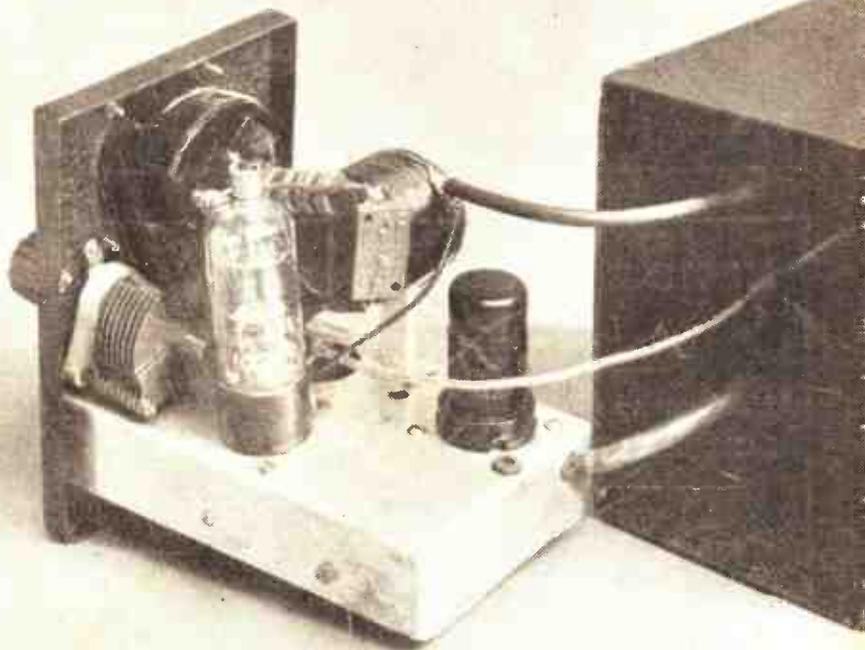


The

RADIO AMATEUR

Vol. 8
Number 7
JULY
1953

FOR TRANSMITTERS AND LISTENERS



IN THIS ISSUE . . .

Simple Top Band Transmitter. More 1155 Modifications. Amateur Radio in Portugal. Simple Dual Range Ohmmeter. Aerial Patterns, Folded Quarter Wave—contd. Strictly for the Beginner, Doublers and Buffers. Amateur, Broadcast and VHF Commentaries. S.W. B.C. Station List. Club News, etc.

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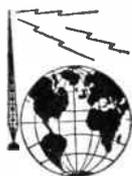
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WORKSOP, NOTTS,

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OUR COVER ILLUSTRATION

shows a further view of the Simple Top-Band Transmitter described by Guy B. Moser, G3HMR, on page 244 of this issue.



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EDITORIAL

We make no apology for referring once again to the IARU Bureau I Congress at Lausanne in May last, because we feel that the deliberations which took place there are of paramount importance to the future of Amateur Radio. As we have said before, one frequently gets the impression that we amateurs in the British Isles are inclined to be as insular about our hobby as we are over many other matters. Being an island people, we are traditionally inclined to mind our own business and let the rest of the world get by on its own. A very good policy no doubt in some respects, but these days, international co-operation is imperative for the good of everyone—ourselves as well as " the others."

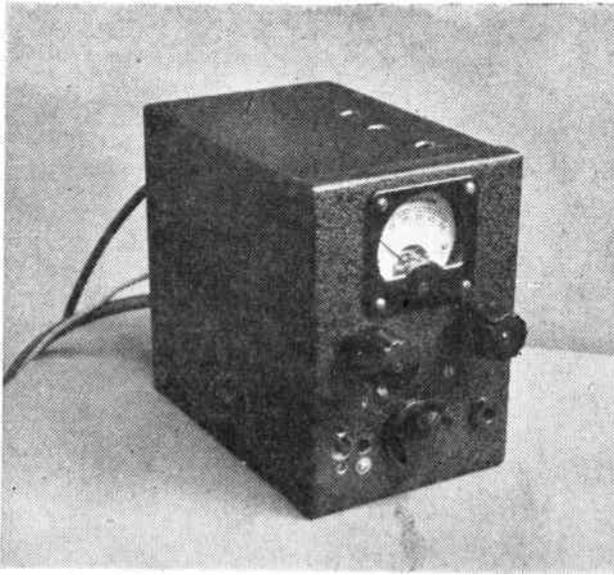
As we have already indicated, international co-operation costs money, and in our sphere, this money will have to be subscribed by the national amateur radio societies, who get it in turn from their members. Some societies are going to be in a fix over this, because, as they themselves admit, they do not include amongst their members a very large per-

centage of the radio amateurs in their respective countries. To these societies we would say, " Isn't it time a full-scale recruiting drive was put into action ? "

In the case of our own national society, this difficulty does not arise, as the majority of radio amateurs in this country do belong to the RSGB. However, " money matters " are a touchy subject at the moment— as we have no need to remind readers !

One of the advantages of a journal such as ours, is that we can give an independent view of current affairs. We are not required to give the " official " view. Our readers may hold wide differences of opinion on the question of RSGB finances, but we would suggest that on this question of international representation, the ship should not be spoilt for a " ha'porth of tar." The machinery has been laid out, the appointed officers are keen and willing to do their best. When it comes to voting the necessary money, let's see that the scheme is not wrecked.

A.C.G.



A Simple Top-Band Transmitter

by

GUY B. MOSER

G3HMR

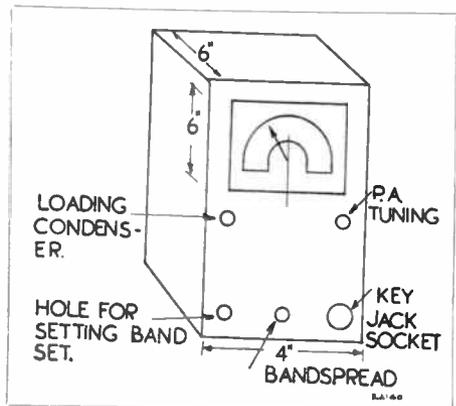
The writer is well aware through QSL cards received that Westmorland is a comparatively rare county in the amateur sense, and some time ago, plans were laid for a simple Top-band Transmitter ; this will now be described in sufficient detail to enable the average amateur to build it without too many headaches.

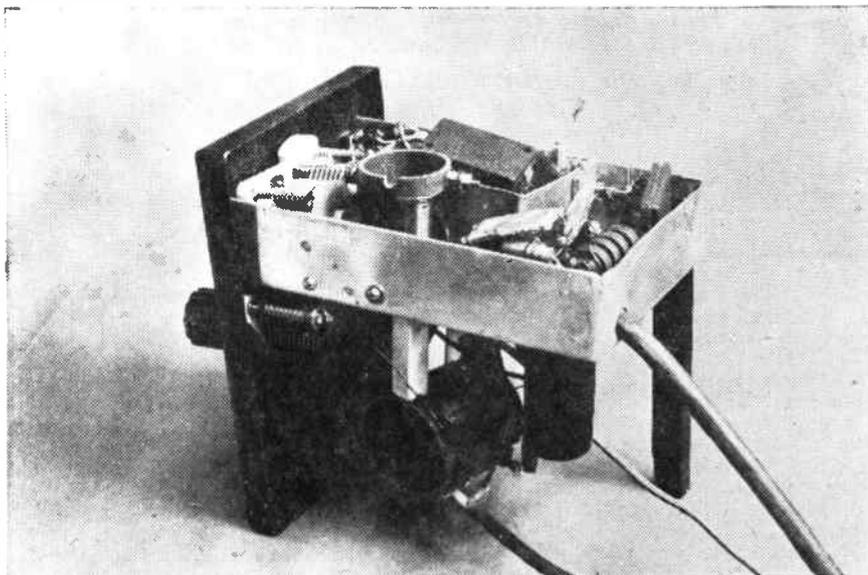
The circuit consists of the excellent Clapp oscillator followed by a PA using the pi-coupling method of energising the aerial ; the valves used are the inexpensive 6AC7, although the 6AG7 will do just as well, and a TT11 (VT501) which is a very good RF valve having the advantage of an anode top-cap ; as can be seen, the construction should provide no difficulty, although the writer has an absolute phobia of those .01 Mfd condensers which are always needed but which seem to take up a great deal too much space ! Provided the main circuit values are used there should be no difficulty in getting the oscillator to function, and getting the required amount of bandspread is only a question of removing plates from the small condenser, in the writer's case it has been found that the oscillator just covers the whole band, it being felt that too many people tend to stick to the middle frequencies.

It was decided that a keyed oscillator would serve no real purpose on this band and therefore the key is placed in the cathode of the TT11, a system which the writer has used in a number of transmitters and which has never given any trouble, the only essential thing is that the

chassis should be well anchored to the outside case at the back, the writer uses an ordinary woodscrew for this purpose and reports have always been T9.

This type of PA anode circuit was chosen because of its ability to match into aerials of widely differing impedance, thereby doing away with the need for a separate aerial coupler, and in practice, the system has been found to be quite satisfactory, the method of operation being to tune for maximum dip in the usual way and then to bring in the loading condenser at the same time keeping the needle dipped ; in this way the current can be brought





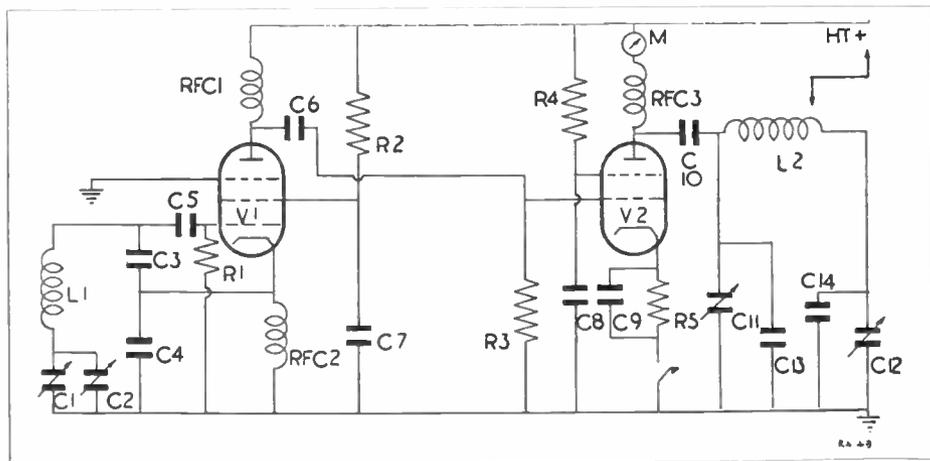
up to the required value, it will be necessary for the tapping point to be found by experiment, in the writer's case it was found to be about four turns from the loading condenser connection.

It was found by the writer that there was at the end of 15 ft. of 80 ohm co-axial line six milliamps drive to the grid of an untuned 807, which seems to offer some scope for using the unit as a VFO, and the idea may be followed up in the future.

The power supply used by the writer will be described in the future (if the editor thinks it has any value for the reader!), and also a modulator which it is proposed to construct in a similar type of case.

Although no equipment is fool-proof, it is felt that this small unit does fulfill a want from the writer's point of view, and he hopes that it may do so for others.

