T. & R. Bulletin

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AND THE

British Empire Radio Union

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THE INCORPORATED

Radio Society of Great Britain

AND THE

British Empire Radio Union

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H. B. Old (G2VQ).

R. S. G. B. CALENDAR.

ANNUAL CONVENTION.

September 26.—At the Institute of Electrical Engineers, W.C.2. 5.30 p.m., Tea. 6 p.m., Presidential Greetings. 6.15 p.m., Lecture.

September 27.—At the I.E.E. Morning: Delegates' Meeting. Afternoon: Photograph, followed by Business Meeting. Evening: Convention Dinner at Pinoli's.

October 24.—Meeting at the I.E.E.

November 21.—Meeting at the I.E.E.

December 19.—Annual General Meeting at the I.E.E.

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Egypt: C. E. Runeckles (SU8RS).
South Africa: W. H. Heathcote (ZT6X).

T&R

Bulletin

The only British Wireless Journal Published by Amateur Radio Experimenters

AUGUST, 1930. Vol. 6. No. 2.

EDITORIAL.

Convention, 1930.

IT is but a matter of a few weeks before the Society's Fifth Annual Convention will be in full swing, when amateurs from all over the British Isles—and, we hope, from abroad as well—will be meeting each other in London. In particular do we at Headquarters, with whom you have entrusted the destinies of the Society during the past twelve months, look forward to meeting the Provincial members, and especially the District Representatives. We know there will be some grouses, complaints and criticism, for this is but natural in any society, and merely shows a progressive and interested state of affairs. Further, we ask for criticism, and hope that it will be mainly constructive.

The past year has seen an increase in the number of local Conventionettes held in various Districts, and in most cases it has been possible for a Representative of Headquarters to attend. We can make no definite promises that such a representative will be able to attend all future Conventionettes, though, where a reasonable attendance can be guaranteed and a member found willing to make the journey, we hope no objection will be raised by the Hon. Treasurer. These Conventionettes, if run on proper lines, with a carefully-prepared agenda for discussion, are very helpful in keeping us in London in touch with the Districts, and assist in bridging the long interval between one Convention and the next. We all owe Mr. Old (G2VQ) a debt of gratitude, for he has attended nearly every Conventionette in the past year as District Representative on Committee, besides making a long journey twice a month to attend Committee and Council meetings. By this means infinitely better co-operation has been obtained between the Districts and Headquarters. Mr. Old will act as Secretary at the Delegates' meeting on the Saturday morning at Convention, and it is concerning this meeting that we wish to say a few words.

We don't want everybody to come to Convention thinking that he is going to be bored with business talk, but we do want, and intend, you to have your say in the running of the Society. We were criticised for not having arranged last year's business meeting in a cut and dried fashion, proposers and seconders ready for each item, and the very minimum of discussion. But no, we can't run Convention like that. Anything that can be pushed through in a cut and dried manner can easily be done at Committee and Council meetings. The items for discussion at Convention are matters on which we do not feel inclined to commit ourselves without taking into full account the whole membership's views—items which affect so profoundly the future of the Society that their decision should not be left in the hands of a few. Naturally we greatly appreciate any suggestions regarding Convention meeting, and even now it is not too late to put forward your own ideas. Many items which will provide lengthy discussion will, we hope, be preliminarily thrashed out at the Delegates' meeting in the morning, and in order that this meeting may be a success, we do urge the members of every District to see that either their new Representative attends this meeting, or some other duly appointed member attends in his place.

Rectification of Alternating Currents.

By N. L. Spottiswoode (BRS324).

BEFORE considering the rectification of alternating currents it is necessary first to understand the exact nature of the current, and also its chief properties and peculiarities; it is, as its name implies, an electric current which alternates; that is to say, at a given point in an A.C. circuit at one moment there is a high voltage and very little current flowing, while at another moment the voltage is low and a high current is flowing. A simpler way of looking at it is to imagine that the direction of the current is constantly changing. There is just one more thing I want to say about A.C.; that is, that it can be stepped up or down with ease. If an A.C. current is passed through the primary of a metal-cored transformer whose secondary has twice as much wire as the primary, a current is induced in the secondary, and the voltage in the secondary is twice that of the primary voltage; finally it must be remembered that the factor of an A.C. current which decides its value is not the maximum voltage which is attained, but the Root Mean Square; that is to say, the root of the average of the squares of the maximum and minimum voltages attained; in other words

$$\frac{1}{\sqrt{2}}$$

of the maximum: that is ·7071 of it. Thus the maximum voltage of a 220 volt A.C. mains supply is not 220, but 220 $\sqrt{2}$; that is, 310 volts approx.; this is important as it explains why the rectified current from a rectifier valve is often larger than the applied plate voltage (R.M.S.).

There are three common methods of converting A.C. into D.C.; these are:—

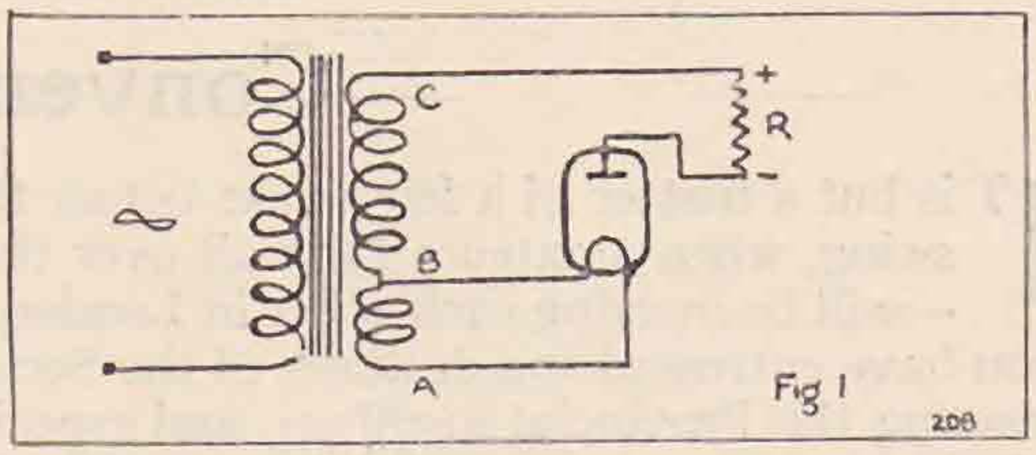
(1) Electrolytic rectifiers.
(2) Dry metal rectifiers (cupric oxide).
(3) Valve rectifiers.

There is not time to go into the details of (1) and (2). So I will pass on to (3).

Valve rectifiers fall naturally into two groups:—

(*a*) Half-wave rectifiers.
(*b*) Full wave rectifiers.

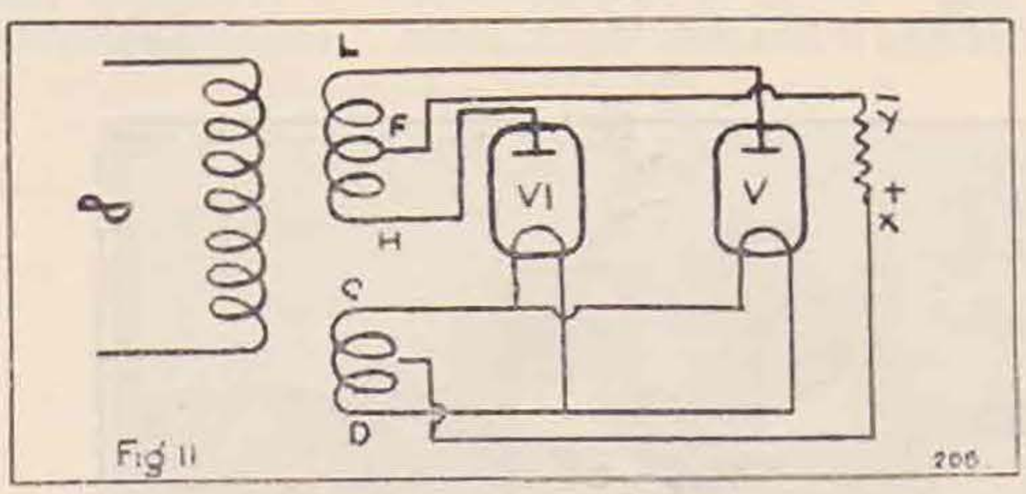
The action of a half wave rectifier is very simple and depends on the fact that if a piece of wire is heated in a vacuum in the presence of a metal plate a stream of electrons will flow between filament and plate when the plate is at a higher potential than the filament. Accordingly, if a valve is fixed up as in Fig. 1, when the induced current is flowing from C to B, the point B, which is connected to the filament of the valve, is at a higher potential than the plate which is at the same potential as C. Thus no current will flow between plate and filament. When, on the other hand, the current is flowing from B to C, B is at a low potential and C at a high one. That is to say, the plate is at a higher potential than the filament, and an electron stream flows from the latter to the former forming a path for the plate current which flows *from the plate to the filament*. In this way a "one-way traffic system" is set up, and a fluctuating D.C. current flows through R S. It can be seen that only half the A.C. wave is rectified, the other half being suppressed; this means that in the resistance R S (which would be a valve if the rectifier were used for a transmitter) a current is flowing but that this current stops and re-starts 50 times per second (if your mains are 50 cycle ones). At first sight this seems no better than having a 50-cycle A.C. applied to the plate, but, as will be seen later, this pulsating D.C. may be smoothed out to nearly pure D.C. Nevertheless, 50-cycle pulsating D.C. is obviously harder to smooth than 100-cycle pulsating D.C. For this reason a method of rectification has been devised which rectifies both halves of the A.C. cycle.



A full wave rectifier employing two valves is shown in Fig. 2. First consider the half of the cycle in which the induced current is flowing in direction LFM. L is at the lowest potential of all; F is slightly higher, and M is highest of all. That means that L is at a lower potential than F; the plate of valve V is at the potential of L, and the filament (through the load YX and the centre tap of the filament heater) is at the potential of F; thus valve V is doing no rectification. The plate of valve V_1 is, however, at a higher potential than its filament (M is at a higher potential than F); the current therefore flows from the plate to the filament; the electrical circuit in which it flows is X, Y, F, M, plate to filament of V_1 filament windings of transformer, and back to X. On the other cycle, valve V passes a current and valve V_1 is idle. Now C D (the filament winding) also undergoes the same changes and if the positive of the load were connected to one end or the other of these windings, on one half of the cycle, the voltage of C D would be added to the rectified voltage and in the other half-cycle it would be subtracted; thus the maximum voltages of alternate pulses of the rectified current would not be equal. To obviate this, the positive end of the load is connected to the centre of the filament-heater, the only point which is always at the same potential in regard to the filament. In actual practice the two valves are generally combined to one which has one filament and two plates. The connections are the same as in Fig. 2.

Now we come to the valve itself, and the various calculations involved with it. The Osram U.8 will be taken as an example. This is a full-wave rectifying valve: the instructions say that the plate voltage should not exceed 500 volts R.M.S. As has been shown before the maximum voltage of such an R.M.S. value is much higher, in point of fact,

about 700 volts ; thus we might expect the *rectified* voltage to exceed this. This is borne out in fact and if a characteristic curve is prepared. It will be seen that the rectified voltage varies according to the current taken (if the transformer voltage remains constant). Thus if the plate voltage (R.M.S.) is 500 (on each side of the centre tap), and 120 m/amps. are being passed, the rectified voltage is 490 approx. ; if the current falls to 30 m/amps., the voltage rises to 600. This is very important as it may necessitate a change in the keying system, as will be seen later.



Attention is next directed to the smoothing system, the object of which is to change pulsating D.C. into continuous D.C. There are various types of smoothing systems, all of which contain either inductance or capacity, or (more usually) both. We will deal with the capacity first. This is in the form of a condenser of capacity 2 mfd., or upwards, placed in parallel across the output of the rectifier. This condenser must have a working voltage of approximately twice the voltage of the rectified

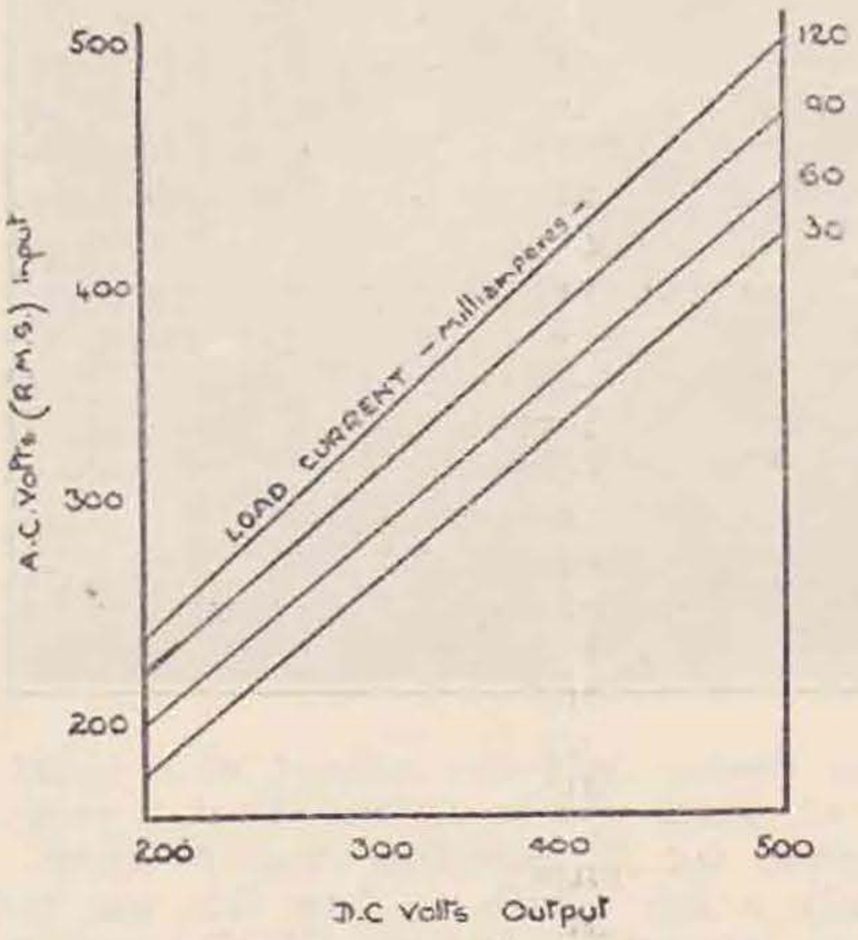
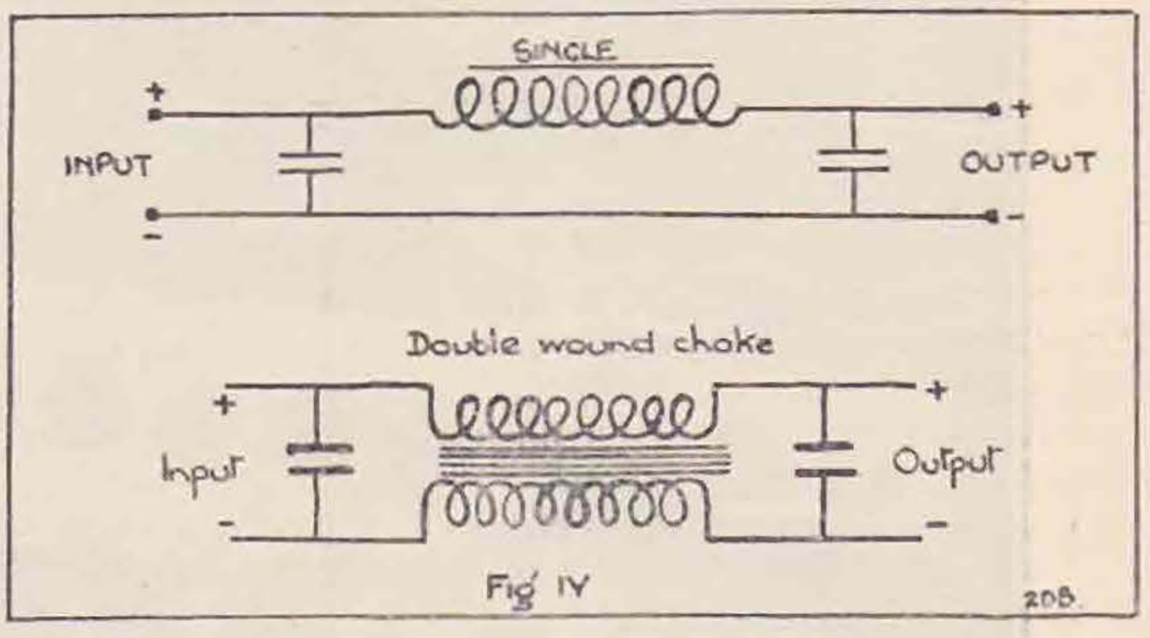


