both A.C. Mains and Battery Sets.

Price, including 40/80 metres Coil, Cord and Plugs **39/6**

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Model T. For sets using British Valves.

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Note.—It is not suitable for sets where a S.G. Valve is used as detector.

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THE INCORPORATED

RADIO SOCIETY OF GREAT BRITAIN

AND THE

BRITISH EMPIRE RADIO UNION

53, *VICTORIA STREET, LONDON, S.W.I.* (*'PHONE: VICTORIA* 4412)

PATRON: H.R.H. THE PRINCE OF WALES, K.G.

R.S.G.B. CALENDAR.

Forthcoming Lectures.

1932.—September 30.
October 21.
November 25.

1933.—January 27.
February 24.
March 31.

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

T&R

Bulletin

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

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

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

Advertising Manager: H. Freeman.

AUGUST, 1932. Vol. 8. No. 2.

THE ROYAL NAVAL WIRELESS AUXILIARY RESERVE.

ELSEWHERE in this issue we are able to make an announcement of vital importance, and one which affects every amateur transmitter and receiver of the British Empire. For years this Society has considered how it could in some measure assist His Majesty's forces, but always some difficulty has stood in the way and prevented a scheme for co-operation being brought to fruition. During the Great War many of the earlier members of the Society were able to materially help the nation in its need for expert technicians and operators, and the Society has always been able to look back with pride upon this as the one period where it has been able to perform a national service.

However, an opportunity has come to us at last. Earlier in the year the principal officers of the Society were called upon to serve upon an Admiralty Committee to discuss the possibility of forming a reserve of expert radio men to serve the country in time of National emergency. Naturally the scheme involved the necessity of Committee meetings held in strict camera, consequently, nothing could be announced until maturity was reached. The methods of enrolment, the duties and methods of operation had to be fully considered, and we were glad to find that during the discussions, the Admiralty officials were ever ready to listen to, and adopt our many suggestions for the formation of a reserve which will work upon lines running parallel with amateur practice and procedure.

The plan is outlined in the announcement, so that it is unnecessary to refer to its details here, but we should like to emphasise here that the Society can feel proud of the honour which has thus been paid to it, and the recognition of its capabilities by the Government. It immediately places the Society upon a sounder footing in all quarters, and gives encouragement to those who for so long have worked for its general welfare.

It remains now for our members to justify the trust imposed upon them, and enrol

R.N.W.A.R.

Captain A. J. L. Murray, D.S.O., O.B.E., R.N., will address the Convention Business Meeting at 2.30 p.m. on Saturday, August 27, 1932, on the Royal Naval Wireless Auxiliary Reserve.

(*Continued on page 56.*)

THE ROYAL NAVAL WIRELESS AUXILIARY RESERVE.

By JOHN CLARRICOATS, *Hon. Sec.*

OUR President, in a stirring Editorial, has outlined the bare facts as we know them to-day in connection with the R.N.W.A.R. It is my privilege now to amplify these remarks, and tell you something about the inner history of the moves which have led up to this, our biggest achievement.

Back in January last, a telephone message was received from the Admiralty through Mr. Pocock (Editor, *Wireless World*), enquiring whether or not the R.S.G.B. would be in favour of giving its support to a Naval Reserve scheme. Knowing the difficulties which had been encountered by succeeding Council bodies in the past who had been desirous of offering the services of the British Radio Amateur to the Government, your Secretary had no hesitation in pledging support, even without definite knowledge of his commitments. The invitation was sufficient. Shortly afterwards a preliminary meeting was held at the Admiralty, when the following were present: Capt. J. W. Dorling (Director of Signals Department), Commander P. F. Glover, R.N. (Signal Department), Capt. Echevarri (Wireless Telegraphy Board), Mr. H. Pocock (representing the Press), Major W. H. Oates (representing the unattached amateur), Messrs. Bevan, Swift, Watts and Clarricoats (representing the R.S.G.B.).

At this meeting, discussion centred around the preparation of a handbook upon which the Reserve could operate. As a result of the views put forward by our representatives, it was decided to prepare amendments to the rough draft handbook which had been put forward by the Admiralty. At this same meeting a discussion took place regarding the methods of operating the Reserve geographically. Immediately following this meeting, full details of the R.S.G.B. organisation were forwarded to the Admiralty, and it is expected that our own District scheme will be closely followed as the Reserve progresses. Useful information regarding the operation of the American Naval Reserve was obtained, confidentially, from Mr. K. B. Warner (Secretary, A.R.R.L.), and this, too, was passed to the Admiralty.

The next meeting, held on June 1, saw the same representatives present, except that Capt. A. S. L. Murray, D.S.O., O.B.E., R.N., had succeeded Capt. Dorling as Chairman and Director of Signals Department. On this occasion many R.S.G.B. proposals made after the earlier meeting were approved, and thus formed the basis of the second draft handbook. The Society's representatives were particularly desirous of impressing upon the Admiralty officials the desirability of making the scheme *attractive from an amateur point of view*. Consequently, especial care was taken in framing the clauses governing Training and Tests. It was pointed out that in order to provoke interest of the right type, steps should be taken to make the conditions of entry as simple as possible, consistent with efficiency. The Morse speed tests clauses were subjected to keen scrutiny, and finally figures were chosen which should be well within the attainment of an amateur.

The third meeting, and last to date, took place on June 21, when all representatives (except Mr. Pocock) were present. At this meeting, a third draft handbook was discussed, and finally approved.

As the President has told us in his Editorial, the meetings had been held in strict camera, and no word of what was in hand had even been allowed to reach the ears of the other members of Council. With the approval of the handbook in its final form, it was deemed expedient to apply for permission to call a special Council Meeting for the purpose of explaining the steps which had been taken, and to test the views of the other Councillors. Accordingly, a meeting was held on June 28, when all members (except Messrs. Old and Mathews) were present. The scheme was fully explained, and a unanimous vote of thanks accorded the R.S.G.B. representatives for the work they had done in connection with the negotiations.

It remained now to obtain permission to give full publicity to the scheme, but, for certain reasons, the Admiralty were unable to give the "go ahead" signal until July 28. It is our hope that these announcements (written on July 29) will be the first published, dealing with this latest move to put British Amateur Radio on the map, but if we are late with the news, our members will at least have the satisfaction of knowing that we were there all the time.

Before briefly outlining the operation of the plan, it should be mentioned that arrangements have been made whereby Capt. Murray will personally address the Convention Business Meeting, at 2.30 p.m., on Saturday, August 27. Following his talk, names may be handed in for enrolment, or sent direct to me at Headquarters.

What does the Reserve stand for?

The provision of a Reserve of trained operators for Naval Service in times of war or National emergency, and to ensure that in such emergencies the available talent is put to the best possible use.

Its subsidiary objects are to encourage within the British Empire those interested in the transmission of wireless Morse code messages, and to afford opportunities for practice and training, so that sufficient wireless operators are available for Naval Service in emergency with little additional training.

* * * *

What is the outline of the Organisation?

It is controlled by the Admiral Commanding Reserves under the Board of Admiralty. The internal administration is to be in the hands of a Committee composed of at least one R.S.G.B. representative. The Reserve, within the United Kingdom, will be divided into areas, districts, sections and units. The units will consist of small

groups of members of the Reserve, with a maximum of five amateur transmitting stations per unit.

How will training be arranged ?

This will be decentralised as far as is possible, and will take the form of instructional classes organised by a Unit Petty Officer. There will be two types of training (*a*) for operators ; (*b*) for watchers.

Periodical proficiency tests will be arranged, and handbooks of instructions issued by the Admiralty. Exercise transmissions on special wavelengths, and using Naval call signs, will be given at predetermined intervals, probably once a week.

What are the requirements for enrolment ?

Candidates will be enrolled as Watcher 1st or 2nd Class, or as Operator 2nd Class. Advancement will be made as a result of periodical ability tests.

The ranks and ratings will be as follows :—

R.N.W.A.R. Area Commander.
" District Commander.
" Section Lieutenant.
" Unit Petty Officer.
" Operator 1st Class.
" Operator 2nd Class.
" Watcher 1st Class.
" Watcher 2nd Class.

Candidates must be over 18 years of age, and sons of British born parents. They must produce references signed by two British citizens, and must declare themselves free from important physical defects.

Men who are serving or who are bound on mobilisation to serve in H.M. Forces ; members of any Police Force, and men on the established list of one of H.M. Naval establishments, or serving in dockyard, tugs and crafts, are ineligible to enrol in the Reserve ; whilst men on the established list of any Government Department or establishment, or persons engaged on commercial work of a Government nature or indentured apprentices must obtain the consent of the head of their department or employer before enrolment.

Is there a special entry ?

Yes, in order to stimulate the entry and training of Reservists, persons possessing special qualifications who are interested in the objects of the Reserve may be enrolled in an honorary capacity.

What are the conditions of Service ?

Candidates must be prepared to accept the conditions of service as laid down in the handbook, and must sign the Declaration of Enrolment on joining. They must sign the annual declaration every year, and must be prepared on mobilisation to sign a continuous service engagement.

What are the qualifications for enrolment and advancement ?

Watchers 2nd Class will not be required to pass a test, but must carry out the conditions of service as outlined above. Watchers 2nd Class will be given one year in which to qualify as Watcher 1st Class. Watchers 1st Class must carry out the conditions of service, and must possess receiving apparatus capable of use on all amateur and Naval high frequency bands.

They must be capable of receiving plain language English sent for five minutes, four-letter code for three minutes, and four-figure cypher for three minutes. All speeds at ten words per minute.

Candidates for enrolment as or advancement to the rank of Operator 2nd Class must either be (*a*) in possession of a licensed amateur transmitting station ; and (*b*) be able to pass plain language, code, and cypher tests for three minutes each at a speed of twelve words per minute, transmitting and receiving ; or (*a*) possess receiving apparatus capable of use on all Naval and amateur high frequency bands ; (*b*) pass the above mentioned Morse tests ; (*c*) pass practically in procedure as laid down in the P.M.G. Handbook.

Operators 1st Class must have served as Operator 2nd Class for six months, and must pass the Operator 2nd Class tests at a speed of 15 words per minute. They must pass practically in Naval Procedure, and be recommended by their Section Lieutenant.

Unit Petty Officers will be advanced as opportunity occurs, but they must have served as Operator 1st Class for one year, be capable of taking charge of a unit, and recommended by their District Commander. Reservists may remain in the Reserve until they attain the age of 55. Three months' notice in writing must be given to the Chief Officer, R.N.W.A.R., before a resignation can be accepted.

* * * *

The above is a brief outline of the scheme, and should give all interested members an idea of its scope. Fuller details regarding allowances, uniform, mobilisation arrangements, instructions to Officers, etc., will be published in the Handbook, and mentioned at Convention.

It remains now for our Home membership, *of all grades*, to support the scheme after having carefully considered its demands. We are convinced that it is *the* scheme for the British Radio Amateur, carrying with it a host of privileges which will lift him out of the rut and make his work something worth while.

Let us have your support at Convention, or, if you cannot be with us, let us hear that you are interested. Thanks, O.M.

Modulation 90%

Quality Perfect.

How are the modulation articles getting on ? Remember the closing date in this competition is September 30th, and there's a prize of two guineas worth of apparatus attached to it. Full details appeared in the June Bulletin on page 414.

A UNIVERSAL SHORT-WAVE RECEIVER

This single-valve receiver has been designed to serve the dual purpose of covering the Short-Wave Broadcast Bands, or merely those particularly allocated to the amateur, according to the inclinations of the constructor. It employs a pentode valve as detector, thereby producing considerably greater signal strength than would normally obtain with a single-valve receiver.

IN considering the design of a universal receiver for short waves, it must be borne in mind that there are two classes of amateurs who use these waves.

Firstly, we have the transmitting amateur, whose primary interest lies in those particularly narrow bands allocated to amateur transmitters.

Secondly, we have the short-wave "B.C.L.," whose primary interest lies in receiving the short-wave broadcast stations, and who has little or no interest in amateur transmission.

It is with these two classes in mind that the receiver to be described has been designed.

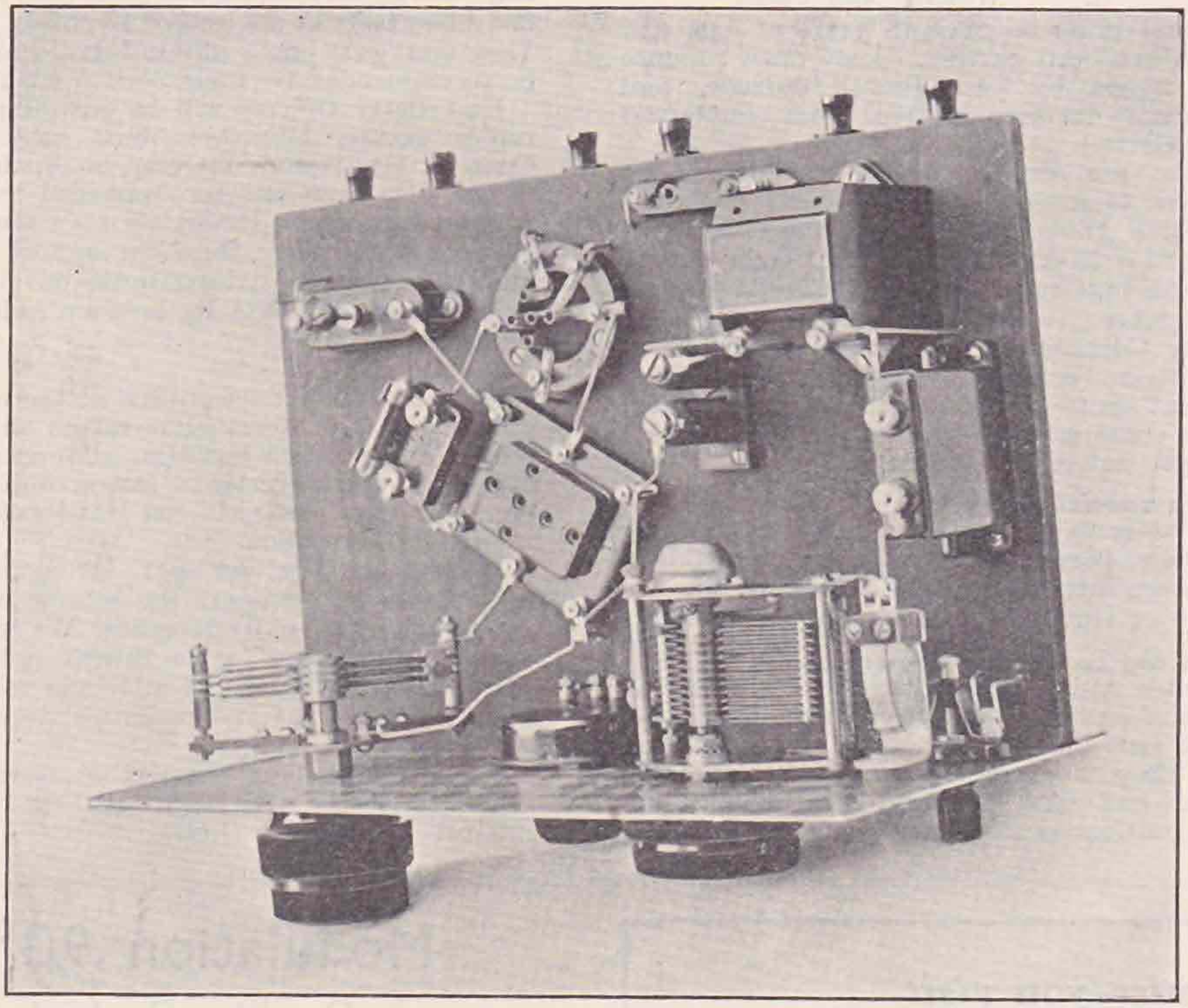
By simply changing one wire, the receiver can be made to cover the short-wave broadcast bands, or only the amateur bands. This is accomplished by tapping the coils, so that only a few turns may be tuned instead of the whole coil, this having the effect of spreading the amateur bands over a considerable part of the dial.

The aerial, in either case, is coupled *via* a small series condenser, to the grid coil, at a predetermined point.

The use of a Pentode as a detector is a definite improvement, and is probably superior to an ordinary screen-grid valve used in the same way. The voltage on the screen-grid of the Pentode is by no means critical, as is the case with an ordinary screen-grid valve, while the sensitivity and lack of background noise leaves little to be desired.

Constructional Details.

The set is constructed on a baseboard, mounted on two aluminium runners, and an aluminium panel. The baseboard measures 12in. by 8in., and the panel 12in. by 7in. The aluminium runners raise the baseboard 1in. up the panel, so that when the set is slipped into its cabinet, the sub-baseboard wiring has plenty of clearance. The cabinet and baseboard are products of Burne-Jones, Ltd., and



are supplied ready drilled. The aluminium runner at the back of the baseboard takes the six *Clix* All-in terminals, marked H.T.+ and —, L.T.+ and —, Aerial, and Earth.

receiver, to which purpose the receiver is to be put, and connect accordingly. The use of a switch is not advocated, as it usually involves losses, unless it be of some special design.

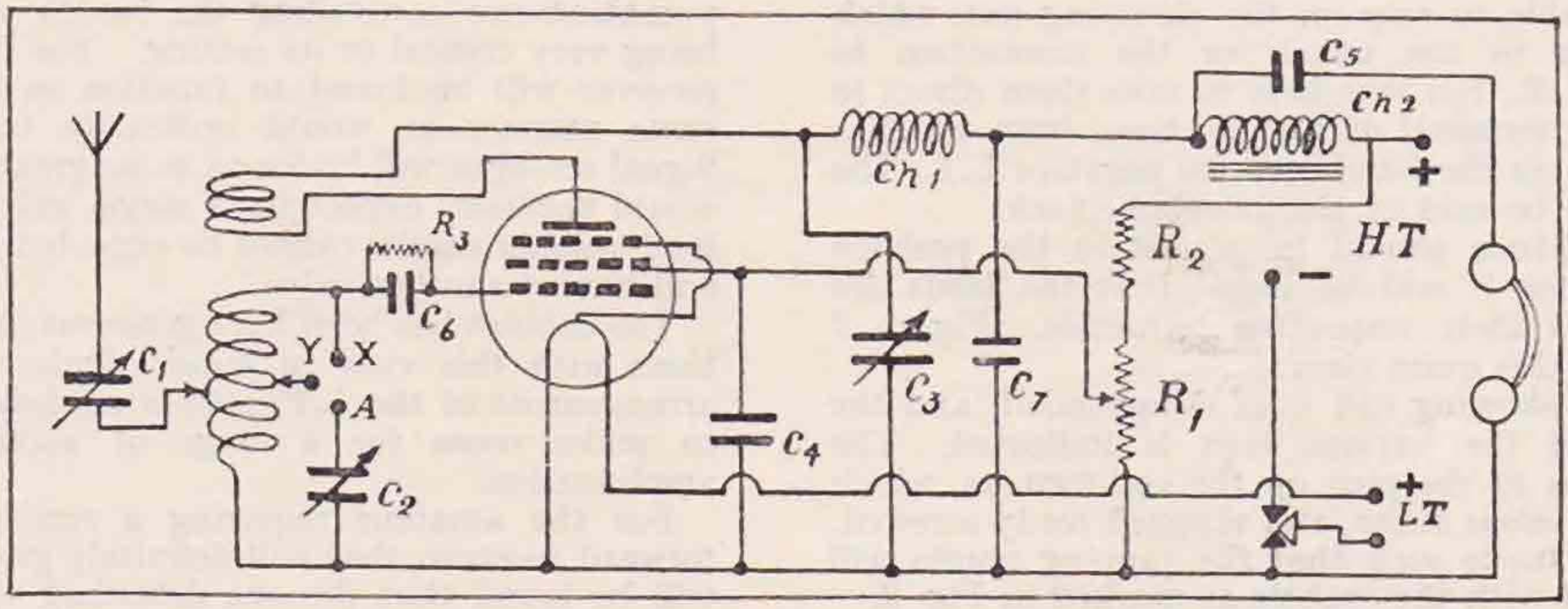


Fig. 1. Circuit Diagram.

C_1—.0001 Pre-set Type (Polar).
C_2—.00016 Eddystone Short-Wave (Stratton).
C_3—00025 Type C (Polar).
C_4 & C_5—1 mfd. (T.C.C.).
C_6 & C_7—.0003 Fixed (T.C.C.).
Ch_1—H.F. Choke (McMichael).
Ch_2—L.F. Choke, 20 hy. Nicore II (Varley).
R_1—50,000 ohms Wire-Wound Potentiometer (Burne-Jones).
R_2—50,000 ohms "Spaghetti" (Burne-Jones).
R_3—1 megohm (Mullard).

Below the baseboard are mounted the two condensers C_4 and C_7 in the diagram, and also the resistance R_2. The rest of the components are mounted on the panel and baseboard, and their disposition can readily be seen in the photograph.

The aerial coupling condenser, a *Polar* preset, and C_1 in the diagram, is shown in the left-hand corner, with the valve-holder, an *Eddystone* 5-pin, just to its right. The coil-base is the familiar six-pin type, and, with the coils, is also of *Eddystone* make.