(Contd. on p. 278)



MORE ON 1155 MODIFICATIONS

A CRYSTAL CALIBRATOR AND FURTHER NOTES ON THE NOISE LIMITER

by

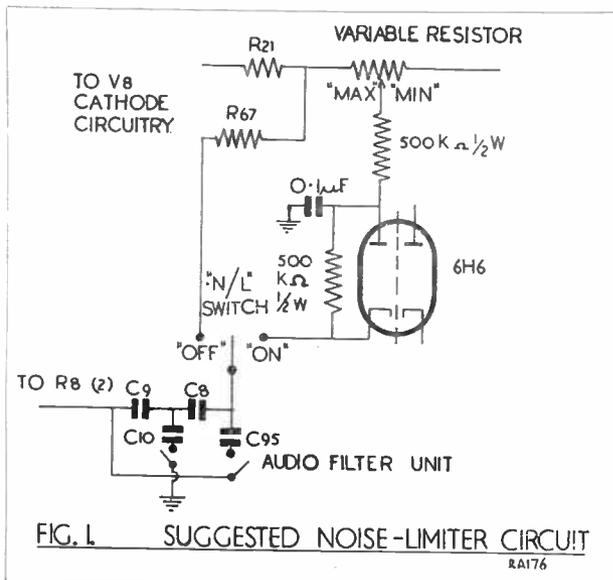
Wm. A. HOPE, Stud. I.E.T.

Following the author's recent article on the "R1155" Noise Limiter, he has found that great difficulty was experienced by some constructors to get the N/L to work. The author's "1155" was very much modified and the N/L worked alright; but, due to the many modifications on various 1155 sets which are not recorded in the theoretical circuit he has decided to change the circuit to the one shown in Fig. 1. R20 is unsoldered and replaced by a variable resistor of the same value, the slider of which goes to the anode of the 6H6 N/L section via a 500 K500K $\frac{1}{2}$ W resistor. The anode is decoupled by a 0.1 μ F (500 v. DC working) capacitor. The anode and cathode pins are shunted by a 500 K $\frac{1}{2}$ W resistor as shown in Fig. 1. The cathode will go to the "ON" position of the N/L switch when fitted. The connection from the junction of C8 and C95 to R67 is broken and the N/L switch is wired up as shown. When the N/L switch is in the "OFF" position, the "1155" operates normally. When in the "ON" position, the audio signal is tapped off R20 by virtue of the sliding contact and arrives on the anode of the N/L diode via the 500 K resistor. Limiting takes place and the signal passes to the audio filter unit already existing in the set. Referring to Fig. 1 again we see that the minimum resistance end of the variable resistor (R20 new) is marked "MIN" and the other "MAX," R20 is thus operating as a threshold control determining the percentage modulation at which the limiting action of the diode commences. In the "MIN" position limiting action begins at 100 per cent. modulation and on advancing R20 towards the "MAX" end will reduce the threshold level. This type of limiter should be screened if possible in order to minimise hum pick up.

Crystal Calibrator

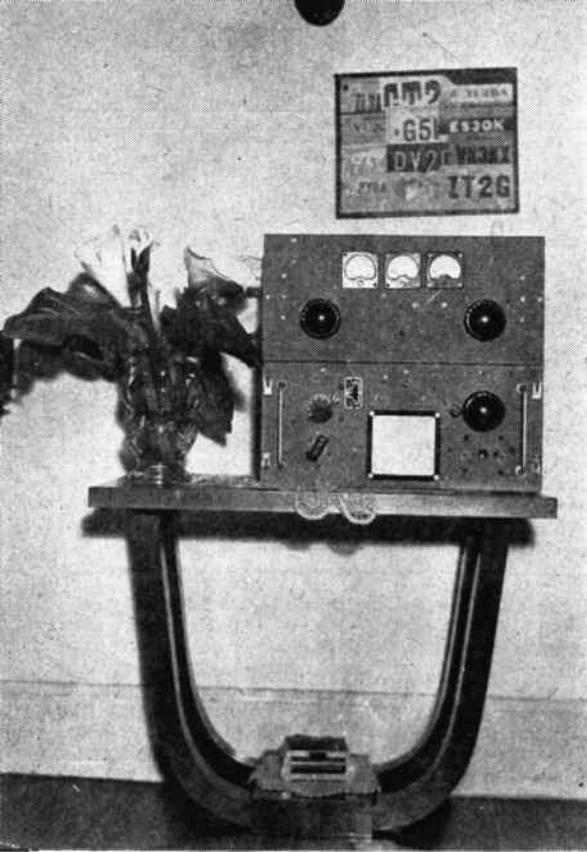
The serious SWL must always be in a position to give a correct frequency check when sending in reports to amateur stations, thus, an accurate frequency meter or calibrator is required. If one is wealthy—and who is these days?—a BC221 can be used. The author himself uses a Class "D" wavemeter in conjunction with the Eddystone S 640 receiver for checking purposes. One big advantage gained by using this type of wavemeter is that the dial reads off directly in kilocycles up to "100" (after beating the VFO against the 1 Mcs crystal standard) thus effecting quick checks.

Fig. 2 shows the theoretical circuit of a simple crystal calibrator which can be used with almost any receiver. V1 operates as a grid to plate 1 Mcs Pierce Crystal Oscillator, a 6SK7 is utilised since it keeps its stability over long periods of time. Before obtaining the crystal ensure that it is of the highest quality as difficulty may be experienced getting the



AMATEUR RADIO IN PORTUGAL

by MARIA MONTEIRO,
CTIYA.



CTIYA, is one of the best-known XYL amateurs in this part of the world. We are greatly indebted to her for this description of amateur radio in her country.

Left. Small transmitter of type used by many amateurs in Portugal.

The "Radio Electrical Services" and the "Rede dos Emissores Portugueses" are the two organisations which supervise the activities of radio amateurs in Portugal.

The first is a section of the PTT that takes care of everything connected with radio amateurs and their stations. The second is similar to your RSGB.

When you want to become a Radio Amateur, the first thing you do is to join the REP, where you pay about 3s. 9d. monthly. After that you apply either directly to the Radio Electric Services or through the REP, to be allowed to undergo the exam which will enable you to operate. With the papers you also have to pay the examination fee, which can be either about £1 5s. for class D, or 12s. 6d. for class C.

You have to go through a written examination on the laws which radio amateurs have to obey, aerials and elementary knowledge of the rig and how it works. After passing this exam you receive permission to operate and with it you get your own licence. If you want to have your own call sign, you have to ask for it and then you will also get a station licence, which must be kept always in your station in case the authorities arrive and want to see it while

you are operating, to see you are doing so, according to their rules. This licence is valid for five years, at the end of which it has to be renewed except in the case of the owner belonging to class D, when it can't be renewed. Such people have to go through another exam to pass to the immediate class (class C), or they can no longer be radio amateurs.

Every owner of a transmitter pays the Radio Electric Services yearly fees of about £1 5s.

We have four classes of licence which control the input you are allowed to use. The lowest is class D, where you can go up to 50 watts on Phone (CW is not allowed in this preliminary class) and you can work on 10, 20, 40 and 80 meters, but not on the new bands, such as 15 metres, etc.

From class D, you go to class C after going through another exam on technical subjects, both about aerials and rigs, also an exam on CW, where you must transmit and receive at least 50 letters a minute for five minutes. If your tests are good you pass to class C, where you can use up to 250 watts either on Phone or CW. One can remain in this class for ever if the power satisfies you, but if you want to go into those higher regions of the very few privileged ones who work with a

kilowatt, you have still another exam to do. After being two years in class C without having been admonished or punished by the official services, you can ask permission to go through a very difficult exam on technicalities connected with radio. If you pass this exam you can then use any power you want up to 1000 watts, either on Phone or CW.

There is still another class, class A where you are allowed also to have a mobile station with 50 watts. To reach this class you do not have to undergo any exam, but if you have always shown yourself to be a good amateur, working under the best conditions and never having been reproached for your conduct either on the air or in your behaviour towards other radio amateurs, the REP asks the Radio Electric Services to enlist you in the honourable roll of class A.

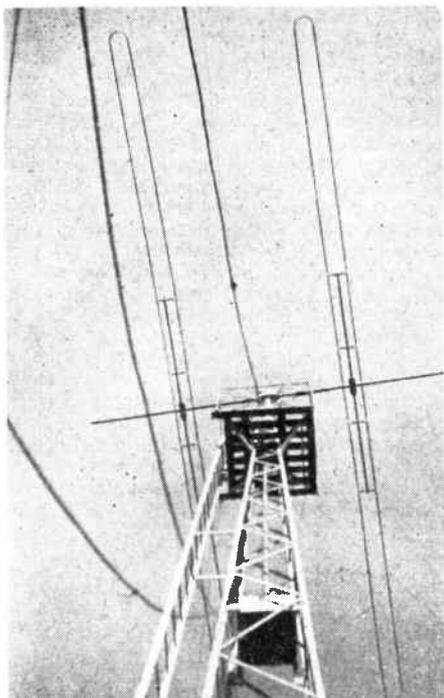
The above refers to limitations of power and the exams you have to go through to become a really first-class operator. But this is only the "official part" if I may call it so. There is also a more practical and no less important part; that is the construction of the rig.

Here in Portugal, most amateurs construct their own rigs. Very few buy Collins, Hallcrafters or any other factory-made transmitters. I believe the number of amateurs who have this kind of station can be counted on one's fingers. There are of course those who ask other amateurs to build them a station, paying their costs. I belong, more or less to this group, and that is why I now find it difficult to tell you the price of a rig. I know very little about prices, because my husband and a friend of ours, also a radio amateur, made my station and whenever I asked the cost of such and such a tube they used to answer that they did not know! A few answers of that kind made one understand that I was not supposed to know the price of all that, probably because my husband did not want to hear me grumbling. I know however, that these things are expensive here, the main reason being that they all have to be imported. Since I was asked to write about Amateur Radio in Portugal, I have been making enquiries about prices of different items of equipment necessary in our hobby. I found out for instance, that I could buy a good crystal microphone for about £7 7s. 6d. An 807 tube costs here about £1 17s. 6d.; an 813 or T125 £6. I believe that a small transmitter built with the best materials and well constructed to last, would cost about £62, not to mention the aerial equipment, which can be cheap of course if you use only a long wire, but can be terribly expensive if you go in for a rotary beam. As your radio amateurs in England well know, one is never pleased with what one has for long, so from time to time one changes one's aerial, one buys a new tube for the final, you try a new modulating system, etc., and that of

course is what becomes expensive, because you put the old tubes away in a cupboard and it is really very rarely that you remember them and use them again! From the 807 you try the 811, from the 811 you go to the 813, next comes push-pull 813s and each time it gets more and more expensive. If the old tube was sold or exchanged, the difference would not be very big, but to keep all those things makes this hobby a very expensive pastime! By this, please don't think I am against changes. Far from it! Don't forget that I am also a radio amateur, so I entirely agree that an amateur must always try to improve his station and to make it work still better. Otherwise what would become of us with the increasing number of amateurs and our ever-narrowing bands? What I mean—and I am sure you will laugh at me here—is that I am a woman radio amateur, so I like to have everything tidy and by everything, I mean also the shack, and until now I have found it very difficult if not impossible to keep the room clean and in order when all those small changes and experiments are done, if not daily, at least every week!