plate voltage. When there is a wave of current from the valve, this condenser becomes charged up, and when the voltage of the supply drops, it delivers the stored up voltage and thus the output becomes fairly steady D.C. The disadvantage of this method of smoothing is, however, that a very large capacity is needed (14 to 20 mfds.). To reduce this a choke is introduced as in Fig. 4 ; the choke introduces a "time-lag" to the circuit, helping the action of the condensers.

In order to calculate the secondary voltage, it is necessary to have the characteristic curve of your rectifying valve, to know what current it will have to deliver on load and to know the D.C. resistance of the smoothing choke. To simplify this explanation a hypothetical case will be worked out. An Osram U.8 rectifying valve gives 400 volts at 60 m/amps. D.C. output ; the resistance of the choke is 1,000 ohms. Now when a current is flowing through the choke there is a voltage drop across it ; that is to say, the plate of the valve you are feeding will not receive the full voltage given by the rectifying valve : the voltage drop is the product of the current flowing and the resistance of the choke or $E = IR$. Now in our case $I = \cdot 06$ amps. (60 m/amps.) ; $R = 1{,}000$ ohms. Therefore voltage drop $= 1000 \times \cdot 06 = 60$ volts. This must be added to the desired output voltage in order to give the necessary output from the rectifying valve ; thus output from the rectifying valve must be :— $400 + 60 = 460$ volts. Now consult the characteristic curves of the valve ; look along the "D.C. volts output" axis until you find 460 volts. Now look vertically upwards from this until you meet the "60 m/amps." line and then look to the left on to the input axis ; this gives 400 volts R.M.S. This must be the voltage from the transformer on to



each plate. If two valves are to be fed from this, each taking a different plate voltage, resistances must be inserted (*never* try dimming the filament of the rectifying valve). To calculate the value of these resistances the following method should be employed : Divide the desired voltage drop by the current in m/amps. and multiply by 1000 ; this will give the resistance in ohms ; the D.C. resistance of the choke should be subtracted from this. For example : A rectifying valve is to deliver 600 volts through a choke whose resistance is 1000 ohms ; it is desired to feed a valve with 100 volts and 50 m/amps. ; what resistance should be inserted ?

Desired voltage drop = 600—100 volts ; that is 500 volts. Thus resistance $= \frac{500 \times 1000}{50} = 10{,}000$ ohms.

From this must be subtracted the resistance of the choke (1000 ohms). Therefore resistance to be inserted is 9000 ohms.

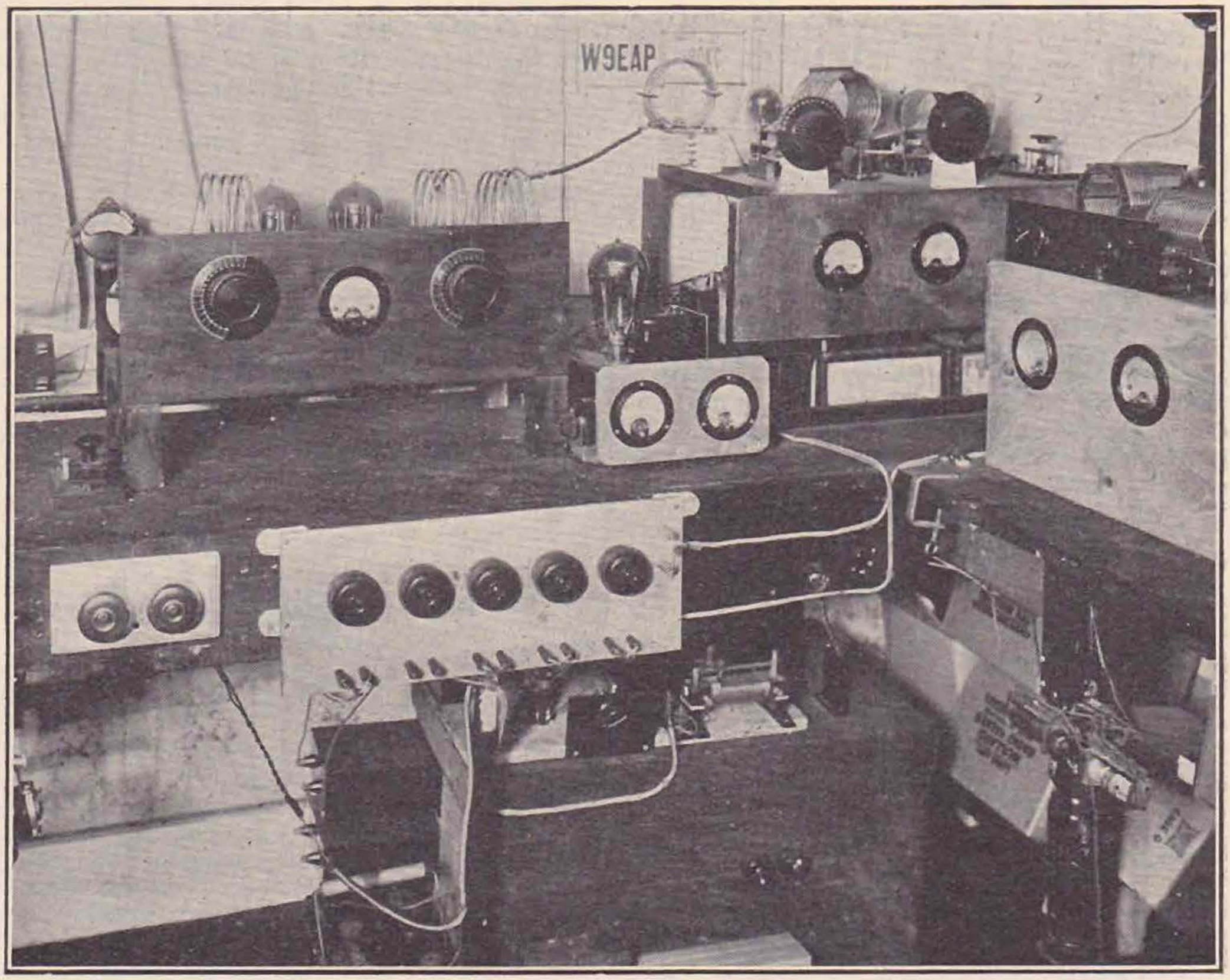
Although this article is somewhat short and only touches on a few points of practical interest regarding rectification of A.C., the author will be pleased to assist anyone in difficulty (to the best of his ability) and would appreciate any errors being pointed out to him.

Station Description No. 8.

G6QB.

By "WANDERLUST."

THERE is no need for me to introduce G6QB to any of our readers, as I am certain that we know him already, if not as L. H. Thomas of "Conway," 66, Ingram Road, Thornton Heath, Surrey, at least as "Uncle Tom" of THE BULLETIN or W. L. S. of "Popular Wireless" and "Modern Wireless" fame.



Not being of a pushful disposition, he is not seen in the limelight laying down the law, but those who know him can vouch for his sound technical knowledge coupled with a real live enthusiasm for Amateur Radio, a combination which is rare and refreshing, and goes a long way to make the perfect "Ham."

A transmitter's keenest critics are always his fellow amateurs, and it says well for G6QB that he is renowned all over Great Britain and the Radio world for his DX records, splendid operating and "pretty" signals, which are an example to all. It has always been G6QB's contention that a signal of this character is definitely superior to the "rock-crusher" type for making contacts; a fact which is certainly borne out to a great extent by his station log. The world, and the 7 M.C. band in particular, would be a far happier place for all if every transmitter took the same pride in his note as he does in his aerial amps.

So much for platitudes, and now for some information about station G6QB. The wireless "bug" bit L. H. Thomas early in 1922, and from that day it has not let him alone. The first symptom of the disease was the advent of a short wave receiver, which was in use for about a year before a permit for transmitting was obtained. Incidentally, a few details on how this was procured may be interesting, because G6QB seems to have had the unique distinction of having to refuse a full "ticket" from the Post Office. He made application for a permit for use with an artificial aerial because, being still at school, he was not able to afford the 30s. for an open aerial ticket, and, imagine his surprise when the G.P.O without further ado sent along a full permit with a request for payment! The net result of all this was that he finally got a 3-letter permit with a 2-letter call, and very soon afterwards (in July, 1923, when the financial position was a little easier) the permit was extended to the ordinary 10 watts.

A start was made with a few watts from dry batteries and a receiving valve (Cossor P.1); a combination which gave very good results considering that this was in the year 1923-4 when DX was quite different to the 1930 brand, and the wavelength employed was not so favourable for easy long distance work. All Europe was worked on 150 and 130 metres, whilst on 115 and 90 metres two districts of U.S.A. were included in the bag.

The next step was the installation of an M.L. motor generator with an increase of power to about 15 watts, and on this arrangement much good work was done on 45 and 23 metres. It was not until G6QB moved to his present QRA in 1928 that the M.G. was discarded in favour of rectified A.C. and crystal control, which is still in use in spite of the many rebuilds and improvements that are always going on.

A glance at the photograph will give a very good idea of the general arrangement of the station and help to make a description of the apparatus a much easier task.

The short-wave transmitter, which is along the bench facing the camera, consists of a crystal control outfit, using an oscillating amplifier held steady in the "Goyder lock" fashion. On the right end of the bench the crystal oscillator and frequency doublers may be seen, starting at the extreme right with the crystal stage on the 3.5 M.C. band. This is followed on the left by the frequency doubling valves for 7 and 14 M.C. DFA8 valves are used in these stages as well as for the crystal oscillator, and have proved very satisfactory. Battery grid bias is employed, and may be seen below the Ferranti anode current milliameter on the panel. In common with many other amateurs using crystal control, G6QB finds that a combination of battery grid bias and grid resistance seems to produce the most efficient working of frequency doublers, and he has therefore incorporated some R.I. wire wound resistances in the grid leaks for this purpose.

The power amplifier is seen on the left of the picture, and consists of a straightforward T.P.T.G. circuit coupled by the coil on the right to the last stage of the frequency double unit. At present two Mullard D.O.40's are used in parallel, but by the time this is printed the circuit will have been converted to "push-pull," and it is hoped to be able to compare the relative advantages of both circuits.

The modulating arrangement for telephony transmission stands between the power amplifier and the frequency doubler panel, and the method of modulation is the familiar choke control which is usually considered to be far and away the best system for amateur use. The valve is a Cossor 600T with an impedance of 800 ohms. used in conjunction with an R.1 special variable air gap speech choke. The meters on the modulating unit are (from left to right) grid and anode current milliammeters.

Keying is accomplished by breaking the primary of the power amplifier H.T. supply transformer, as it has been found that this method gives least trouble to neighbouring broadcast sets and to local transmitters, although the resultant signal is not as clear as could be desired.

The apparatus on the extreme right of the picture forms part of a 1.5 and 3.5 M.C. 10-watt transmitter with its own separate power supply for power amplifier and frequency doublers working with a 800 K.C. (360 meters) crystal oscillator. This transmitter can also be modulated by speech or music by plugging in the modulator unit from the short-wave set, and some very good telephony from G6QB has been heard locally on the 1.5 M.C. band.

The main power supply which feeds the short-wave transmitter is kept under the bench in the foreground of the picture, and is for the most part hidden in a box which contains separate supplies for power amplifier and frequency doublers. The former consists of a 750-0-750-volt transformer. (It can't be much more anyway, because the writer had the misfortune to get across the ends, but beyond swallowing a new pipe no serious effects were noticed), and a Philips mercury arc double-wave rectifying valve followed by several microfarads of T.C.C. high voltage smoothing condensers. The other supply gives voltages of 300 and 400 volts for use on the crystal oscillator and frequency doubler stages, and incorporates a U5 rectifying valve with suitable smoothing arrangements.