The grid-condenser and leak, C_6 and R_3, are mounted *in* the wiring, so as to leave a clear space all round them, thus minimising losses.

The *Burne-Jones* potentiometer, R_1, can be seen mounted between the two variable condensers, and the *McMichael* H.F. choke is to the right of the coil-base. Just beyond that is the *Varley* "Nicore" choke, which is used, in conjunction with the 1 mfd. condenser shown (C_5), to couple the phones to the set.

An *Ormond* telephone plug and jack is used, the jack being mounted on the panel as indicated in the photograph. Below the jack is an *Ormond* three-point switch, which is used to break the H.T. and L.T. circuits. A 50-ma. *Microfu* is used in the H.T. negative lead.

The reaction condenser, C_3, is on the right, and is connected in the conventional way. This is a *Polar* .00025 Type C with slow-motion. The tuning condenser, C_2, is an *Eddystone* short-wave type, and has a capacity of .00016 mfd. This is permanently connected to the negative L.T., but the other side, which is the point A in the diagram, may be connected to either point X or point Y. In the former case, the whole of the coil is tuned, giving a greater wavelength range for a given coil, but the change per degree of movement is much greater than if the point A were connected to point Y. In this case, only a portion of the coil is tuned, which gives a considerably smaller rate of change per degree of movement of the condenser.

The constructor must decide, when building the receiver, to which purpose the receiver is to be put, and connect accordingly. The use of a switch is not advocated, as it usually involves losses, unless it be of some special design.

A *Utility* dial is used in conjunction with the tuning condenser, and must be regarded as a necessity.

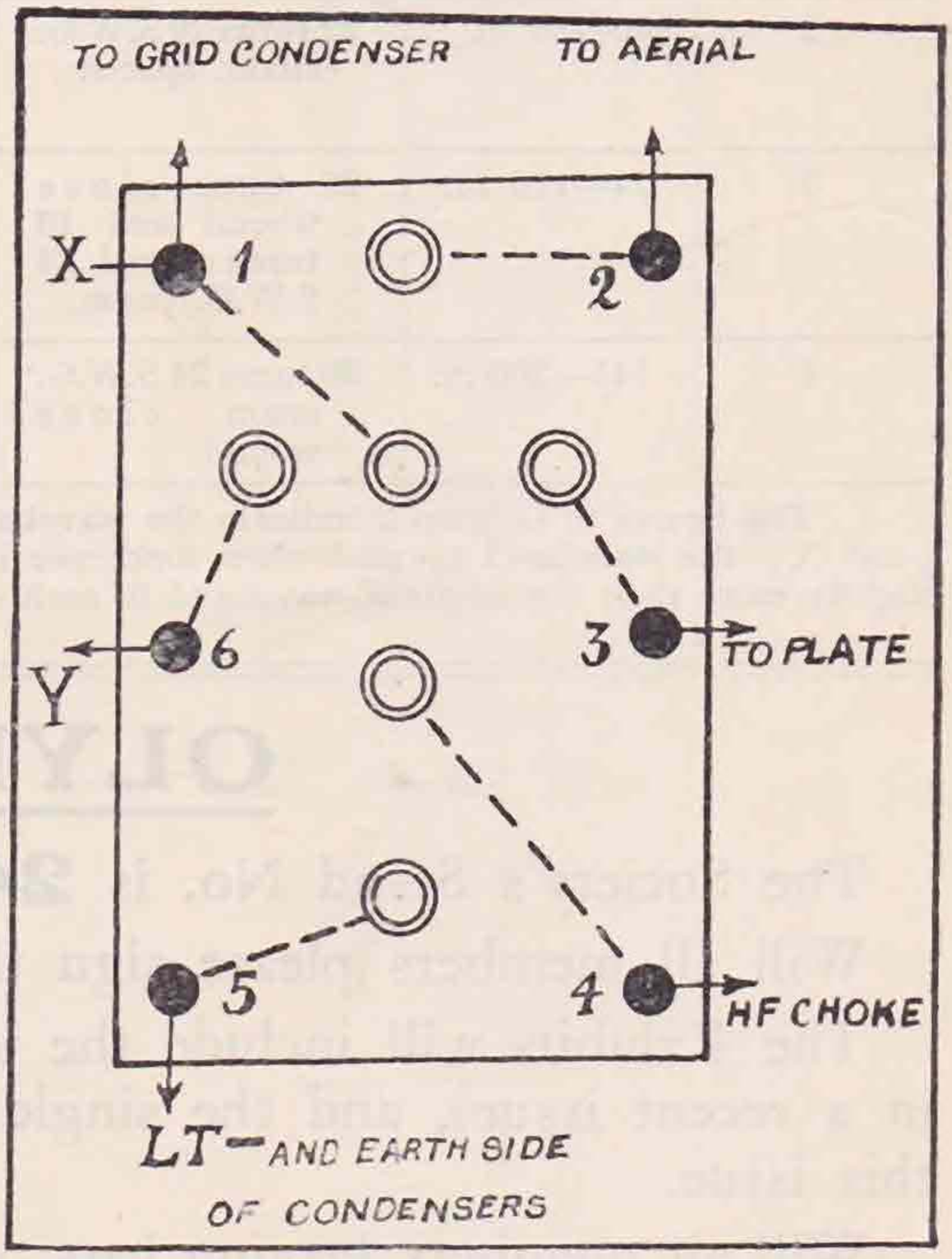


Fig. 2. Details of Coil Base.

Provided the layout shown is followed, no difficulty should be experienced in wiring, the details of which are readily seen. Where a wire requires

to be taken to a terminal, a hole can be drilled in the wooden baseboard and the wire taken through it, directly to the terminal. As will be seen, all the low-potential wiring is carried out in this way.

In the case of the two variable condensers, it is not advisable to rely on the clamping nuts which hold them to the panel for the connection to negative L.T., but it is best to take them direct to the corner terminal of the coil-base, from which a wire goes, *via* the baseboard, to negative L.T. The same may be said of the telephone jack.

The coil-base should be placed in the position shown, when it will be found that the leads are shortest to their respective terminals. Figure 2 will make this quite clear.

A table showing coil sizes is appended, and the position of the various taps is indicated. The connections to the pins on the coil-formers, which are of *Eddystone* make, and supplied ready screwed, should be made such that the tapping points will correspond with the sockets as marked in Fig. 2.

The valve used was a *Mullard* P.M.26, but either the 2- or 4-volt type of the same make would work satisfactorily. All have the screen-grid brought out at the centre pin.

Operation.

The handling of this receiver is quite simple, the potentiometer controlling the screen voltage not being very critical in its setting. For the rest, the receiver will be found to function in exactly the same manner as would ordinarily be expected. Signal strength will be found to be greater than one would normally expect for a single valve, although loud-speaker results cannot be expected without the addition of another valve.

The cabinet has been kept generous in its proportions with this view in mind. Only a slight re-arrangement of the L.F. side is necessary in order to make room for a stage of audio-frequency amplification.

For the amateur requiring a simple, straightforward receiver, that will definitely give results, it will be found that the one described will meet all his requirements.

COIL DETAILS.

Coil No.	Band Covered.	Grid Coil.	Reaction Coil.	Aerial Tap from L.T. End.	Tap for Point Y from same end
1	20—41 m.	8 turns 20 S.W.G. enam. spaced	6 turns 34 D.C.C. spaced $\frac{1}{8}$in. from grid coil	$\frac{3}{4}$ turn	$1\frac{1}{4}$ turns
2	40—80 m.	22 turns 20 S.W.G. enam. spaced	6 turns 34 D.C.C. wound in slot round base	3 turns	$4\frac{1}{2}$ turns
3	74—110 m.	25 turns close wound and 13 turns spaced. 24 S.W.G. enam.	11 turns 36 D.C.C. spaced $\frac{1}{4}$in. from grid coil	4 turns	13 turns
4	145—200 m.	30 turns 24 S.W.G. enam. close wound	13 turns 36 D.C.C. wound in slot round base	24 turns	24 turns

The figures in Column 2 indicate the waveband covered with the tuning condenser connected to the point X; the waveband covered when condenser is connected to point Y, as indicated in last column, is slightly more than the amateur waveband in each case.

OLYMPIA.

The Society's Stand No. is **242** in the Gallery.

Will all members please sign the Visitors' Book.

The Exhibits will include the low power c.c. transmitter (described in a recent issue), and the single valve pentode receiver described in this issue.

Will all members leaving hats, coats or parcels, etc., upon the stand please note that the Society cannot be responsible for their safe custody.

PLEASE WEAR YOUR BADGES.

THE THIRD LOYAL RELAY.

St. James's Palace, S.W.
June 24th, 1932.

The President,
Incorporated Radio Society of Great Britain,
53, Victoria Street, S.W.1.

Sir,

The Prince of Wales asked me to thank you, the Council and all members of the Incorporated Radio Society of Great Britain most sincerely for the message of good wishes which you were good enough to send him on the occasion of his birthday.

His Royal Highness will be much obliged if you will convey his grateful thanks to the members of the British Empire Radio Union who sent him birthday greetings from Hong Kong, Iraq, Trinidad, Nairobi, Ceylon, Egypt, Canadian Amateurs, the Montreal Division and South Africa, copies of whose telegrams were enclosed in your letter.

Yours faithfully,
(*Signed*) H. Lloyd Thomas,
Asst. Private Secretary.

IN these words, our Patron, His Royal Highness The Prince of Wales, thanked the Society and the members of the British Empire Radio Union for their loyal greetings and good wishes which were sent to him on the occasion of the thirty-eighth anniversary of his birthday.

During the week before June 23, radio conditions were very poor for some parts of the Empire, with the unfortunate result that the expected messages from North India, Australia and New Zealand did not arrive. We were extremely sorry not to receive the greetings from these parts, but no blame attaches to anyone, it was simply unfortunate. The Empire Link Stations were at work right up to the last minute trying to obtain the missing messages, and we heard from Ceylon and Iraq as late as the morning of June 23 that they were unable to get anything through. We were, however, lucky with regard to South Africa. At the time ZU6W received the message to send he was ill; but he got out of bed, managed to pass it to G5ML in spite of the fade out period, and then went back to bed. A fine piece of work, and typical of the keenness there is to see the job through.

The messages were delivered by hand to the Royal Palace, and follow in the order they were received.

1.—From Headquarters, R.S.G.B. & B.E.R.U.
The President, Council and Members of the Incorporated Radio Society of Great Britain desire to convey to your Royal Highness their Loyal and cordial greetings upon the occasion of your birthday, and to express the hope that you may long be spared to remain the gracious Patron of the Society.
(*Signed*) H. Bevan Swift,
President.

2.—From Ceylon *via* VS7GT and G5BJ.
The Radio Club of Ceylon and South India and all local members of the British Empire Radio Union send their sincere and loyal birthday greetings to His Royal Highness The Prince of Wales.
(*Signed*) Todd, VS7GT.

3.—From Egypt *via* SU6HL and G6RB.
Members of the British Empire Radio Union domiciled in Egypt unite in sending your Royal Highness birthday greetings and sincere wishes for continued good health.
(*Signed*) Hill, SU6HL.

4.—From Trinidad *via* VIYB and G6WN.
On the thirty-eighth anniversary of Your Royal Highness' birthday, members of the West Indies Section of the British Empire Radio Union join in wishing you very many happy returns.
(*Signed*) Trasler, VP4TA.

5.—From Hong Kong *via* VS6AE and G2ZQ.
The Hong Kong amateurs send loyal greetings, and wish His Royal Highness a very happy birthday.
(*Signed*)
The Hong Kong Amateur Radio Transmitting Society
(affiliated with B.E.R.U.).

6.—From Kenya, Uganda, Tanganyika and Zanzibar *via* VQ4CRF, G6WN and G2ZQ.
B.E.R.U. Membership of Kenya, Uganda, Tanganyika and Zanzibar send loyal birthday greetings to His Royal Highness The Prince of Wales.
(*Signed*) Cox, VQ4CRF.

7.—From Iraq *via* YI2DC and G2ZQ.
All Iraq's amateurs join in wishing H.R.H. The Prince of Wales respectful greetings on the occasion of his birthday.
(*Signed*) Martin, YI2DC.

8.—From Canada *via* VE2BE and G2XH.
Canadian Amateurs send you hearty birthday greetings.
(*Signed*) A. Reid, VE2BE.
Canadian General Manager, A.R.R.L.

9.—From Canada (Montreal) *via* V2BB and G5ML.
Montreal Division send loyal greetings and sincerest wishes for a happy birthday.
(*Signed*) Dawes, VE2BB.

(*Continued on page* 55).

TRANSCEIVER.

IN designing the Transceiver, our main object has been to compress into as small a space as possible, the absolute minimum of apparatus required for a complete sending and receiving station. This has been accomplished by the utilisation of the various components in both the transmitter and receiver circuits by the employment of a multi-point change-over switch.

The set is intended for use in the 1.7 mc. band although there seems to be no reason why it should not be quite satisfactory in the 3.5 mc. band also; so far, however, no tests have been carried out in that band.

The transmitter circuit is the well-known parallel feed R.F.B. and that for reception, a straight single-valve detector with capacity reaction. The *Osram* L.P.2 has proved to be an excellent valve, especially as its long filament considerably minimises the possibility of chirp when keying the negative H.T.

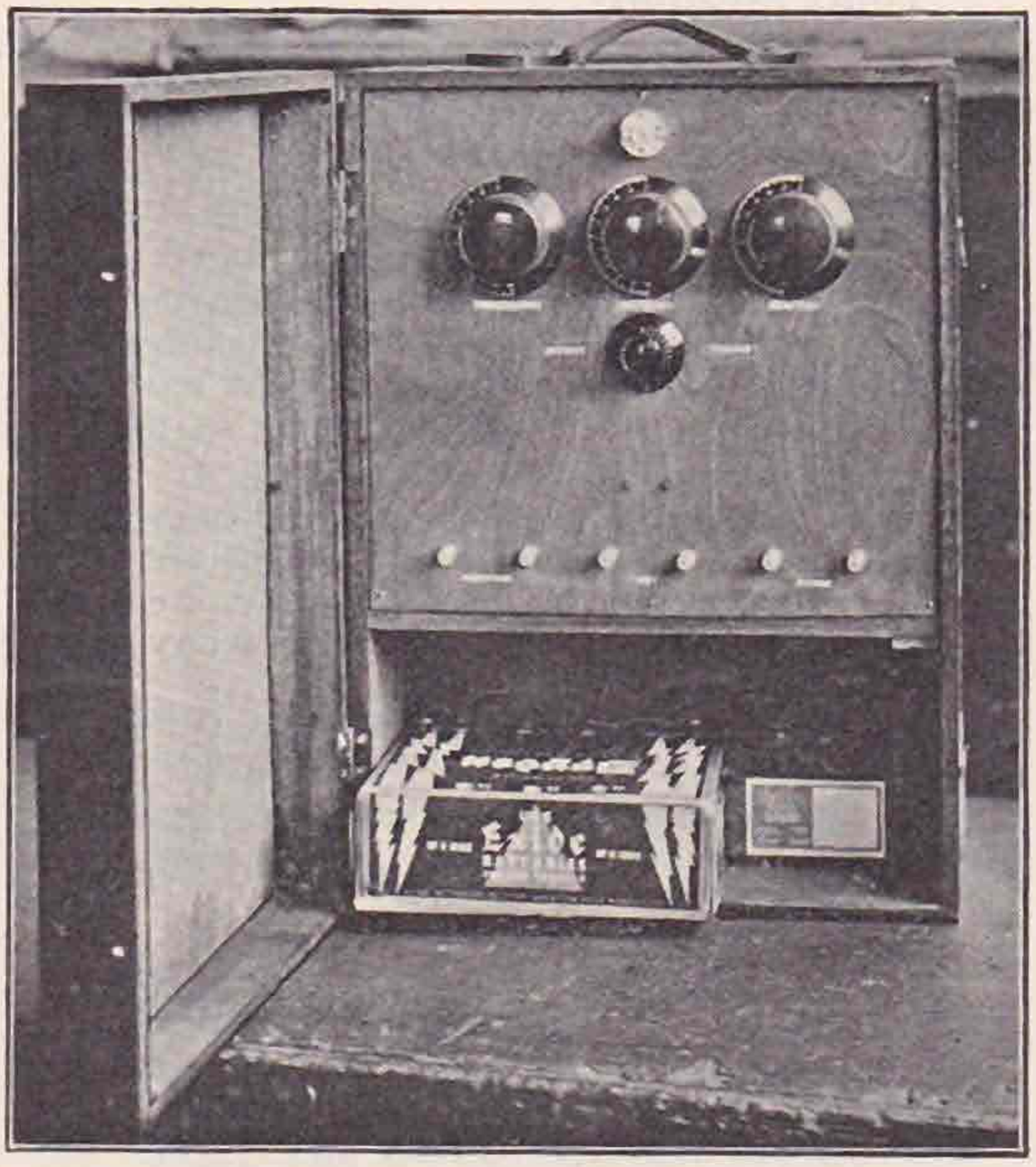
The circuit conventions used in Fig. 1 may be unfamiliar to some, although to anyone used to telephone circuits they will be instantly clear. If it is borne in mind that Fig. 1 shows the circuit with the switch in the "receive" position, and that all the contacts change over when the switch is thrown to "transmit," there should be no difficulty in following through the two circuits.

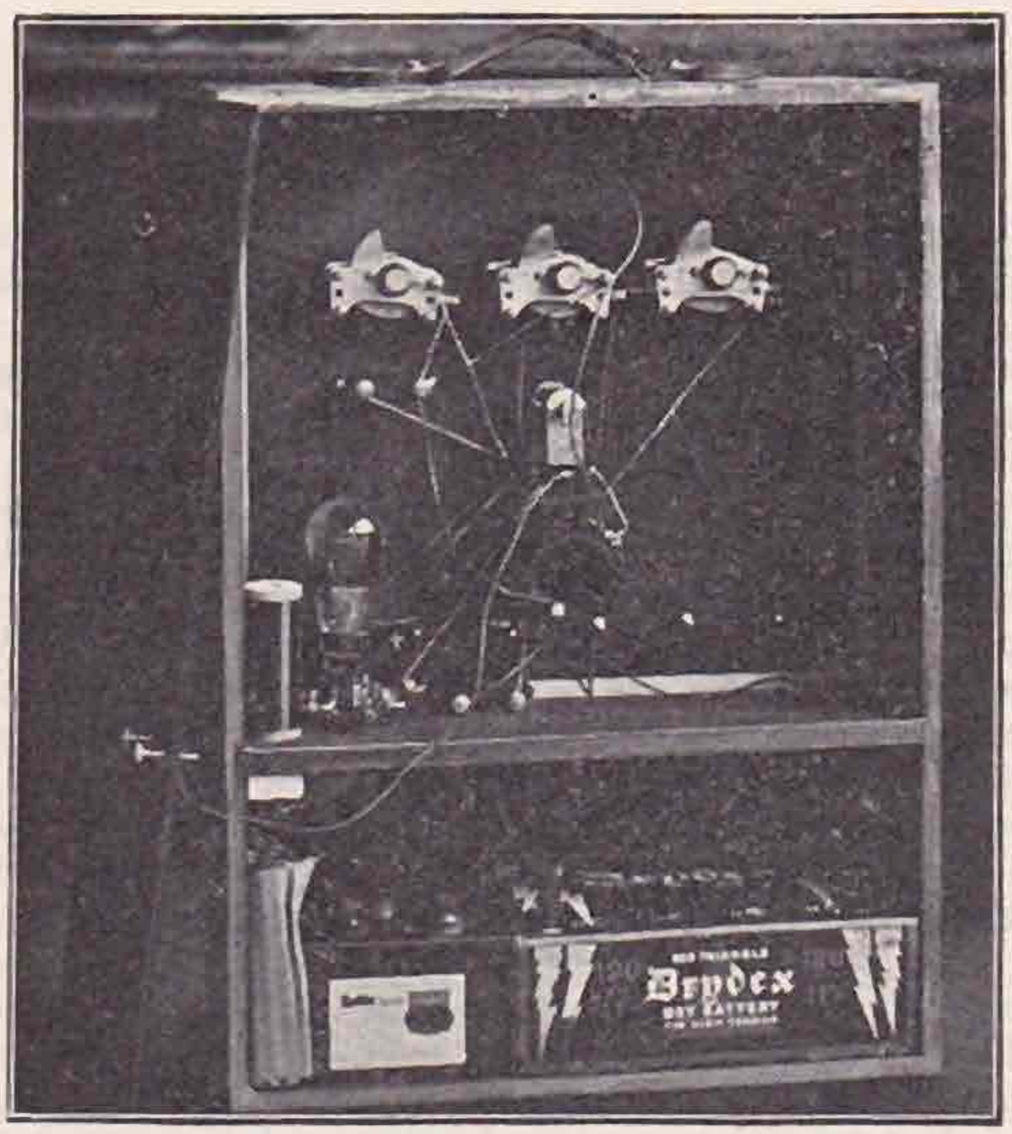
The set-out for the box is illustrated and, although it is rather larger than is strictly necessary, the cabinet is quite light and affords plenty of room for headphones, key, etc. The three *Polar* variable condensers are mounted in line on the top half of the panel, which is ordinary three-ply, and found to be quite satisfactory; below the centre condenser is the change-over switch and below this, the coil. The *Eddystone* valve-holder, a particularly neat job, is screwed to the base-board below the receiver grid tuning condenser, together with the gridleak and condenser and the auxiliary .001 mfd. condenser which is brought into circuit during transmission.