Type of big transmitter commonly used in Portugal.



Beam aerial at CTIYA, typical of those at present popular in Portugal.

I have already spoken about the price of transmitters but have so far said nothing about aerials. At our station, we have had quite a lot of different beams, both for 10 and 20 metres and in the garden can always be seen aluminium tubes, remnants of old beams. At the moment, we have a two-element rotary folded dipole doublet beam, supposed to be an inexpensive rotary giving wonderful results! This beam has been adopted by almost all the radio amateurs in Oporto. The price of this aerial is about £20, not counting of course, the tower and the turning motor, because these can be dispensed with if one does not wish to spend so much money. Instead of the motor, the beam can easily be turned by hand and as a tower is rather expensive, a steel mast can be used instead.

Soon after we had erected the tower, one like those used by broadcasting stations but not so high of course, and the beam on top, a radio amateur from Lisbon came to Oporto and phoned us saying he knew we had a very good beam and he would like to see it. He came to visit us that same evening and after going up to the top of the tower and examining the beam

from every possible angle, he turned to my husband and said: "I believe you have spent the equivalent of several fur coats!" My husband answered with some uneasiness: "Oh, no! you are quite wrong. What I spent was not enough for a single fur coat." At this it crossed the other amateur's mind, that I was following the conversation with more than unusual interest and with a critical eye, so he muttered an excuse and changed the subject! This, more than anything else I have said, may give you an idea of the prices here in Portugal. I must truthfully say, I believe that while the other amateur was exaggerating a little too much, my husband was making the cost seem less than it really was, because of my presence!

Of course, equipment such as this is expensive, but you can make plenty of good DX contacts with less pretentious stations. You can often hear an amateur running only 50 watts and a long wire aerial getting almost as good a report as another running 250 watts and a rotary beam. One of the most important things, in my opinion, is that you find a clear spot if possible and that your station should really be working at its best.

In Portugal where the number of amateurs—especially YLs—has been increasing quickly, there are about 390 operators and 10 YLs. They belong mainly to classes C and D. Few are in class B and only a very small number have reached class A. I do not know how many amateurs belong to these two classes, but among those using 1000 watts, three have made themselves known by their wonderful stations and by working always in the best traditions of amateur radio. They are: CTIIP, CTIGY and CTIPK. The two first belong to the north of Portugal, and being near to my QTH I know more about them than I do about CTIPK, who lives in the south, not far from Lisbon, but whose credit, both in this country and elsewhere, is very high. Regarding those living in this part of the country, I have had several personal contacts with them and have often heard them helping other amateurs to solve their technical problems.

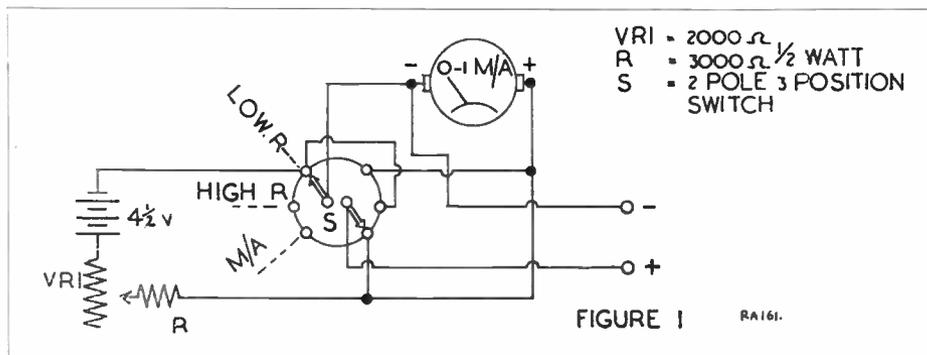
The "Amateur Radio Club of the North of Portugal" better known as "Capit6lio," was started about two years ago. In order to help its members, it has recently started a course both in CW and in radio technique. This is recruiting more and more pupils each week, who are keen to improve their knowledge in order to go through the exam which will enable them to pass to class C. This Club has nothing to do with REP. It is maintained by the northern amateurs and a small number of amateurs in the centre and south who approve its aims. It makes a meeting place where one can discuss one's problems and seek information. It also takes care of the delivery of QSL

(Concluded on p.266)

SIMPLE DUAL RANGE OHMMETER

by

H. E. SMITH, G6UH

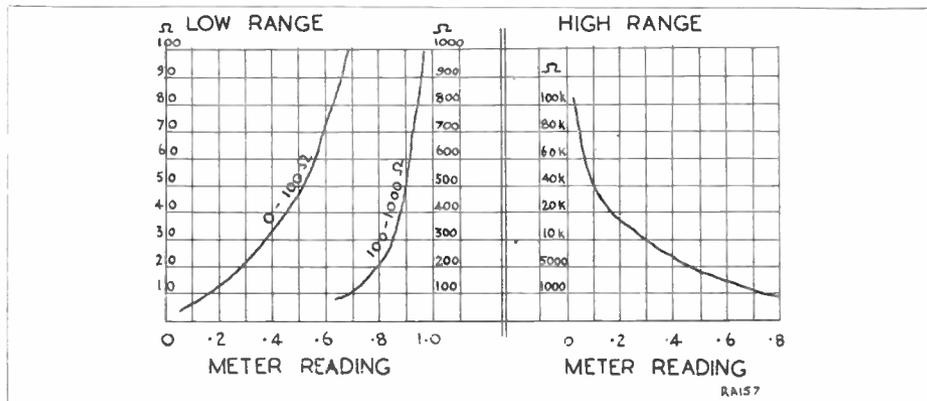


Most experimenters and home constructors will agree that the Ohmmeter is one of the most essential pieces of test equipment. While many possess a multi-range test meter of some kind, with at least two ranges of Ohms provided, there are many who are not fortunate enough to own such an instrument. Using an ordinary O-IM/A meter, it is quite a simple matter to construct an Ohmmeter which will measure with a fair degree of accuracy, any resistor value from approximately 3 ohms to 100,000. Incidentally, there is no need to tie up your meter to this one job, as by suitable switching, it can still be used for any other purpose when not required as the Ohms indicator.

The other components required are, a 4½-volt flashlamp battery, a two pole 3 way switch, a 2000 ohm variable resistor, a 3000 ohm fixed resistor and two terminals.

The terminals are used for the connection of the test prods when used as an ohmmeter, and when switched to M/A, are connected direct to the meter. The circuit is self-explanatory, and it will be seen that on the "Low range," the resistor to be checked is in shunt with the meter, while on the High range it is in series. The shunt system allows for greater accuracy in measuring low value resistors.

The zero setting procedure is thus varied slightly for each range. When switched to the low range, VRI should be adjusted for full-scale reading on the meter with the test prods *unshorted*. For the high range this adjustment should be made with the test prods *shorted*. When measuring resistors of very low value, remember that high current is being drawn from the battery while the actual test is being made, so do it as quickly as possible.





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Seated : Hendrik B. Hansen, OZ7DR., Harry A. Laett, HB9GA.,
M. Smit, PAØLR., John Clarricoats, G6CL.

Simple Ohmmeter. (Contd. from p. 251)

When resistance checks are completed, always switch to the M/A position, as this will safeguard the battery in case of accidental shorting of the test prods. O-I milliamp meters vary somewhat in their internal resistance but as this is not intended to be a high precision type of instrument, it is not necessary to worry about it. In most cases the error will not amount more than a few per cent.

Calibration

The graphs shown are given as an indication of the approximate meter reading to be expected for given values of resistance over the two ranges. If greater accuracy is required, it is only necessary to procure a few high quality two per cent resistors to give you about six or eight points in each range, and draw up your own graph. If this is done carefully,

it will be possible to obtain an average accuracy of plus or minus three or four per cent, which is as good as one can expect from many commercial types of multi-range meter.

Checking resistors "in situ"

It may be unnecessary to point out to many, but when attempting to measure a resistor "in situ" (wired into a chassis), always unsolder one end of it. There is always the possibility that a potentiometer network exists, providing another path in shunt with the resistor, and a false reading may easily be obtained.

Finally, never attempt to measure resistors with an ohmmeter with the power supply switched on to the unit under test, unless of course, you *like* working with meters with bent pointers !

AERIAL RADIATION PATTERNS

by F. C. JUDD, G2BCX

No. 4. Part 2. FOLDED QUARTER WAVE AERIALS.

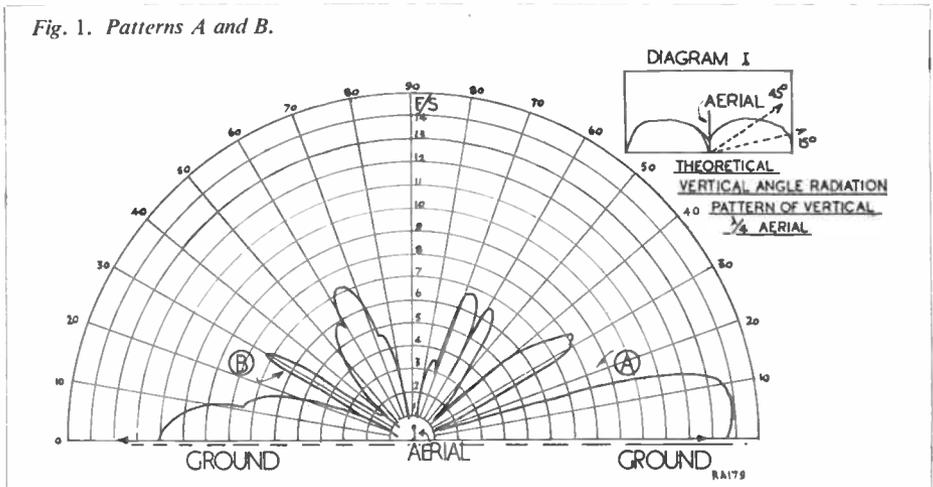
Radiation patterns No. 4 Part 1. were taken in the *horizontal plane* from quarter-wave aerials such as might be used for 160 meters. In this part, patterns of the *vertical angle* radiation from these aerials are shown, together with details of a 160 meter (and harmonic operation) quarter-wave aerial specially folded to fit into a small space. Patterns for this are shown for both 160 and 80 meters for the horizontal plane.

Vertical Angle Radiation

Part I mentioned that the vertical angle radiation from a typical inverted "L" shaped 160 meter aerial 132 ft. long was generally at low angles to the ground, and *vertically polarized*, but showed some high angle horizontally polarized radiation which accounted for Dx contacts in certain directions. The pattern A shows the vertical angle radiation from a 3000 Mcs (10 cm) model and this was taken in more or less clear surroundings. Note the strength of the ground wave in comparison with the high angle radiation which is mostly horizontally polarized and highly directive. It should be noted that if such an aerial was fully vertical the whole of the radiation would be vertically polarized and concentrated at angles near the ground as shown in the Diagram (1) inset, which is the theoretical pattern for a

vertical quarter-wave aerial. The radiation pattern B was taken from the same aerial and shows the effects of nearby buildings and telegraph wires, etc. In this case, as also for pattern A, the simulated height of the top portion of the aerial was approximately 30 ft., and it may be seen from patterns that the effect of buildings and other conductors as high as, or higher than the aerial is very marked. For 160 and 80 meter operation *only*, the aerial should be as high as possible so that the length of the vertical portion of the wire is greatest. The more vertical the aerial the stronger the ground wave. Low height makes the vertical portion shorter and the top portion longer, thus reducing the overall radiation efficiency. Where the height is limited to say, 30 to 50 ft., the radiation efficiency may be increased a little by adding spaced parallel wires to the top portion, and as an example this may consist of three or more wires spaced about 6 ins. apart and joined together at *each* end. One end will of course continue as a single wire to complete the total length of the aerial and form the down lead to the transmitter. This system was tested by the writer and showed a marked increase in field strength. The object is to increase the capacity between the top portion of the wire and earth and thus increase the *effective* height of the aerial.