The aerial system used with the transmitters is the well-known Zeppelin fed antenna, and consists of a 21 metre wire 55 ft. high, and fed from the house end by twin wire transmission lines. There has been no opportunity of giving this arrangement a thorough test as conditions have been so poor since its erection in May, 1930, that any comparison with the old "AOG" would not be possible. The last-mentioned aerial has given faithful service prior to May, 1930, and it was on an aerial of this type that G6QB did all the DX worth mentioning. Using powers up to 50 watts, he has been successful in obtaining W.B.E. and W.A.C. certificates, as well as working all Continents except Australasia on telephony.

In conclusion, the best way of finding out all about station G6QB is to go and see it for yourself, and I can assure you that if you ever find yourself in South London with an hour or so to spare you cannot do better than visit G6QB, who will be delighted to show you his own station and to get together the members of his Area No. 11 to come and meet you for a ragchew and further station visits.

Help That Helped

Members have probably already learnt from the daily Press that the airplane "City of Sydney" (VM2AJ), which left Mascot, Australia, en route for England at the end of March last, was forced down in the North-West territory. Few, however, realise the credit due to Mr. Knock and Mr. Pike for their assistance in attempting to keep in touch with the stranded airplane, or that the joyful message to say that the police posse had found the airman was picked up by Mr. Knock. Mr. Pike (VK2JP) was transmitting from Greenwich, Sydney, and Mr. Knock (VK6NK, ex-VK2NO, ex-G6) was stationed at Wyndham (North Australia) and sending to VK2JP all the information he could gain concerning the flight. It is very creditable that the amateurs of Australia have once again proved their worth before the eyes of an anxious public.

Reports Wanted.

G6RH would appreciate reports from S. England hams on his C.C. transmissions on 1818 K.C.

This Starting Business.

By "Byjax."

READING through my log the other day, it struck me that the way of the beginner is a trifle sticky, in spite of the help so willingly given by those more experienced. It is hoped that these few words to follow will ease the way for those who have commenced or are about to commence. The 170-metre band is the band concerned, including that which is mostly associated with that band, i.e., telephony. It was decided to start with the simplest circuit possible, to my idea, the Hartley. All leads normally connecting to the inductance were fitted with clips to facilitate changes and adjustments, and up to a point this circuit appears to be the best for the beginner. The grid-leak was a Climax Potential Divider; it answered very well and is still in use on another transmitter. The variable condensers were quite ordinary receiving ones; no trouble has been experienced with the component parts, so they may be permitted to slide out of the story. In regard to the H.T. supply, rectified A.C. was used, and here the doleful tale begins. All care was taken to see that the transmission was as perfect as possible; a monitor and crystal oscillator were built, whilst the filter had plenty of chokes of good design—including low ohmic resistance—and plenty of microfarads. The resulting transmission had a fearful hum. "Sounds like an aeroplane taking off," I was told. Well, what would you do? All kinds of adjustments were tried, with one eye on the aerial ammeter. "With one eye on the aerial ammeter!" Mark that. One day some adjustments were made with the aerial ammeter forgotten, and lo and behold, the hum went! In other words, the excitation was greatly reduced; all hopes sank when a glance was given to the aerial ammeter, but tests were made with the reduced excitation and the reports received were beyond all expectation. As the primary consideration was 'phone, these reports were very pleasant. Grid absorption was the method of modulation and, previous to the reduction of excitation, had not given any very outstanding degree of modulation percentage. The reduction of excitation, however, allowed the oscillator valve to be modulated more fully, so much so that, although the input dropped from 9 watts to 4, the signal strength, as received by the more distant receiving stations, had jumped up nearly 100 per cent. The oscillator valve had a high impedance, the modulator valve a low one, this combination, as might be expected, being more or less the ideal. The high impedance of the oscillator valve was naturally accompanied by a fairly high magnification factor, the effect of this high magnification factor being that less turns of the transmitting inductance were utilised for excitation purposes than would have been required by a valve with a lower magnification factor. The grid-leak, although variable from 5,000 to 20,000 ohms, did not appear to be at all critical; so it was left at 20,000 ohms, as it meant that a lower plate current would flow. Speech still required some clearing up. The microphone was a solid-back one of unknown origin. First of all, the granules were tipped out and replaced by a finer grade; result, some improvement, but still not enough. Another microphone was acquired. It was of a very sensitive kind, workable on two volts, and looked upon with a considerable amount of suspicion until it was proved to be far superior to the old one. Now it might be imagined that all one has to do to a microphone is to speak into it; wrong again. Speaking too close to the microphone means that the speech will be rather unpleasant, although the strength might be quite good. The best way to treat the microphone was to speak softly, and about a foot away from it. Altering the distance at which one speaks into the microphone makes a somewhat surprising difference in the reports one receives regarding the speech quality. Also, it is possible to get into the habit of speaking too loud. So much for that. Now just a word before closing down this article and getting back once more to the transmitting inductance. Possibly the usual method of altering grid excitation is to move the earth tap—or filament tap, whichever you like to call it—towards the grid end. My method was slightly different. The filament tap was left at the centre of the inductance, whilst the grid clip (or tap) was moved towards it. The tuning condenser was attached by means of clips to each end of the inductance and the filament tap to the centre. The whole of the apparatus in the station was designed and built personally, and the general experience was that the apparatus came up to expectation; but there were found many slight details that gave much trouble and required much thought before they were finally settled, and these are the things that give the beginner the most trouble: an oscillator that won't oscillate owing to a bad fixed condenser, and the like.

The Editor permitting, the log will again be examined, and a few more notes made of a simple nature on another occasion.

The Zeppelin Transmitting Antenna, Its Construction, Erection and Performance.

By G. G. Livesey (FO3SRB and R. A. Hill (FO3SR).

(*Continued.*)

SINCE the previous article, which dealt with some features of this particular type of antenna, was written and sent to England, a further interesting fact has been brought to light by FO3SR and an apology is due to the readers of the Bulletin for an error in the stated measurement of 3SR's aerial, which was stated to have been of the order of 8 ft. for optimum results. This should actually have been given as 65 ft. 6 ins., which, as will be observed, is the theoretically correct length.

It was decided to establish communication with a DX station on 14 M.C., with a top span equal to 70 ft. 6 ins. and then to request the station to stand

by while the length was reduced to 65 ft. 6 ins. This was arranged by incorporating a switch at the far end of the aerial so that the extra 5 ft. could be cut in or out at will by merely lowering the aerial and throwing over the switch. Contact was established with PK4AZ in Sumatra at 15.30 G.M.T. on January 30, 1930, on the longer aerial. With this top span of 70 ft. 6 ins. 3SR was reported as QSA3 R4 to 5. The top was then reduced to 65 ft. 6 ins. and the aerial circuit retuned to bring the antenna in resonance with the oscillating frequency, but no adjustments whatsoever were made to the oscillator, nor to the aerial coupling as this latter was already adjusted for optimum working on either aerial. The signals were now given as QSA4 R6. This test is, of course, only comparative to within wide limits, as no measurement apparatus was employed, but the input to the valve was kept the same in each case.

It may be queried whether the aerial was not out of tune on the lower wave side when the longer top was used, and so came exactly into tune with a change of top; this is not the case, as adjustments were made as carefully as possible in each case so as to give a fair trial. During the course of the experiments, it was noticed that the point of maximum resonance, as indicated by maximum feeder current, fell below the bottom of the 20-metre band when using the 65 ft. 6 ins. top and dead in it when using the longer top. Despite lower feeder current, when working with the shorter top in the band, the output, judged by DX reports, appears to be better than using the longer top dead in tune with the oscillator; when we say "dead in tune," we mean, of course, that the usual amount of detuning for steadiness and a decent wave is made. This has been noticed at both 3SR and 3SRB, so it can hardly be a case of individual error as all experiments were carried out quite independently.

It would appear that full-wave antenna will give stronger signals at a distance, when the transmitter is feeding energy into it about 1 metre above the point of maximum resonance and in the 20-metre band, than will an antenna constructed so that the point of resonance falls exactly on the working frequency. As far as is known the feeder current meters at both stations were equal distances from the aerial inductance coil and thus from the aerial proper; all parts connected with the aerial system were laid out symmetrically, so that there was no need to adjust the feeder condensers in such a way that, to get equal current in each feeder, the aerial was really taken out of resonance when the 65 ft. 6 ins. top was used.

These peculiar effects are not noticed on 7 M.C., and either aerial appears to give equal results and equal feeder currents on this frequency. This is probably due to the fact that a half-wave top, or, for that matter, any half-wave aerial, is less sharply tuned than a full-wave one (due to the far greater damping effects with the former aerial), tuning, therefore, being broader and not affected, within quite large limits, by the length of the top.

We should like to see someone come forward to explain this peculiarity. Probably G6AT or G2OD would be able to clear the matter up satisfactorily.

The International Congress at Antwerp.

MY luck was in on July 11 when after scrambling into a crowded train at Liverpool Street, I took the one vacant seat in a restaurant car and found myself sitting beside the R.S.G.B. delegate (G2VQ). I had expected a lone journey, so had he, and we were both pleased to meet. On the boat we were joined by G2IY, and G2VQ reported all aboard by radio to our secretary (I hope he does not go to bed early!) We were met at Antwerp by Mr. Herman Brouwers, who rushed the Customs, took us to the hotel and on to the exhibition entrance, where Mr. P. De Neck (ON4UU), President of the Reseau Belge, was waiting in the rain to pilot everybody to the congress room. Congress at Antwerp occupied the mornings of the 12th, 13th and 14th, and each afternoon Messrs. de Neck, Kersse and Respen worked untiringly to entertain their visitors. By Sunday the full British gang was there, namely G2VQ, 6FY, 2IY, BRS36, and 2BMB. On the 13th we had a ham-fest, splendidly arranged, at the finsh of which lots were drawn for various pieces of apparatus, including 500-watt valves and about two dozen 10,000-volt test condensers, four of the prizes going to British hams, viz., G2VQ, 6FY, 2IY and 2BMB. On the 15th we all went to Brussels, where we were shown over the Radio Belge Station and the factory of the S.B.R. Here we were introduced to M. Braillard, director of the Check Station for European broadcasting, who lunched with us. After lunch we were taken to the Check Station, where M. Braillard explained, in excellent English, the detailed checking of the frequencies of the European B.C. stations with apparatus with a degree of accuracy that arouses envy. The day ended at ON4UU, where the delegates presented Mr. de Neck with a memento of the occasion, a cigarette case on which was engraved the initials of their societies, namely, R.S.G.B., D.A.S.D., A.R.I., R.E.F., E.D.R., N.V.I.R., P.K.R.N. Mr. Braillard also gave a talk on the importance of keeping on wave, and likened the amateur to a car-driver who must keep to his side of the road, or damage to himself and others was inevitable. As M. de Neck afterwards said to me privately, "The commercial lorry should also remember that the private car owner by his enterprise made present-day road transport possible." During our sojourn in Belgium the following stations were visited:— ON4UU, 4GW, 4AA, 4HF, 4OU, 4FT, 4HV, 4GV, 4AU and XON4WP.

The ham spirit is very strong indeed in Belgium, and the hams did not spare themselves in giving their visitors a real good time. It was very much appreciated, and the Reseau Belge is to be congratulated on its president and officers. 2BMB.

The Wireless Institute of Australia.

By W. G. Sones, Hon. Publicity Manager, W.I.A.

For a beginning I think it might be of interest to members of the B.E.R.U. to give a brief outline of the internal organisation of W.I.A.

The constitution of the W.I.A. departs slightly from that of A.R.R.L. and R.S.G.B., because of local conditions and State boundaries, etc., but the administration is, on the whole, very similar. There is a division of the Institute in operation in every State of the Commonwealth, each Division enrolling members from the licensing district in which it is centred. Thus: 2nd District, N.S.W., 3rd District Victoria, 4th District Queensland, 5th District South Australia, 6th District Western Australia, 7th District Tasmania.

Each Division is more or less self-contained in so far as its activities are concerned, having purely domestic jurisdiction and separate but similar constitution in accordance with the company laws of the respective States. The external activities are cared for by a Federal Council, composed of one delegate from each Division, which meets in conference at one of the State centres at regular periods to define policy, etc.

Routine administration of policy, etc., is vested in a Federal Executive composed of an elected Federal President, Federal Vice-President and Federal Secretary, who are located in the State selected by Convention to be Federal Headquarters from time to time. Federal Headquarters is at present located in Victoria, and will remain until next Convention, which is due to take place here during September, 1930.

Membership, which totals approximately 400 for the whole of Australia, is graded into full members, associates (without voting power) and student membership for juniors. All Divisions report increasing membership and continuance of interest. Members' stations are dotted all over the Commonwealth, with the exception of the remote interior, though, of course, we are always anxious to encourage the installation of stations there in order that we may be able to extend the amateur network of our Volunteer Air Force Reserve. The enormous distances that we have to contend with in organising our amateur movement in Australia are often lost sight of by those unfamiliar with our geography. The distance between Melbourne and the farthest North station is approximately 2,000 miles, farthest West is also 2,000; so that communication between the extremes represents a few watt miles for the average amateur equipment.

Our main activities are divided into groups to facilitate administration and are key and 'phone sections for the DX man and experimental broadcaster. Incidentally, we have a rather unique concession in Australia for local phone work in the permission to use, temporarily, the band of frequencies between 2,000 K.C. and 1,200 K.C. (150-250 metres). We naturally hope that the temporary permission will be extended for some considerable time.

Otherwise our regulations follow closely on that of the British P.O. authorities under which you work, with slightly greater concessions in some directions, particularly as Mr. Whitburn mentioned in the matter of handling test messages for W.I.A., B.E.R.U., etc. Our relations with the Radio Department of the Commonwealth are extremely good. Other activities are centred round an Amateur Air Force Communications Network, experiments in aeronautical communication, through sections allied with the local aero clubs, educational libraries, lectures and classes in the various divisions, and the general advancement of experimental work.

Next month I would like to be able to give an outline of the actual work being undertaken in Australia.

Trade Notices.

"Chebros."

Members requiring Transformers for operation from the A.C. mains or smoothing chokes would do well to apply to Messrs. Chester Bros., for their latest leaflet, a copy of which we have just received. It lists transformers for valve rectifiers as well as for Westinghouse metal rectifiers, and the metal rectifiers can also be supplied. Smoothing condensers from 1 mfd. to 1,000 mfd. (electrolytic) are also stocked.

* * * *

Ferranti, Ltd.