The auxiliary plate stopping condenser is mounted on the panel close to the reaction condenser.

Coils and Choke.

The grid coil consists of 22 turns of No. 24 enamelled wire wound close and the plate-reaction coil 28 turns of No. 24 spaced 1/16th in. and 1 in. from the grid coil. This spacing is to facilitate the finding of a suitable tapping for the transmitter aerial and also reduces the total inductance slightly, which is an advantage with so large a reaction coil. The high frequency choke is 1¼ in. in diameter and has 250 turns of No. 34 enamelled wire on a wooden former (a section of broom-handle does splendidly);





The left-hand photo shows a front view of the Transceiver, while that on the right shows the interior.

the other constructional details are evident from the photograph and plan. The H.T. battery, an *Exide* 120 volt, and L.T., also *Exide* (unspillable) are housed in the lower compartment. It will be seen that the H.T. battery projects beyond the front of the box into the recessed lid. This avoids the need for packing as it is held firmly in place when the lid is closed.

Circuits.

From Fig. 1 the receiver circuit may be easily traced. C1 tunes the aerial coil and may be left set, during transmission, to the other station. C6 and the microphone are disconnected from the H.F. side and are virtually earthed through C2. When the switch is turned to "Transmit" S1 disconnects the aerial from the grid coil and places it through the indicator lamp (a pocket lamp bulb, which serves as aerial ammeter) to the plate coil. S2 connects C2 in parallel with the grid coil. S3 disconnects C5 and substitutes C6 in the grid circuit,

S2 having completed the other side of its circuit. The position of the microphone may be unorthodox but provided the leads are kept still it will give excellent 'phone. S4 places C4 in parallel with C3 as plate stopping condenser and S5 short circuits the headphones. C4 makes it unnecessary to alter the position of C3 for transmission and so once the

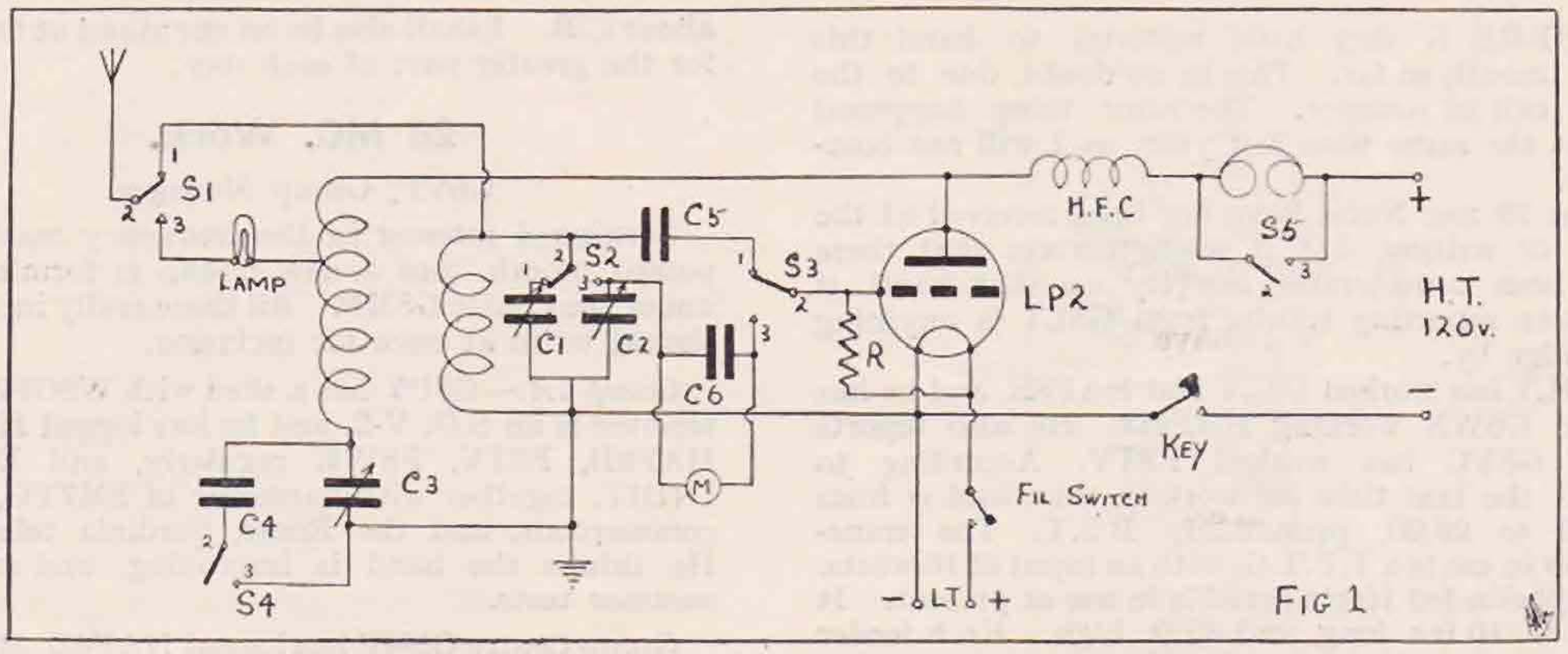
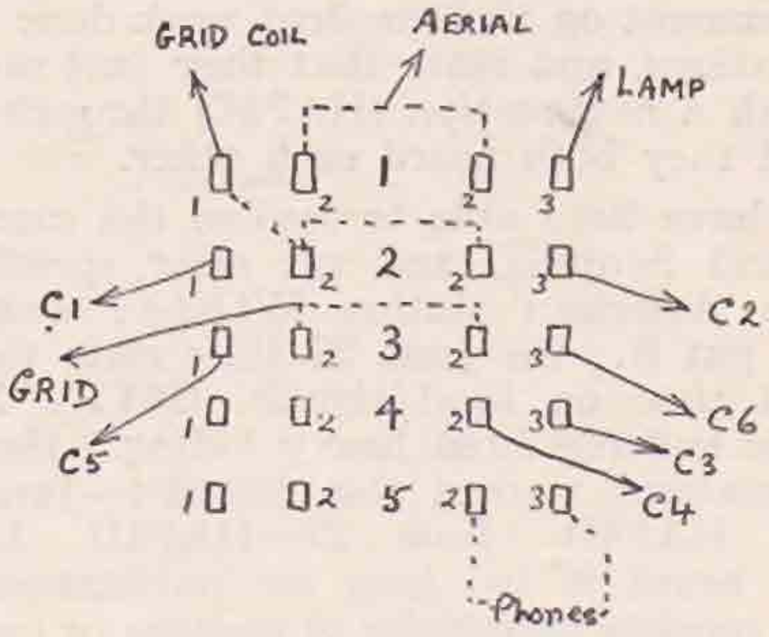


FIG 1

R—2 mΩ.
C_1 & C_2—.00025 Polar.
C_3—.0001 Polar.
C_4 & C_6—.001 T.C.C.
C_5—.0003 T.C.C.
Valve Holder—Eddystone.
H.T. & L.T.—Exide.
Switch—5 pt. Change over (Ormond).



WIRING PLAN FOR CHANGE OVER SWITCH

FIG. 4.

adjustments are found, two-way working consists of merely turning the switch S.

The maximum power it is economical to use is 2 watts which, however, is ample for communication over considerable distances. Good quality 'phone may be put out over 20 miles and C.W. much further.

Fig. 4 gives a detailed drawing of the connection to S. This, by the way, is a first-class component with very low self capacity.

Conclusion.

In bringing out this little set it is hoped that a lead may be given to some of our ingenious QRP men to delve into the possibilities of ultra economical light-weight gear and we look forward to some brain-waves in the near future; meanwhile we are confident that the "Transceiver" represents a sample of what may be achieved at a very small outlay, by the exercise of a little thought and ingenuity.

In the original cabinet there is ample room for a spare H.T. battery should one be desirable. With one battery the complete outfit weighs a little over 24 lbs. and so genuinely merits the term "portable."

During the summer this set will be on the air with the call-sign G5YO, and reports will be welcomed if sent to the QSL section.

CONTACT BUREAU NOTES.

By H. C. Page (G6PA).

THERE is very little material to hand this month so far. This is, no doubt, due to the call of summer. The same thing happened about the same time last year, so I will not complain.

The 28 mc. Notes have not been received at the time of writing, but it seems certain that there has been considerable activity on that band, if a letter reporting results from G5LT is anything to judge by.

G5LT has worked F8TV and HAF8B, and he has heard G6WN working HAF4D. He also reports that G6YC has worked F8TV. According to G5LT the best time for work in this band is from 07.00 to 08.00, presumably B.S.T. The transmitter in use is a T.P.T.G. with an input of 10 watts. A Zeppelin-fed Hertz aerial is in use at present. It is 65 ft. 10 ins. long, and 40 ft. high. Each feeder is 16 ft. 6 ins. long, and the system is tuned with a .0003 mfd. condenser in parallel with the aerial coil.

G5MP also reports considerable activity on the 28 mc. band. He has heard AU1DE and HAF4D ; this was at about 21.30 B.S.T. He has also heard telephony from Rome on 33.2 mc.

On June 24 G5MP reports that the band was very lively, with numerous A.C. notes at about 19.30 B.S.T. These were too weak to copy, but as the Russian 28 mc. tests were on at the time we may suppose that these notes emanated from that direction.

From the two above reports it certainly looks as though 28 mc. has returned to something of its former usefulness, and it would be very interesting to see what the log of those old 28 mc. enthusiasts at G6WN looks like !

Now a word to the QRP men. Last month I published a request for the Group Centres to send their reports direct to me. Presumably you all received your Bulletin's by the 20th of the month, and to-day is the 26th with me. So far I have not received a single QRP report of any description. May I once more request the Group Centres concerned to send their report direct to me. *Please note this.*

H.Q. have forwarded me a letter from G2VV, our late QRP Group Manager. G2VV, as you probably know, has had to give up his position as G.M. owing to pressure of business, and for several months he has been unable to prepare any notes for C.B. He asks us to forgive him for this, and wishes to thank all C.B. members for their past co-operation. He has forwarded me a sheaf of back reports, which I do not propose to publish, as they are several months old. Therefore will the QRP men forgive me the presence of any notes for the time being. I hope to publish notes next month, providing the group managers send me the material, and always providing that it is of a suitable nature.

By the time these few words reach your eyes, if you ever read C.B. Notes, you will all be thinking about Convention, I suppose. May I take this opportunity of reminding C.B. members that I shall be present, and shall be very pleased to have a chat with anyone who wishes to talk to me about C.B. I shall also be on our stand at Olympia for the greater part of each day.

28 MC. Work.

G6VP, Group Manager.

Continued interest in the frequency marks this passed month, and a new Group is forming (1A) under the Centre G5MP. All those really interested should write at once for inclusion.

Group 1A.—G5FY has a sked with W9GFZ. His receiver is an S.G. V-2, and he has logged HAF4D, HAF8B, F8TV, F8WK regularly, and D4DJG, D4BIT, together with harmonic of SM7YG, many commercials, and the Rome, Sardinia telephony. He thinks the band is improving, and suggests summer tests.

Group Centre G5MP has logged HAF4D, HAF8B, F8TV, F8WK, CT1AA (harmonic), CT1AY, AU1DU, and also commercials as low as 8 metres, the limit of his tuning coil. He also is an advocate of summer tests, granted the co-operation of the foreign stations.

Gratifying tests when using pentodes as the crystal oscillator and frequency doublers have been made.

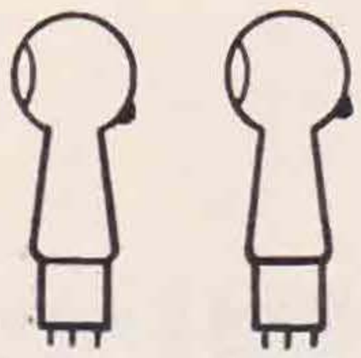
Group 1B does not report.

Group 1C.—G6WN reports fairly good conditions, although bad patches, corresponding to similar poor conditions on 14 mc. were observed. They comment on the excellent work done by the HAF stations, and state that they just missed a QSO with a new station (HAF8C) through QRM, although they both heard each other.

They have been able to resolve the carriers of Rome and Sardinia, and get clear speech, also hear an American station W1K(-) ? something as they put it. On June 27 they state that, for the first time on local signals, G6VP's 14 mc. harmonic suffered from heavy fading. Here is a list of stations worked this month :—June 26—D4BIT, HAF4D. June 27—HAF4D. List of stations heard is too long for publication, and, besides, consists practically of stations or countries logged weekly or daily. G2XH has put in plenty of time, but neither heard nor worked anything. He desires sked starting in September. Will anyone oblige him ? G6VP has put in considerable experimental work this month, with the result that a totally new receiver is now in course of construction. The only points of interest may be that it is totally screened and that the L.F. will again be totally iron screened from the detector and aerial. Also that a monitor will be incorporated in the same cabinet, and that transformer output will be used. This elaborate screening is being tried on account of local A.C. pick-up, and not least in order to shield the receiving valves from the transmitter, which, although some 40 ft. away, puts some 200-300 volts on the grid of the detector and naturally soon strips the emissive coating off the filaments.

Some one-valve listening during QRM periods has been done, and HAF8B was heard CQ, which

Photo Cell Wonder Bargains



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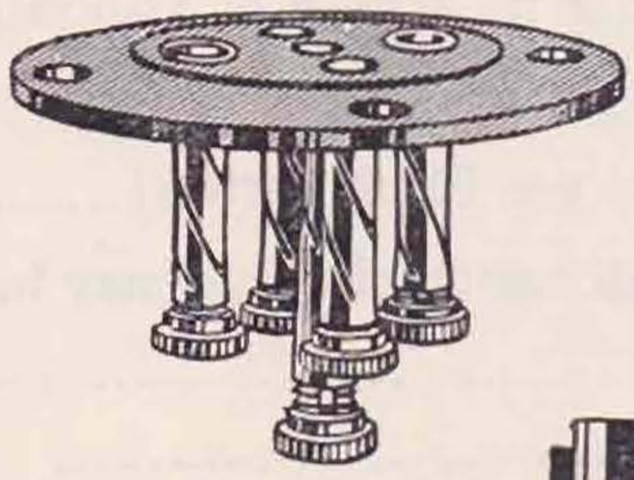

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The Hon. Secretary,

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Signature.....

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

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

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

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

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

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

UNDERTAKING TO BE SIGNED BY APPLICANT.

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

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

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resulted in F8TV connecting. This latter was inaudible here, though.

Subsequently G6VP called HAF8B, using 14 mc., trusting to his harmonic getting through, which it did—QSA 5, R5. Now the question will arise over any reports as to whether reporting stations heard VP on 28 or 14 mc. ?

Group 1F.—G2OA says that the past month has seen the greatest activity on 28 mc. since 1928 ! Local stations are getting interested, and G2OI, of Manchester, has an ultra-auction TX working out on 28 mc. As a result of a sked G2OI heard G2OA QSA 5 R5 P.D.C. on June 25 and 2BZZ heard his signals R4 T8.

2BHK has again a splendid listening log, and stations up to 1,000 miles have been heard consistently. He comments on the varying skip distance from day to day. Known fundamentals are underlined :—June 13—HAF4D. June 17—EAR185. June 18—HAF4D. June 19—EAR33, EAR233, CT1AY, F8TX. June 21—HAF4D. June 23—HAF4D, HAF8B. June 24—F8WK, EAR10, EAR228, CT1AA. June 25—HAF8B, D4BIT, F8YV, F8FK, D4NJB, FM8?R. June 26—HAF4D, HAF8B, UN2GL, CT1AY, EAR16, EAR228, EAR233. June 27—HAF4D, HAF8B, HAF8C, D4OMG. June 28—D4BIT, F8TV, OR2CC. July 3—HAF4D, HAF8B. July 4—HAF4D, OR2CC, HB9X, CT1AA. July 6—CT1AA July 9—HAF4D. July 10—HAF3D, HAF4D, F8TV. July 11—UO3WO. In addition, he has heard harmonics of EAM, EAX, IRR, DGZ, HBO and FTL.

BRS25 has been too busy to do more than attend to his group business, but as he foresees more leisure, hopes to have a good log for next month.

G5CN will be going properly next month, and will report to BRS25.

2BZZ joins the Group.

I have heard from UO3WB that they have arranged a 28 mc. Group and are very active.

UO3WB was QRS F8TV on July 11.

Fading, Blindspotting and Skip.

By G.M. G2ZC.

The question has arisen regarding our policy, and for the benefit of those who read our notes, I should like to explain this in a few words. Complaint has been made that our notes are short, but we would ask those who read them to remember that the subjects that we are studying are more theoretical than practical, and further, that the majority of them require long careful study, before we can arrive at a decision worthy of publication, for we treat the subjects as of scientific value. (One subject alone will require upwards of at least about fifteen years before we can given an opinion.) Bearing this in mind, all GCs have been instructed to keep their reports to a minimum, unless they have anything of real importance to publish, but at the same time, we try to show, each month, what type of work the groups are engaged on, just in case the subject may be of interest to others, and this is obviously of use, as this month we have received a thesis from a non-member, stating a strong case against a suggestion one group made regarding Ether Pockets. If, therefore, we did not publish any notes, we would not interest others, yet, were we to publish long reports, the subject-matter would possibly be open to attack. That amongst ourselves we have a lot of ground to cover is easily proved by the fact that one group often has a letter budget exceeding 25 pages of close type matter, so I think that this is a good answer to those who may think that we are inactive.

As it appears that extra cost is involved in the printing of our earthquake report, and taking into consideration the very poor response from all those who have logs, and who have not compared results, we shall discontinue publishing this in the Bulletin, though we shall continue to compile it monthly for the benefit of those who do make use of the list ; but, in passing, though it is too early yet to give results, so far, with very few exceptions, we find that on every recorded earthquake there has been a definite *lengthening* of skip, on all the amateur bands, as well as other minor phenomena. It may interest some to know that we are almost sure that the earth is not at zero potential, but here again we wish to be sure of our ground, and so we would ask those who are interested in our work to have patience, for whenever we are sure of our ground, then we shall publish our findings in full. I expert within the next few months that one group will have something definite to offer the Bulletin in the form of an article, but they wish to prove their case first.

Group 2E is now full, and Group 2F is being formed.

Regarding the Eclipse on August 31, our Groups (38 members in all) will be observing, and as it is my particular wish that as big a band spread as possible be observed on, I would appeal to anyone who may find time to observe on a *non-amateur* band, during the period of the eclipse (1904-2130 G.M.T.). Any reports from 60 mc. to 60 kc. will be welcomed.

I have started a monthly " News Sheet " for the circulation of Group news that is more personal than scientific, copies of which go to C.B. Manager, and the G.C. of each group, for circulation to all members in their letter budget. This includes formation of Groups, changes of addresses, calls, etc., and other matters of personal interest to the groups themselves, thus still further cutting down printing space in the Bulletin. The idea appears to be popular.

In the June issue of the Bulletin I appealed to those running definite schedules to be kind enough to let me have particulars, as one of our Groups would like to make use of them, for purposes of observation, but not a single reply has come in, so am I to take this to mean that not a single British amateur runs a schedule, or is it merely a case of apathy ? Those willing to let us have this information might please write a post-card direct to the GC concerned (D. Robertson (BRS500), Tighnabruaich, Killin, Perthshire). As a small mark of appreciation for the co-operation that he has done, G5UM, GM of the 1.7 mc. Groups, has been offered (and has accepted) Honorary Membership of the Fading Groups.

Lastly, it has come to my notice that there are some who take exception to our work and to our reports, some even finding them a source of merriment. Would it not be kinder and assist us more, if those who desire to offer criticism would address

them *to us direct*, instead of to others, for otherwise we are kept in ignorance of facts which would, no doubt, assist us? To those who see faults in our work or policy, will they please let us know what they are, and to those who seem to find amusement, I invite them into a group as working members, as I think that they would soon find that there really is not much merriment. It may be that I am at fault, the way I sum up our work, but I have already explained why I try and keep our reports to a minimum.

Group 2A.—It has become increasingly evident that the future policy of this Group must be considered. If we start with the wrong assumption, we reach wrong conclusions, and it may happen that a member who can force his argument gains his point, even though he may be wrong.

The new system of observation developed has great possibilities, as it gives us definite experimental data to work on, and results are, so far, encouraging.

It is necessary, however, that the experiments be conducted over a very extended period of time, and it is a case of patience, ability to observe almost indefinitely, and co-operation between the observers, that may bring ultimate success. A report on results, with charts, of work done up to the present is in preparation for early publication.

(The GC under-estimates the value of this work in the above outline, for I have seen the report and charts, and they will be of great interest, and possibly scientific importance, when published. —G.M.)