Fig. 1. Patterns A and B.



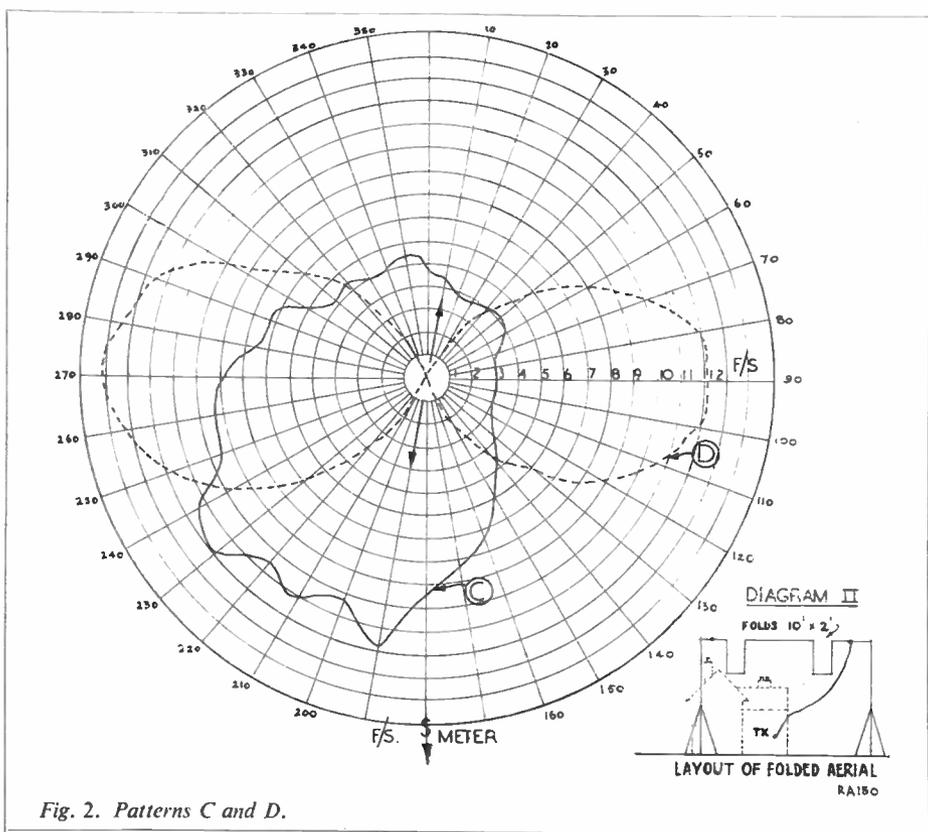


Fig. 2. Patterns C and D.

A Folded Aerial for a Small Space

Those unfortunately limited to short gardens may be interested in the following which may be varied a little to suit individual requirements. This aerial was designed by the writer and has been used consistently by G4GA (Chingford), on 160, 80, 40 and 20 meters with exceptional results. *Care must be taken in the folding and the aerial is basically a quarter-wave (132 ft. total length) for 160 meters.* It can therefore be operated as a half-wave on 80, full-wave on 40, and so on, and is tuned as any other harmonically operated aerial, viz: series tuned for 160 and parallel tuned for the higher frequencies. It may be operated against ground or a counterpoise but in practice a counterpoise approximately 50 ft. long and 6 ft. high proved best. Results will depend to some extent on local conditions and *the folding should be worked out so as to avoid having current anti-nodes at the bends.* This may not be possible for all requirements and frequencies but must be considered together with the available space, the maximum height of the aerial, and the bands likely to be used most.

In the case of the station mentioned above, and as an example, the following arrangement was used. (See Diagram 2) inset. The "lead out" from the shack had to be taken to a mast at the far end of the garden so that the aerial was in fact folded back on itself, but in this way, and including the folds in the top part of the wire, the full 132 ft. of aerial was accommodated in a garden, little more than 50 ft. long, including the space taken by the house. Although some efficiency must be lost because of folding, such an arrangement is far better than a non-resonant short length aerial. Pattern C shows the radiation at ground level for 160 meters (vertically polarized radiation) and pattern D shows the horizontally polarized radiation for second harmonic operation (80 meters). It may be seen that an almost normal half-wave aerial radiation pattern was obtained on this band and several checks with 3000 Mcs models showed that the vertical angle radiation is high, as would be expected from any low height half-wave aerial. Further checks and a field strength patten from a full size version of this aerial operating on 160 meters compared

(Contd. on p.266)

STRICTLY FOR THE BEGINNER

by O. J. RUSSELL, B.Sc., A.Inst.P., G3BHJ

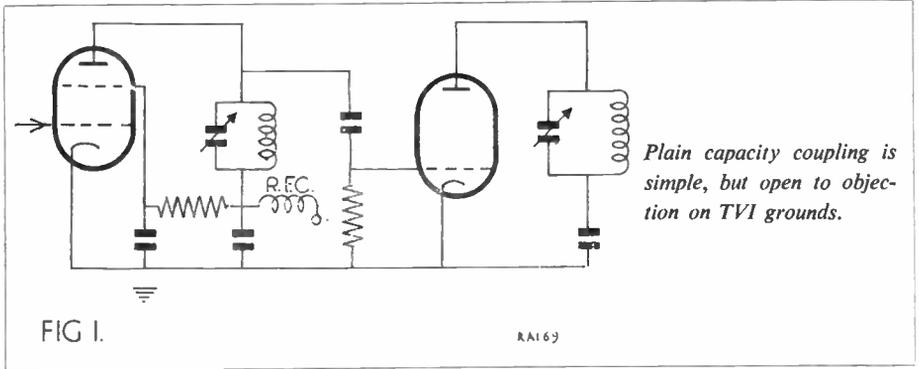
Part 7—BUFFERS and DOUBLERS—Continued

Previously the dangers of overdrive and harmonic reduction precautions were mentioned. These aspects are so important, that two further considerations may be discussed. It is clear from the curve given last month representing FR output against drive of a typical tetrode or pentode amplifier, that over a wide range of grid drive there is very little change in actual RF output. This effect is more marked still if some or all of the Class C bias is obtained by grid leak type bias. In this case an increase in drive will be offset by a corresponding increase in bias thus tending to keep RF output power level. This "self-adjusting" feature of gridleak bias is particularly valuable in conjunction with the relatively level output of a tetrode stage with variations in grid drive. The effect is that the drive output available for the final stage remains reasonably constant despite a QSY, so that critical "on the nose" adjustments of each stage are not necessary for every shift of operating frequency. It is a good plan

therefore, even if a source of fixed bias (battery or separate bias pack) is used, to provide some of the bias by grid leak. In fact one plan is to only employ enough standing fixed bias to restrict the non-transmitting inputs of the RF stages to an amount less than their rated dissipations. When drive is applied, the grid leak bias developed provides the extra bias required for Class C operating conditions. This has the merit of presenting a reasonably steady load to the power supply under keyed conditions, and where all stages, oscillator buffers and PA are supplied from a common single power pack, effectively prevents violent surges when keying. There is however a snag, and that is that with a multistage transmitter thermal noise is amplified stage by stage, so that an appreciable noise voltage is actually radiated by the final stage. This may result in a strong hiss background being heard on the station receiver which disappears when the Tx power supply is cut off! This is of course worse when the Tx is permanently connected



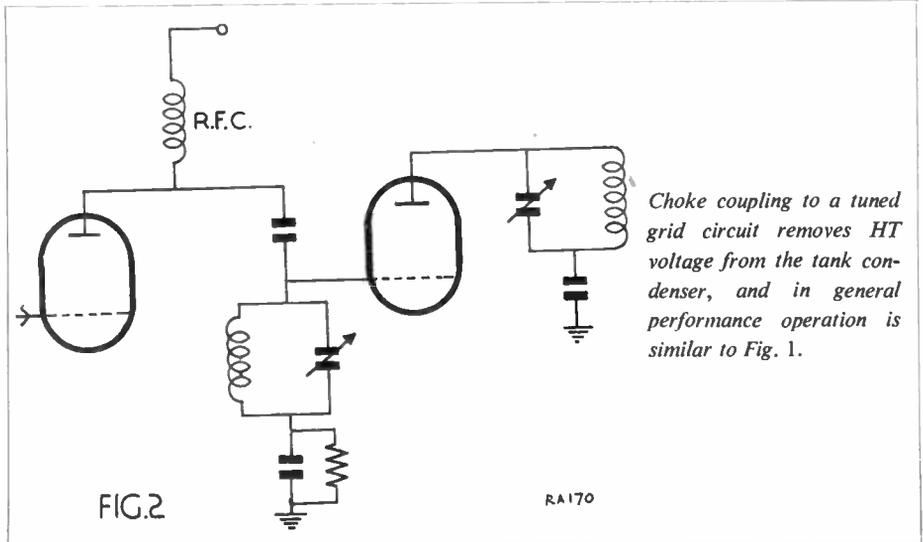
Marcel Compaignon de Marchéville, F8NH, recent President of R.E.F. considers a controversial point at Bureau 1, IARU Congress at Lausanne.

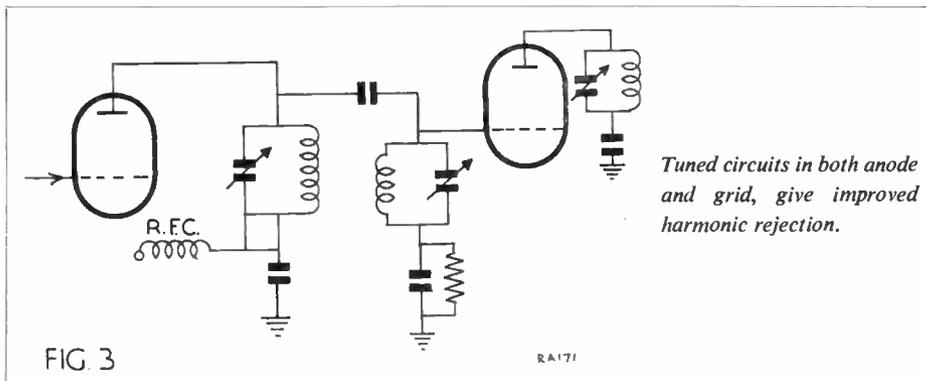


to the Tx aerial, so that the hiss is effectively radiated. If this "thermal hiss" effect is troublesome, one or more intermediate stages will have to be biased to cutoff, although a good measure of load constancy will still be obtained if the final draws current. A pair of 807s running at a radiating input of 60 to 80 watts, can comfortably draw a quiescent input of 40 watts, thus maintaining a reasonably steady power load on the power pack under all conditions. It is needless to emphasize that only a stable PA does not go off into oscillation under these conditions! However, **UNLESS** the PA is stable under these conditions, it will generate parasitics and spurious radiations when keyed even if biased to extinction without drive!