Messrs. Ferranti, Ltd., have sent us particulars of their synthetic resistances, which are made in values from .1 to 5 megohms. These resistances are for use in positions where little energy has to be dissipated; they may therefore be used as grid leaks in some parts of the circuit and as decoupling resistances in grid bias supply units. They are made to fit standard Ferranti Mica condensers of low values, or can be supplied with special holders.

The information is contained on leaflet Wb415/1A, on the reverse of which are the revised prices of Ferranti's wire-wound resistances.

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Calculations.

To the real experimenter, as distinct from the hit-or-miss man, a Slide Rule is indispensable, and the average member will certainly find a slide rule to be good investment. Mr. R. A. Harris carries a good stock of such rules, measuring instruments and pencils of all grades for plan drawing, etc. For wireless and engineering in general two types of slide rule, from amongst the number shown in his

(*Continued at foot of next page.*)

Fifth Annual Convention.

Friday, September 26, 1930.

Friday, September 26, 1930.

5 p.m.	Introductions and informal gathering at the Institution of Electrical Engineers, Savoy Place, London, S.W.3.
5.30 p.m.	Tea.
6 p.m.	Presidential Greetings.
6.15 p.m.	Discussion opened by Messrs. J. W. Mathews (G6LL) and G. W. Thomas (G5YK). Subject: "The Progress of 28 M.C. Transmission and Reception."
8 p.m.	Station visits and informal gatherings arranged by Headquarters Staff.

Saturday, September 27, 1930.

10 a.m.	Delegate Meeting at the I.E.E. (see separate notice).
1 p.m.	Informal lunch (members to make their own arrangements).
1.50 p.m.	Convention Photograph outside the I.E.E.
2 p.m.	Presentation of Society Trophies.
2.15 p.m.	Business Meeting.
4 p.m.	Tea. (Business Meeting to continue at 4.30, if necessary.)
6.30 p.m.	Annual Convention Dinner at Pinoli's Restaurant, 17, Wardour Street, London (see separate notice). Tickets, 5s. each.

DELEGATE MEETING.

As a result of the successful Delegate Meeting which was held during last Convention, it has been decided to repeat the meeting again this year.

Delegates will meet at 10 a.m. in the Institute of Electrical Engineers, and it is hoped that on this occasion each of the sixteen Districts will send either their newly-elected delegate or one of their number to act on their behalf.

Each representative or his proxy will be called upon in turn to give a brief summary of Society activities in his District, and also offer suggestions which can be dealt with by the delegates or by the Convention Business Meeting later in the day.

Mr. H. B. Old (G2VQ), the Provincial District Representative, will act as Secretary to the meeting and all matters which require tabling on the agenda should reach him not later than September 15.

ANNUAL CONVENTION DINNER.

The annual dinner, which has now become so much a part of Convention will, as in previous years, be held at Pinoli's Restaurant, Wardour Street, London, immediately after the Business Meeting.

All intending visitors are asked to apply *promptly* for accommodation; such applications should be made to the Honorary Secretary.

Last year about 130 members were present, but we are confident that this number will be surpassed; accommodation is, however, limited to 200.

Attention is drawn to the fact that tickets will only be issued generally to members of the Society, who must make personal application. Friends of members must be personally recommended, and the fact mentioned when applying. The names of such outside friends must be submitted with the application.

Tickets will be available during September at 5s. per head.

Trade Notices—(*Continued from preceding page*).

very informative catalogue, appear to be most useful; they are priced at 21s. and 31s. each. It is not possible to describe all the details, though full information will be sent on request to 146A, Queen Victoria Street, E.C.4.

* * *

Norbex Products.

Messrs. R. F. Graham & Co. have recently sent us a sample of a very neat valve socket complete with insulating bushes. By means of these bushes such sockets may be fitted to wooden panels without fear of leakage. From the accompanying descriptive leaflet it is seen that the "Norbex" products are worthy of the experimenter's attention, and all appear to be of first-class manufacture.

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Radiovisor Light-Sensitive Bridge.

We have received from Radiovisor Parent, Ltd., of Coventry Street, London, an interesting pamphlet in which they describe the light-sensitive bridge. The booklet describes in clear language the construction and mechanism of such a bridge, and concludes with a series of typical curves and a circuit recommended for the correction of the frequency response curve of selenium before amplification.

These cells may be purchased by members at the price of £5 each. Full information and advice may be obtained from the suppliers at the above address.

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28 M.C. Report.

G5ML has just received two reports from listeners in Victoria, Australia (one being VK3AWA) of reception of his C.C. signals on 28 M.C., QSA4 R5, on June 15 and 16 at 23.00 G.M.T. At the time G6ML was transmitting on 14 M.C., but otherwise the reports check perfectly with the log. About the same time G5ML has received the 28 M.C. harmonic from 14 M.C. W stations, which makes it all the more interesting.

Also, on June 8, G5ML was heard by W9BYC when transmitting on 28 M.C.

Is Your Sub. Due?

Contact Bureau Notes.

By H. J. Powditch (G5VL).

JUNE is the worst month yet experienced so far as concerns reports. No one seems to have been doing anything, or if so, have kept the doings very strictly to themselves. I'll modify the above on second thoughts with regard to the 56 M.C. groups who seem to be keeping the good work going. It's a bit late now, but the reports of 7B of field days and portable work might make others try out 56 M.C. for summer conditions.

G6RB sends in details of a very interesting QSO with W6DDY. This took place at 00.15 G.M.T. on July 14 on 7 M.C. It's possible that the DX station was pirating, but facts seem against the idea. Conditions in California were given as "very freakish," and an OZ station had been previously worked. Other G stations state that W6 has been very easy to hear of late, and generally that conditions are unusual. It seems possible that G6PP's theory (recently printed) of distortion of the Heavyside layer and consequent freak conditions is getting early confirmation. On the other hand, volcanic activity, floods and general upsets of weather conditions seem the rule over large areas of the globe. The question at present seems to be: Are the freak radio conditions due to these latter disturbances or are both radio, meteorological and seismic disturbances arising from a common cause which may well be the same solar activity advanced by G6PP.

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JANUARY, 1931, IS 28 M.C. MONTH. HAVE YOU PLANNED YOUR GEAR?

* * *

G2ZC (of Group 2B), who has returned from the Irish Sea—his QRA did not state whether "in" or "on"—gives a fairly definite statement of opinion that "we can expect much worse conditions on 7 and 14 M.C., and I expect 28 and 56 M.C. will be a complete wash-out until 1938, and then they will be at their best."

Whether these fears will be realised remains to be seen, but in any case the moral is that definite logs kept on systematic lines are the only way of checking up. Will any BRS stations undertake to graph their results and send in every three months to CB? Each band and continent would require a separate curve. If we get a sufficient number of stations, I will get some blanks printed for the work.

Our friends, the L.K.K., Poland, are putting out some test transmissions from the summit of Howerla, in the Eastern Carpathians, at an altitude of 2,058 metres. Although these tests may be over by the time this note appears, reports of reception of the tests under calls SP3LK and SP3LW are particularly wanted. No definite times or dates are given, and waves may be from 5 metres to 175 metres. QRA for reports: L.K.K., Lwow, Bielowskiego 6, Poland.

G2ZN sends a suggestion for accurately reporting notes which seems to be a highly practicable method of dealing with the rather wide range covered by some numbers of the "T" code. The point was previously raised in these notes some months ago, and G2ZN's suggestions meet all requirements. In case the method meets with general approval, I give G2ZN's code, with the original "T" code for reference.

"T" Code.	*Additional* Code.
(1) Raw A.C.	Prefix to each the figure 7, 8 or 9 to qualify the basic report. These figures have the same partial meanings as in the "T" code and only serve to increase the accuracy of the report at the expense of one extra figure.
(2) Musical A.C.	
(3) 100-cycle or non-filtered A.C.	
(4) Badly-filtered A.C.	
(5) Near D.C., unstable note	
(6) Near D.C., stable note	
(7) P.D.C., unstable note	
(8) P.D.C., stable note	
(9) C.C.	

A few examples will make things plain. The ideal will be a C.C. note, D.C. basis and without any other modulation than the C.C. This on old code would be T9. It would be described in full as D.C. with C.C. Therefore, we take P.D.C. from the old table—T8—add a 9 to show C.C, and report T89, the first figure throughout giving the basic note and the second giving any extra modification thereon. R.A.C. with C.C would be T6 (or lower, depending on rectification), plus a 9 for C.C, T69 in full. For chirpy notes we should use 7, so that a chirpy T4 would be T47, chirpy D.C., T87. For dead steady notes we add an 8, steady P.D.C. is then T88 and R.A.C. T48. Some of these are covered by the present "T" code in the case of T5 to T8, but the additional figure will in many cases make the report more definite and informative. The varieties of R.A.C. note mentioned above are taken only for example—the new qualifying figure can be prefixed to any "T" class and, as G2ZN suggests, even an unrectified A.C. effort with a key chirp can be fitted in as T17—or the ham's nightmare. The above is, needless to say, only put forward as a suggestion and without any official status from the Society.

* * *

No reports have reached CB of any 28 M.C. reception during the May-June tests organised by the ARRL.

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Looking through the lists of Colonial members, it appears that something on the lines of CB might well be arranged. A Group Centre with a B.E.R.U group working on rather wider ranges than the present CB Groups in each country might serve to increase the touch between all stations here and there without interfering with the general work of the present B.E.R.U reporting stations. Such Groups would be for the interchange of ideas and results. Any of our Colonial members who think there is anything in the scheme will, I hope, give their suggestions.

Group Reports.

28 M.C. Work.

Group 1*B*.—G.C. G5SY is busy with some weather problems arising out of the test results. G6LL was on part of the ARRL tests, but had only local results.

Group 1*C*.—G6VP states that " even in view of adverse circumstances," his group have reported *en bloc*. I don't know quite which superlative to apply to all concerned. G6VP writes a strong note wondering why more of the BRS stations do not specialise and a proportion devote some time to 28 M.C. reception. He adds that he will meet all demands for " QSL, Card es foto " in exchange for 28 M.C. reports. (The same moan might be directed even more strongly to some European card-hunting stations we all wot of.) Seriously, we do seem to be leaving 28 M.C. to the few specialist stations and going over the old 14 and 7 M.C. ground covered in many cases by these same stations years ago. (Are there so few pioneers to open 28 and 56 M.C. these days ?—G5VL.) G5YK was active during the ARRL test period. but only stations heard were commercials on June 14 and 15. The times are rather interesting. EAM up to 19.20 and UOK at 08.40 on 15th. A sked with SU8RS on 29th was unsuccessful. On the practical side, G5YK gives high praise to A.C. valves and comments upon the low self-capacity in comparison with D.C. types. The Mullard S4VA (SG type) is particularly good. A sub-amplifier has been used on transmitter following the 7/14 FD stage, and this gives excellent control. The ratios of power from FD, sub-amplifier to PA, are not given. The G6WN operators are again rebuilding and refining for all-mains work. G6DH sends in his usual interesting contribution. The ARRL tests were blank. His results merit a greater space, but shortly they are: In no case was it possible to obtain so great a current in the aerial (measured at $\frac{1}{4}$ wave from free end) as when the aerial was tapped direct to plate coil. In this latter case, a current of .42 amps. was registered. With $\frac{1}{4}$-wave feeders the maximum was .3 amps. With single feed-line type Hertz aerial, still less was shown. G6DH suggests from this that only in cases of extreme shielding should feeders be used on 28 M.C. Another interesting test was made by screening the glass of valve with tinfoil. Without screen feed was 34ma. and output 160ma. With screen in position, input 26ma. and output 260ma. The cutting off of the coils' field is advanced as a possible reason for the extraordinary difference. (It is not said if the screening was earthed or if the set itself was earthed in any way, which might have a bearing on the result.—G5VL.) 2BIV was prevented by business from taking part in ARRL times. However, a fair amount of listening has given negative results. General conditions are held responsible. G6VP has been able to get a 56 M.C. harmonic to G2OL and G2OW, 8-9 miles at QSA5 and louder than the 28 M.C. signal. Only local contacts have been made. A current feed peak taking twice the usual amount in aerial on about 8 metres promises food for future thought and experiment. (Suggest its feeder only and aerial is practically unenergised.—G5VL.)

Group 1*F*.—G.C. BRS25 finds that summer has tempted his members—and they seem to have fallen. He himself has a new house and a new station to set to rights. Don't worry, OM, better days will come again.

Group 1*H*.—G.C. G6OO has a new beam antenna in use. Two horizontal wires are arranged at 26 and 9 ft. height. They are broken in middle for CF and are 16.32 ft. long in each half. Two similar wires are arranged as reflectors at 8.5 ft. behind the aerials. Each aerial and reflector is attached to the end of a spreader, which can be tilted to alter angle of radiation. This arrangement gave a R5 QSO with FM on 14 M.C., but results on 28 M.C. are not known yet. G6UJ is said to have succumbed to summer-itis.

Fading, Blanketting and Blindspotting.

Group 2*B*.—G2IM reports in the absence of G2ZC. He is busy with a new transmitter and has done little group work. G6YL and G6PP were busy and did well on the flight reception. G2ZN has promised to provide sun spot observations for the Group's use. We are all very sorry to lose CT1BL, who goes to a cable station in Brazil. At the same time, hearty good wishes and congratulations on the new appointment. A 100-watt set goes out with him, so touch will not be lost. G6PP has been trying QRP tests with OZ7JO, 4.3 watts down to 2 watts giving R7, after which " further reduction gave a fall in strength ! "

56 M.C. Work.

Group 7*A*.—G.C. G2DT reports:—Summer is undoubtedly to blame for a complete lack of news, but the G.C. has managed to cull the following authenticated information which should immediately start a 400 M.C. Group ! It is that Prof. Uda, of Tohoku Imperial University, Japan, has succeeded in two-way telegraphic communication on a wave-length of 45 centimetres over a distance of 30 kilometres. G6XN is experimenting with a balanced Colpitts receiver and reports that it brings in more QRM than he has ever heard before. Query: Is this advantageous or not ? G6TW has found, like G2DT, that a receiver may be better on 60 M.C. than on, say, 57 M.C., and he offers the following explanation: " I think it to be due to the internal capacity of the valve in use. In a simple way, assuming we have an external capacity of .001 and the internal capacity of the valve is, say, .0017, then it appears to me that the valve would do its best when the capacities were made resonant with each other." G2DT keeping published skeds with G6TW, but frequency has been altered to 58,000 K.C. P/Sec. by both these stations just by way of a change to ascertain whether the gods smile upon this frequency ! So far this has not been observed !