Group 2B.—This month's budget being a long and varied one, it is difficult to make extractions, but the following facts may be of general interest. During the earthquakes recorded on both June 4 and 21, it was noticed that both British and DX signals were coming in to ether on 14 mc., and that reliable local work was being carried out on 7 mc. The year 1931 showed a marked decline in magnetic activity, compared to 1930. Magnetic disturbances, for the most part, fall into two groups of sequences, centred respectively at approximately 27 days' interval, which have retained their integrity throughout the year, and that the mean synodic period of solar rotation is 27.275 days, at approximately the same interval as magnetic disturbances. Comparing practical working with theory, the result is not as might be expected, for it has been found that on " Calm " conditions, where recorded, conditions on 7 mc. were hopeless, yet on " Very Great " disturbances recorded, conditions on 7 mc. were exceptionally good, and in line with what we termed " normal " conditions some two or three years ago. On the face of it, one might suppose that, after all, magnetic storms or disturbances might not appear to have the influence on wireless signals that some of us supposed, and that being so, what, then, does affect them? The solar cycle certainly appears to have an influence, though even here we get exceptions, though, if we take an average, it seems it does fit the case.

Our best thanks are due to G2HJ for his ten-page thesis on the subject of Ether Pockets, and in the hope that we may get other such valuable information, can anyone inform us what causes Hollow Signals, what causes Wavy Signals, and a reason why an earthquake might affect wireless signals? Replies to GC G5GZ.

Group 2C.—The graph method of research being done by this group already promises results of some value, as it shows a denfiite connection between weather conditions and wireless reception. This is more evident upon the 1.7 and 14 Megacycle bands, but more data will be required before the Group make any pronouncements. BRS499 is now G6DU.

Group 2D.—This group has decided on a policy of studying the known forces, such as earthquakes, volcanic eruptions, sunspots, barometric pressure, moon phases, aurora, etc., and the resultant effect on radio, and it has been decided to carry out observation work on a station that gives a daily consistent signal and radiates on a constant and fixed power.

We have chosen W2XAD as our observation station for the following reasons:

(*a*) The frequency (13,350 kcs.) is conveniently close to the 14 mc. amateur band, which appears to be affected by physical phenomena, in a very pronounced manner.

(*b*) It is a signal we can all receive and easily identify.

(*c*) Various types of fading can be determined with greater accuracy on telephony than on C.W.

From our observations, we are constructing individual graphs, and accompanying each graph, members will render a report for the month, with comments thereon.

(A specimen graph has been sent, showing very full detail, such as QRK, QSB, QSC, barometric pressure, phase of moon, where earthquakes were recorded, actual types of fade, etc., etc. As this is only a specimen, I am withholding publication.—G.M.)

Antenna Group.

G2OP, Group Manager.

Here is a description of an antenna which is probably the best all-round arrangement that has ever been mentioned in these pages. All credit for the design is due to G2BI, who has spent much time on it, and whose results with it on low power show it to be thoroughly efficient on all bands.

It is generally admitted that on the higher frequencies the best aerial having the least directional properties is the half-wave Hertz. The one in question is a half-wave single-wire matched impedance feeder on 14 mc., and on 7 mc. it is again a half-wave end-on voltage-fed Hertz. The single-wire feeder matched impedance scheme has already been dealt with in the notes for August, 1931, but G2BI has evolved a new formula for finding the length of the top and the position of the feeder.

The first thing to do is to find your exact frequency on the 20-metre band, then to find the length of the top as the formula—

$$\text{Length of top in feet} = \frac{475{,}200}{\text{Frequency in kcs.}}$$

and the position of the feeder wire is given by the formula—

$$\frac{\text{Length of top in feet} \times 23.2}{180}$$

which gives the distance in feet of the feeder wire FROM THE CENTRE of the top. The factor

23.2 stands good for 14 S.W.G. The factor becomes 25 for 16 S.W.G., but this wire is rather too small.

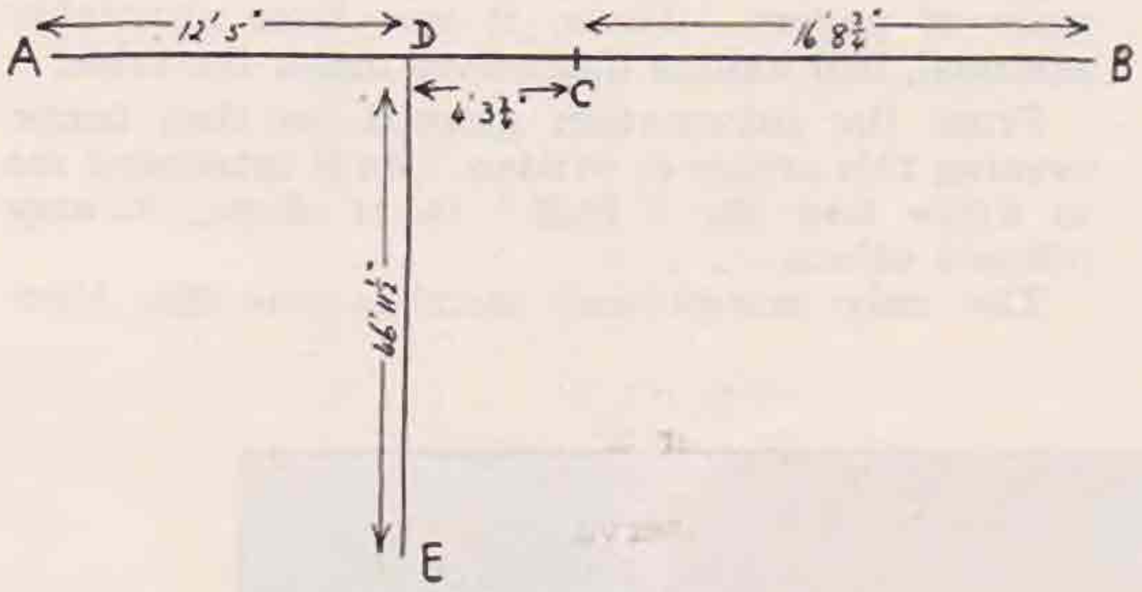
Take the following as an example, assume that the Xtal frequency on 14 mc. is 14,200 kcs., then the length of the top in feet is—

$$\frac{475{,}200}{14{,}200} = 33 \text{ ft. } 5\tfrac{1}{2} \text{ ins.}$$

and the distance of the feeder from the centre using 14 S.W.G. is—

$$\frac{33 \text{ ft. } 5\tfrac{1}{2} \text{ ins.} \times 23.2}{180} = 4 \text{ ft. } 3\tfrac{3}{4} \text{ ins.}$$

so that we have—



where AB = AC + CB = 16 ft. $8\frac{3}{4}$ ins. + 16 ft. $8\frac{3}{4}$ ins. = 33 ft. $5\frac{1}{2}$ ins.

DC = 4 ft. $3\frac{3}{4}$ ins.

Now we have to consider the length DE. For working on 14 mc. and 28 mc. this does not matter in the least, but for work on 7 mc. it is necessary to have it a definite length, as the top cannot oscillate itself as a Hertz on 7 mc. Roughly speaking, the length DE should be such as—

$$BC + CD + DE = 68 \text{ ft.}$$

In the example given it would be approximately 46 ft. $11\frac{1}{2}$ ins.

No definite formula can be given, as, since the end comes into the shack, each particular aerial will have its own particular capacity.

In each case the point E is tapped straight on to the plate tank coil of the P.A., and on 14 mc. the position is determined by the amount of draw when the aerial is clipped on. Obviously it must be such that the valve is not overloaded. This also applies to 7 mc., but in this case the length DE should be made so that on clipping it on to the tank coil no change in frequency shall occur, and accordingly the tuning of the tank condenser should remain exactly the same whether the aerial is connected or not.

The feeder must come away from the top at right angles to it for at least 15 ft., and I am of the opinion that better all-round results will be obtained with the aerial suspended vertically if one has sufficient room for the long feeder.

For working on 3.5 and 1.7 mc. a 90-ft. counterpoise must be used, and this may be bent round the garden if the full length is not available in the straight. The counterpoise and aerial with feeder is coupled to the tank coil through a coupling coil of 14 turns 4 ins. in diameter across which is shunted a .0005 variable condenser. This coupling coil and condenser will serve both the 80-metre and 160-metre bands. Some of you may ask what happens to the portion AD when the system is working, say on 40 metres—the length EDB is resonant while that EDA is not, and consequently AD appears to do nothing; in any case, it definitely has no bad effect on the results.

I have tried out the above system myself, and can thoroughly recommend it in every way as the most efficient all-round aerial system I have tried. Needless to say, I shall be most interested to have the results of anyone who may be tempted to try it. All these results are carefully summarised and filed for future reference.

Regarding the month's work of the antenna group, G6GV reports that conditions have not been good, and holidays are now affecting the work.

Television.

GROUP IIa REPORT.

By CB240.

Doubtless due to summer attractions, very little has been done during the past month.

G5AW, in his letter, amplifies his former remarks concerning last month's controversy about the relative advantages of 0.1 and 1.0 mfd. coupling condensers in a vision R.C. amplifier. Unfortunately I originally misunderstood him, but the matter has now been settled, and what might have turned into an interesting discussion has ended. G5AW originally mentioned the effect of transients, and it would be interesting to have other opinions as to their importance in television work.

G.C. G5CV has had little time available for radio, due to poor health, but some experiments have been successfully made in converting ordinary receiving valves (of certain types) into photo-electric cells. A P.M.14 screened-grid valve proved the best. I hope to give further information and details in the near future.

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

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

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

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

BEHIND THE SCENES.

No. 1.—"The Bulletin."

By "Hayseed."

IT may have been intended for humour. Whether or not, as I escaped without personal violence, the advice was good. "If you are so keen to know how the 'Bull' is produced, call at '53' between 6 p.m. and 9 p.m. on a 'make-up' night."

There is a lift at "53," but it is a trade union lift and keeps union hours. Dark and dreary stairs therefore conveyed me to landings of a similar description and a still darker passage (mind those steps if you don't know their exact whereabouts) led to a door. About this time the house-porter discovered me and confirmed that this *was* the place. Doubts had previously existed, for make-up night, heard from outside the door, might be mistaken for a general meeting of the R.S.P.C.A.

However, once entered, they were quite kind to me. "They" appear in the photograph, but a coloured talkie would be required to give the true atmosphere.

A voice from a paste pot, from the mellow tones I think G6LL was the proprietor, bade me welcome and requested me not to walk on the wavemeter. A hurried scrutiny revealed the instrument to be only in type form.

Another voice, emerging from a mass of papers at one end of the table, enquired my business, if any. That is a paraphrase, but the meaning remains. As the Hon. Editor, G5YK, continued this conversation, I fancy he sketched the original word-picture.

In the end I was told I might stay, watch, and listen so, grateful for limited favours, I squeezed past G2CX and cigarette, negotiated the contours of G6CW and found a spare chair wasted upon a mass of papers. These, it was later charitably assumed, had hidden themselves under the table.

From the information gleaned on that hectic evening this article is written. As it interested me to know how the "Bull" takes shape, it may interest others.

The only non-present member was the Hon Advertising Manager (G5LA). I gathered that a rumour of a possible "half-page" at Southend had reached him and that, equipped with gas cylinder, revolver and contract form, he had assumed the offensive.

To trace the "Bull" through from its start. We get our copies about the 16th. Some four days later, the next number has started its evolution. The Editor and his helpers, have, therefore, nearly a week of each month in which to do what they like.

Here let me interpolate a few "Dont's for Contributors." I heard them in more lurid fashion from the Editor. "Don't write on both sides of the paper." Even during financial crises the sav-

ing of money does not counterbalance the loss of the Editor's equanimity. "Don't use pen and ink (or pencil)." If a typewriter can be found, begged, stolen or won, show that Messrs. Remington, Barlock & Co.'s efforts to reduce eye strain have not been made in vain. "Don't, please don't, use radioese and such perversions of the written word." Cross-word puzzles are much more profitable and entertaining. They also take less time to solve. "Don't put diagrams amongst the manuscript." These have to be sent separately for reproduction, involving complicated work with a pair of scissors and many additional scraps of paper to reassemble later. Use separate sheets of paper for drawings.

To resume. From the 20th until the end of the month, contributions will pour in (or should) upon the Editor. Those which are not in any of the "Don't" classes can be quickly assimilated. Others in Welsh, Hebrew or radioese will require translating and re-copying. This *may* be done *if* time is available. A small proportion of the matter received (only a surprisingly small proportion) has to be returned as unsuitable.

Diagrams have to be checked and (where the misguided contributor has inserted them amidships) cut and sorted out before passing to G2MI, the Committee's draughtsman, to re-copy for the block-makers.

Here concludes the more straightforward part of the preparation. There will still be a few articles left over for further consideration, translation from the aboriginal or other reasons, but the Editor and his Committee have now the skeleton of the next "Bull" assembled.

Still, the "Leading Article" is not yet settled. If, as often happens, some event of major importance has to be announced or commented upon, one may arrive from some higher power and the worry is removed. Unless the event has happened after (or the higher power remembered it after), the make-up has been arranged, when worry descends again tenfold upon the Committee. If no article looms up from outside by the last possible date, it is up to the Editor to cut down his hours of sleep, and a certain bitterness of spirit may be reflected in the following month's "Leading Article."

By the 30th, the fun has reached the zenith. Routine contributions have arrived, special messengers and express letters bearing their share from that great brotherhood who love to cut things fine. "Calls Heard" (in alphabetical order, we hope), "Strays," "Pirates," "District Notes," "B.E.R.U. Notes," all the varied items that go to make up a complete issue. All must be vetted and prepared for the printers. G5LA's department has advertisements booked, and copy must be secured for these and display arranged. Be it well noted by procrastinators that a heavy indelible line is drawn on 30th, and all routine matter received later stands over. Advertisements may prove an exception, but advertisers are a law unto themselves—for obvious reasons.

We have now got the copy into a fit state for the printers' attention. Verbosity has been curbed, redundancy reduced and legibility improved. The average cost for postage of the copy will be 8d. to 10d., and from this the volume can be gauged. G2MI's drawings have gone to the block-makers, with minute instructions.

"Make-up day," or night, approaches. With the unregenerate, "Stick-up night" is the ordinary description. The Committee "gather round" at "53," and a session lasts usually from 6 p.m. until 9 p.m., when the house porter, who *has* a home, breaks up the meeting. Duplicate sets of "Galley proofs," printed slips, each from 2 ft. to 3 ft. long, containing the whole issue, have arrived from the printers. One set are avidly seized upon by G2CX, G2MI and G6CW, who investigate them for "printer's errors" and other corrections. The deep sense of responsibility resting upon this trio is plainly seen by their expressions in the photograph.

Meanwhile G5YK and G6LL, each armed and equipped with scissors and paste, have to cut, arrange and paste the remaining proof into such sections as will, with advertisements, exactly fill a dummy "Bull" of the proposed number of pages. One of these stalwarts will start from the front and work forward whilst the other works hopefully backward from the end, each trusting to meet fairly and squarely somewhere about midway. Yet if one examines a "Bull," and notes how few articles exactly fill a column, their reasons for hope seem faint. There is, too, somewhere upon the table, an envelope full of photos. which must go into their correct places. We all know it can be done, for we see the result each month, yet to stick the proofs evenly into the dummy copy would puzzle the writer.

Additionally, to recollect that six lines are wanted upon one page, twenty lines have to come forward from yet another, a photo. is required in "District Notes," those two paragraphs which fell upon the floor must be retrieved and inserted, and a last-minute "fill" written to deal with an otherwise unfillable gap . . . the Editorial Committee earns its oats.

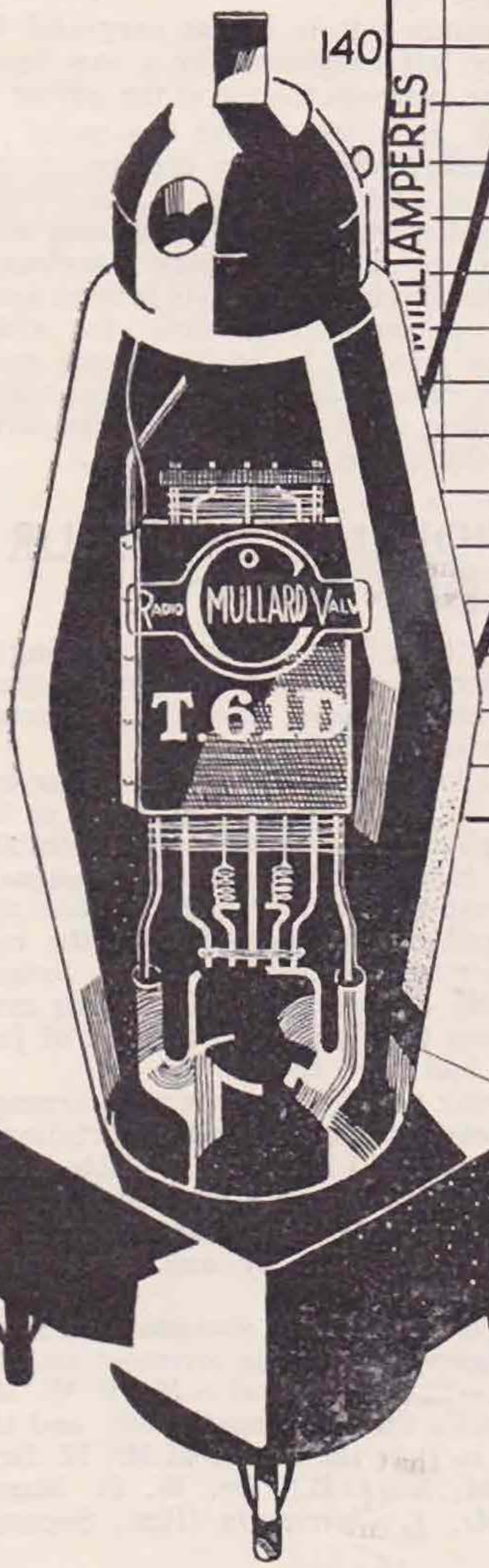
And when all is nicely fitted and finished and the meeting rises to depart, it may be found that one member has inadvertently had his arm upon another photo. which *must* go in. Can one wonder that there is sometimes a noise?

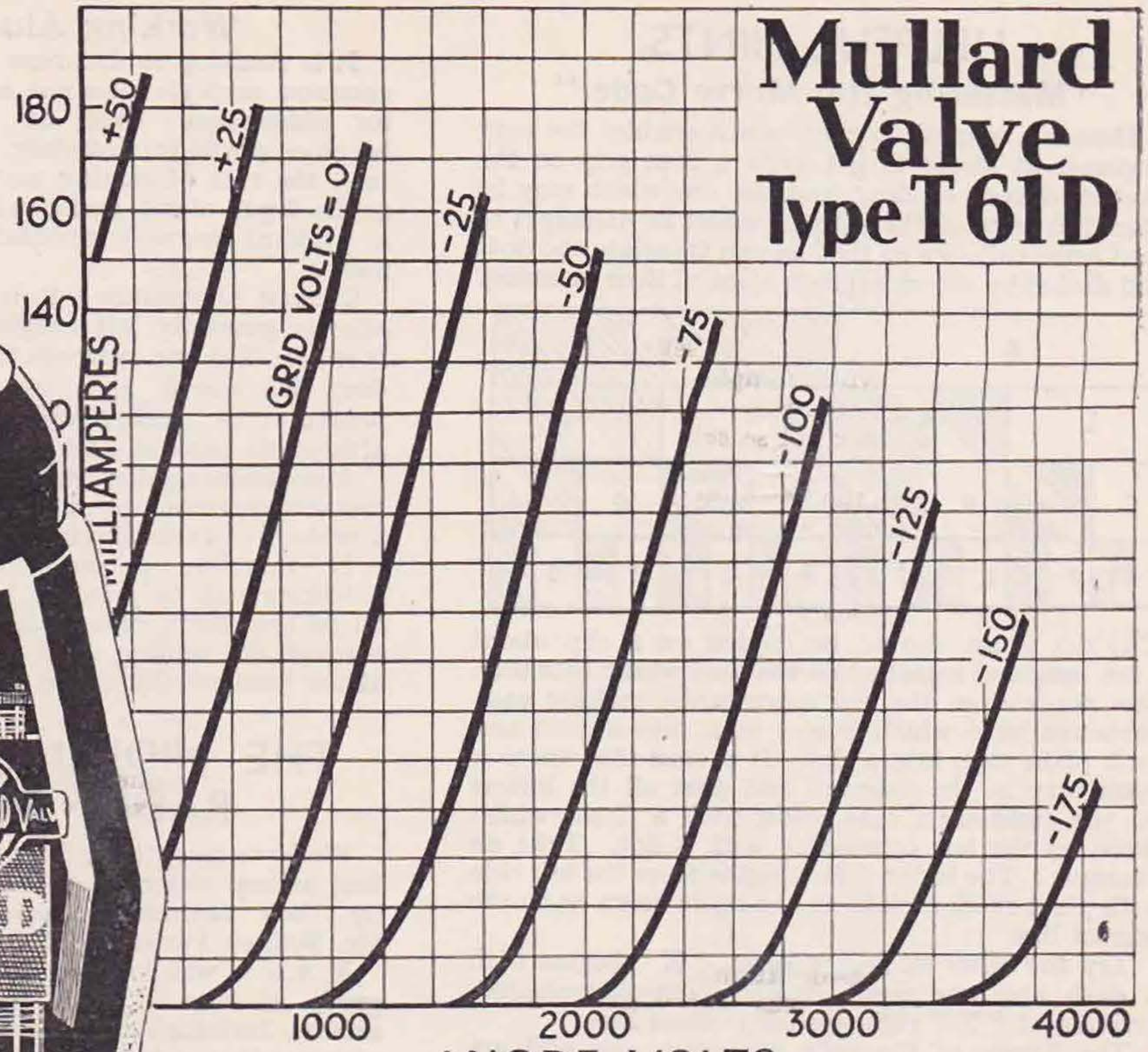
Often no wangling will persuade the proofs to provide even pages and something must come out. Or, if a half-page is required to complete, be assured that the nearest available matter will require at least a full page. The natural cussedness of inanimate things has full play.