Again on aspects of harmonic suppression, the LC ratio of the buffer and multiplier tank circuits requires some consideration. It is

pointless to use a large tuning coil with only a small value of tuning capacity under the mistaken idea that this gives higher efficiency. Actually the transfer of RF power from the buffer stage tank circuit to the grid circuit of the driven stage is a problem in impedance matching. The precise value of tank tuning condenser is determined by the same considerations applying in the case of a power-delivering PA stage. However, due to the very low drive power requirements of modern RF tetrodes and pentodes, this fact has been largely overlooked, as very wide variations in efficiency of transfer still enable sensitive modern RF amplifiers to be driven to full output. This was all very well before the advent of TVI, but it is necessary to consider the harmonic reducing properties of the buffer stages tuned circuits. In general, the tank tuning capacity is preferably selected with a generous amount of "C" in order to suppress TVI producing harmonics.



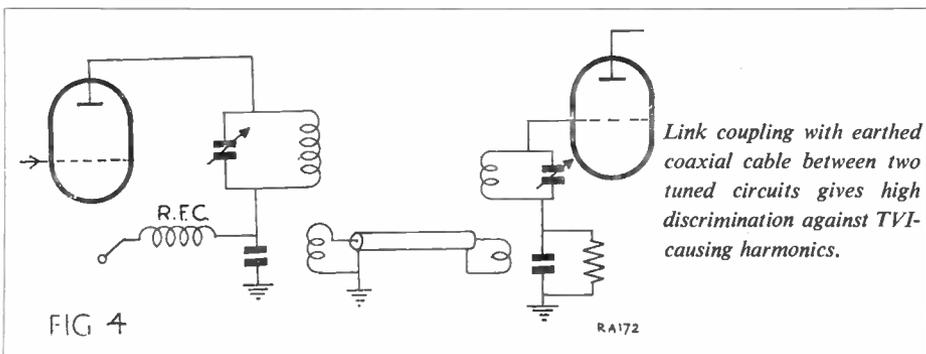


A useful rule of thumb is to employ from 2pF to 3 pF of capacity *per metre* of operating wavelength. Thus, a 40-metre tank circuit would employ 80 pF to 120 of pF capacity in circuit at resonance, and the tank coil should be pruned down ruthlessly to allow of this amount of capacity to be used. There is of course no need to employ a variable having the full tuning capacity, as a small variable may be used, with high grade silvered mica or other low-loss types of fixed condensers to pad up the tank circuit. This also has the advantage of "band spreading" the tuning on the variable capacity, so that tuning up is more comfortable. In this respect it is clear that from TVI considerations the use of a large condenser to tune two bands on one coil is a menace. On the lower frequency with plenty of capacity in circuit, TVI harmonics will be reduced. However on tuning to minimum capacity to "hit" the higher frequency band the amount of capacity becomes woefully inadequate. Consequently the rule to-day is to provide tank circuits with adequate capacity values at all stages in a transmitter. No apology is offered for frequent references to TVI, as the "facts of life" in this respect should be assimilated at the very start of the

amateur's career. Needless to say, the provision of "high-C" tank circuits is not *in itself* a cure for TVI . . . TVI is too complex a problem for so simple a cure . . . but measures reducing TVI harmonics each contribute a very worthwhile improvement to the overall task of preventing TVI. A transmitter having low TVI harmonic output is a simple problem to TVI proof compared with a transmitter crawling with powerful harmonic radiations.

With TVI problems firmly in mind, the popular buffer stage coupling circuits can be briefly considered. Fig. 1 represents the simple capacity coupling direct to the following stage grid. Its simplicity and convenience is counterbalanced by its poor rejection of TVI harmonics. Fig. 2 represents capacity coupling as in Fig. 1, but with the tuned circuit in the grid of the following stage. Its performance is similar to that of Fig. 1. In Fig. 3, both grid and anode circuits are tuned, giving a superior harmonic suppression to the previous circuits. In these first three circuits, the actual coupling capacity should be quite low; 50 pF is adequate.

Link coupling, as shown in Fig. 4 between tuned grid and anode circuits is one of the most effective harmonic suppression circuits available, as the link coupling also contributes



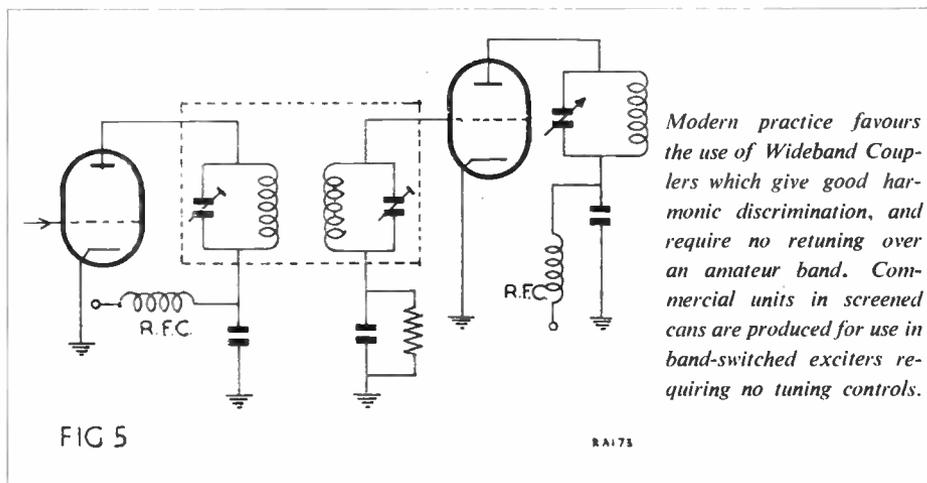


FIG 5

RA173

Modern practice favours the use of Wideband Couplers which give good harmonic discrimination, and require no retuning over an amateur band. Commercial units in screened cans are produced for use in band-switched exciters requiring no tuning controls.

to harmonic suppression as well as the combined effect of two tuned circuits. In this circuit however the earthing of one side of the link winding is essential, as this eliminates any stray capacity coupling effects that would otherwise transfer harmonic energy between the circuits. Shielded coaxial cable is ideal for connecting the link coils, particularly if the shielding is carefully earthed.

While the circuit of Fig. 4 is very effective in reducing TVI harmonics, it does have the disadvantage of requiring two adjustable tuned circuits, particularly as these may be relatively sharp in tuning with "high-C" circuits. In a Tx with two buffer/multiplier stages, use of link coupled stages will thus require five-tuned circuits to be adjusted, quite apart from the VFO and the PA grid and anode stages. This is quite a large number of knobs, even if a moderate QSY does not call for returning, and a little out of keeping with modern ideas on compact "table-top" rigs. Consequently, the preferred present-day solution is the band-pass coupling unit as shown in Fig. 5. While ostensibly a simple case of inductive coupling, the band-pass coupler is actually designed "over-coupled" so that it operates well over a band of frequencies. The band pass coupler in fact once installed, and set, operates efficiently over the whole of an amateur band without any need for adjustment. This eliminates any need for returning or adjustment of buffer stages, so that only a bandswitch is needed for changing bands. While home brewed wide band couplers are not too difficult to produce and adjust the beginner will (together with the busy amateur) save a great deal of bother by pur-

chasing the commercial amateur band set of coupler enterprisingly marketed by Labgear, together with copious technical details and circuit layouts.

Finally, the beginner is in a somewhat more favourable position nowadays than he realises. Throughout this discourse on buffers and doublers, reference has been made to "modern tetrodes and pentodes." Well, why not avail yourself when finally building that new rig of some of the very latest "bottles?" In the past, the amateur has leaned heavily upon such stalwarts as the 6V6 and the 6L6 for the driver stages. Modern tendencies towards compact table toppers demand smaller compact bottles packing as much wallop as the larger tubes such as the 6V6G. Among the modern miniature tubes . . . and they really are "tubes" rather than bottles . . . are two outstanding types, each capable of an identical input to the 6V6G. These are the Brimar 6BW6 and the Mullard EL81. Noval miniature bases, and an outstanding HF performance make them very attractive propositions, particularly as the beginner limited to 25 watts should be able to run one of these midgets very comfortably at 25 watts. An input often wasted on the 807 capable of up to 75 watts input. In fact a pair of these new tubes should be capable of up to some 75 watts input, and run very comfortably at 50 to 60 watts input A "SIMPLE RIG" as previously discussed, if designed around these compact little power-houses, would occupy very little space indeed, and indeed would be also ideal for field day, portable and "A" operation. Indeed one of the writer's "future projects" is the evolution of a design exploiting the latest tubes and components now available.

BROADCAST BANDS REVIEW

by JACK FAIRS

All Time G.M.T. "Nf"—New Frequency.

One of the most outstanding examples of radio and television engineering of all time must, without doubt, have been the superb handling by the British Broadcasting Corporation of the Coronation Broadcasts, which are, as we write these lines, only a few days behind us. Apart from the flawless timing and presentation of the commentaries, however, credit must also be due to the Short Wave services of the BBC, the British Far Eastern Broadcasting Service at Singapore, and many other Commonwealth networks, which, together with those of many foreign countries too numerous to mention, enabled this historic event to be heard in almost every corner of the world. On occasions such as this, the peoples of the Commonwealth owe much to the present-day facilities of Short Wave Radio.

EUROPE

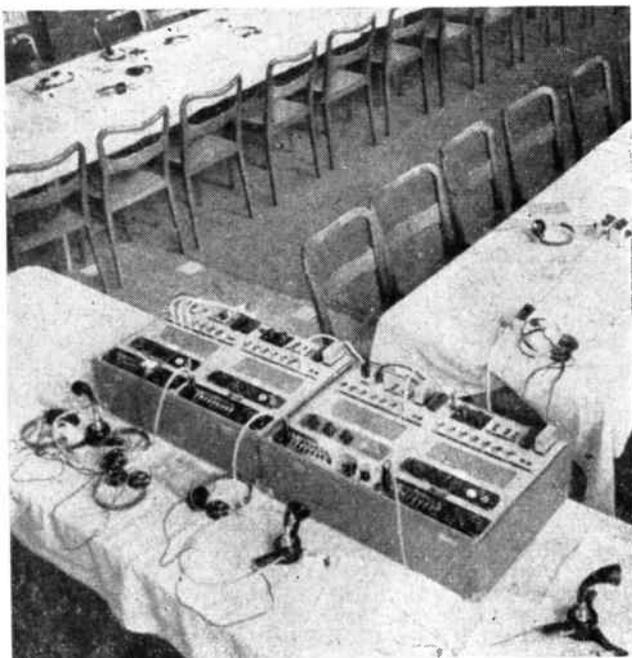
England. New BBC frequencies are 15420 and 11920 kcs, according to *World Radio Handbook*; the call-letters are not yet available. Another is 15375 kcs which relays the "Voice of America" programmes at 1500-1530,

1630-1730 and 1800-1830. (VOA Schedule.)