Group 7*B*.—G.C. G2OL sends an account of another field test held on July 3. Transmitters were at G2OL, G6CO, G6XN and G2OW stations. One car party went North-West so far as Bovingdon and included G6WN, G2OL and G6XN. The second party went South to Epsom and were G6CO and G2BY. G2OW was chief operator for transmitters. High ground was chosen so far as possible for reception as on low ground no signals

appeared to get through. The following is a summary of results :—

PARTY No. 1.

	G2OW	G2OL	G6CO
Northolt	R6/7	R3/4	R2/3
Harrow (8 p.m.) ...	R3/4	R6/7	R2/3
With aerial at right-angles ...	R5	R5	?
Pinner (8.40 p.m.)	R4/5	R6/7	Nil
King's Langley ...	Nil	R3/4	Nil
With aerials at right-angles (9.20 p.m.) ...	Nil	R3/4	Nil
Bovingdon (9.40 p.m.) 20 miles approx.	Nil	R1/2 QSA4	Nil

PARTY No. 2.

	G2OW	G2OL	G6CO
Barnes (7.20 p.m.)	Nil	R4	Nil
Kingston By-pass (7.40 p.m.) ...	Nil	Nil	Nil
1½ miles East of Bypass (8.20)	Nil	R6	Nil
At 8.40 p.m. ...	Nil	Nil	Nil
Epsom Downs (9.20 p.m.), approx. 16 miles	R3/4	R7	Nil.

G6XN was not heard by either party. Both his and G6CO's aerials are badly screened by buildings. The G2OW and G2OL aerials are at right-angles, and this is the only explanation of the effect noticed at Harrow when receiving aerial was swung round, reducing one signal and increasing the other. G6WN has heard G2OW. The former station hopes to use 50 watts shortly. G2BY gets G6XN at R9, plus, on 14 M.C., but cannot hear him on 28 or 56 M.C. at 1½ miles. G6XN tries various aerials, but still ND. G6CO took a portable eight miles out and found G2OL signals QSA4. He has been heard by G2OL R6/7, dead steady. G2OL has received harmonic from G6VP on 28 M.C., R5. G6XN has also been heard at last, R3.

QRP Work.

Group 8A.—G2WP and BRS317 join up with the Group. G2ZN is making sun-spot observation but radio is checked by new QRA. G5RV fails (summeritis or proximity to G5SW ?). G6LF, with a new ½-wave AOG raised CT1AA first go with 2 to 3 watts. Conditions are found impossible for QRP on 7 M.C. and a change to 3.5 band is anticipated. G2WP's first report with 4 to 5 watts gives SP, YM, etc. He finds early morning the only practicable time. Another AOG supporter to complete the group's fondness for this type. 2AZR pleads business. He is waging a (so far) losing fight with chemical rectifiers. BRS317 sends a questionnaire for QRP. He hopes to be radiating in a few months.

Group 8B.—G.C. G2VV summarises the present position concisely : " 14 M.C. dud, 7 M.C. not much better, 2 M.C. O.K. for local work." VMZAB was not heard in spite of many hours' listening. On 7 M.C., LA and HAF are best. No G's come in, but EU, SP, SM, ES and OK are heard at midday. BRS309 joins up and gives details of his gear. G6SO failed to get VMZAB. Conditions " bad as ever." Another pilgrim to 2 M.C. band. G2OA rebuilds and sends details. G5CM, " things very bad." YL has been worked on a " split Ultraudion " G5JF " stars " again with VO, W1, CT2, K4 on 14 M.C. Later, VE and PK have been worked. VMZAB was logged well.

Group 8C.—G.C. G5PH again complains that his members do not keep touch and report. How about it, 8C ? G2AV with QRP, C.C, 3 watts, has good European reports. Half-wave Hertz found not so good as harmonic working. G5AQ, with 5 watts, of C.C, has little to report. G2AT with 120 volts of batteries, gets out. G5PH controls a DE5 with harmonic of crystal working with a 3-16 in. air gap. Input 3 to 5 watts. Europe again gives good reports.

2 M.C. Work.

Group 10A.—G6OT, who has acted as G.C. since the start of the group, has to drop out of the job owing to many other calls on his time. His work is appreciated and has largely led to the extra popularity of the 2 M.C. band during the past year. We hope he will keep in touch with the group, although not able to play such a large part in its work. G5UM has agreed to take over G.C. and—judging by past reports—should have personal acquaintance with every station using the band. The month's report shows a good interchange of information. G5RX raises a point of general interest, viz., how to build an inexpensive yet efficient transmitter for the band. About 7 watts to a 1,766 K.C. Crystal is specified and A.C. filament supplies. G6QC has been comparing CO direct with COPA and finds the aerial current the same. The CO takes 6 watts and COPA 14 watts. G5UM supports the CO type and suggests it to G5RX. G5UM quotes a sked with BRS164 which appears to support the theory that gales improve DX work. With 7 watts, the sked was carried through a period of low barometric readings and the bad weather appeared to reduce QRN. G6QC works a similar sked with G2AZQ. A portable holiday set at Broadstairs gave disappointing results, G6SF, G2MI and G2QN only being heard. G2AZQ is working the sked mentioned with G6QC. He is starting up in earnest with 0—V—2. Rx. G2AX is believed to be still interested. Hw ? Any stations who will join in the group's work are asked to write G5UM.

Strays.

Portable G6XJ will appreciate reports on all transmissions and tests on the 7 and 28 M.C. bands ; transmissions on 28 M.C. will be chiefly with G5BJ, and reports as to whether the latter's signals are audible will also be appreciated.

* * *

Watt Chart.

G6PY has sent us a specimen of his Watt Chart, and has very kindly offered to send one to any member who will send him a self-addressed envelope with halfpenny stamp affixed. The chart is 7½ ins. square and shows at a glance the watts resulting from various combinations of volts (from 100 to 2,000 volts in steps of 100) and milliamps (from 5 to 105 m/as in steps of 5). QRA is L. W. Parry, 13, Huddersfield Road, Barnsley.

NOTES & NEWS FROM THE BRITISH ISLES.

DISTRICT No. 1.

Representative: D. J. BEATTIE (G6BJ), 14, Rosehill Mount, Manchester Road, Burnley. (Tel.: 3659).

G2DH is first this time with five continents in four days, after which he decided to have a holiday. G5JF did a little DX, but is now rebuilding. Met UN7XS at H.Q. G5RX is trying 1.75 M.C. once more and will be using C.C. G2WP is using 4 watts, but conditions are too much for him. G6RH is now on 1.75 M.C. and had a visit from W1BOB (operator of NAMS). G5ZN has been away from home, but is now back again at the key. G2XB has rebuilt and now uses a ½ wave Zepp. G5CI has done little owing to conditions. G6BJ is on holiday and can hardly find time to write this!

Most stations in the district are getting ready for 1.75 M.C., and it is hoped to start a chain relay schedule shortly. Say, what's happened to all the BRS stations in the district? Have you all got your full licences or have you closed down altogether. I have not heard from a BRS station for some months.

DISTRICT No. 2.

Representative: T. WOODCOCK (G6OO), "Santos," George Street, Bridlington, Yorks.

G6YL will be on holiday in the South very shortly and therefore "off the air" for a few weeks, as a trip to Sweden is to follow. Had a good QSO with VOQH on 7 M.C. in lat. 75° E. Greenland (he is old VOQ of 1926 fame, the schooner "Morrissey" with same operator). Also QSP'd a message to him from W1AYC, whom he could not hear after the message had been sent to XW1M (a ship in the Atlantic); she got VOQH direct! He is on an Arctic Archeological expedition. She also logged G6CL and G5YK on 3.5 M.C. BRS336 has put in application for full TX licence. 2ATG also applied for full ticket and now awaits his Morse test and promises to report regularly. Reports conditions very bad on 7, 14 and 28 M.C.; on the latter band nothing heard but commercials harmonics. Experimenting with C.C., especially harmonic control, which shows a fair amount of success. Preference is given to T.P.T.G. circuit every time. BRS290 says conditions bad in the North, not even a signal heard on 14 M.C. for three weeks. Previous to this NJ2PA and NL8MRC (Martinique) were logged on 14 M.C. Best RX on 7 M.C., HC1FG. Doing C.C. tests using T.P.T.G. "in shack only." G6DR was unlucky in not hearing VMZAB and says IDO sigs. spoilt his chances to a great extent, coming in very QSA. Contemplated spending a week's holiday at G6OO during the latter part of July. G6UJ opened out on 3.5 M.C. and carried out tests with G6OO on Sunday, July 5, at 22.30 B.S.T., and further tests will be made each Sunday at this hour, using C.C. with 3.5 M.C. crystal. Reports all other bands "dud." G2FS on 7 M.C. doing local work and QSO Europe. G6PS is working up his Morse to almost automatic speed with G2FS on 7 M.C. BRS270 has completed his O.V.I. RX and later hopes to "peak" the L.F. stage and also add S.G. H.F., using indoor aerial at first; hopes to erect outdoor soon, 35 ft. long 40 ft. high. Applying for "full ticket" and says MO—Buffer amp.—PA will be used for TX, the MO using Ultraudion circuit. G6BW says TX's are now going well on 14 M.C. and 1.7 M.C., but few stations heard. G6OO has erected independent aerial for local work on 3.5 M.C. and 7 M.C. bands. Schedule with G6UJ commenced on 3.5 M.C. each Sunday. No success so far with "Beam" transmissions on 28 M.C. and nothing logged on the latter band. Conditions become worse on all bands; hardly a signal. Please send in any suggestions or information relating to this district, OM's, so that I can go to Convention well informed in your interests. G6OO worked

District Representative Elections, 1930-1931.

In accordance with the nominations forms that appeared in the July issue of THE BULLETIN, the following are the persons nominated by the respective Districts to serve on the 1930-31 T. & R. Committee:—

No. 3, J. Noden (G6TW).
No. 4, J. Lees (G2IO); A. Simons (G5BD).
No. 5, F. W. Miles (G5ML).
No. 6, R. C. Horsnell (2ABK).
No. 7, H. C. Page (G6PA).
No. 9, G. Courtenay Price (G2OP).
No. 11, L. H. Thomas (G6QB).
No. 14, J. Wyllie (G5YG).

No nominations have been received from the following districts: Nos. 1, 2, 8, 10, 12, 13, 15 and 16.

A nomination was also received for L. Jones (G5JO) for No. 6 District, which nomination has been ruled out of order.

In accordance with Committee Regulations, a ballot is necessary in respect of District No. 4, from which two or more nominations have been received. The ballot form shown below should be completed by members residing in this District and returned to Headquarters not later than September 1, 1930.

BALLOT FORM.

DISTRICT RRPRESENTATIVE ELECTION, 1930-31.

I desire to record a vote in favour of Mr.....as representative for No. — District

Signed .....
Call Sign .....

HELP US TO KEEP IT.

OK3SK and PAOWA last night on the 3.5 M.C. band and had good R6 report QSA5 from OK, using 9 watts. G5QY has done usual 7 M.C. work on 4 watts input. On 14 M.C. absolutely N.D. Schedule kept with VOQH almost every night since July 6, max. input 4 watts. Conditions at present very bad on 7 M.C. and impossible to QSO G stations.

DISTRICT No. 3.

Representative: Joseph Noden (G6TW), Coppice Road, Willaston, Nantwich.

Your district representative's year of work is drawing to a close. I must thank those who have given reports and help. If I am elected to carry on another year I hope they will continue their support.

The reports are not too numerous this month, but I must have hopes for a betterment. G5FC is now working with high power permit, and has built a new shielded receiver, detector and pentode. G2VP has finished rebuilding transmitter and working on 14 M.C. band, but cannot get out of Europe. G5BR had some generator trouble. His telephony getting well over Europe. G2OA, this month, has found slight improvement on 7 and 14 M.C. A new super short-wave receiver is being constructed for 28 M.C. and later for 56 M.C. He was paid a visit by G5GP of London. G6TW has done very little work on bands other than 56 M.C. Schedules have been kept up and a fair amount of portable work done. Also constructed new transmitter working on the frequency of 300 to 400 M.C.

DISTRICT No. 4.

Representative: A. C. Simons (G5BD), Lynwood, Mablethorpe, Lincs.

Our coming Conventionette is the big thing just now and everything points to it being most successful. At least 20 members are expected—this from a total of 29 in the district is extremely good and shows that No. 4 District is still alive. If possible a full report will be found elsewhere in this issue.

Last month's conditions were as usual; 14 M.C. very bad, 7 M.C. moderately good, QRN nearly always.

G2AT is C.C. on 7 M.C. with 3 watts; report received from Moscow and good European DX worked. G5CY has invested in an Avometer. G2QH still crystal grinding with success. Confirms bad 14 M.C. conditions, but is putting out 100 per cent. phone on 7 M.C. G2OC worked South and East Europe and Algiers on 14 M.C. with 2.3 watts and SP and OH on 7 M.C. Would like a few BRS and G reports on his C.C. G6LI raising DX in spite of the bad patch during the last week or so. G5BD brought his total number of countries worked to 60 with Canaries (at last) and Sudan. Raised very few QSO's on 7 M.C. owing chiefly to terrific all day electric QRM. G2XS has worked Germany and thinks his TX is O.K. now. G6MN is very busy with speech amplifier to 50 watts 2,000 volts (CO-FD-PA). Has erected new Zepp and gets R8 from all Europe and worked a W3. Reports 7 M.C. blank during day and no G's audible at all. G6HK on holidays visited F8DP at Caen. Very

EXCHANGE & MART.

Rates 1d. per word, minimum 1/6. First line in capitals if desired. 2d. per word where all capitals are required. Minimum 3/-.

TANTALUM AND LIONIUM.—Make your own Battery Chargers for alternating current. Simple, reliable. Lionium Rectifying Electrodes, 2-4 amps., 10s., 5-10 amps., 15s. Also Transformers, Blue Prints, 1s. each, and complete Chargers.—Blackwell's Metallurgical Works Ld., Liverpool.

PATENTS obtained, Trade Marks and Designs registered, British and Foreign.—Gee and Co., Patent and Trade Mark Agents (H. T. P. Gee, Member R.S.G.B., A.M.I.R.E.), 51-52, Chancery Lane, London, W.C.2. Telephone: Holborn 1525.