It is whispered that once a "Bull" of 38 pages was made up. To appreciate the joke, consider how the pages are printed and bound.

At long last, the completed proofs and dummy copy will go back to the printers and proofs in page form for final inspection will arrive. Then it only remains to transmit reminders that there is a publishing date, and the Editorial Committee feel a sense of good work well done, yet, hope against hope, that Moscow and Iraq have not mixed themselves up again, and that no call signs have become transposed.

If you read the above, you may become a less captious critic of the "Bull" and its producers. Like the writer, you will give praise to those who are doing their best, freely and willingly, for our general welfare.





More Power for Transmitters

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

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

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

OPERATING CONDITIONS.

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

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

CHARACTERISTICS.

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

Price £6 : 10 : 0

Mullard

THE MASTER VALVE

MADE IN ENGLAND

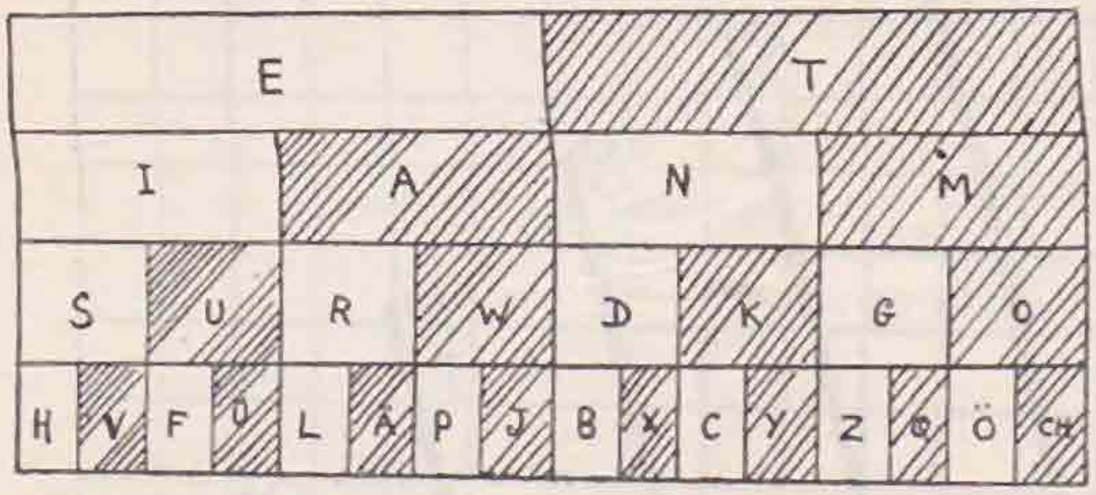
Advt. The Mullard Wireless Service Co., Ltd., Mullard House, Charing Cross Road, London, W.C.2

ARKS

HELPFUL HINTS.

"Mastering the Morse Code."

Here is a helpful diagram which enables the very beginner at Morse to get quite a firm grip on the rhythm of code sending, and also one which may be placed in front of the listener whilst he attempts to read some call sign so that he can translate the dots and dashes by the visual indication of their meaning.

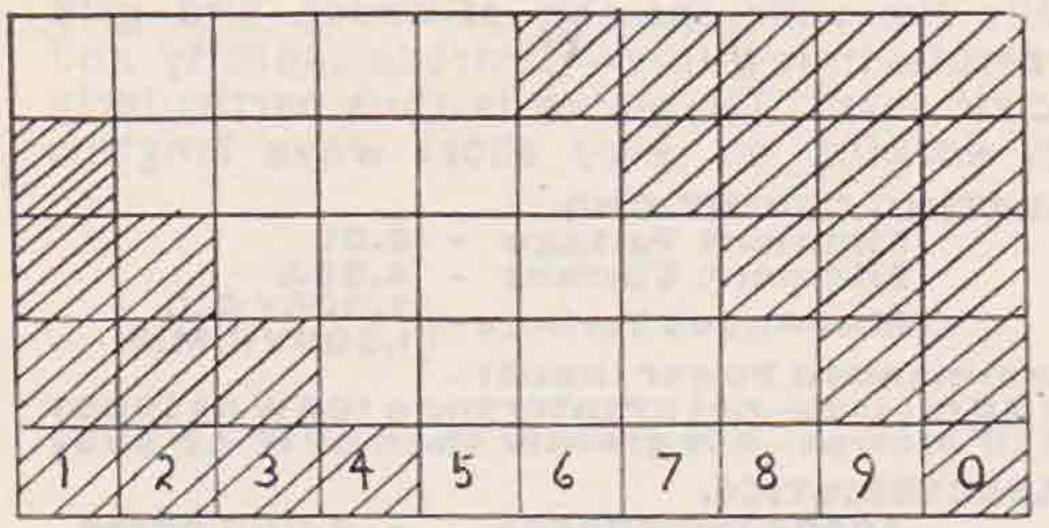


The dia gram should be copied on a slip about 4 ins. long and regarded all the time whilst listening. One reads from the *top* downwards, making each darkened strip which is met with into a dash and each plain strip into a dot. It is seen that there is symmetry in the diagram and that all the letters on the right-hand side begin with a dash, whilst those on the left commence with a dot. Take an example : The letter " R " begins from the left side with plain-shaded-plain as one reads down on to the correct line.

Try the other side—the letter " X " begins with a dash and one reads shaded-plain-plain-shaded, arriving at " X " right on the bottom line.

The figures of the code are given also and are read similarly. It will be found that a complete novice can send code from this diagram once the positions of the letters have been roughly memorised and that, if it is later held before one whilst listening to slow code, many letters can be quickly translated. If one persists, the little slip will become most valuable in the early stages of learning.

It is understood that this idea applies to those who have to struggle along by themselves. It is as well, first of all, to get the hang of " CQ," which can be spotted immediately on the diagram as soon as it is heard by the listener. Look out, then, for " Test." These expressions being always followed by " de " and then the call of the station to which one is listening, the position of " de " should also be found on the chart.



One cannot put on the chart things like — . . . . — which means a break sign or other things consisting of a group of five like the " ? ". Both of these appear very frequently and may bother the beginner, but he should memorise these from the A.R.R.L. Handbook list of Morse signs.

Working Aluminium.

It is amazing to find how few people know that common methylated spirit is the cutting medium for aluminium. Used on the drill, the metal becomes docile immediately. Used on the turning tool, the rate of cutting may be increased as well as the depth of cut, and also the finish appears with a brilliant burnish unobtainable by any other means.

Cutting aluminium panels is not easy and the edge is generally left roughened by a saw blade. It is here that one exercises the use of the scriber. A deep line scored on either side of the metal will induce it to break cleanly along the line if it is afterwards bent to and fro gently.

Aluminium oxidises more rapidly than any other metal in common use. However rapidly it is cleaned, a protective oxide film is immediately formed again.

It therefore becomes impossible to solder. Soldering can be effected by melting some metal on to the aluminium with a flame and scrubbing through the molten mass with a clean wire brush at the hermetically sealed surface beneath.

THE MIDLAND AMATEUR RADIO SOCIETY.

We have recently had the pleasure of reading the first annual report of the above Society, prepared by their enthusiastic and energetic Secretary, Mr. Sydney Parish (G2ZW).

M.A.R.S. was founded in June of last year by a group of keen R.S.G.B. members living in and around Birmingham, who foresaw the desirability of providing a local society primarily designated to foster interest in amateur radio. That their views were sound can be judged from the rapid growth in their membership. At the original founders' meeting 31 persons signified their intention of supporting the Society, at the end of June, 1932, the total had risen to 140.

During the year over 20 lectures were arranged, ranging in variety from a classical dissertation by Dr. J. B. Kramer, M.I.E.E., on " Photo-electric Phenomena and Their Application," to a series of practical and theoretical talks by Mr. George Brown (G5BJ) on " Wireless Theory and Practice for Beginners."

The Society is particularly fortunate in having amongst its officers some of the foremost amateurs in the country. Their president is Mr. F. W. Miles (G5ML) (B.E.R.U. trophy winner 1932), and their vice-presidents include the names of Mr. H. Bevan Swift (President, R.S.G.B.), Dr. W. H. Marston (G2PD) and Mr. J. Clarricoats (Hon. Secretary, R.S.G.B.).

Their finances are in the capable hands of Mr. D. A. G. Edwards (BRS427), whilst Mr. George Brown has ably assisted Mr. Parish in the secretarial duties.

Mr. Victor Desmond (G5VM) (District No. 3 Representative), Mr. Jack Owner (G6XQ), Mr. H. N. Cox and Mr. C. J. S. Jones are the elected members of committee, and Messrs. Grosvenor (2ATK) and Adcock (2BFL) are honorary auditors.

Altogether a strong and healthy organisation, and one which demands the support of all Midland amateurs interested in amateur radio.

Good luck to you, M.A.R.S.

TO OUR NEW READERS.

THE present issue of the T. & R. BULLETIN is perhaps the most important of the year, because it is that preceding the annual Convention, and also the number dealt with upon the Society's stand at the Radio Exhibition at Olympia.

To many members attending Olympia this may be the first number of the T. & R. BULLETIN which they have seen, so that a few words of explanation of the general policy of our little magazine may not be out of place.

The BULLETIN is the official organ of the Incorporated Radio Society of Great Britain and was established as a medium for keeping members informed of the work of the Society. For many years in the earlier history of the Society the well-known weekly the *Wireless World* served the purpose of an official medium. In course of time it was felt, however, that the specialised work of the Society dealing with short-wave transmission and reception demanded more space than could be afforded by the *Wireless World*, so the BULLETIN made its appearance, and is now in its eighth year. The name T. & R. BULLETIN arose from the fact that it was first issued by the T. & R. Section of the Radio Society, which at the time had a special branch for Transmitters. In course of time the Section outgrew the main body and ultimately controlled the destinies of the whole Society. It was not thought advisable, however, to change the name of the magazine, which had then become firmly established among radio amateurs.

The paper is unique in many respects. Firstly, it is produced entirely by voluntary work of the members themselves. In the second place, it caters for a class of Radio Amateur whose needs can only in a small degree be filled by the regular Radio publications owing to the pressing requirements of the Broadcast listener. Consequently its pages are mainly devoted to work upon the shorter waves, the wonders of which are now becoming more fully known to all interested in Radio work. As the aim and object of the Incorporated Radio Society of Great Britain is to encourage experimental work in its particular science, so the object of the BULLETIN is to set forth the advantages of this particular field of Radio and to attract new workers to become members of the Society.

The writer has often been asked what particular work the members do; a question which exhibits the prevailing impression among many that Radio is wrapt up in the single word "Broadcast-transmission." To explain the work of the short wave transmitter is not easy, for the work is peculiar in its application. Perhaps if we visit the transmitting amateur in his den we will get the best impression of his work. Picture him, therefore, seated alone in the dark hours in front of his apparatus consisting of a transmitter and receiver, both adapted to operate upon one of the short-wave bands allotted by International Convention for amateur working. The transmitter may consist of one or more oscillating valves arranged either in simple or complex arrangement according to the licensed power of the station, and often the depth of the owner's pocket. The whole transmitter is nearly always entirely home-built, simply because very few firms care to cater for this field, which is obviously limited in its application, compared to Broadcast listening. The receiver is arranged upon more familiar lines, being similar to broadcast sets but with short-wave receiving coils having very few turns of wire.

The operator presses his transmitting key and sends out the word "Test" in morse, followed by his own call sign allotted to him by the Post Office. This he may do a number of times in the hope that some distant station may be listening-in who will answer him. He then changes his aerial over to his receiving set and slowly turns the knob of the tuning condenser. He will then probably hear a far away station—perhaps in America or the Far East—answering him by calling his call sign and signing his own. This done, the first station replies, and two-way contact (known as a QSO) is established. Data is exchanged regarding the respective receptions of the transmissions, and finally greetings close the contact. Another link in radio amateur friendship has been made to the pleasure of each station. This is generally sealed by the exchange of cards, each bearing the call sign of the respective stations and known as QSL cards. These form a record of the contact, and the accumulation of such cards from far away lands is greatly sought after and form a record of the station's activity.

This may sound monotonous work when put in cold print, but the fascination surrounding the work is extreme. Firstly, the sending station, to be successful, must emit a clear, concise signal which can be easily read by the distant listener. This means that the apparatus must be efficiently arranged and constructed, while the operator must be expert in adjustment and routine of sending. A badly-sounding note sent by a careless operator will never demand attention, and few will be the replies obtained. All this encourages the owner to seek the latest knowledge in radio practice, a process largely derived from association with other successful workers such as afforded by the Society.

In fact, the full pleasure of the work can never be really appreciated until you are really in the thick of it, and then there is always something new to be learned or tried out, the interest never slackening for one instant. In fact, the true radio "Ham" as he is called, is always tearing his station down and rebuilding it according to some new idea he has heard from some fellow member or seen in the BULLETIN.

Here, then, is the work of the average member of the Incorporated Radio Society of Great Britain, and it is hoped that this brief description may induce you to join in this fascinating and romantic science. The Society cares for the work of its members by organising their work, arranging periodical tests for which prizes and trophies are awarded, and zealously guards the rights and privileges of all concerned.

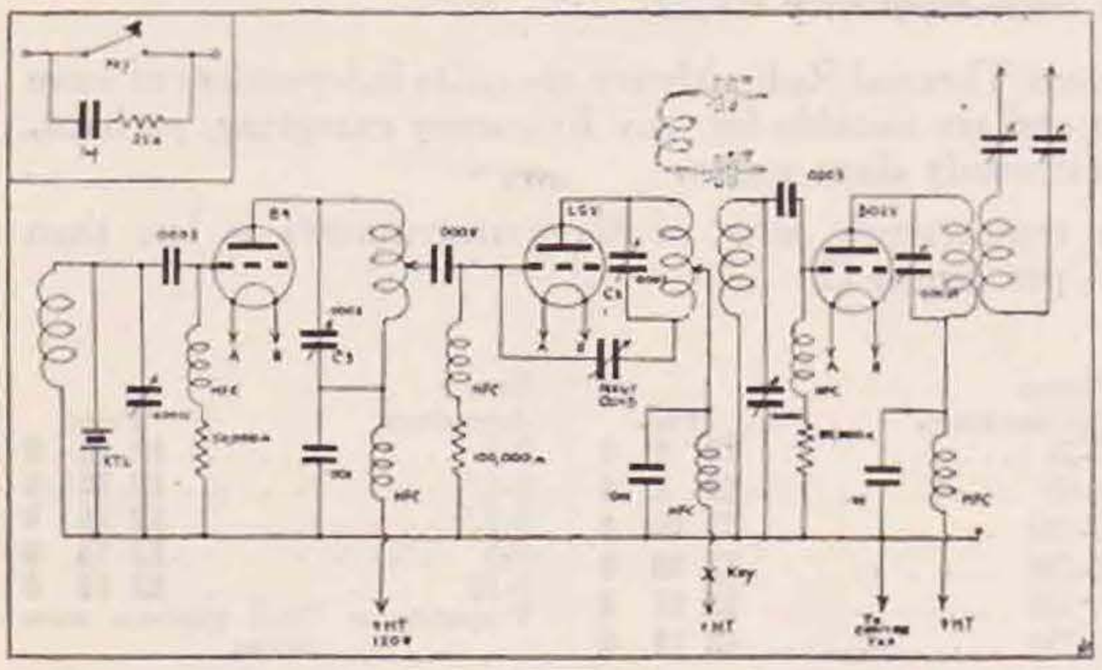
It is the finest and most fascinating hobby which the sciences have so far produced, and also the most

(*Continued on page* 55.)

Harmonic Crystal Control

By B. F. Phillips (G5PH).

FOR the past five years a large amount of work has been directed at the writer's station to the problems of harmonic crystal control, and some very encouraging results have been obtained. Inspired by very helpful articles in past issues of the Bulletin by G5MU and G6HK, the following details of experiments are passed on to readers in the hope that they will prove of interest.



Initially, a single-valve harmonic oscillator was employed, with satisfactory results where distant work was concerned. Telephony was unsatisfactory, however, on account of the inordinate depth of control obtained. Following the appearance of G6HK's article last August, tests were made with his harmonic crystal-oscillator type of T.P.T.G. circuit, followed by a "straight" power amplifier stage, and proved that such a transmitter gave superior results to an ordinary COPA with a 7 mc. fundamental crystal, and also gave excellent results on 14 mc. As will be seen from the diagram above, the grid circuit of the crystal oscillator is tuned as if it were the input circuit of a T.P.T.G. transmitter. It locks with the harmonic of the crystal, and transmits the energy through to the power amplifier stage in the usual way. A crystal oscillating on 2.3 mc. will give excellent control with this system on both 7 and 14 mc.

If the user so desires, the grid circuit of the P.A. stage can also be tuned in the Goyder-lock manner. The only adverse criticism to make of such a procedure is that there are then four variable condensers to adjust in the transmitter alone, not to mention those in the aerial circuit. For full details of tuning this transmitter readers are referred to last August issue of the Bulletin, where G6HK gives an admirable explanation.

On 7 mc. it will usually be found that a few watts input to the CO-T.P.T.G. will control up to 25 watts in the P.A. stage, according to the valve used. On 14 mc. the tuned grid system on both stages will function satisfactorily, though the input to the first stage should then be only two or three watts less than that to the output stage.

Grid control on the last stage will give a surprisingly high percentage of modulation for telephony.

Some remarks on selection of crystals may not be out of place. Place a quartz lens in the grid coil of the receiver and rotate the tuning dial until a loud click is heard. Grind the lens until the click is still apparent in the 7 mc. band, if it is desired to operate there and on 14 mc. If the crystal does not control well, test again for clicks on 3.5 and 1.7 mc. On obtaining a click on 3.5 mc. grind the crystal to 7 mc., when it will give a very loud click on 2.3 mc. The lens should then give control on 14 and 7 mc. without any difficulty.

With a crystal prepared in this manner the writer has controlled 20 watts to a DO25 when using 2.5 watts on the CO-T.P.T.G. stage. The latter has been driven at 10 watts with no deleterious effects upon the crystal.

For lens grinding No. 1F carborundum powder should be used with a sheet of plate glass a quarter of an inch thick, and the judicious aid of a little water. Care should be taken to grind the crystal flat over its entire surface, and not to press too hard on any point of its surface during grinding.

BOOK REVIEWS.

THE PHYSICS OF WIRELESS VALVES.

Thermionic Emission. A Survey of existing Knowledge with Particular Reference to the Filaments of Radio Valves.

Radio Research Special Report No. 11. Published H.M. Stationery Office. 2s. 6d. net.

Fundamental research into the physics of Thermionic Emission forms the basis from which the modern radio-valve has been evolved. A knowledge of much of this work is essential to those interested in the practical development of valves. The literature of the subject is large, and widely scattered in journals published all over the world. With the object of facilitating further research and technical development the Radio Research Board of the Department of Scientific and Industrial Research has arranged for the issue, as a Special Report, of a clear and comprehensive survey of all the main results obtained in researches in the various branches of the subject, together with a lengthy Bibliography which includes references to all the important papers published up to December, 1930. The Report has been prepared at the National Physical Laboratory by Dr. W. S. Stiles.

NOTICE.

Owing to sudden pressure of business, the Editor and two members of the Editorial committee, G2CX and G5LA, will be unable to take any part in the production of The Bulletin for some time to come.

CALLS HEARD.

S. C. Baveystock, 2BKH, "Benoni," 29, Long Lane, Finchley, London, N.3 :—

14 mc.: su1aa, ve1bv, be1ck, be1dc, ve1di, ve1dl, ve1dm, be2ca, vq4crf, vq4crh, yi2fk.

* * *

A. H. Brown (BRS865), 71, Tintern Avenue, Westcliff-on-Sea, Essex.

June 15-July 19: 14 mc.: ny1ab, su1ec, su6hl, e1bv, ve1ck, ve1dl, ve1dm, ve1dt, ve2aa, ve2bd, ve2ca, ve2cx, ve3cm, ve3he, vp2mo, vp2yb, vq4crf, vq4crh, yi2dc, yi2fk, yi6bz.

* * *

R. D. L. Dutton (2bof), 13b, Lime Walk, Headington, Oxford.

3.5 mc., July 10 and 17: ve1ae, ve1az, ve1dh, ve3gc.

7 mc., July 3: ve3gf, ve3hp.