The Standard Frequency Station MSF at Rugby is at present heard regularly operating on 2500, 500 and 10000 kcs during the evenings at various times, and the 24-hour schedule recently forecast is perhaps in service. Transmissions consist of a 15-minute cycle: for the first five minutes a modulated carrier at 1000 cs, for the second five minutes one-second time pulses, the following four minutes has unmodulated carrier, and finally, during the 14 minute of each quarter-hour the call sign in slow morse and speech announcements are given. At 15 minutes past each hour the transmissions are interrupted for five minutes. Reports on reception are requested to the National Physical Laboratory, Teddington, Middlesex, England. (Scribe.)

Greece. The VOA Relay Station at Salonika, which has up till now confined its activities to the MW band, is now operating two transmitters as follows. All are Nfs, of course. Salonika-1, 6040 kcs at 1715-2145 and 11735 kcs at 1400-1730; Salonika-2, 7270 kcs at 1400-2145. (VOA Schedule.)

The portable switch gear used by the interpreters who provided translativo in French, German, Italian and English at the IARU Congress at Lausanne.





Janez Znidarsic, YU1AA, explains the difficulty amateurs have in obtaining equipment in his country. Capt. Kinnman, SM52D, listens attentively. Next to SM52D is Otfried Luhre, DL1KV. The XYL is Francine Mertens, OH4MF, one of the Belgian delegates to Bureau 1 Congress

“Radio Chania,” Crete, is now using 8970 kcs (Nf). (W.R.H.)

Luxembourg. The new 50 kW transmitter of “Radio Luxembourg” was due to commence broadcasting on 6090 kcs during June, carrying the French programme with an omni-directional aerial at 0540-1430 and 1545-2300. (W.R.H.)

U.S.A. in Europe. Latest frequencies heard in use by “Radio Free Europe” during the past month are 11885 kcs, noted around 1500-1615 and 15115, 15420 and 17895 kcs all around 1400-1430. (Sidney Pearce, Berkhamsted, and Scribe.) According to six QSL cards received by Sidney, 9695, 9717.5 and 11725 kcs are used by the station at Lisbon, Portugal, while the signals on 9170, 10315 and 11675 kcs emanate from Munich, Germany.

Portugal. “Emissora Nacional,” Lisbon is widely reported on 11835 kcs (Nf) from opening at 1730 to close at 2030, in parallel with 11996 kcs. (Pearce, W.R.H., Radio-Sweden and Scribe.)

Germany (Federal Republic). The regular short wave service of Nordwestdeutscher Rundfunk is now in full swing, and the present schedule is: 1030-1330 to the Far East on

15275 kcs; 1430-1730 to the Near East, 1800-2100 to Africa and 2200-0100 to South America, all over 11795 kcs; 0130-0430 to North America on 6270 and 7290 kcs. Reports should be sent to “Deutsche Welle,” Kurzwelldienst, Köln, Funkhaus NWDR, Germany, and the QSL card has a view of Cologne Cathedral. The 1800-2100 transmission is very strong indeed on 11795 kcs. (W.R.H., Pearce and Scribe.)

Spain. “La Voz de la Falange de Leon” is reported heard testing at 0015 on 6910 kcs (Nf) by Robert Mercier, Juvisy-sur-Orge, France. “Sweden Calling Dx-ers” also mentions this station on approximately 6900 kcs at 2005-2058 and at 1915, on two occasions only.

Poland. Sidney Pearce reports the English transmission for North America from “Radio Warsaw” on 6020 kcs (Nf) with strong signals at 0530-0600.

Albania. “Radio Tirana” is quoted by W.R.H. to be broadcasting on 9700 kcs every Monday at 0030-0100, a special programme for Albanians in the United States. (This may be a Nf for Tirana, or is it actually a relay by “Radio Sofia”? Scribe.)

AFRICA

Libya. Just too late to be included in last month's issue, the Forces Broadcasting Station Tripoli, commenced broadcasting on 4786 kcs (measured frequency—tho' they announce 4782) and has since been heard regularly. Strength is usually quite good from around 1845 to close at 2100 with "God Save the Queen."

Quite a number of BBC features are re-broadcast, but the CW QRM can be a nuisance at times, and a lot of musical programmes appear rather "fuzzy" and nothing better than QSA3-4. The announcement at 2100 usually runs: "This is the Forces Broadcasting Station, Tripoli. The time is now 11 pm and so we come to the end of broadcasting for to-day. We shall be returning to the air at half-past six tomorrow morning" (7 o'clock Sundays) "on 202 metres, 1486 kcs Medium Wave, and on 4782 kcs in the 60 metre-band. Goodnight everyone, Goodnight." (Bill Griffith of Ashted, Sidney Pearce and Scribe.)

Southern Rhodesia. The Department of Posts and Telegraphs, Salisbury, broadcasts on 3320 kcs (7.5 kW), 6018 kcs (7.5 kW) and 9490 kcs (300 watts). Medium Wave stations are: Salisbury 584 kcs, Bulawayo 611 kcs, Que Que 746 kcs, Gatooma 791 kcs, Umtali 980 kcs and Gwelo 1043 kcs. All MW stations are of 2 kW power. (*Universalite*, bulletin of

the Universal Radio Dx Club of California, U.S.A.)

Tangier. "Radio Africa" has returned to 7193 kcs (ex-7126) and is audible around 1530. (Pearce.)

Angola. A station located in Luanda, "Radiodiffusion Official de Angola," was heard in New Jersey, U.S.A., with an apparent test transmission on 6675, 9110 (both Nf's) and 11862 kcs. The sign-on at 1830 was announced in several languages, and stated they were the Combined Services of Radio Marconi. Transmitters are of 1 and 3 kW on the 33 and 44 meter-bands respectively, and they use 10 kW on 25 metres during the night and 1 kW on 42 metres during the day. The latter was not heard. (URDXC.) The 25 metres outlet, 11862 kcs, is of course usually announced as the "Radio Clube de Angola," but has anyone in this country logged those other frequencies?

Another URDXC report concerns the "Radio Clube de Angola" on a varying 9090 kcs, signing-off at 2232, perhaps a move of the 9470 kcs station CR6RN. In this case we can add a further move of this outlet to 9655 kcs (Nf), logged on May 16th at 2200 with weak signals that were lost in the QRM 20 minutes later. (Scribe.)

Union of South Africa. The SABC has ordered nine 20 kW SW transmitters from the

Etienne Heritier, HE9RDX who is responsible for amateur band Dx news in the Swiss Short wave Service "Dx Programme for Hams and SWL's." Radiated on the first Tuesday/Wednesday of each month, snapped in the Congress Hall.



British Marconi Corporation, which are to be installed at Paradys, near Bloemfontein. (W.R.H.)

4815 kcs is a Nf for the English Home Service of the SABC, on the air at 0445-0630 and 1530-2145. ("Sweden Calling Dx-ers.") This frequency no doubt replaces the 4800 kcs outlet. (Scribe.)

Nigeria. The Lagos station of the Nigerian Broadcasting Service is reported using 4900 kcs (Nf) in parallel with 6100 kcs at 0500 through to 2200. 4800 kcs is also in operation to close at 2000: the Regional station at Kaduna is now listed on 3330 kcs (Nf) instead of 3300. (*World Radio Handbook.*)

Egypt. Multi-language short wave transmissions will shortly be inaugurated, when news bulletins in Arabic, English, French, Italian, Spanish, Greek, Turkish, Persian and Hebrew will be radiated from the new 100 kW Tx's. (Roy Patrick, Oldham.) An Arabic programme has been found on 11967 kcs (Nf) at S9-plus strength from around 1845 until after 2230. (Scribe.)

Mozambique. The "Radio Clube de Mocambique" is using 11815 kcs (Nf) for station CR7BE (10 kW) during the summer. (W.R.H.) CR7BU, 4920 kcs, has been heard with "All Star Variety" at 1900. (Ron D. Young, Chelmsford. RX: AR88.)

NEAR EAST

Turkey. "Radio Izmir," Smyrna, is now on 6600 kcs (Nf) with 400 watts and the call is TAZ; they broadcast at 1300-1930 and until 2030 on Saturdays and Sundays. The Technical School of Istanbul is using 6690 kcs (Nf) at 1700-1800, and the Technical University of Istanbul is now on 7030 kcs (Nf) at 1815-2000 (excepting Saturdays); both stations have 200 watts output. (W.R.H.)

Kuwait. "Radio Kuwait," 5000 kcs, is still included in readers' reports this month. Bill Griffith has heard them closing on occasions at 2000, while Stanley Coppel (Belfast) plainly heard the call "Huna Kuwait" at 2030. (Note: Judging from personal experience, we can with safety say that the Dx-er who manages to squeeze a QSL from this station is mighty lucky! . . . unless, of course, they change their present policy. Anyway, MSF has made reception a little difficult these past few weeks. Scribe.)

Syria. The signals from the SBS Damascus on 11995 kcs, mentioned last month, have disappeared again. (Scribe.) W.R.H. now reports a programme for India and Pakistan at 1445-1545 on 11695 kcs (Nf), so this is, no doubt, the same transmission. Alex Mackenzie, Carlisle, lists the 11915 kcs channel, Q5 S9 with English at 2130 to close at 2230, including "Views on the News" at 2215.

Iran. The SW stations of "Radio Tehran" are: EQO 3850 kcs (20 kW), EQB 6155 kcs (2 kW), EQC 9630 kcs (20 kW) and EPB

15100 kcs (7 kW), the latter being used during the summer months only. ("Radio-Sweden.") EPB is now in operation again, and has News in English at 2000, in Russian at 2015, and closes at 2030. (Sidney Pearce.)

Other stations in Iran, reported by "Sweden Calling Dx-ers," are as follows. Tabriz ("Radio Tabriz") on 6092 kcs: 0330-0430, 1130-1330 (Fridays 0700-1030), 1330-1730. Isfahan ("Barnaoumay Radio Isfahan") on 6845 kcs: 1300-1400. Ahwaz ("Injò Ahwaz") on 7960 kcs: 1230-1430. Meshed on 8015 kcs: 1330-1630. An apparently new one is "Radio Kurdistan" on 6640 kcs which has the call "Shah-in-Shahzindabad" (Long Live the Shah) and the schedule 1130-1330, 1530-1730. (The exact location of the latter is not very clear, as Kurdistan is quite an extensive region which extends into Turkey, but during 1951 a "Kurdish National Radio" was believed operating from Kermanshah. Scribe.)

Saudi-Arabia. Djeddah has been found on a varying 6102 kcs (Nf) at 0338 in parallel with 7200 kcs, and again on 7300 kcs around 0400. (URDXC.) Sidney Pearce has heard them signing-on at 1530 with a March Anthem on 11845 kcs (listed 11850) and with severe QRM from Paris at 1600; Djeddah closes between 1600 and 1615.