TELEVISION.—Scanning Discs, Phonic Wheels Experimental Apparatus made to drawings.—John Salter, (Est'd 1896), 13, Featherstone Buildings, High Holborn, W.C.

G6MN for good QSLS. Overprint of R.S.G.B. and A.R.R.L. emblems can now be had, no extra charge.

GET THAT "BULLETIN" FEELING AND TELL US ABOUT IT.

cordially welcomed. Called a CQ from his station and worked F8FFH, who arrived soon after *via* auto at 80 kilos an hour. A very enjoyable day with two F8's endowed with the real spirit. 2AYX is busy swotting for P.M.G.'s commercial ops. exam.

DISTRICT No. 6.

Representative: R. C. HORSNELL (2ABK), "Hepani," Wickford, Essex.

I should first like to chronicle the success of our area budget. This was started as a *letter* budget, but I have had to obtain a loose file to hold the contributions, and it is now a *parcel* budget, and contains photos, blueprints, sketches, etc., and is a really F.B. parcel of dope.

G5RV has been busy on QRO (10 watts) on 7 and 14 M.C. Only S.A. and Oceania needed for W.A.C. on 7 M.C. G6FX is a new member from Chelmsford and has been on 7 and 14 M.C. and worked 15 countries; he is at G5SW. 2BVR has put up a pole instead of using a swaying tree, and been using an AC/HL detector on 14 M.C., but says he has heard nothing startling. G2SA says he is going well now on 14 M.C., but is experiencing business QRM. G6FX has had trouble with 7 M.C. TX as the variable condensers broke down. He has his R.X. working on "all D.C." mains eliminator. BRS342 sends his first report; he has O-V-2 Schnell R.X. He offers his help to anyone who may need it. BRS233 paid a visit to 2ABK and BRS191, and an enjoyable evening was spent; he also went to the Dorchester outing. BRS191 continues to praise his S.G. detector, but says there is not much to hear, and experiences usual dud conditions. 2ABK has had business QRM of late, which is unusual for the summer in the radio trade, but has apparently not missed much owing to dud conditions.

DISTRICT No. 9.

Representative: G. COURTENAY PRICE (G2OP), 2, St. Annes Villas, Hewlett Road, Cheltenham.

There is little of interest to report, except that particularly bad conditions prevailing. The second budget has now gone round, and it seems necessary to remind you that budgets are sent only to those who themselves contribute. Your reports on September work should reach District Headquarters as soon after the end of the month as possible, and in any case not later than the third day. BRS212 is now G2KB, and has passed his B.Sc. Exam. with first-class honours. Congrats.

DISTRICT No. 10.

Representative: J. CLARRICOATS (G6CL), "Ciel," Hartland Road, London, N.11. Telephone: Finchley 3512.

Only G6PP and G5UM report, and in neither case have they any material news of interest. Mr. Hum will be at Llandudno from August 23 until September 5, and is anxious to hear from amateurs in North Wales. (G5AS, please note). G5QF and G6CL have done a little work on 7 and 14 M.C.'s, but no real DX has been achieved. Khartoum was the best contact from G5QF. If any of the members in this district have matters of general interest which they require to be discussed at the Convention Delegates' Meeting, I shall be pleased to put them forward providing they are received early in September.

DISTRICT No. 11.

Representative: L. H. THOMAS (G6QB), "Conway," 66, Ingram Road, Thornton Heath, Surrey.

Apparently the area has not been the scene of great activity during this past month, judging by the reports that have arrived. BRS25 has now finished his move, and asks me to mention his new QRA, which is "Lynmouth," Spring Park Avenue, Shirley, Croydon, Surrey. He has done little radio during the month for that reason. BRS250 has been very active and has logged lots of interesting stuff, particularly on the 7 M.C. band. Up there he has heard V0QH and XW1M, also HH7C (Haiti). W6ZZO (portable) was logged on 14 M.C., and also XF8OXO, who turned out to be a boat in the middle of Africa, on Lake Victoria! BRS317 finds things rather dud, but has not had much time for listening. He will be at his home QRA for a while. 2BMV reports for the first time; he has logged PY1AH and VU2BG, but finds nothing of great interest owing to conditions. G2CX has left 14 M.C. alone, and has been on seven working locals. Rebuild now very imminent. G2GM finds 7 M.C. conditions excellent, and has worked plenty of DX there, including V0QH, XW1M and K4ACF. He is "going CC" soon. G2UX has worked NL8MRC (Martinique) on 14 M.C., but is severely troubled by local interference, which has been cured as far as BCL's are concerned by 12 mfd. belonging to *him!* It hasn't eased his problem at all. A modern martyr, O.M.! G6QB has not been on the air except for 7 M.C. fone early Sunday mornings. Receiver is being rebuilt for the big splash which should arrive in the Autumn after such a run of bad conditions.

DISTRICT No. 12.

Representative: T. A. ST. JOHNSTON (G6UT), 28, Douglas Road, Chingford, E.4. Telephone: Chingford 118.

G2ZN, with mains power available, has started at his new QRA, using chemical rectification and crystal control. 2AZR has been assisting G2ZN. G6FY attended the Belgian Congress and reports it a "real F.B. success" and that he made a number of "visual" QSO's and was given a very good time by the Belgian hams. BRS314, ex SU8KW, has call sign G2QW allotted him, and his QRA is 5, Whitehorse Street, Stepney, London, E.1. Members of this district wish him success. G2QW asks for reports on C.W. and 'phone and will be using all licensed bands. G6TX is active on 2 M.C. band. G2NU, on tour in his car, is receiving on 2 M.C.; he reports that he will shortly be active again on 14 M.C. G6LB now has a "Land Line," Wanstead 3902. He reports conditions generally not too good; has recently rebuilt receiver again. G6UT attended Conventionette at Tunbridge Wells and visited G6PA station. G5PD has recently visited Luxembourg, Germany, Holland and Belgium.

DISTRICT No. 13.

Representative: H. V. WILKINS (G6WN), 81, Studland Road, W.7.

Again I have received very few reports in spite of my efforts to stimulate interest by sending the last letter budget round to over twenty active stations in the area. All the reports I have received comment on the extraordinary and bad

(*Continued on page* 45.)

HIC et UBIQUE.

Society Trophies.

It has been decided to present all trophies at Convention each year. In this way the possibility of some members retaining trophies longer than others will be avoided, and as many members as possible will have a chance of seeing the trophies as well as the lucky winners! We hope that those who were listed as winners in the 28 M.C. tests last March will not think that they are being forgotten, but a certain delay in some contests taking place in the earlier parts of the year is inevitable.

* * *

Is it You?

Put in your claim for the prize of one year's subscription!

Last November it was announced in these pages that a prize of one year's subscription had been offered to the member introducing (proposing) the greatest number of new members between the date of issue of the November BULLETIN and the end of August, 1930. Send in your claim to "The Publicity Manager, c/o R.S.G.B., 53, Victoria Street, S.W.1," as soon as possible after the end of August, so that we can announce the result at Convention. Remember it is your responsibility to write and claim the names and call signs of those you have introduced.

* * *

W.B.E. Certificates.

W.B.E. certificates have been awarded to the following: G. Marcuse (G2NM), E. A. Dedman (G2NH), T. Stephens (VK3GO).

* * *

Part 3 of Mr. Walter's series of articles on television will appear in the September issue.

* * *

Will the author of "A Radio Reverie" kindly communicate with the Editor?

* * *

First Contacts.

Nigeria and England, October 5, 1926, by KM1 (45 metres), a station operated by Captain Wilmot, now Gi2OO.

Nigeria and Australia, January 15, 1928, by FN2C, also operated by Captain Wilmot.

South Africa and England.—Mr. Dedman, G2NH, claims the first contact on 14 M.C. between this country and South Africa. This was effected with FO-A5X at 13.15 G.M.T. on March 12, 1927.

* * *

The No. 4 District Conventionette.

No. 4 District held a very successful Conventionette at Mablethorpe on Sunday, July 27. Eighteen members, representing 58 per cent. of the District were present, as follows: G5BD, G2VQ, G5CY, G2AT, G2IO, G2OC, G6LI, G2QH, G2VH, G5GS, G2XS, G6LN, G2HD, G6MN, G6VB, BRS347 and G6CL of Headquarters.

After half an hour of get-together ragchewing, the party made a very interesting visit to the G.P.O. Humber Radio Station GKZ, thanks being due to Messrs. Medley and Froud for their detailed explanations of circuits, etc.

Tea was partaken at the Café Royal and the business discussion followed immediately after. G5BD (D.R.) thanked all present for helping to make the affair a success, and Mr. Clarricoats (G6CL) gave a very interesting talk on various matters connected with the Society, also some interesting figures concerning licences and membership, pointing out that practically 98 per cent. of active transmitters in the country are members of the Society, this being a highly satisfactory state of affairs and in no small measure due to the work of Mr. Watts (G6UN) as Publicity Manager. He asked that all would do what they could to make the 1930 Convention the biggest ever.

The question of District Notes was aired thoroughly, and on a vote the meeting was against their continuance.

G6CL also paid tribute to Mr. Old (G2VQ) on his work as Provincial District Representative. Mr. Old, in replying, gave an outline of the work which G6CL is doing for the Society, and spoke highly of the ham spirit found on his visits to London. He also said that the provincial members were being better looked after now than at any time during the Society's career.

Discussions on various subjects followed, and before departing to their various destinations, the party had a stroll along the sea-front; altogether, a very enjoyable day being spent.

* * *

The No. 7 District Conventionette.

Sunday, July 13, was a very happy day for many of our members in No. 7 District. It was the date of our first Conventionette, that much-discussed event, which seemed as though it never would take place.

Thanks to the enthusiasm of Mr. Neale (G6GZ), a number of the Surrey men were able to be present. Just how many were packed into that "Morris" of his does not bear repeating. We are very glad, too, to have the support of so many of the London Committee men. Five of them were with us, and certainly added to the success of the day.

The business meeting commenced at mid-day, and after a few remarks by the Chairman, we were given a most comprehensive talk by Mr. J. Clarricoats (G6CL), the Hon. Secretary of the Society. His explanation of the running of H.Q. did much to enlighten our ideas, and not a few of us felt that there is more in the job than there appears to be.

After an interval for lunch, the business meeting was continued, and among other things, Mr. Chisholm (G2CX), told us something of the difficulties which beset the QSL Section. Tea was taken at 5.30, and after this the meeting was once more resumed, but had to be broken off soon after as Mr. Neale had to make a start for home with his large party.

In conclusion, we would like to thank all those who, by their presence, made the meeting such a success. Special thanks are due to Mr. Baker (BRS309), in whose hands the care of the catering was left.

Next year we hope to hold an even better show than this one. Having done it once, we feel that we can easily do it again.

The following were present: G2AO, G2AX, G2CX, G2VV, BRS309, G5RS, G5WP, G6BD, G6CL, G6GS, G6GZ, G6LK, G6LL, G6PA, G6PP, G6UT.

QSL Section.

It is evident from QSL cards passing through the Section that an increasing number of British amateurs are having their cards printed abroad and, whilst it is agreed that the Americans, for instance, can produce better printing than the average British local man, it is felt that these cards do not make a very good advertisement for Britain abroad. There is no desire on our part to dictate in any way whatever, as the question is purely one of personal taste, and we feel that the W amateurs will be the first to appreciate that the above is not prompted by any feeling of malice.

Some of the cards that one sees, it is true, are not good examples of British art, but the remedy lies in the hands of the amateur himself. If he refused to patronise firms that turn out sloppy and badly printed QSL cards it would surely bring home to them that their efforts can be improved upon. Anyone with a small bump of common sense can tell from the samples of a printer whether or not that printer has up-to-date lettering and methods, and if you think that the QSL cards would not be successful if entrusted to him, then give the order to someone who shows better promise of workmanship.

A request has been received from the Austrian transmitters for blank QSL cards to be exhibited at a Radio Show in Vienna. They would like to have specimens of as many British cards as possible, and you are therefore asked to send in one of your cards to the R.S.G.B. QSL Section for forwarding to Austria. The card should not be filled in on the front, but it should be marked on the back " For Austrian Exhibition."

May I remind you that copies of the rules regarding the use of the QSL Section can still be had by sending a stamped addressed envelope to H.Q.

J. D. C.

QRA Section.

NEW MEMBERS.

L. H. Herrington (BRS356), George Hotel, Lydd, Kent.

J. L. Roberts (G2QF), " Mon Abri," Kylemore Avenue, Mossley Hill, Liverpool.

E. Gaukrodger (BRS357), 4, Montrose Villas, Chewton Road, Keynsham, near Bristol.

S. Emptage (VP9SR), " Salcombe," Plumtree, S. Rhodesia.

E. J. Gibbons, 38, Albert Road, Peckham, S.E.15.

F. D. Milner (G6FM), 64, Bury Street, Edmonton, N.9.

W. Hibbert (BRS100), 42, Bushy Wood Road, Totley Rise, Sheffield.

H. J. Gwillim (G2QG), The Mount, West Hill, Tredegar, Mon.

Wm. E. Nutton (G6NU), 42, Richmond Road, Gillingham, Kent.

CALIBRATION SERVICE.

The R.S.G.B. Calibration Service (Standard Frequency Transmission) will be transmitted from station G5BR on the first and third Sundays in each month and by station G5YK on the second and fourth Sundays according to the following schedule:

9.55 a.m. Series of X's, followed by a telephonic announcement that the calibration service is about to be transmitted.

10 a.m. Transmission on 7,050 K.C. (nominal).

10.5 a.m. Transmission on 7,250 K.C. (nominal).

The actual transmission will consist of the call (in Morse) " RSGB DE G——" (repeated), followed by a two-minute dash and the frequency used. The frequency of the preliminary announcement will be the same as that used for the first transmission: at the close of the second transmission a further short telephonic announcement will be made. Times are G.M.T. or B.S.T. as in force at the time.

KARL ERNST WETZLAR (DE0829), Haidenstr 21, Hagen i/W, Germany.

D. V. ROBINSON (BERS6), Rua Dos Fanqueiros 7, Lisbon, Portugal.

SIGMN. C. CRIPPS (BERS7), Wireless Section No. 1 Company 2nd Indian Division Signals, Quetta, Baluchistan, India.