14 mc., June 18-July 20: ve1au, ve1bv, ve1ck, ve1dl, ve1ed, ve1ef, ve2be, ve2ca, ve2cx, ve2df, ve3he, ve3wa, vo8mc, vp2mo, vp2mr, vp2yb.

* * *

BRS853, 41, St. Martin's, Marlborough, Wilts. From March to June.

3.5 mc.: d4aeu, d4ubi, pa0ar, pa0asd, pa0bn, pa0rt.

7.0 mc.: ct1aa, ct1da, ct1db, d4afs, ear84, eara, f8ag, f8aj, f8grg, f8nh, f8nk, f8nn, f8no, f8nx, f8pi, f8rb, f8rh, f8ri, f8vl, f8zp, g5iz, pa0bl, pa0idw, pa0ld, pa0rx.

14.0 mc.: on4dz, on4ix, on4lo.

* * *

B.E.R.S. 106. Trincomali, Ceylon. May 9 to 29, 1932.

7 mc.: ac3ma, ac6aa, ac6zz, vk5ml, vk5pk, vk5yk, vk6rl, vs6ae, vs6ah, vu2jp, zl2bz, zs2a, zu6w.

14 mc.: g2yd, g5fv, vu2bg, vu2jp, vu2ij, vu2lt, xzn2b, yi2dc, yi6wg.

* * *

B.E.R.S. 74, Quetta. During June.

14 mc.: g2bm, g2fi, g2dz, g2ux, g2zq, g5gy, g5ku, g5np, g5ml, g5pl, g6li, g6xg, j1do, j1ec, su1aa, su1ec, sz5c (QRA pse ?), vu2ah, vu2lt, vu2jp, vu3cw, vs7gt, xzn2a, xzn2b, xzn2c, yi2dc, yi6bz, zu6w, zs6d.

Strays.

D4HOL had QSO's with the following stations in 1931 and has sent a card to each of them, but has received no replies. Will the stations concerned please send him their cards or let him know if they have not had his cards, in which event he will send them another one :—

G2BJ, G2DQ, G2TK, G2VK, G2XA, G2ZJ, G5RU, G5WG, G5WP, G6DP, G6FO, G6PA, G6YU.

* * *

G5UC, of Cheltenham, although only having had a licence a few months, already finds somebody has " borrowed " it.

TO OUR NEW READERS

(*Continued from page* 52).

instructive. Further, the contacts made with distant lands tend to the establishment of International friendship among Radio amateurs. Taking the British Colonies alone, it has had the effect of uniting all Radio Amateurs working under the British flag, and as a result the Society has adopted as a second name the British Empire Radio Union, to which all overseas British Dominion members belong, and governed by the Headquarters in London. As an instance of the activities of the Union, we would specially draw attention to the exchange of greetings sent by Amateur Radio Stations from all over the world to our Patron, H.R.H. the Prince of Wales, on the occasion of his birthday, and recorded in this issue.

The Society publishes a brochure, " What is Amateur Radio ? " which sets forth the work of the Society and gives detailed information about membership, etc. If you have not already had a copy, please write and ask for one.

LOYAL RELAY

(*Continued from page* 37).

10.—From South Africa *via* ZU6W and G5ML.

The South African Radio Relay League desire to convey to your Royal Highness, cordial, sincere and loyal good wishes on your birthday.

(*Signed*) HEATHCOTE, ZT6X.

11.—From Headquarters, A.R.R.L., *via* Spain and G2ZQ.

Hearty congratulations upon your birthday.

(*Signed*) HIRAM PERCY MAXIM.

The reply of His Royal Highness has been sent to all the above, with the exception of the last mentioned, which unfortunately was received after June 23. This message was delivered specially by hand, and we understand a reply has been sent direct.

In concluding this account of the Third Loyal Relay, the Council and Officers of the Home Society extend to all B.E.R.U. Groups, Associations and members, their sincere thanks for their assistance in making the Relay once again a success. Thanks are also extended to our own E.L.S., who did their best in spite of adverse conditions.

A Suggestion to All Attending the Exhibition and Convention.

No introduction is necessary between all members. But when making a personal QSO please prefix the conversation with—

I am (so and so) (call sign if any) of (name of Town). You are.....?

This will prevent the trying circumstance of two members holding a conversation without the least idea who they are talking to.

We want to extend a hearty welcome to all, but it will be much easier if we know who they are, and it is awkward to ask.

HIC ET UBIQUE.

R.N.W.A.R.—(*Continued from page* 31).

themselves in the reserve as soon as the ranks are open to receive them. The work will be of the highest interest, and new fields of radio activity will be available. It will give the radio amateur, transmitter and receiver alike, an opportunity to serve his country, and prove that his amateur efforts in connection with radio communication have not been carried on in vain. Patriotism lies more or less dormant during times of prolonged peace, but every true Britisher rallies to his flag to save his country when trouble looms upon the horizon. It is ill-advised to leave the matter until the trouble comes. We must be prepared by organisation to meet the occasion, and this is our opportunity.

SOCIAL NOTES.

Birmingham members are visiting Hillmorton Wireless Station on Saturday, September 17, and G5VM, who is organising the trip, has extended the invitation to any of the London members who would care to join them.

If all those who intend to go will let me know, I will make arrangements for the party to travel together to Rugby. *Please note, you must let G5VM or myself know in plenty of time.*

Having only received four applications for blazer badges, this matter has now been dropped.

G6UT is still willing to hear from anyone wanting or having accommodation over Convention. Please let him know soon.—H. V. W.

Convention 1932

The following programme will be followed at the Seventh Annual Convention to be held on Friday, August 26 and Saturday, August 27, 1932, at the Institution of Electrical Engineers, Savoy Place, Victoria Embankment, London, W.C.2.

FRIDAY, AUGUST 26.

5 p.m.	Informal tea and re-union.
5.55 p.m.	Reception by the President, H. Bevan Swift, Esq., A.M.I.E.E.
6 p.m.	Presidential Greetings.
6.15 p.m.	Convention Lecture.—"The Measurement of Frequency," by Mr. C. F. Booth, of the Radio Section, G.P.O., London.
8 p.m.	Charabanc parties will leave Savoy Place on station visits. One to Mr. T. A. St. Johnston (G6UT) at Chingford and two other well-known East London stations. The second coach will go to Mr. Alan Smith (G6VP) at West Drayton, and Messrs. H. and L. Wilkins (G6WN) at Hanwell. Charabancs return to Central London at 11 p.m.

Provincial members wishing to be included in these parties are requested to notify Headquarters *at once*, as space may be limited.

Members not taking part in these visits are requested to join London members' car parties, which will be made up outside the I.E.E. These parties will also go on station visits.

SATURDAY, AUGUST 27.

10 a.m.	District Representatives' Meeting, to be attended by all new D.R.s or their deputies. The agenda for this meeting will be circulated to all D.R.s.
1.50 p.m.	Convention photograph on the steps of the I.E.E. Members are urged to be present in order that the photograph may be a complete souvenir of all those attending Convention. A proof of this photograph will be passed round for inspection at the dinner. Price 3s.
2 p.m.	Presentation of Society trophies for 1932-3.
2.15 p.m.	Business meeting. The meeting will adjourn at 4 p.m. for tea, and conclude at 5.30 p.m.
6.30 p.m.	Convention dinner at Pinoli's Restaurant, 17, Wardour Street, London, W.1. Informal dress, tickets 5s.

Members are urged to apply for tickets *early* in order that reservations may be made. Members desirous of bringing friends must apply to the Hon. Secretary with the names and addresses of such friends.

Universal Short-Wave Receiver.

PRIZE OFFERED.

We are pleased to announce in connection with the universal short-wave receiver—a description of which is published in this issue of the BULLETIN, that, through the generosity of Mr. C. L. Woods (G5WY), a prize—apparatus to the value of £2—is offered to the member of the R.S.G.B. who submits the best improvement on the design. Rules governing the award are to be found below.

(1) That the prize offered by G5WY (Mr. C. L. Wood), be awarded for the best improvement submitted on the design of the R.S.G.B. universal short-wave receiver as published in the August, 1932, issue of the BULLETIN.

(2) That entries for this Prize must reach the R.S.G.B., 53, Victoria Street, London, S.W.1, by February 28, 1933.

(3) That the Society reserve the right of publication of any article or design submitted.

(4) Entries should take the form of a detailed description of the modified apparatus, together with full circuit diagram and list of actual components used.

(5) The Society to have option of a demonstration of the modified receiver before a member they may specially nominate.

(6) The prize will be awarded by Council, whose decision is final, and who can withhold the award if entries of sufficient merit are not received.

Calibration Section.

We have been asked where the Keramot tube, as specified in the recent article on Frequency Measurement, can be obtained. Messrs. Siemens Brothers & Co., Ltd., of Woolwich, are the makers, and will be pleased to supply members with tubing suitably screw-cut for frequency-meter coil formers.

Keramot was fully described by Mr. W. H. F. Griffiths, F.Inst.P., A.M.I.E.E., in the *Wireless World* for July 16, 1930. Briefly, it consists of a

reddish coloured loaded ebonite, with freedom from "cold flow," a property which rules out ordinary ebonite as useless for precision frequency meters. Keramot can be worked in the same manner as ebonite, but is a little harder to cut. It contains only 35 per cent. of rubber, against 55 per cent. for good ebonite. It is used in the construction of the Sullivan-Griffiths temperature co-efficientless inductance standard and frequency meters.

A. D. G.

QSL Section.

Unfortunately there is nothing further to report concerning the negotiations between ARRL and RSGB on the QSL service to N. American and associated stations.

Members may rest assured, however, that as soon as there is anything to report, notification will be given in these notes.—J. D. C.

Reception Tests.

Dates and periods for the next reception tests are given below. Despite summer time these tests are being well supported. New entrants will find the necessary information regarding the compilation of the logs in the May issue of the Bulletin. All logs received are circulated to the participants in budget form for purposes of comparison of signals as received in the various districts, including Holland. All logs should be sent off to T. A. St. Johnston (G6UT), 28, Douglas Road, Chingford, E.4, by September 14.

Periods and Bands.
Series No. 9.

Date.	B.S.T.	Test Letter.	Band mc.
Sunday, Aug. 21	07.30-08.30	A	1.7
Sunday, Sept. 4	08.30-09.30	F	1.7
Sunday, Sept. 11	22.30-23.30	O	1.7
Monday, Aug. 22	20.30-21.30	C	3.5
Sunday, Sept. 4	19.00-20.00	H	3.5
Sunday, Sept. 11	11.00-12.00	L	3.5
Friday, Sept. 2	20.00-21.00	D	7
Sunday, Sept. 4	00.00-01.00	E	7
Sunday, Sept. 11	07.00-08.00	J	7
Saturday, Sept. 10	06.30-07.30	I	14
Sunday, Sept. 11	08.30-09.30	K	14
Sunday, Sept. 11	19.00-20.00	N	14
Sunday, Aug. 21	09.30-10.30	B	28
Sunday, Sept. 4	12.00-13.00	G	28
Sunday, Sept. 11	15.00-16.00	M	28

A.A.R.L. Subscriptions.

It has been a matter of great concern to this Society that, owing to the depreciation of the British currency, the subscription to A.R.R.L. has been so high, and we are aware that quite a number of subscribers have dropped out owing to this fact.

The Society has been taking the matter up with the Headquarters of A.R.R.L., and are able to announce the subscription reduction to R.S.G.B. members to $2.30 as from this date, which can now be paid through Headquarters as formerly.

Australian QSL Bureau.

Change of Address.

The address of the above Bureau has been changed to Box Number 1734JJ, Sydney, N.S.W. The manager is Mr. Corbin, BERS24.

Metal Rectifiers.

The Westinghouse Brake and Saxby Signal Co., Ltd., will have all their rectifiers on show at Olympia, together with a complete range of battery charging sets.

We have recently been experimenting with an L.T.2 rectifier for supplying the exciting current to a relay coil. Various types of relay were used, and the A.C. supply was derived from a spare 7.5-volt transformer winding. As this rectifier is the "bridge" type, no centre tap is necessary. The relays were used for keying and switching, and the types included the large ex-Fultograph and ex-Post Office. No smoothing was used or required, and the L.T.2 gave pure enough D.C. for no juddering to take place when keying. In fact, no difference could be noticed when using a battery.

Societies Affiliated to the R.S.G.B.

We think it may interest our home members to have an up-to-date list of all home Societies who are affiliated with the R.S.G.B. :—

Name and Address of Society or Hon. Secretary.

Bournville Radio Society.—c/o Cadbury Bros., Ltd., Bournville.

Chester-le-Street Radio Society.—T. L. Hutton, Ashley Cottage, Chester-le-Street, Co. Durham.

City and Guilds (Eng.) College Radio Society.—Exhibition Road, South Kensington, S.W.7.

City of Belfast Y.M.C.A. Radio Club.—J. J. Cowley, 4, St. Paul's Street, York Street, Belfast, N.I.

Eastbourne and District Radio Society.—"Caburn," Brodrick Road, Eastbourne.

Edinburgh and District Radio Society.—W. Winkler, 13, Lockharton Crescent, Edinburgh.

Exeter and District Wireless Society.—H. A. Bartlett, "Donbar," Birchy Barton Hill, Heavitree, Exeter, Devon.

Gloucester and District Radio Society.—J. W. Hamilton, Upper Parting, Sandhurst, Gloucester.

Lensbury Radio Society.—L. J. Martin, Shell Corner, Kingsway, W.C.2.

Midland Amateur Radio Society.—S. C. Parish, 72, Lordswood Road, Harborne, Birmingham.

Newcastle-on-Tyne Radio Society.—21, Collingwood Street, Newcastle-on-Tyne.

Northern General Transport Radio Society.—G. M. Coxon, 65, Sydenham Terrace, Sunderland.

Preston and District Radio Research Society.—J. E. Bradley, 89, Friargate, Preston, Lancs.

Radio Experimental Society of Manchester.—W. O. Stott, 29, Blackfriars Street, Manchester.

Royal Normal College for the Blind.—Upper Norwood, S.E.19 (R. Gapper).

Slade Radio Society.—W. E. Chilvers, 110, Hillaries Road, Gravelly Hill, Birmingham.

South London Transmitters' Society.—T. Woodhouse-Rayner, 25, The Gardens, Peckham Rye, S.E.22.

Thornton Heath Radio Society.—C. H. Piper, 77, Torridge Road, Thornton Heath, Surrey.

QRA Section.

Manager : M. W. Pilpel (G6PP).

New QRA's.

G5AW—A. E. Wood, 247, Leigham Court Road, London, S.W.16.
G5UK—Max B. Buckwell, 114, Tankerville Drive, Leigh-on-Sea, Essex.
G6AN—S. Parr, 18, Harris Street, London, S.E.5.
G6CD—F. W. Foster, 562, Woodborough Road, Mapperley, Nottingham.
G6DS—R. C. B. Barnes, "Inglenook," Orlando Drive, Carlton, Nottingham.
G6DU—J. McOmish, "Curracheen," Perth Road, Crieff.
G6OT—H. A. M. Clark, 119, Wynchgate, London, N.14.
G6WF—T. B. Whitehouse, "Erin," The Bratch, Wombourne, near Wolverhampton.
2AOI—P. G. Tandy, 17, Osberton Road, Oxford.
2BGF—A. E. Richards, 170, Ray Street, Heanor, Notts.
2BRR—J. B. Wormall, "Sandycroft," St. Albans Road, Bulwell, Notts.
2BVJ—M. F. Long, 32, South Parade, Summertown, Oxford.
2BVO—L. Waddington, "L'Ancresse," Vardon Drive, Leigh-on-Sea, Essex.

The following are cancelled :— 2AOP, 2BHD, 2BTP, 2BWP.

Australian QRP Contest

Some extraordinary results were achieved in connection with the above contest. Two of our B.E.R.U. members, Mr. Trevor Evans (VK2NS) (last year's BERU trophy winner), and Mrs. Hutchings (VK3HM) (the first lady holder of a W.B.E.), finished first and second, with the tremendous miles per watt figures of 142,187 and 59,750 respectively.

Mrs. Hutchings used an input of 0.54 watt to a 201a valve in a Hartley circuit. The source of supply being derived from a 90 volt dry battery.

One of her contacts with Sydney was made on 0.3 watt, whilst her total of stations worked was as follows :—

New South Wales	...	...	33
Victoria ...	...	...	45
Queensland	...	...	1
Tasmania ...	...	...	5
S. Australia	...	...	22
New Zealand	...	...	6
Total ...	...	...	35,850 Miles = 59,750 M.P.W.

We have not yet seen Mr. Evans' full score, but judged in the light of Mrs. Hutchings' wonderful effort, we must assume that his total of stations worked was colossal. We do know, however, that he had about 40 contacts with ZL ! !

Apparently QRP contests in VK receive even greater support than our own, although it must be granted that the Australian continent offers better facilities than that of Europe. Language difficulties alone must account for much.

However, we offer our sincere congratulations to Mr. Evans and Mrs. Hutchings, and hope that future contests will be as well supported as the one now reviewed.

J. C.

New Members.

Home Corporates.

S. J. Borgars (G2WX), 28, Welldon Crescent, Harrow, Middlesex.
M. V. Wilkes (G5VF), Fircroft, Chawn Hill, Stourbridge, Worcestershire.
R. M. Geldart (G5VV), Greenway, Coombe Valley, Preston, Weymouth.
H. N. Miles (G6IB), 325, King's Park Avenue, Rutherglen, Glasgow.
J. C. Lee (G6JL), 12, Spinney Lane, Kettering, Northants.
K. H. Arthur (2BKG), 45, Brentry Road, Fishponds, Bristol.
W. J. Prestidge (2BXI), Feckenham, Redditch, Worcestershire.
G. Herrtage (2BIS (*a*)), 8, Queen's Road, Ealing, W.
L. Wildman (BRS902), Blackburn Golf Club, Revidge Road, Blackburn.
E. J. Dell (BRS903), Morlais, Dowdeswell Place, Upper Loughor, Glamorganshire.
E. P. Inman (BRS904), 6, Promenade Square, Harrogate.
R. G. Hawkins (BRS905), 20, Waverley Road, Redland, Bristol.
P. Pennell (BRS906), 3, Pepys Way, Girton, Cambridgeshire.
R. W. Hall (BRS907), "Newholme," Llwyn Mawr, Sketty, Swansea.
C. Lavender (BRS908), 43, Malling Road, Snodland, Kent.
N. C. Roper (BRS909), 28, Ranelagh Gardens, London, W.6.
C. A. Reid (BRS910), 35, Courthouse Gardens, Church End, Finchley, N.3.
E. A. Parsons (BRS911), 5, Mildmay Street, Stanmore, Winchester.
J. P. Coveney (BRS912), 4, Banstead Road, Ewell, Surrey.
C. A. W. Olive (BRS913), 138, Woodland Road, Upper Norwood, S.E.19.
J. F. M. Mellor (BRS914), Faraday House, Southampton Row, W.C.1.
A. E. Markwick (BRS915), 13, Dunstable Road, Richmond, Surrey.
J. Dempsey, jun. (BRS916), 403, Stanley Road, Bootle, Lancashire.
E. M. D. Denny (BRS917), Staplefield Place, Staplefield, Sussex.
A. A. Hammond (BRS918 ex A), 3, Bradford Road, Seven Kings, Essex.
T. Wolstenholme (BRS919), Chesham Post Office, Bury, Lancashire.
J. Bonnett (BRS920), Radio, Station Road, Hornchurch, Essex.
J. W. Mackay (BRS921), 12, Royal Crescent, Glasgow, C3.
W. E. Telfer (BRS922), 11, Benedict Street, Middlesbrough, Yorkshire.
T. V. Williams (G61W), Malincourt, Grosvenor Avenue, Rhyl.

Dominion and Foreign.

P. Poulsen (OZ2P), Thorsgade 54, Odense, Denmark.
W. H. I. Stephens (VP2LA), Stony Hill, Jamaica, B.W.I.
F. H. Stevens (ZS6B), Military College, Roberts Heights, South Africa.
G. H. J. Sadler (ZU1V), Moreson, Lindley Road, Wynberg, Cape, South Africa.
G. Allday (BERS124), Graighead, Nawalapitiya, Ceylon.
J. Griffith (BERS125), The Rectory, Kildare Road, Newlands, C.P., South Africa.
J. R. Fraser (BERS126), Elizabeth General Hospital, Elizabeth, N.J., U.S.A.

The Mullard Programme.

From Messrs. The Mullard Wireless Service Co., Ltd., we have received a very full report of the many improvements they intend to introduce during the coming season. These extend to nearly all ranges in valve manufacture and are of particular interest to the maker of high-class receiving sets. We notice the introduction of a new Pentode valve designed especially for use in portable sets with low current consumption, and therefore very high efficiency, a new screened grid valve (Type PM 12a) and a new non-microphonic detector valve to operate upon low anode voltages. In the indirectly heated series, there is "rigid unit" construction, which renders the valve free from interference when incorporated in a cabinet with a powerful moving-coil speaker. There is also a multi-mu valve of greater sensitivity than the original MM4V, and many other items of interest. We feel sure that many of our members will be visiting the stand of these good friends of the Society at the Exhibition, where the new lines will be gladly shown to them.