ASIA

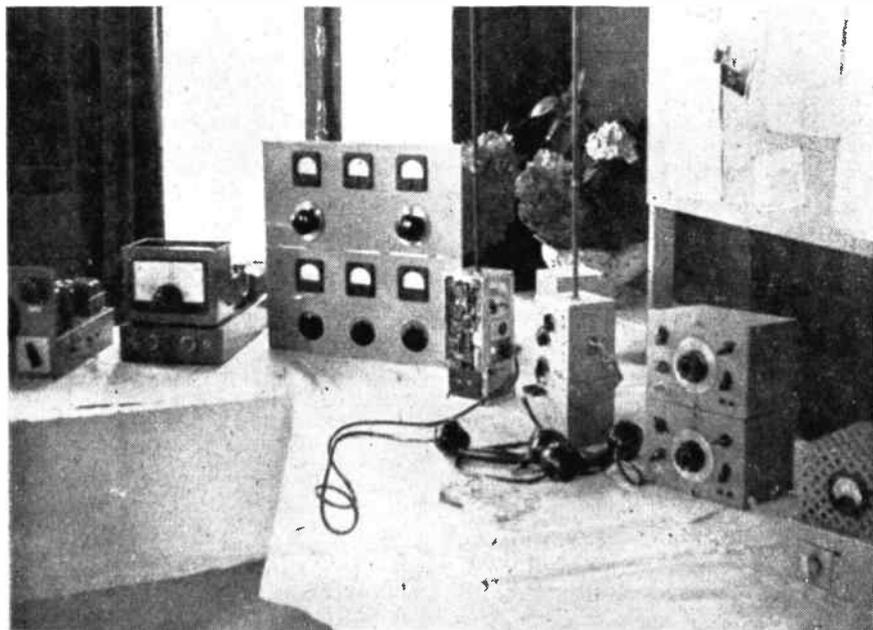
Portuguese India. "Radio Goa" broadcasts the only radio service from this colony. The Medium Wave outlet is 557 kcs and has the call sign CR8AA; CR8AB is the SW station, at present using 3425, 6025 and 9610 kcs with a power of 5 kW. (URDXC.)

Ceylon. The Commercial Service of "Radio Ceylon" was due on May 18th to add the 9520 kcs outlet to improve reception in certain areas of Asia. (Roy Patrick.) This channel was last noted here during November, 1951. (Scribe.)

India. A new frequency of All India Radio is 4760 kcs, which is used for the External Services at 1245-1315, 1345-1430, 1445-1500 and 1630-1830 for transmissions to Pakistan, Afghanistan and Persia. The English News at 1530-1545 is also broadcast on this outlet. (W.R.H.) Ron Young has been listening to the English programme at 1330-1445 on 11850 and 15380 kcs, which proved very interesting during the final phases of the Everest expedition, and a weather forecast was sent out to the Expedition daily at 1345.

Kashmir. The Kashmir Government Station at Murree, as yet unlisted, is operating on 3440 kcs at 0230-0400 and 1130-1730, and on 6250 kcs at 0730-0900. "Radio Kashmir" at Srinagar, operated by the Indian Government, is on the air at 2130-2330, 0630-1200 on 3277 kcs, and 0200-0330 on 6110 kcs. (W.R.H. and URDXC.)

Pakistan. English News Bulletins from "Radio Pakistan" have been logged as



A view of the exhibition of amateur equipment which was displayed during Bureau I Congress. As can be seen, this equipment, built by HB9 amateurs, was of a very high standard of workmanship

follows: 0700-0710 on 15270 kcs, 0830-0840 on 17710 kcs, and 1230-1240 on 17750 kcs. The Indonesian broadcast is still at 1130-1215 on 15270 and 17770 kcs. The 1515-1530 English News is now on 11674 kcs, and the dictation-speed news is at 1810 over 7010 kcs. The English programmes for Turkey are now at 1945-2030, and for the United Kingdom at 2030-2115 on 7010 and 9645 kcs. (Sidney Pearce, D. K. Cocking of Farnborough, Alex Mackenzie and Ted Classe, a newcomer, whom we welcome to this column, and who is located over there in Vienna, Austria.)

Malaya. The Forces Broadcasting Service, Singapore, on 5010 kcs uses 7.5 kW at 1200-1400, preceded by a 1 kc tuning note commencing at 1145. Present programmes are in Swahili and Chinyanja at 1200-1230, Fijian at 1300 and Nepalese to 1400; English features are being planned. (W.R.H.)

Indo-China (Vietnam). "Radio France-Asie," Saigon, now broadcasts a special transmission for Europe on 11950 kcs (Nf), in French at 1535-1600 and in English at 1600-1630. This is *not* the same programme currently

heard on 11925 kcs, which closes at 1645. (Robert Mercier.)

Thailand. Judging by the latest news from "Radio Thailand," Bangkok, it seems that this station has again changed the call signs of its transmitters, which are now given as HSK5 on 6240 kcs (1 kW), HSK7 on 11910 kcs (500 watts) and HSK8 on 15640 kcs (250 watts); the Overseas Service is radiated by omni-directional antennae on these three outlets at 1000-1125, including news in English at 1015. In addition, 7140 kcs is used for the Home Service, but no call sign is given. (Maybe HSK6? Scribe.) A new 50 kW SW transmitter is being installed, and is expected to be ready by the time these lines appear; two additional transmissions will be beamed to Europe and North America, which is something to watch out for. (W.R.H.)

Taiwan (Formosa). Despite verifying reports as operating on the old 1180 kcs channel for the European programmes, BED4 of "The Voice of Free China" at Taipei, is again heard on the announced 11920 kcs. (Or did they move again?) These programmes are now one hour

earlier, i.e. 1800-2000, but the arrangement has not been changed—see our April issue—and English is at 1820 instead of 1920 as before. (Pearce and Scribe.)

Japan. Ian Hardwick of Thames Line, New Zealand, lists the following NHK stations, all logged at the times quoted: JKM Kawachi, 4940 kcs, good at 0900; JK12 Nazaki, 9655 kcs, and JKM2 Kawachi, 9695 kcs, both fair at 0700; JK14 Tokyo, 11800 kcs, weak at 0745.

Indonesia. The English programmes of the "Voice of Indonesia" at Djakarta, 1900-200, are now on the announced 11785 kcs (YDF2) having previously been on 11770 kcs (YDF7), even though announcing the former frequency. 9710 kcs is still in parallel. (Pearce.)

South Korea. The Korean Broadcasting System is operating from Seoul on 3892.5 kcs (Nf—1kW) and 9555 kcs (300 watts); also from Pusan on 2510 kcs (1 kW) and 7935 kcs (1 kW). The call for all these stations is HLKA, and the 10 kW Tx reported earlier is not being used. (W.R.H.)

PACIFIC

Philippines. DYH4 Dumaguete City, on 6055 kcs has been logged by a listener in Texas, with English around 1300, who adds that area is Dx at his QTH. (URDXC. DYH4, which is the Silliman University Station, is super-Dx here, especially on this frequency! Scribe.)

According to current reports, "Radio Free Asia" has ceased operations.

A new station belonging to the Manila Broadcasting Company is DZ17 on 6080 kcs (1 kW); this relays MW station DZMB (760 kcs) which is "The Voice of Manila," and is on the air at 2058-1600. DZH4 on 6000 kcs, which used to relay DZMB, is now relaying DZRH (650 kcs), "The Voice of the Philippines," along with DZH2 on 9640 kcs. (N.Z. Dx Times.)

DZH9 of the Far East Broadcasting Company, Manila, 11855 kcs, is a fine signal when signing-on at 2100, announcing as in parallel with 680 kcs and on 6, 9, 15 and 17 Mcs. (D. K. Cocking.)

Papua and New Guinea. As forecast last month, VLT Port Moresby is now using 6130 kcs for all transmissions with the call sign VLT6. (*Australian Dx-ers Calling.*)

NORTH AND CENTRAL AMERICA

Canada. Station CBFW Montreal, 6090 kcs, is now permanently closed down. (W.R.H.)

United States. The two new super high-powered transmitters being built for the "Voice of America" may not, after all, be completed, according to the latest news items, and the VOA may even reduce the number of existing transmitters in service, though we note that the latest frequency schedule shows no signs of diminishing from the usual extensive pattern. However, broadcasts in French,

Portuguese and Spanish to Latin America, along with Malayan, Thai and Hebrew programmes, are to be dropped. Even the English programmes will be reduced from 5 hours 45 minutes to a mere 30 minutes per day. (We can only hope the Russian language transmissions will not be increased in duration. Oh dear—all those noises!)

Ted Classe reports KGEI Belmont on 15210 kcs in Chinese at 0200, and KCBR Delano, 15315 kcs, with AFRS Programmes and S6-7 signals at 0100-0155.

Mexico. XEKW Morelia, 6030 kcs, identifies itself as "XESF, onda larga y XEKW, seis mil treinta (6030) kilociclos, en Morelia, Michoacan, Republica de Mexico." In addition, "Morelia, Michoacan" is included in nearly every announcement. This is a further confirmation of the call letters of this station and its MW outlet (XESF); there has been lots of confusion over these two for some time now, which is usually caused by the confusing layout of their QSL card. (URDXC.)

Nicaragua. YNEQ "La Voz de la Victoria," Managua, is still on 6065 kcs. (URDXC.)

Guatemala. TGLA "La Voz de Centro America," Guatemala City, 6295 kcs, has been caught by Sidney Pearce with North American popular musicals at 0015.

British Honduras. ZIK2 Belize, 4952 kcs, has been heard to announce as "BHBS, the British Honduras Broadcasting System," and was heard in the U.S.A. to sign-off at 0202. 6100 kcs (Nf) has also been used in parallel with the 4 Mcs outlet. (URDX.)

Costa Rica. TIMC "Radio Guanacaste" on 6200 kcs, is now known to be located in the small town of Liberia (*not* Heredia), and the address is Apartado 25, reports Marvin Robbins of Indianapolis, U.S.A., who has just received their letter verification.

Robert Mercier has got a letter from his "Radio Crystal" at San Jose on 6008 kcs. The call sign is TIHB on 690 kcs MW, with a power of 3kW, and TIHBG is stated to be on 6006 kcs (tho' still heard on 6008) with 1.5 kW; TIHBG was inaugurated early in March this year, the TIHB has been on the air since 1945. Schedule is 1245-0500 weekdays, but on Sundays the only broadcasts are sports events from "Estado Nacional." The correct address is "Radio Crystal," Apartado 341, San José.

Jamaica. ZQI "Radio Jamaica" at Kingston has moved the 3360 kcs outlet to 3295 (Nf), and is heard in the U.S.A. changing over from 4950 kcs at 2315. (URDXC.)

Dominican Republic. A new station is reported by URDXC on 3375 kcs with the call sign HI4V and the announcement: "Radio Baru, La Voz del Sur." The MW call sounds like being HI3V, but the exact location has not yet been established; has been heard until 0300 at times, but signs-off at 0105 on Sundays.