J. LUNT, D.Sc. (ZT1Q) "Fairy Knowle," Murray Road, Kenilworth, Cape, S.A.

H. E. LANGLEY (BERS8) 875, Cauldwell Avenue, Bronx, N.Y.C., U.S.A.

F. J. HOLLOWAY, Trafford Hill, Glaggedera, Ceylon.

GEORGE MERRIMAN (VS6AH), Imports and Exports Office (or Box 14), Hong Kong, China.

C. P. TENNANT (ZS4A), Box 610, Kimberley, S. Africa.

M. S. URQUHART (VK6MU), Marmion Street, Cottesloe, Western Australia.

L. LINDEMAN (PA0MAR), Valkenboschkade 175, The Hague, Holland.

R. LARCHER (F8BU), Box 11, Boulogne-Billancourt (Seine), France.

HERMAN BROUWERS, 90, Marche aux Chevaux, Antwerp, Belgium.

A. RESPEN (ON4HV), 15 Plaine de Malines, Antwerp, Belgium.

L. P. DIERCKXSENS (ON4CZ), 11, Rue Stanislas Leclef, Berchen, Antwerp.

L. E. BUXTON (BRS360), 8, Queens Square, Luton, Beds.

E. M. DRUMMOND (BERS9), No. 84 (B) Squadron, R.A.F., Shaibah, Iraq.

C. W. JENNINGS (BRS363), 150, Longmead Avenue, Horfield, Bristol.

S. BRIANT (BRS361), 53, Ongar Road, Brentwood, Essex.

New Q.R.A's.

G2AX.—C. S. BRADLEY, 8, St. Margaret's Terrace, St. Leonards-on-Sea.

G2DR.—S. R. WRIGHT, Greenway, Lees Road, Bramhall, Cheshire.

G2KS.—C. C. BREAKELL, Mardale, Queensway, Penwortham, Lancs.

G2MG.—C. C. MILLER, 59, Novar Drive, Glasgow.

G2OJ.—E. A. HOUGHTON, 21, Newstead Road, Southbourne, Bournemouth.

G2QI.—D. BRIGGS, Austin Friars, Newport, Mon.

G2ZV (portable of G5JK).—L. R. and E. J. HARPER, The Knoll, Bieldside, Aberdeen.

G5DF.—J. D. PINCHBECK, "Cliff House," Hebden Bridge, Yorks.

G15HN.—R. S. HOLDEN, 4, Colinview Street, Springfield, Belfast.

G5MR.—V. G. MELLOR, 1, Guildford Lawn, Dover.

G6FX.—J. ABRAHAM, "St. Adrien," Van Diemen's Road, Chelmsford, Essex.

G16NY.—W. LOCKE, "Daisy Hill Villa," Newry, Co. Down, Northern Ireland.

G6NZ.—L. E. NEWNHAM, 18, Baffin's Road, Copnor, Portsmouth.

2ACK.—V. A. SIMS, 29, Rochford Avenue, Westcliff-on-Sea, Essex.

2BPM.—R. H. JOHNS, School House, Painscastle, Erwood, Brec.

2BZT.—J. R. WILSON, 23, Salter's Road, Gosforth, Newcastle-on-Tyne.

BRS303.—J. PARTINGTON, 8, Hutton Street, Ashton-under-Lyne, Lancs.

G2KB.—H. K. BOURNE, 11, Elgin Avenue, Redland' Bristol.

G5RU.—L. D. ROBERTS, Rosemary Lane, Bartle, near Preston, Lancs.

The following are cancelled: G2TN, G2WR, G5BS, G5LG, 2AFG.

QRA's wanted:—VKP1, YS1X.

M. W. P.

CALLS HEARD.

By CORPORAL WHEELER (BERS3), 2nd Indian Divisional Signals, Quetta: June 1 to 22, 14 M.C.—G: 2nm, 2oa, 2vq, 2cx, 2ag, 2ol, 2gm, 5vm, 5sy, 5gn, 5yk, 5ma, 5yg, 5ml, 5bj, 6gd, 6wn, 6xq, 6ot, 6dh, 6wt, 6vp, 6hp, 6xb, 6nx, ct1aa, ct1ae, ct1hy, d4aar, d4aap, d4hn, d4zst, ei8c, ear98, f8cs, f8jq, f8kw, f8aly, f8ar, f8hr, f8jf, f8ex, f8di, f8da, f8fr, f8gdb, f8hc, f8wrg, f8nf, f8aw, f8nkt, f8bf, haf4d, i1fg, i1coc, oh2od, oh2nd, oh2og, oh3na, oh5ng, oh4pp, oh7nb, ok3sk, ok2op, on4uu, on4gu, on4jc, on4gq, on4bz, on4wa, on4ar, on4hp, on4fm, on4au, oz7y, oz7ii, oz7hs, pa0xf, pa0hp, pa0lw, pa0zf, pa0qf, pa0vn, sm6ua, sp3ar, sp3lz, sp3da, sp3hi, sp3gr, st2c (QRA ?), su8rs, su8wy, vq3msn, vq4cre, vq4crf, vs6ad, vs7ap, yi2cd, yi1cd, yi6ht, yi6sc.

* * *

By A. E. LIVESEY (G6LI), Stourton Hall, Horncastle, Lincs, England, 14 M.C.:—ce2ab, ce3cr, cfu5, cr4ad, cm8uf, cw2bw, fk1lm, hc1fg, lu3de, lu3pa, lu8dy, lu9dt, oa4j, oa4z, oa5q, pk2aj, pw1ae, py1ae, py1ah, py1aw, py1cr, py1id, py2ad, py2ay, py2bk, py2ih, py2qb, py3aq, su8rs, su6hl, ve1dr, ve2bb, ve2bd, ve2be, ve2ca, ve5ao, vs6ad, vs6af, vs7ap, vtvvz, vt1ar, vq4lq, w7fh, w7ty, ys1x, zl1an, zs4m, zs6d, zs6n.

* * *

By SU6HL (c/o R.S.G.B.), at Aboukir, Egypt, June, 1930, on 14 M.C.:—g2vq, g5pj, g6dh, g6gx, g6ot, g6qb, g6vp, yi1cd, yi6ht, vq4msb.

* * *

By J. DRUDGE-COATES (2DCR), Boundary Expedition, c/o P.M.G., British Somaliland, on 14 M.C., June, 1930, 0—V—2:—G: 2by, 2bm, 2cj, 2cx, 2gf, 2gm, 2lz, 2nh, 2ol, 2vq, 5ma, 5ml, 5sy, 5vm, 5vp, 6bz, 6dh, 6gs, 6hp, 6oo, 6ot, 6rb, 6vp, 6wn, 6wt, 6wy, 6xn, 6xb, 6yk. F: 8aw, 8da, 8ex, 8fr, 8hr, 8ha, 8jf, 8nk, 8pg, 8un, 8zb, 8gdb, 8fem, 8klm, 8nkt, 8mmp, 8tex, 8wrm, 5ssy. ON—4aj, 4bt, 4by, 4ft, 4fm, 4jj, 4jc, 4nk, 4or, 4uj, 4uu, 4uy, 4vo, 7xo. PA—0dw, 0hp, 0qf, 0vn. SP—1ae, 3ar, 3da, 3gr. I—1fg, 1gg, 1coc. VS—7ap, 7al, 7td. UO—1cm, 1co, 1jh. OK—3sk, 4kd. OZ—5ao, 7ag. FM—8mst, 8eor. SU—8rs, 8wy. yi6ht, w1om, st2c, py1ah, vu2jb, d4aar, oh3na, ct1aa, sm6ua, pk4az.

* * *

By W. LOCKERSBY, H.M.S. "Dahlia," Red Sea Patrol, c/o G.P.O., London.—All stations QSA5 through heavy QRN: 28 M.C., nil; 14 M.C.: on4jc, on4gn, on4hp, ct1aa, g6zb, g5ml; 7 M.C.: haf9af, ear94, kfr6, ct1bm, ct1cw, su8wy, un7xy, g6xb, g5pj.

* * *

By VU2ZX. 14 *M.C. Rec. det. 2LF.*

June 22. WX. Heavy clouds enveloping station. Dark.

G.M.T.			
16.05	G2VQ	C.C. R6 *	B.E.R.U. Test
16.15	G2NM	C.C. R7	QSO wid SU8RS, also heard R5

TECHNICAL ARTICLES ARE WANTED

16.55	G6HP	C.C. R6	B.E.R.U. Test
17.00	G2VQ	C.C. R8 *	QSO wid ZS4M not heard
17.40	G5ML	C.C. R8	B.E.R.U. Test
June 28. 14 *M.C.* WX. Fine, clear, moonlight.			
G.M.T.			
19.45	PY1AH	DC. R8	CQ Call
	YI1CD	RAC. R7	Answered PY1AH
	VQ4CRF	DC. R7	QSO wid FM8IH
19.55 to 20.55	Press from GBR		
20.55	PAODW	C.C. R8	QSO wid VQ4CRF
21.00	G2CJ	C.C. R5	QSO wid ST2C, also heard DC. T8 R7
21.05	G6VP	DC. R7 *	Cld. LU8DY (G6VP's DC. ripply)
	ON4JC	AC. R9	CQ Call
	ON4OJ	C.C. R9	CQ Call
21.15	G2NM	C.C. R99 ! !	Test
21.17	G6XQ	C.C. R7	Test
21.20	G6VP	C.C. R7 *	Test

Correspondence.

To the Editor of T. & R. BULLETIN.

DEAR SIR,—With reference to the letter in the July issue of the BULLETIN from Mr. Hughes, I should like to say that the 468-metre harmonic of GBR is received at good strength in Bristol. This harmonic, together with a number of others, is received at very loud strength in Rugby, where the strength is R7 on a one-valve receiver.

I also find that this is an excellent transmission to copy for those who wish to practise Morse. The speed at which the British official Press bulletins are sent is 18 words per minute.

Yours truly,
H. K. BOURNE (G2KB).

11, Elgin Park,
Redland, Bristol.

To the Editor of T. & R. BULLETIN.

DEAR SIR,—I don't intend hurling bouquets, but now that O. M. Cook (G6WO, ex ZU1J) has left us, I'd like to take the opportunity of publicly thanking him as O.C. of Division I. for all his efforts on our behalf. We are indeed sorry that he has gone and many of us are sadder, though wiser, due to his interest in our welfare. His knowledge of matters radio is unique, and he placed all his energy and enthusiasm towards furthering our interests, at our disposal.

May he prosper in his home environment is the sincere wish of

Yours truly,
S. H. WALTERS (ZU1I).

37, Church Street,
Worcester, C.P.
July 10, 1930.

To the Editor of T. & R. BULLETIN.

DEAR SIR,—I hope a few remarks on QRM will not be out of place as it appears to merit serious consideration at present. With the very narrow frequency bands in use, a certain amount of interference is, I suppose, inevitable, but a lot can be done to alleviate the trouble, apart from mechanical modifications of apparatus.

In this connection I refer to "Operating Procedure," and I think most amateurs will agree that the keynote of high frequency operating to-day should be brevity and clarity. It is only too easy to ruin a 1930 signal by poor operating and, unfortunately, this does not only affect one receiver.

It will not be possible, for many reasons, to standardise operating procedure, but attention to the following points cannot fail to have a lessening effect on QRM.

(1) All transmissions reported as QSA4 or 5 should be carried without sending words double. When answering tests and CQ's finish by giving the QSA so that the station can adjust his operating to save time.
(2) The "Q" Code and the recognised abbreviations could find a more general use with great advantage.
(3) Report signals in this manner: QSA . . . R . . . T . . . QRI or QSB or QRN or QRM, etc., and dispense with all preambles, such as "ur sigs., etc."
(4) The end of each intermediate transmission should be marked by the call-sign ONCE . . . ar . . . K. and the final transmission by both call-signs ONCE . . . VA.
(5) Test calls "Test" three times and the call-sign once for one and a half to two minutes, finishing with the call-sign three times.

Perhaps others will voice their opinion on this matter and suggest further improvements or modifications of the above.

Yours faithfully,
BRIAN C. CHRISTIAN (G5XD).

60, Church Road,
Lower Bebington, Cheshire.
June 17, 1930.

Notes and News from the British Isles.

(*Continued from page* 41.)

conditions on all bands during the month. G2BY has changed from generator to R.A.C. and likes it better. Had report from British Somaliland and complains about being in the worst QRM factory around town. G6VP finds test calls will not now raise DX, but a definite station call will, and advances the theory that there are sometimes very "narrow" pronounced paths in or through the Heavyside layer, which account for confined and not general working of countries heard. Reports no change in strengths on weekly schedule with SU8RS. G6CO has been on 56 and 14 M.C. On latter worked Italy on 'phone with four watts input. Put up a A.O.G. aerial, raised CT1AA with it. Says it must be the first "Act," as he has called him fifty times before. G2OL worked PY and ST2C on 14 M.C., but spent most time on 56 M.C. Has been watching points which save milliamps, such as dirty, screwed and not soldered connections, placing of components, etc. G6WN worked five continents and put finishing touches to QRO C.C. transmitter. Worked two new countries, VQ3 and Sudan. G2OW is holiday making. We welcome BRS273 to the area. He has scrapped S.G. for

(*Continued on page* 48.)

Empire B.E.R.U. News.

WE welcome further contributors this month to these columns and hope that we shall receive their continued interest and support. To those who have forgotten to turn in reports this month we would say that we are always glad to receive your notes and hope that you will drop us a line for the next issue.

This month we have an article from Mr. Sones, the Hon. Publicity Manager of the Wireless Institute of Australia, explaining the work and constitution of W.I.A., which should be of interest to all our B.E.R.U. members.

The H.A.R.T.S. (Hongkong Amateur Radio Transmitters' Society) is now well under way, and from what we can hear they are making a great success of the organisation of amateur radio in China. Our best wishes for success are with you, OM's! The annual subscription for non-resident members is 5 Hongkong dollars, or approximately 13s. of British money, and correspondence should be addressed to the Hon. Secretary, H.A.R.T.S., P.O. Box 651, Hongkong.

* * * * *

AUSTRALIA.

By H. R. Carter (VK2HC).

At the time of writing this report conditions are very bad on all bands.

During the past month some very fine work on 28 M.C. has been done by the VK's working on that frequency. Several have worked W6BAX and XU2UU. The VK3 gang are particularly active and conditions at the week-ends have been good. However, in a four hours watch to-day (May 25), not a single signal was heard here. Conditions may have been better in other places, however.

On 14 M.C. conditions are very erratic, and only a few ZL's and the W stations are coming through in the afternoons.