APPARATUS REVIEWED.

500-volt Working Mica Condensers.

WE would draw attention to the fact that T.C.C., Ltd., have now reduced the price of their 500-volt D.C. working mica condensers. These are of special interest to the transmitter, and we therefore append the new prices in detail :—

Capacity. mfd.	Retail Price. Each. s.	d.
.0001 to .0005	2	6
.001 to .004	3	0
.005 to .006	3	3
.01	3	6
.02	5	0
.03	6	0
.04	7	0
.05	8	0
.1	12	0

* * *

A New S.W. Variable Condenser.

Messrs. Stratton & Co., Ltd., always alive to the requirements of amateurs, have now produced a 25 mmfd. variable condenser. This is built on exactly the same lines as its predecessor, the 160 mmfd. and consists of two moving plates and one fixed. Known as the "Ham-band" condenser, it has a very low minimum, and the amateur bands can be spread to any required extent by adjusting the inductance to suit. As its construction makes it very low loss, and the spacing is wide enough for anything except very high power, it should be very useful as a neutralising condenser for power amplifiers where the capacity is suitable. The price is 9s. 6d.

CORRESPONDENCE.

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

Telepathy Again !

To the Editor of T. & R. Bulletin.

Dear Sir,—The experience of "Curious" described in the "Bull." is very interesting and one that has quite often occurred to me. I also have known when giving test or test DX calls that someone is waiting to reply to me, and sure enough on going over there is someone calling me.

A rather remarkable coincidence happened recently. I had been visiting a brother amateur and we talked about a certain Canadian who was a keen DX 'phone man. I went home, went on the air, and within ten minutes had heard, called and hooked up with this very Canadian, and he used 'phone !

Yours sincerely,
J. N. Walker (G5JU).

A Word of Thanks.

The Editor, T. & R. Bulletin.

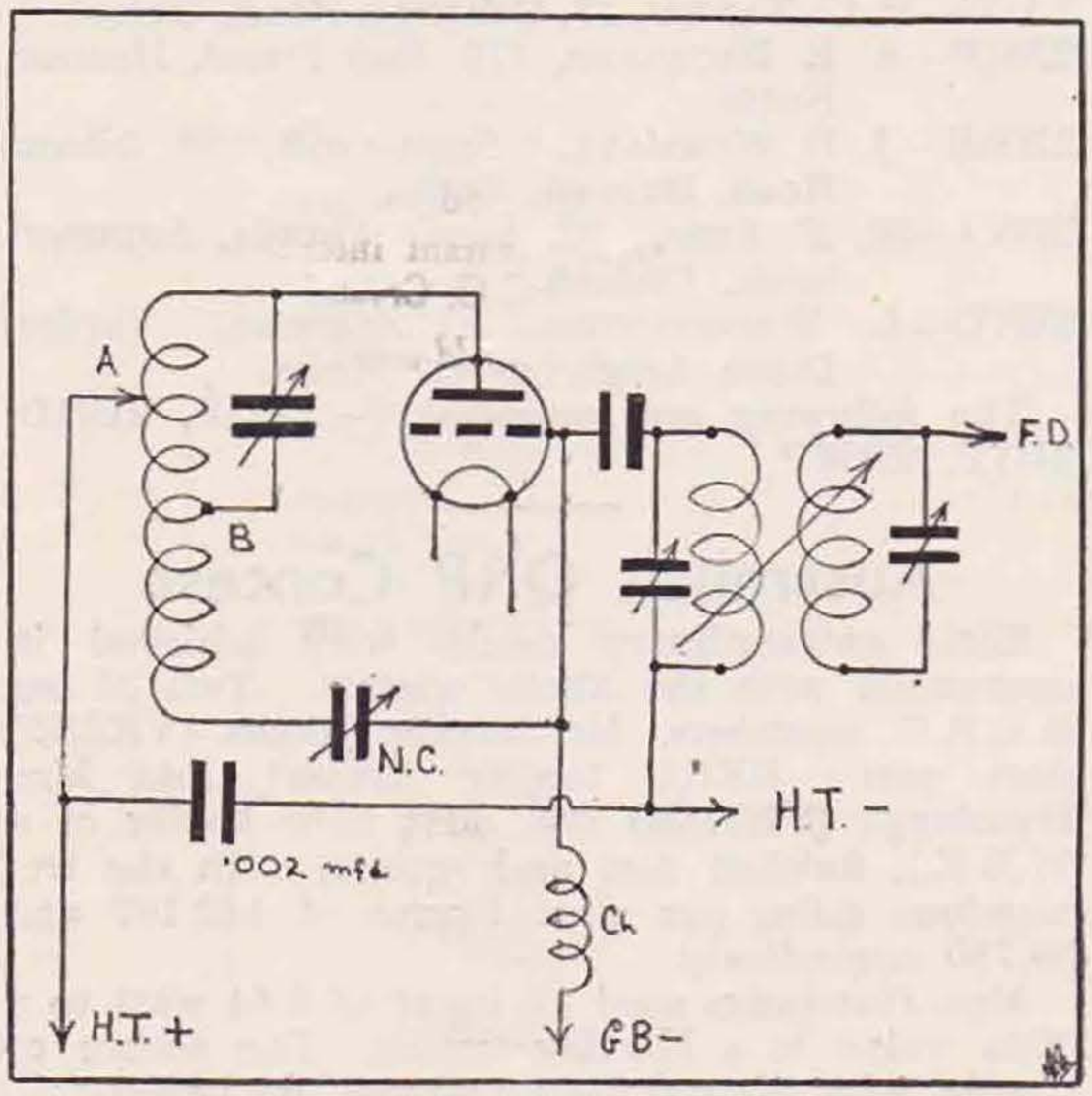
Dear Sir,—May I, through the correspondence column of the Bulletin, thank all who made possible my success in the recent 1.7 mc. Tests. Fine, clean notes, a high standard of operating and splendid co-operation throughout, made participation in these Tests a real pleasure. Hope to work you all again next year.

Yours sincerely,
Edward G. Ingram (G6IZ).

Neutralising the T.61D.

To the Editor of T. & R. Bulletin.

Dear Sir,—This is a circuit which I have found to be very satisfactory for neutralising a valve of the T.61D type on 7 and 14 mc. The accompanying circuit shows the connections. For 14 mc. the anode



coil consists of 10 turns of copper tube, wound to a diameter of 3 ins. The point A is 4 turns from the anode end, and the point B 2 turns further on. For 7 mc. 14 turns of copper tube are used, the diameter here being 2½ ins., and the point A 8 turns and B 11 turns from the anode. The neutralising condenser is a 3-plate Cyldon transmitting condenser. The H.T. is 1,000 to 1,500 volts and I use a negative bias from 60 to 160 volts. The filament is run at 6.2 volts, which increase has helped matters very much.

Yours faithfully,
L. W. Parry (G6PY).

What Do YOU Think About It?

[In the last issue we published a letter from G2WS with the above heading, the subject of the letter being C.B. Notes and District Notes. We have had many replies, both agreeing with and differing from G2WS's opinion. As all of them are rather lengthy, and it would obviously be unfair to published one without another, we can but thank the writers and say that their remarks are not wasted, but will be of use to Council in the near future.—Ed.]

NOTES and NEWS from the BRITISH ISLES

DISTRICT REPRESENTATIVES.

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

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

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

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

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

DISTRICT 6 (South-Western).
(Cornwall, Devon, Dorset, Somerset.)
MR. H. A. BARTLETT (G5QA), "Donbar," Birchy Barton Road, Exeter, Devon.

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

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

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

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

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

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

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

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

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

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

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

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

DISTRICT 1 (North-Western).

Apparently the good weather is responsible for the lack of reports in this district. Several stations report activity, but some are rebuilding or keeping skeds, the most interesting of which is that kept by G2OA and G2OI on 10 metres every Saturday night from 00.00 hours to 01.00 hours. The results will be watched with interest!

The Manchester meeting was a success, some 22 members being present, while G6OM gave a very excellent station description. Only 11 members attended the Liverpool meeting, at which several matters were discussed. Among these were the Field Day to be held on September 11 and the District Conventionette to be held on October 9. Further details of the field day will be announced later. Please note that the date of the Conventionette is Sunday, October 9, and that it will be held in Liverpool. Final arrangements will be published in the BULLETIN next month. We are hoping that everyone will turn up and make this affair the best one we have had, and that as many of the members in the neighbouring Districts as possible will join us. Will those members in the Manchester Area who would care to join a char-a-banc party please communicate with G2OI, as I believe it will be considerably cheaper. The D.R. would esteem it a favour if all those who intend coming would drop him a post-card to that effect, so that catering arrangements can be made, and that this be accepted as an open invitation to all members to attend.

DISTRICT 2 (North-Eastern).

G5UB is active on 1.7, 3.5, 7 and 14 mc. G5VO reports very good results with an input of 6 watts, being QSO with most of Europe on 7 mc., with a 66 ft. aerial. He has got a portable licence (G6IC), and is having good results with 3 watts from 100 v. dry battery.

A new group has been formed in the Hull district, and is going strong. A meeting was held at 2ARM on July 11 last, when 11 members turned up.

It was agreed that each week members should work each other on Sunday at noon, ten minutes being allowed to each station, call QST de G—; 7 mc. being used. The next meeting was held at G2FS., when 11 members and 4 visitors were present.

2HRM and BRS859 have promised co-operation on 28 mc., and have joined CB.

A request has been sent to the Bridlington gang

to support these meetings, of which they will be notified.

BRS889 is quite willing to listen and report for any station who cares to fix up arrangements with him.

G6PY has fixed a shed with VE1HE, and has worked five days without a miss, 14 mc. at 22.30 G.M.T.

I hope to meet many of the district members at the Convention.

DISTRICT 3 (West Midlands).

Holidays seem to have an almost complete eclipse over radio in this district this month, and very few reports have been received.

Staffordshire.—2BUS has applied for a full licence, and hopes to be radiating next month. 2BTW finds conditions on 14 mc. patchy, and is experimenting with oscillatory circuits in readiness for full licence. G5QC finds DX good on 14 mc., but is only home week-ends. G2OQ has been cruising in Norway. G5UW is doing QRP work with portable RX-TX.

Warwickshire.—G2KB and BRS77 are very active on 56 mc., the former having been heard in Coventry at G5ML; the distance is 15 miles, and they are also co-operating with G2CZ. Experiments are also in progress on 1½ metres, but full details are not to hand.

A visit to Hillmorton Radio Station at Rugby has been arranged for September 17 next, and I hope a large number will come; the final details, such as transport, etc., have not been fixed, and I shall be glad if those who are joining the party will drop me a line as soon as possible, so that I can complete the arrangements and advise them.

DISTRICT 5 (Western).

Although the weather has been so fine there is no lack of interest. Between 40 and 50 always attend the monthly meeting at Bristol, and the Wiltshire letter budget gets more interesting every month. The chief subject last time was 56 mc., and great interest is being shown on this frequency; it looks as if things will soon be in full swing in many directions. Under C.B. notes in this issue will be found the results of careful work by the Wilts C.R., G2BI, the result of which should be of the greatest help to everybody.

Field days continue popular, and about 70 members and friends took part in the one held on July 10, including over a dozen sportsmen from the Slade Radio Club, who came all the way from Birmingham. As before, the problem was to find a transmitter hidden between Bristol and Gloucester. The call used was G5HC, and the portable transmitter operated on 1786.5 kc. and was c.c. The location of the transmitter proved more difficult than on the previous occasion, and showed that the ingenuity of those responsible was without doubt second to none. The actual position chosen was such that the trouble from absorption and refraction caused by surrounding hills and trees made it very difficult to obtain accurate bearings. In one case the absorption was so great that a receiving station actually thought it was going away from the transmitter when in fact it was getting much nearer. Only five parties were successful in finding the transmitter which was hidden in the grounds of the place arranged for tea—Hill Grove Guest House, Woodchester, Stroud. Those who did not succeed saw some wonderful country and hills, and several cars were observed to have "steam up." Even after the official time for closing down many continued the search until they were compelled by hunger pains to open their sealed envelopes showing the actual location.

Over 50 sat down to tea and a general rag chew afterwards, and the D.R. presented the prizes to the successful parties. The first man home was 2BKF, of Painswick. Thus ended another most enjoyable, and at the same time instructive, interesting and useful day.

DISTRICT 6 (South-Western).

Things in this district seem rather quiet at the moment owing, no doubt, to the usual summer QRM. At the time these notes appear, the special 56 mc. tests for this district will be over, and with any luck further progress will have been made on this band. Individual reports for the month are rather few and far between, but 5WY has done rather well on the extremely low power of four watts. His transformer is still in "dry-dock," and, in any case, will have to be re-wound now to suit the new 200 volt mains. He has worked several W stations on this very low power, as well as some excellent European contacts. 5WY also is now using 33 ft. of wire for his receiving aerial, and finds that this particular length (for 20 metres) cuts out a lot of local QRM. Another wrinkle is to remove any iron cores from the receiver. This should be well worth trying, especially for those who are situated next to a main road and bus route. 5QS complains that the 10-watt man stands little or no chance these days against the 500-watter, and wonders if anything can be done at all worth while with 10 watts. He is thinking of trying the Windom antenna now, in place of the Zepp. 5QS is now on phone, with good results. 2AWJ has passed his Morse test, and is now awaiting his full radiating permit. He will soon be on the air on 7 mc. and 14 mc. 5SY has done little for the month owing to domestic QRM, but got up early two mornings and hooked two W6's. Has also been very busy with the 56 mc. gear for the tests. 5QA is still off the air as regards the main TX, owing to the change of QRA, and has also been busy with the five metre TX and RX. Local QSO's have been maintained with a small half-watt Ultraudion, which is quite enough for purely local work. 6LL passed here on his way to Torquay and Newquay for vacation, and although it was a bad afternoon as regards weather, I was pleased to see him, even though the time was short. May I once again heartily invite any ham who passes through Exeter to give me a look up? The shack is easy to find, being only about 400 yards from the main London road just as Exeter is entered from the Honiton direction. I hope that all stations will report next month, especially the Plymouth section.

DISTRICT 7 (South-Eastern).

Reports have been received this month from Hants, Kent and Surrey. There has been a slight falling off in general activity, due to poor conditions.

G6GZ reports his letter budget still going strong. the July issue being supported by 13 members; the leading articles of this issue was on 56 mc. work by G6GZ. Active stations in this area are G2DC, G5TZ, G6GZ on 56, 17 and 7 mc.; G6PV, G6BU and G6NZ on 14 and 7 mc.

G6NK reports little activity in his area owing to general bad conditions. The monthly meeting for July was held at East Wittering, and was much enjoyed by all present. After a F.B. day by the sea the party journeyed to Farnborough and visited G6GZ and G2DC. Active stations in this area reporting are G2NH, G5RS, G6GS on 56, 14 and 7 mc.; G2YD, G2DZ, G2MR, G2VV, G6LK, G6NK on 14 and 4 mc.

G6WY reports very little of importance happening during the month. G2IG has been running some field days in the Gillingham area. G6WY has worked a new country—Curacao—and G2JH our QRP expert has been QSO W.1 with 5 watts to a keyed C.O.

A further appeal is made to all members, old timers and to BRS men, to contribute to the Kent letter budget (G6WY) and to the combined letter budget (G6GZ). I can assure all that these letter budgets are most interesting and well worth a trial. The Surrey gang hold regular monthly meetings, and work in conjunction with the C.R. for Hants. These meetings during the summer usually consist of semi field days or are held at the QRA of one of the members. Two meetings were held in July, one by the sea at East Wittering and the other a 56 mc. field day at Rustington, near Littlehampton. Write to your C.R. and get in touch with other active members.

DISTRICT 8 (Eastern).

The informal meeting mentioned in last month's notes took place in Cambridge on Sunday, July 3. I had not anticipated that it would be held at such an early date, but G6BS, who kindly made local arrangements, was due to depart on his holidays on the following day. A very lengthy discussion on district affairs took place, but no very definite conclusions were reached.

The following were present: G6CR, G5YK, G5JO, G6BS, G2CJ, 2AAK, BRS769, BRS895, and twelve members of the Pye Radio Short-wave Society, amongst whom were Ex-G6YP and Ex-G5PI. The Pye Society, which has a very large membership and is affiliated to R.S.G.B., must, from all accounts, be one of the keenest local societies in the country, and it was a great pleasure to meet their representatives and to hear their views. One can only hope that in the near future many of the members of the Pye Society may become individual members of R.S.G.B. and will obtain call-signs of their own. I got the impression (perhaps wrongly) that some of them looked upon the possession of a two-letter call-sign as an almost unattainable ideal They have the finest gear at their disposal, and, individually, a more than ordinary knowledge of radio matters. May I recommend membership of R.S.G.B. and a study of a few back numbers of the BULLETIN as being all that is necessary to put them on the right track.

I do not know the present addresses of the following Norfolk members: BRS69, BRS70 and BRS370. Will they please drop me a card?

Any of you having matters which you require me to bring forward at Convention, should let me know at once. Incidentally, how many are attending Convention? It's worth it, I can assure you!

DISTRICT 9 (Home Counties).

There is a holiday feeling about at the moment, so reports are few. Much activity still prevails on 1.7 mc. in Essex district. G2DQ is on higher ground at new QRA, and appears to be getting better results. G2LZ, G6WQ and a number in South Essex are active. G2WG has been working with tuned aerials and received encouraging reports at approx. 3, 5, and 30 miles C.W. and phone. We welcome a new station at Leigh-on-Sea, G5UK. G2HJ reports as usual, and BRS490 from Bucks reported in person to DR. G5QV testing some seven crystals of various frequency was reported as having several harmonics. G2AF is busy grinding away to supply him with a few more, and expects to be c.c. himself very shortly. G6QO is still awaiting change over to A.C. Expects to be QSA in September.

DISTRICT 12 (London North).

For the benefit of the ever-increasing number of new members in this district I would like to point out that we run a letter budget, and if anyone would like to contribute will they please send me a card. The following are contributing:—G2IM, G6CD, G6CL, G6KW, G6OT, G6CJ, G6PP, G6UN, G5JV, G5SG, BRS497, BRS478, BRS536, G5SL, 2BHT, BRS434, BRS876, G5SA, G5QF.

Activity is increasing along the 56 mc. line, and I hope to have something to report next month.

We are pleased to welcome G5SA from South London.

DISTRICT 13 (London South).

On July 2 a number of the S.L.D.R.T.S. members (No. 13 District) paid a most interesting visit to the National Physical Laboratory at Teddington. Housed in the various laboratories, apparatus was seen ranging from precision frequency measuring apparatus, with the associated National Standards, to the high-voltage testing of insulators with 750,000 volts at 500 k.v.a. A field day was also held in June with the kind invitation of G5FJ, of Headcorn, Kent.

All members of this district are cordially invited to our meetings, which take place at the Brotherhood Hall, West Norwood, at 8 p.m. on the first Thursday in the month. Why not come on September 1?

Much interest is being shown in 56 mc. working by members of this district. G5AW, G5IS, G5KH, G6HP, G6KP, G6NF and G6QB are all at work on this band, and many duplex experiments have been carried out up to a distance of five miles (between G5KH and G6NF).

DISTRICT 14 (London East).

Another field day was held last month on the banks of the River Lea, at Dobbs Weir, Hoddeston. Considerable time was put in, using a 56 mc. transmitter, fed from a 600 volt ML Rotary Transformer; it was very unfortunate, however, that no other station appeared available for 2-way working. Our portable receiver was, however, used both in a canoe and on a car up to a distance of about three miles. The other bands were also used during the daytime, but owing to the very fine weather prevailing, the River Lea had many attractions. Our last monthly meeting was held

at the QRA of G2NU, at Hainault, and was well attended.

Congratulations to 2BHB—now G6FJ. Members of this district have been using a 56 mc. receiver at High Beech, and a number of signals were heard, chiefly tuning up, but two carriers—modulated—were heard, apparently carrying on duplex telephony.

Our next meeting will be held on Tuesday, August 23, at 28, Douglas Road, Chingford, E.4, and members up for the week for Convention, etc., will be welcomed.

DISTRICT 15 (London West and Middlesex).

About a dozen members at the last area meeting were able to listen to a five-metre transmission from G6YK on G5CV's very compact and efficient super-regenerative receiver.

Owing to Convention and holidays, there will be no area meeting during August. G2BY has offered his QRA for the next meeting, on Thursday, September 22, at 7.30 p.m.

I shall be very pleased to see members of the area at G6WN, on Friday evening and Sunday afternoon and evening of Convention week-end to assist me entertain our provincial friends.

Very few reports have come to hand this month, and I am wondering why.

As most of us know, G5PQ, when a BRS, was very keen on aerials, and now fully licensed, he is finding a still wider scope in this direction with transmitting aerials. G6WN recently had the novel experience of three consecutive QSO's on three different bands. This was only by chance, and not an organised attempt, as a test call on 7 mc. raised a W, while YI was called on 14 mc., and worked, and later a schedule was kept with portable G6UT on 3.5 m.c.

NORTHERN IRELAND.

I am very pleased to be able to send in the best report I have received for a very long time. It concerns excellent work done on 56 mc. by Gi6YW and Gi5HV, to both of whom I send my hearty congratulations.