The conditions on 7 M.C. are also getting very bad, AC, KA, K6 and W are all getting very weak compared with a month ago. On Sundays the air has been filled with some very high quality phone transmissions. VK2HM and VK2RF are excellent.

VK5HG, an old R.S.G.B. member, recently gave me particulars about the number of times he had worked W stations. It is an excellent performance and he reports QSO'ing W9GV 360, W9CKQ 362, W2CC 240. I believe W2CC uses only 20 watts input, so he has done wonderfully well.

The 3.5 M.C. band is rather dead just now, but there should be more using this band now that local night work on 7 M.C. is nil. There are quite a number making good use of the 200-250 metre band, mostly VK3's. We will shortly lose this wavelength as the Government are taking it for extra B Class broadcasting stations.

Both the Victorian and N.S.W. divisions of the W.I.A. have had field days lately, which created a good deal of "fun," and all the fellows thoroughly enjoyed themselves.

A list of the known VK stations active on 28 M.C. will be helpful to the G gang, in case any are heard; it will help to identify them. They are: VK6SA, VK5HG, VK3BQ, VK3GO, VK3PA, VK3HK, VK3ZX, VK3WL, VK3PM, VK3RJ, VK4XN, VK4RB, VK2RC, VK2TW, VK2LJ, VK2LZ, VK2HC. We hope to have a G-VK contact on ten metres soon, and it won't be for the want of trying if we fail!

EGYPT.

By C. E. Runeckles (SU8RS).

There has been very little activity here in SU during this last month. Conditions are, if anything, a little better, but DX is still spasmodic and uncertain.

SU8WY, who is now working on the 7 M.C. band, reports plenty of contacts up to 2,500 miles, but cannot raise anyone beyond that limit. He has heard several U.S.A. stations early in the mornings, at very good strength.

SU6HL, who will be at Khartoum (Sudan) by the time these notes are read, has done a bit on 7 M.C., but complains of QRM from wobbulated fone. He finds 14 M.C. better and worked 13 countries in a few hours. He is using a T.P.T.G. push-pull, with 25/30 watts to the anodes, and intends to use similar outfit in Khartoum, when his call will be either VR6HL or TS6HL, probably the latter.

SU8NK is busy installing an H.T. generator, and will soon be heard again on 14 M.C. as the preliminary trials of transmitter proved satisfactory.

SU8RS has kept one or two schedules on 28 M.C., but beyond hearing VQ2BH on one occasion and commercial harmonics always, there has been nothing doing. 14 M.C. only fair.

SU1WT is often up nowadays on 14 M.C., but doesn't find conditions too good. His gear includes a Hartley transmitter and 0-V-2 Schnell receiver.

INDIA.

By F. W. Hudson (VU2ZX).

With the monsoons now active, storms are very frequent and they render communication very unreliable. The 14 M.C. band is blank for DX until about 17.00 G.M.T., except on very favourable days, and fade-out begins again at 22.00 G.M.T. Not a single VK or ZL has been heard for at least two months, although a watchful ear has been kept

NEW MEMBERS ARE WANTED

open for them. On 7 M.C. there is not very much doing, and apart from local QSO's in daylight, there is nothing of interest to report on that band.

Although the 28 M.C. band has been searched frequently during the past months, nothing has been heard except the harmonics of commercial stations. KAX, whose frequency is about 9,500 K.C., is heard at R6/7.

A sked with a VE amateur would be much appreciated, as VU2ZX has only to get this continent to qualify for W.B.E.

VU2ZX is on the air usually on Wednesday, Saturday and Sunday from 16.00 to 22.00 G.M.T., or other nights by arrangement.

IRAQ.

By H. W. Hamblin (YI6HT).

YI6HT hopes to visit Baghdad shortly and to take the opportunity of seeing some of the transmitters there and to talk to them about B.E.R.U. The membership in Iraq is 8, 6 at Mosul and 2 at Shaibah.

QRN and QRM have been bad on 7 M.C., while on 14 M.C. a wipe-out appears at irregular intervals. It is hoped that YI6KR will be on the air shortly on 14 and 28 M.C., but mostly the former. The message to the Prince of Wales was passed to G2VQ with an input of just under 9 watts.

At the time of writing the worst dust storm that they have known has been raging for six days, the wind blowing in gusts up to about 45 m.p.h., and visibility being about 200 yards. It is a heart-breaking job keeping the gear clean, especially the generator, as the heat brings the grease out of the bearings and then the dust finishes it off. It has been noticed that while YI6HT usually gets T8 report during normal conditions, he always gets T6 when dust is about.

Iraq amateurs are very keen to see the Empire linked up by amateur radio, and are willing and eager to do all they can to help.

YI1CD has confined his activities to 14 M.C. and worked good DX; his chief trouble is from electric fans, and information regarding the elimination of this form of QRM from about 100 D.C. fans would be appreciated. Screening has no effect; 28 M.C. has failed, though 7 M.C. has produced good reception from W and VK.

A new YI has been heard this month, YI1WM, on 7 M.C., and is operated by an Iraqui, whom it is hoped to interest in B.E.R.U. (Is he the first Iraqui "ham"?). His QRA is Mosul, and he may be heard most evenings on 7 M.C.

I have been requested by all those I am in touch with to be the Iraq Representative of the B.E.R.U. I shall be very pleased if any member of the B.E.R.U. in Iraq who has not heard from me will write. My address is: 84 (B) Squadron, R.A.F., Shaibah, near Basrah, Iraq.

IRISH FREE STATE.

By Col. Dennis (EI2B).

Conditions continue to be very bad on both 7 and 14 M.C., and there is no DX to report. EI2B recently went to 14 M.C. for 10 days in the hope of getting a little more excitement on that band than on 7 M.C., but it turned out to be even worse, as, beyond working FM and some of the more distant Europeans on occasions, the band seemed to be quite dead. Any QSO's effected were between 18.30 and 19.30 G.M.T., this being the only time when any stations were heard at decent strength. On two nights only PY, CE and YS were heard faintly working W stations, the W's being quite inaudible. Other stations report equally poor conditions.

The new transmitter at EI3B is being overhauled with a view to an improvement in the note. EI8B is working on his new transmitter, which is to be CC, from a 126-metre fundamental crystal, on 7, 14 and 28 M.C., but he is not, I think, yet on the air. EI7O is away on holidays until August. He has got his new gear for A.C. mains going and hopes on his return home to be CC on 7, 14 and 28 M.C. He followed the "Southern Cross" in her transatlantic flight continuously so far as IDO allowed, sending reports direct to the G.E.C. in Dublin. EI8C finds conditions abnormally bad, but has received a report on his signals from British Guiana on 14 M.C., and has actually heard VT on 7 M.C.!! EI4D is at present QRT, owing to a move into a new house. EI5D has received a report from ZL2GO on his 7 M.C. signals.

GI6YW, who was in Dublin with his OW and "junior operator" for the motor races, paid a welcome visit to EI7C and EI4D, and CT2AA is expected to visit Dublin shortly, when some of us hope to make his acquaintance "in the body." Such visits are all too few, but I can assure any ham who may be in Ireland that he will receive a most hearty welcome from any EI whom he may be able to visit.

KENYA, UGANDA AND TANGANYIKA.

By George F. K. Ball (VQ4MSB).

At the moment we have five active transmitters on the air, viz.: VQ4CRE, VQ4CRF, VQ4LMA, VQ4MSB and VQ3MSN, but are hoping to hear three others in VQ4KTA, VQ4KTB, both of Kitale, and VQ3SKW in Tanganyika, on the 14 M.C. band in the near future. Conditions on this band during the past month have been erratic and often when stations come in well at VQ4MSB, Mombasa, they cannot be heard up-country at Nairobi. Myself and VQ4CRE could communicate with ease a month ago on the 14 M.C. band, but now there appears to be a wipe-out. Both VQ4CRE and VQ4MSB have spent a considerable amount of time on the 28 M.C. band, both transmitting and receiving, but with negative results. Once upon a time I was able to pick many commercial harmonics on the 28 M.C. band, but now there seems nothing doing at all. Hi! VQ4CRE has recently changed his QRA, and has returned to his old love, the T.P.T.G., with 50 watts input to a DET1. He is now busy rewinding his transformer to give him 1200-0-1200. VQ4CRF—our old friend FK4MS—has returned from leave and is now stationed in Nairobi, much to the disappointment of VQ4MSB. He is now on the air with H.T. derived from a ML motor-generator. VQ4LMA has been chasing the DX hound for some time past, but recently he has been off the air owing to battery troubles. VQ3MSN accomplished some good work some months ago with a fly-power of 2½ watts. He has now a ML generator and has much DX to his credit. VQ4MSB is using one of the new Philips valves, a TC 04/10, and finds it very efficient. It will oscillate easily, even on 28 M.C. The circuit now in use is the TP fixed G, which is found to be very successful. This time of year is the period of wipe-out of South African stations and not a single one has been heard for

the past two months. This concludes my initial effort, and now OM's of Division 8, SARRL, keep me advised of your doings in order that these notes may not go off the map of B.E.R.U. affairs.

NEWFOUNDLAND.

By W. P. Stoyles (VO8MC).

The fine weather has taken all VO hams from the air to the sunshine. The weather for DX has seldom been worse. No contacts have been made and 7 M.C. band is about same as last month. On this band EAR94, F8LW, G2ML, I1RI, G6XB and I1LL were heard, but the 14 M.C. band remains entirely dead.

NEW ZEALAND.

By C. W. Parton (ZL3CP).

Since the last notes considerable changes have taken place here. After years of petitioning the P.M.G. has reduced the licence fee from £2 2s. to 30s., and, in addition, N.Z. amateurs are now allowed to handle messages relating to amateur radio, and personal messages for amateurs themselves and their relations. The N.Z.A.R.T. is trying to arrange a traffic network throughout the country, so that in cases of emergency traffic may be handled expeditiously. In the big earthquake which did so much damage in Westland, there were no amateurs at all in the district, but now there are two stations over there.

The H.Q. of the N.Z.A.R.T. is now in Wellington, and already the official paper, "Break-In," is larger and better, though publication is rather irregular, due to lack of funds. H.Q. hopes to run a standard frequency service, to prevent off-wave operation. Crystal control is now becoming popular. Nobody seems to have tried the "pebbles" for harmonic control which seem popular in England.

Most of the 28 M.C. work is being done by the First District gang. Conditions on the 14 M.C. band have been very bad during the last few weeks, and the 7 M.C. band has not been too bright, though Europe has been QSO'd several times. The 4 M.C. band is pretty lively with phone, some excellent and some indifferent. The American 4 M.C. phones sometimes come in very well.

RHODESIA.

By G. G. Livesey (VP3SRB).

Conditions here during past month—May 14 to June 14—have been very bad. We are drawing well into winter again, and static is considerably diminished on all frequencies. "Wipe-out" on 7 M.C. is very bad—VP9SR on this frequency and about 200 miles away is heard often at only R3 when working at 07.15 and 18.15 S.A.S.T.

QSO's with stations down south are also very erratic, and ZS4M is, among others, maintaining inter-provincial contact at night on 3.5 M.C. band with ZS5C in Natal. VP3SR is now crystal-controlled on 7 and 14 M.C., but is seldom on 7 M.C. VP7SRB paid me a flying visit on June 1, and many things were discussed, to mutual advantage.

The 14 M.C. band is practically empty of all DX at all hours, and the only G station heard during past month has been G6XN—T9—R2 at about.

On 7 M.C., Oceania, Hawaii and W 6th district come in, averaging R4, between 16.30 and 17.30 S.A.S.T., but no African stations have been heard to effect contact with them, and they fade out at 18.00 S.A.S.T. Between 06.00 and 07.30 S.A.S.T. all districts of North America are heard on 7 M.C., averaging R4. These fade out at 08.00 S.A.S.T.

It is hoped to enlist VP9SR, our star QRP 14 M.C. station, and VP6SR into R.S.G.B. membership ere long.

VP5SRA is not working at present. VP4SRB is reputed to be solely on 14 M.C., using telephony. VP3SRB is again active on 7 M.C., and good contacts are being made all over the Union on 10 watts.

7 M.C. working hours in South Africa are at present: 05.15 to 06.00 and 15.30 to 17.00 G.M.T.

European Notes.

We have received only one report this month, so these notes will be very short.

The NVIR reports rather poor conditions in Holland, with very few amateurs active. This is, of course, due to the summer when there are many attractions outside the shack. On the 3.5 and 7 M.C. bands both receiving and transmitting conditions have been bad, the best contacts reported being those made with South Russian amateurs in spite of their still using the old intermediates. Dutch amateurs say that they are glad their German friends do not like to work those "old-timers."

On the 14 M.C. band PA0DW and PA0ZK report a few DX contacts. From May 24 to May 29 conditions for communicating in a western direction (WI 2, 3 and 8) were fair. It is a curious thing that every 26 days a relatively short period arrives with good possibilities for working W stations. The next periods will be about July 19, August 14, and so on. The NVIR begs those amateurs interested in this subject to write to PA0ZK.

There are no reports on the 28 M.C. band.

The Hague amateurs are preparing enthusiastically for a radio fox hunt; one portable transmitter will be installed in one place and the other amateurs will try to find its position by means of direction-finding receivers. Several lectures have been given at club meetings and many portables have been built. It is an ideal job for summer work, and the NVIR understands that some of their southern members are planning a similar hunt.

Notes and News from the British Isles.

(*Continued from page* 45.)

short waves; keeping watch for XCNP, a 19 ft. French cutter crossing Atlantic. Television experiments occupy most of his time. G6XN has his first 56 M.C. QSO with G2OL. Has been testing receiving aerials and finds local signal strengths vary greatly. Found ¾ wave best for two miles and 5/4 wave better for seven miles.

DISTRICT No. 14.

Representative: J. Wyllie (G5YG), 31, Lubnaig Road, Newlands, Glasgow.

This month has produced no reports, so I do not propose to clutter up useful space. The last "A" District monthly "ragchew" for the season took place at G5YG on June 25, when we were fortunate to have with us CT2AA and GI6WG. A further addition falls to be added to the first Scottish contact list; it is that of G6NX contact with PK4AZ (Sumatra) on 14/6/30 at 17.00. G6NX therefore continues to head the G6IZ competition with three new localities. In connection with work on 112 M.C., I understand that G6WL has succeeded in pushing telephony for nine miles on this frequency.

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