On June 29, Gi6YW made the first speech transmission on 56 mc. with 16 watts input. This was received in a car at R8 the whole way between Gi6YW and Gi5HV's QRA. That evening QSO was made with Gi5HV, he using about 7 watts. The aerials are half wave horizontal dipoles indoors. On June 30 they made their first duplex phone working. This is thought to be the first Irish 56 mc. transmission, contact and duplex phone.

I am pleased to welcome a newcomer this month —BRS892. Mr. R. A. Sproule, Ardavon, Garvagh, Co. Derry, who reports conditions poor, best DX heard being W3 and ZU. He is also trying 56 mc. reception. Gi6YM had many local contacts on 7 mc. and 14 mc., and have had the pleasure of a visit from ZL2HS and ZL2JS who are in Belfast at present. Gi6YW has now arranged things so that he can alter direction of maximum radiation at a few moments notice, and has been very successful in getting W contacts since the new aerial was erected. He is hoping to run a " sked " with Professor Appleton's expedition at Tromsoe. 2AXW is rebuilding the transmitter.

DISTRICT AND COUNTY REPRESENTATIVES

(BRITISH ISLES) 1932-1933.

THE following is a list of all D.R.'s and C.R.'s who have been elected or appointed to serve for the coming year.

As a result of the past year's working, one or two changes have been introduced to make for greater efficiency.

It will be noted that the old District 7 has now been sub-divided, Mr. Dedman taking one part and Mr. Whyte the other. This change was necessary owing to the unwieldy size of the old district.

Mr. Drudge-Coates, the late D.R., was compelled to relinquish office owing to an impending move from England.

A similar re-arrangement has been found desirable in the Midlands, where a new district (No. 17) under Mr. Livesey has been formed. This is made up partly from the old No. 2 and partly from the old No. 4 districts.

Several C.R.'s have still to be appointed, but it is hoped the lists will be completed prior to Convention.

It will be noted that amongst the vacancies below are those in connection with the South and West London districts. These are the two largest numerically in the country, and the appointment of sub-district representatives has become necessary.

ARRANGEMENT OF DISTRICTS AND GROUPING OF COUNTIES, 1932-1933.

DISTRICT 1.—NORTH-WESTERN.

D.R.: S. HIGSON (G2RV), Egremont Promenade, Wallasey, Cheshire.

Cumberland, Westmorland — MR. R. H. G. GARSIDE (G2YN), 7, Egremont Road, Hensingham, Whitehaven, Cumberland.

Cheshire—MR. J. DAVIES (G2OA), 13, Exeter Road, Wallasey.

Lancashire—MR. W. LUCAS (G2OI), 64, Worsley Road, Winton, Patricroft, Manchester.

DISTRICT 2.—NORTH-EASTERN.

D.R.: Mr. L. W. PARRY, (G6PY), 13, Huddersfield Road, Barnsley, Yorks.

Yorkshire, N. Riding, W. Riding — MR. H. RAYNOR (G5TQ), 32, Grange Road, Cleckheaton.

Durham—MR. W. F. C. GERAGHTY (G2AW), 5 Benson Street, Norton, Stockton-on-Tees.

Northumberland—Mr. H. C. HORNSBY (G5QY), 7, Lansdown Terrace, Gosforth, Newcastle-on-Tyne.

DISTRICT 3.—WEST MIDLANDS.

D.R.: MR. V. M. DESMOND (G5VM), "Haarlem," 199, Russell Road, Moseley, Birmingham.
Shropshire—E. R. WESTLAKE (BRS.46), "Ardlui," Wenlock Road, Shrewsbury.
Stafford—Mr. F. J. SINGLETON (G5UW), Wellington Place, Penn Fields, Wolverhampton.
Warwickshire—MR. F. W. MILES (G5ML), Tudor Lodge, Gibbet Hill, Kenilworth.
Worcester—Mr. H. LITTLEY (G2NV), "Radiohm," Bridgnorth Road, Stourton, Stourbridge, Worcs.

DISTRICT 4.—EAST MIDLANDS.

D.R.: MR. H. B. OLD (G2VQ), 3, St. Judes Avenue, Mapperley, Nottingham.
Leicester—Mr. W. W. STORER (2BIT), "Sunia," Blanklyn Avenue.
Derby, Northants, Notts } MR. J. LEES (G2IO), 17, Trevose Gardens, Sherwood, Nottingham.

DISTRICT 5.—WESTERN.

D.R.: CAPT. G. COURTENAY PRICE (G2OP), 2, St. Annes Villas, Hewlett Road, Cheltenham, Gloucester.
Gloucester—To be appointed.
Hereford—To be appointed.
Oxfordshire—MR. C. I. ORR-EWING (G5OG), Trinity College, Oxford.
Wiltshire—LT.-COL. W. L. PALMER (G2BI), "Elmfield," Calne.

DISTRICT 6.—SOUTH-WESTERN.

D.R.: MR. H. A. BARTLETT (G5QA), "Donbar," Birchy Barton Hill, Heavitree, Exeter, Devon.
Cornwall—MR. G. E. JONES (G6XB), 11, Penventon Terrace, Redruth.
Devon—MR. W. B. SYDENHAM (G5SY), "Sherrington," Cleveland Road, Torquay.
Dorset, Somerset } MR. D. G. KENNEDY (G6KY), The Firs, Sturminster Newton, Dorset.

DISTRICT 7.—SOUTHERN.

D.R.: MR. E. A. DEDMAN (G2NH), 63A, Kingston Road, New Malden, Surrey.
Berkshire—To be appointed.
Hampshire—MR. R. C. NEALE (G6GZ), Farnborough Road, Farnborough.
Surrey—MR. R. J. DENNY (G6NK), 32, Waverley Road, Weybridge.

DISTRICT 8.—EASTERN.

D.R.: MR. S. TOWNSEND (G2CJ), 115, Earlham Road, Norwich, Norfolk.
Cambridgeshire—MR. B. M. SCUDAMORE (G6BS), 39, Owlstone Road, Newnham, Cambridge.
Huntingdonshire, Norfolk } To be appointed.
Suffolk—MR. C. A. JAMBLIN (G6BT), 121, Queen's Road, Bury St. Edmunds.

DISTRICT 9.—HOME COUNTIES.

D.R.: MR. F. L. STOLLERY (G5QV), "Kingsmead," Lancaster Gardens E., Clacton-on-Sea, Essex.
Bedfordshire, Hertfordshire } MR. G. FEATHERBY (G5FB), 30, Lindsey Road, Bishops Stortford, Herts.
Essex—MR. J. E. FYNN (G6TX), 24, The Broadway, Woodford Green.
Buckinghamshire—To be appointed.

DISTRICT 10.—SOUTH WALES AND MONMOUTH.

D.R.: MR. A. J. E. FORSYTH (G6FO), "St. Aubyns," Gold Tops, Newport, Monmouthshire.
Monmouth—MR. H. J. GWILLIM (G6GW), The Mount, West Hill, Tredegar.
Glamorgan—MR. D. LOW (G5WU), "Nantissa," Westbourne Road, Penarth.
Breconshire—MR. G. R. S. FARNIE (G5FI), "The Grange," Cefn Coed, Nr. Merthyr Tydfil.
Radnorshire—MR. R. H. JOHNS (2BPM), School House, Painscastle, Erwood.
Cardigan, Carmarthen, Pembroke } LT.-COL. E. C. JENNINGS (G5OC), Gelli-Deg, Kidwelly, Carmarthen.

DISTRICT 11.—NORTH WALES.

To be appointed later.

DISTRICT 12.—LONDON, N.

D.R.: MR. S. BUCKINGHAM (G5QF), 19, Oakleigh Road, Whetstone, N.20.

DISTRICT 13.—LONDON, S.

D.R.: MR. A. D. GAY (G6NF), 49, Thornlaw Road, W. Norwood, S.E.27.
S.E. London—To be appointed.
S.W. London—To be appointed.

DISTRICT 14.—LONDON, E.

D.R.: MR. T. A. ST. JOHNSTON (G6UT), 28, Douglas Road, Chingford, E.4.

DISTRICT 15.—LONDON, W. AND MIDDLESEX.

D.R.: MR. H. V. WILKINS (G6WN), 81, Studland Road, Hanwell, W.7.
London, W.—To be appointed.
Middlesex—To be appointed.

DISTRICT 16.—SOUTH-EASTERN.

D.R.: MR. H. A. M. WHYTE (G6WY), Killiney, Worsley Bridge Road, Beckenham, Kent.
Kent—MR. R. G. HAMMANS (G2IG), 119, Nelson Road, Gillingham.
Sussex—MR. C. W. K. Sands (G5JZ), Springfield, Heathfield.

DISTRICT 17.—MID-EAST.

D.R.: MR. A. E. LIVESEY (G6LI), Stourton Hall, Horncastle, Lincs.
Lincoln—MR. J. H. HARKER (G6HK), Dunelm, Church Lane, Lincoln.
Rutland—To be appointed.
East Riding—To be appointed.

SCOTLAND.

D.R.: MR. J. WYLLIE (G5YG), 31, Lubnaig Road, Newlands, Glasgow.
District A—Mr. J. C. Adams (G5XC), 35, Newton Street, Greenock, Renfrewshire.
District B—Mr. E. G. Ingram (G6IZ), Tullos House, Nigg, Aberdeen.
District C—Mr. J. B. Sturrock, Kirkbuddo, Forfar, Angus.
District D—Mr. S. W. Rodden (G6SR), "Rosebank," Pilrig Street, Edinburgh.

N. IRELAND.

D.R.: MR. C. MORTON (GI5MO), 27, Bristol Avenue, Belfast.

Convention Accommodation.

Mr. T. A. St. Johnston (G6UT) is still waiting to hear from those having, and those wanting, accommodation during Convention.

As time is getting short, he would like to know *at once*, to avoid anyone being disappointed. His address is as follows: 28, Douglas Road, Chingford, London, E.4.

Empire B.E.R.U. News.

B.E.R.U. REPRESENTATIVES.

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

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

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

Ceylon and South India.—G. Todd (VS7GT), District Engineers Bungalow, Nuwara Eliya, Ceylon.

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

Egypt and Sudan.—E. S. Cole (SU1EC), Haking House, Abbassia, Cairo, Egypt.

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

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

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

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

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

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

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

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

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

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

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

Australia.

By VK2HC.

May to June.—There is considerably less activity on 28 mc. now, owing to the falling off of conditions on this band, and no good contacts are reported this month.

The W's are coming through well on 14 mc. between 05,00 and 07.30 GMT, and some excellent contacts have been made. Otherwise there is little other DX on this band.

The 7 mc. signals appear to be the most reliable—VE and W signals are good for this time of the year from 08.30 to 12.30 GMT, with an occasional Asiatic, and European signal.

An increasing number of stations are operating on 3.5—this year marks the greatest activity on this frequency for some time, but the W's that were coming in some time ago cannot be heard now.

It is welcome news to all that the W.I.A. and W.A.R.T.L. are now one in VK6 under the W.I.A., and with this co-operation the VK6's should make great strides.

British West Indies.

By VP4TA (*via* VP2YB & G5VM).

June to July.—Two more Barbados fellows have obtained transmitting permits, and now swell the numbers of the gang here.

G signals are coming in well now-a-days, according to VP2YB, who has been trying out a c.c. set (fundamental frequency 7,072 kc.). VP2MR also reports activity, and joins with the rest of the gang in thanking G5KU for his help to members of the district.

X3A, of Tolteca, Mexico, writes giving data of his station. He is on 14 mc., and is very anxious to get into contact with G stations, as he has been allotted a B.E.R.S. number.

Canada.

From VE2BB, July 17, to R.S.G.B.:

"Am glad to report many fine contacts with England and rest of Europe during the past month, but DX has now fallen off badly.

"Many attempts have been made to contact Asia, but without success.

"Will the Iraq and Japan boys please look out for the VE gang who are only waiting for a contact to get their WAC?

"Local conditions are about as usual.—Sgd., VE2BB."

Ceylon and S. India.

June.—Conditions this month have been decidedly unimpressive. 7 mc. has been practically dead throughout the month, and 14 mc. very patchy, with brief DX periods. Raw A.C. interference from EU and AU high-power stations on 7 mc. is on the increase, and at times renders this band untenable, as local working here is mostly synonymous with medium DX. Complaints have been received of the daily QRM from RPK and XFQ, and it is considered that action must be taken.

VU2JP reports that general conditions are poor, due to local cyclones. He also reports heavy QRM from XFQ and RPK, and fading on 14 mc.

VS7AP and VS7AO do not report. B.E.R.S. 106 is on the move, but sends a list of calls heard. VS7GJ, proceeding Home on furlough this month, carries with him the good wishes of all local amateurs.

The Ceylon Birthday greetings to H.R.H. the Prince of Wales were successfully relayed by VS7GT, on June 12, *via* G5BJ, but VU2JP reports unsuccessful in this relay owing to prevailing bad conditions.

Egypt.

By SU1EC.

June.—SU1AQ has regretfully had to relinquish the position of B.E.R.U. representative for Egypt owing to heavy service demands on his time, and SU1EC has therefore taken over the job, and hopes to have the support of all the members in the country.

SU6HL (ex ST2D) is now in Egypt, and working regularly with a 50 watt c.c. kit.

SU1AA, who never keeps one transmitter or receiver for more than three days, has broken his own record for a quick change, and is now working with an ultraudion with 60 watts.

SU1CH is at present QRT on amateur basis but is running a station on the broadcast band.

Northern India and Burma.

June.—Congratulations to B.E.R.S. 74, on his good show in the tests.

Judging from B.E.R.S. 74's list of calls heard this month, he seems to be having a good time with DX at Quetta.

Conditions in Sind were very poor, except for the last few days of the month, when a few DX stations were heard on 14 mc.

VU2AH would be very glad to hear from active members. He has been QRT for some time owing to Service and other QRM.

New Zealand.

June.—Conditions have been poor recently. On 7 mc., the Europeans could be heard in the early mornings, but not worked. 14 mc. has been bad, with occasional bright patches. 3.5 mc. is good for working VK, even VKG. A start has been made on 56 mc., and we are trying to get permission to use 'phone on this band.

New hams are coming on the air very quickly, and the NZART is going ahead well. An official logbook has been issued, and an official callbook will be issued in July, giving all ZL and VK hams, with other information also.

The Radio Emergency Corps is now well organised all over New Zealand. It has been recognised by the P. and T. Department, and allotted special calls, and the use of a special waveband, 100-105 metres, as the 3.5 mc. band now shows skip distance effects.

Ham radio is becoming popular with the ladies. We welcome two more on the air, ZL1HF, Miss F. W. Mason; and ZL4FN, Miss Nancy Kirby. The latter is a sister of two other YL ops, ZL4CL and ZL4DT.

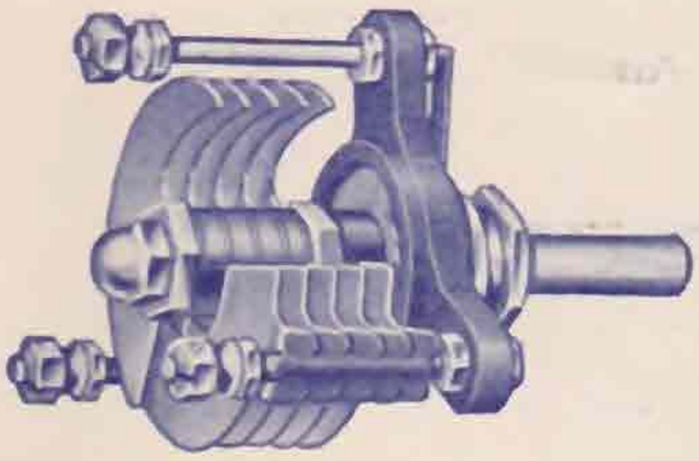
BRS and other European S.W. listeners, who perhaps complain of a poor return of ZL cards for reports sent, are advised to take more care in logging calls. Numbers of report cards are received at the QSL Bureau, addressed to non-existent calls, or to stations who were not operating at the time reported.

Channel Islands.

July.—Holidays have caused much QRM in the Area, but during the latter end of July, considerable time has been spent investigating the 1.75 mc. band. G2ZC is experimenting on this frequency, and, on the whole, conditions are quite fair, although QSC is very prominent. 14 mc. lively after dark, but very little real DX is to be heard.

Those active: G2ZC, 2BDP, 2BCS, BRS775, G5OU.

CATERING *for the* HAM!



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For ULTRA SHORT WAVES

15	mmfd.	4/6
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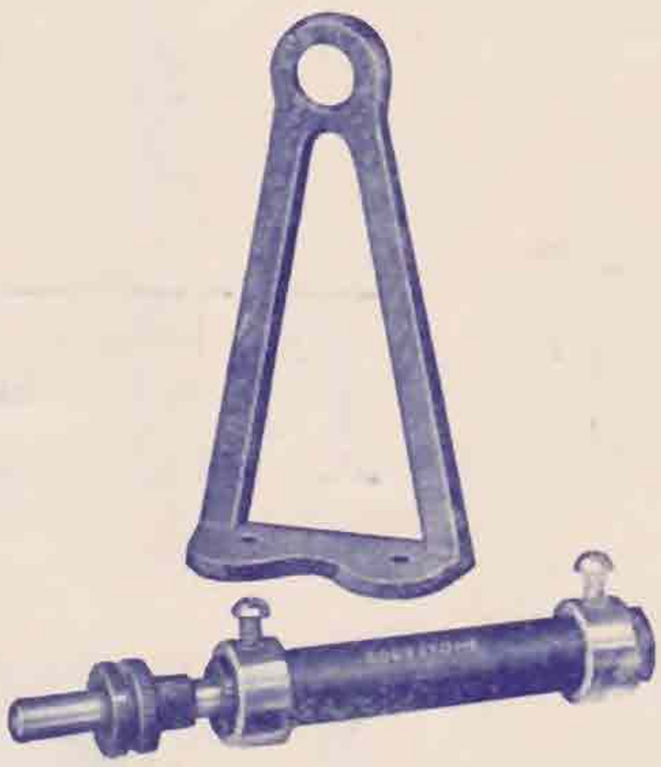

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Prices:

6" ebonite extension	No. 925 ...	3/-
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Type 923 — 9-100 metres, carry 25 m/amps.

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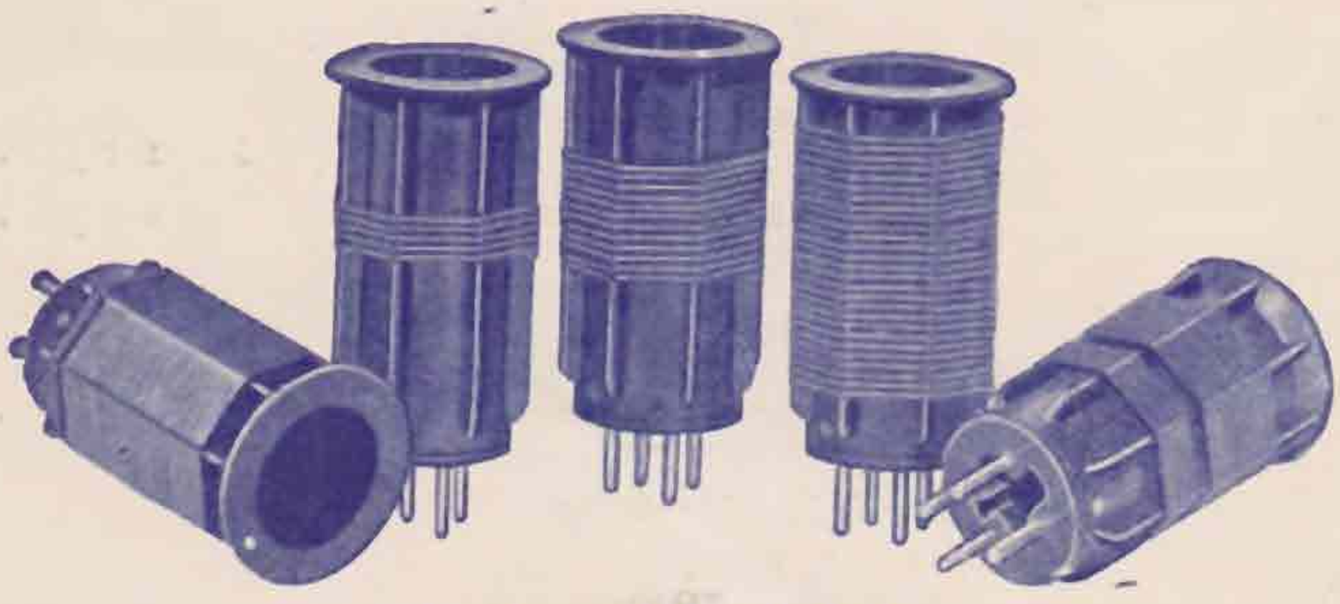

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These are supplied wound from 3/16" or ¼" bright copper tube lacquered to prevent oxidisation. 3" diameter up to 15 turns, flattened and pierced ends.

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Printed for the Inc. Radio Society of Great Britain, 53, Victoria Street, London, S.W.1, by Loxley Brothers Ltd., 50, Southwark Bridge Road, London, S.E.1.