Haiti. Further to "Radio Indépendance" at Les Gonaives, as mentioned in our May "Review," Robert Mercier has received a huge and heavy bundle from this station, verifying his report—the first from outside Haiti. (Good going, Robert!) Along with the letter veri were two papers, some pamphlets, photographs and some old Haitian stamps, the total postage being equivalent to 18 IRCs! The call sign is 4VGS (not the previously reported 4VGF) and the schedule is 1700-1900 and 2300-0100 daily on 6340 kcs. The Tx is a World Radio Laboratories "Globe King 400-B" running 400 watts output, and the antenna is 70 ft. long, 100 ft. high. 4VGS has agreed to have QSL cards printed, at Robert's suggestion, and up to the end of April they were still awaiting a report from any part of the Americas. The call is "Ici Radio Indépendance, Poste 4VGS, à Gonaives, République d'Haiti, Grandes Antilles." The address is: Station de Radiodiffusion 4VGS, Radio Indépendance, Les Gonaives, Haiti.

Robert continues with some information on Station 4VWA "Radio Citadelle" at Cap Haitien, which he received with a long letter verification, via air mail, from Georges Boney, one of the Station's three announcers. "Radio Citadelle" is situated in the centre of the city of Cap Haitien, and the antenna is on top of their building. Broadcasting times are 1200-1500 and 2100-0300 daily, and from 1900 on Sundays. 4VWA was inaugurated on August 15th, 1950, and until February this year they used a varying frequency of 6234-6238 kcs with their old 100-watt transmitter. Since February a more powerful Tx has been used, with better modulation, on 6300 kcs.

Guadeloupe. Station FG8AH Basse Terre has evidently moved from 7447 to a varying 9430 kcs (NF). It was first noted by U.S. Dx-ers during February, but QRM delayed positive identification; it is heard from opening at 2245 to close at 0100. The call is "Ici Basse Terre, Radiodiffusion Française" and programmes are in French with lots of French recordings and a Paris relay at 2330-2400. (URDXC.) Robert Mercier has also found FG8AH, which he lists on 9425 kcs, with good signals but heavy CW QRM at times; "La Marseillaise" is heard at sign-off at 0100, but no anthem is played when opening. Local news is read at 2320. Robert reports the call as above, but they sometimes add the words "... de la Guadeloupe."

SOUTH AMERICA

Colombia. HJBB Cucuta, 4815 kcs, announces: "Esta es, amigos, La Voz de Cucuta, afiliada con Ca-Ra-Col, HJBC onda larga y HJBB onda corta . . ." The direction from HJFV Neiva, 4855 kcs, runs: "HJFP (?) y HJFV, Emisora Radio Neiva, afiliada con Ca-Ra-Col. . . ." (URDXC.) This "Ca-Ra-

Col" is a shortened form of "Cadena Radial Colombia."

HJCT "Radiodifusora Nacional de Colombia," Bogota, was logged on a frequency near 6195 kcs (listed on 6203) at fairly good strength around 0050. (Stanley Coppel) HJCQ, 11680 kcs, in parallel with HJCT, is sometimes audible with "English by Radio" at 0030. (Sidney Pearce.)

Brazil. The new PRG9 on 9545 kcs is listed by URDXC and heard in Australia around 2215. This station is "Radio Nacional" at Sao Paulo according to the current edition of WRH, and the latest bulletins from the same source give some more details on the ever-increasing number of broadcasters in this country. We quote.

ZYR61 "Radiodifusora de Taubaté" at Taubaté, State of Sao Paulo, has moved from 48 to 4805 kcs (NF).

The new Brazilian station on 9645 kcs, which has been puzzling Dx-ers in the U.S.A. (also your Scribe!), is located at Pocos de Caldas, a town about 120 miles north of Sao Paulo and which, judging from the atlas, appears to be just within the borders of the same state. The call is "Radio Cultura de Pocos de Caldas." We logged this one a few days ago around 2200 onwards, but the level was only S3-5; both SW and MW frequencies were announced, but the call-letters were unreadable. "A Voz do Brasil" is relayed at 2230, along with all other Brazilian stations. (Scribe.)

"Radio Cultura de Araraquara," Araraquara, State of Sao Paulo, previously listed on 2480 kcs, is now reported on 2470 with the call ZYR60.

"Radio Emissora de Piratinga," Sao Paulo, should now be on the air with two new 50 kW transmitters on 9635 (ZYR64) and 11745 kcs (ZYR65).

PRD23 is the call sign allocated to the 15415 kcs (NF) station under construction for "Emissora Continental" at Niteroi, Rio de Janeiro. PRD21 of the same network was logged with news in Portuguese at 2315, followed by a musical programme. (Carl Shapiro, Belfast). The station on 11735 kcs, listed as PRD22 "Radio Cruzeiro do Sul," is still announcing "Emissora Continental." (Sidney Pearce.) (Note: How about someone checking these two, PRD21 and PRD22, to see if they are in parallel? Scribe.)

Carl Shapiro also sends the first report of "Radio Excelcior," Sao Paulo, on 9585 kcs, heard with S4-5 signals at 2200 onwards.

Argentina. Station LRM "Radio Aconcagua" at Mendoza was noted on 6180 kcs, though listed by WRH this year, as being on 6125. (Perhaps a return to the old channel?) Signals were S5 at 2315 until the call was unmistakably heard at 2330, preceded by the familiar Argentinian four-chime signal. (Scribe.)

Arthur E. Lewis, London, draws our attention to the fact that the SIRA schedule is actually in Argentine Time (three hours behind GMT) in the current WRH. To tell the truth, we hadn't noticed this, but it is worth remembering that the programme booklets issued to listeners by SIRA have always given times in Argentine Time. D. K. Cocking lists these transmissions in GMT for us, and we note that the times of the English sessions, as mentioned last month, are unchanged.

Venezuela. YVLK "Radio Rumbos," Caracas, 4970 kcs, is still a popular one these days. D. K. Cocking heard them with the latest news on boxing at 2330 (in English, we should think!), and Bill Griffith gives them Q5 S8 when closing at 0330. Stanley Coppel reports YVLK with "an extremely powerful signal" at 0030.

Chile. The 11 Mcs station of "Radio Sociedad Nacional de Minería," Santiago, which has been roaming around this band for the past few months (and last reported on 11945 kcs) is now listed by WRH on 11985 kcs, and the call has appropriately been changed to CE1198 (ex-CE1173). "Radio Yungay," Santiago, 7660 kcs, has the new call CE766 (ex-CEZ7C).

Arthur Lewis reports CE1180 "Radio Sociedad Nacional de Agricultura," Santiago, on a measured 11999 kcs around 2200; Stanley Coppel has logged this station as early as 2100, but the strength is much better by about 2300.

QSL SECTION

In response to many requests, we are re-introducing this feature, though in a condensed form to avoid useless repetition. Most listeners are only interested in which stations are currently verifying reports, rather than who receives them!

The following readers have received QSLs from the stations listed, during the past two months.

Marvin E. Robbins (Indianapolis, U.S.A.), Ian Hardwick (Thames Line, New Zealand), Robert Mercier (Juvisy-sur-Orge, France), Roy Patrick (Oldham, Lancs.), Sidney Pearce (Berkhamsted, Herts), Alex Mackenzie (Carlisle, Cumberland) and Bill Griffith (Ashtead, Surrey.)

Radio Athens. FNRI Martinique. TFI Reykjavik. ZQP Lusaka. 4XB44 Galei-Zahal. Suva. Mogadishu. Lagos. Luanda. Benguela. OAX4T Lima. CXA6 Montevideo HJAG Barranquilla. Salisbury. S.S. *Courier*. WRUL Boston. WDSI. WRCA. KWID. United Nations. VP4RD Trinidad. Rangoon. Radio Renascenca. HJDE Medellin. Belgrade. YVXJ Barquisimeto. VLQ9 Brisbane. XEQQ Mexico City. HVJ Vatican City. Luxembourg. 4VWA Cap Haitien. 4VGS Les Gonaives. TIHGB San Jose. COCY. COKG. TIMC Liberia. Djakarta. Moscow. SABC Johannes-

burg. ICRC Geneva. Radio-Norway. CP38 La Paz. Radio Pakistan. Radio New Zealand. Pekin. Tokyo. Bucharest. Radio Free Europe. NWDR Cologne. Omdurman.

CONCLUSION

Your Broadcast news (and QSLs received) are appreciated, and should be addressed to J. Fairs, 2a Durham Road, Redcar, Yorkshire, to arrive before August 4th, for inclusion in our September issue. Please note the later "deadline," but don't be *too* late! The Honour Roll will appear next month, as usual.

The Editor and your Scribe thank all readers and Dx editors overseas whose material is included in these pages, and all contributions are duly acknowledged. Re-publication of any information should be credited to *The Radio Amateur*.

73, Good Dx and Happy Holidays to you all.

Radiation Patterns. (Contd. from p. 254)

favourably with the pattern C, which was taken from a 3000 Mcs model. Patterns were also plotted for harmonic operation on 40 and 20 meters and again 3000 Mcs models were used to simulate the full-size aerial. On 40 meters the true full-wave pattern is somewhat distorted as would be expected and a pattern of the horizontally polarized wave showed a concentration toward the end of the aerial. A 20-meter model showed a similar distribution of radiation.

Results with a full-size version compared favourably with the models and despite some loss of efficiency due to folding, the aerial has proved useful for Dx, particularly on 40 meters.

Amateur Radio in Portugal. (Contd. from p. 250)

cards and any card coming addressed to "Capit6lio—Oporto" will be handed to its owner straight away. Amusement facilities such as a cinema, etc., are also available at "Capit6lio." Several receptions have been held there especially when we have had the honour of receiving foreign radio amateurs.

By this rough sketch, I hope I have given you a fair idea of what Amateur Radio is like in Portugal, and before I finish I should like to say that we shall be but too pleased to welcome any amateur from other countries to this sunny country and to have the honour of receiving any of you, too, in "Capit6lio."

WE REGRET THAT DUE TO SHORTAGE OF SPACE THE FEATURE "TALKS ON VHF" HAS HAD TO BE LEFT OVER UNTIL NEXT MONTH.

AMATEUR BANDS COMMENTARY

STAN. HERBERT

G3ATU

“Thirty days hath November, April, June and September. . . .” That leaves the others with 31, but with Dx conditions as they were for most of May, that month seemed as if it had acquired a double ration of days, each 25 hours’ long, and crammed with masses of S9 Europeans. Things, in fact, were pretty grim for most of the time. However, there were several good Dx openings on 20 and some of these were good for what we regard these days as exotic stuff.

The lower frequency bands are fast becoming noisy with Summer(?) static, resulting in the usual seasonal migration HF-wards. Fifteen metres has been quite lively on occasion and lots of people have been hearing their very first signals on 10, which has had one or two quite remarkable openings to Europe. A few week-ends ago, we were amazed to find the band chock full of strong DLs, IIs and OKs. At one time, there must have been more than a dozen different European countries rolling in; at first, we thought the receiver was on 20! One or two similar openings have occurred since and although they aren’t exactly wildly exciting, at least they serve to “keep the band warm.”

Eritrea: A Call sign Change

The administration of Eritrea has recently been taken over by Ethiopia. One result is the disappearance of the “MI3” call sign, which has been replaced by “ET2.” As far as we know at present, former “MI3’s” will keep their original station identification letters following the new prefix. As an example, MI3US is now ET2US.

How about country status? Presumably, Eritrea and Ethiopia will now count as one country, although contacts made before the changes should continue to count separately. More on this at a later date. In the mean time, if you want to know “who is where,” we suggest you regard all “ET2 plus 2” calls as Eritrean and “ET plus 1” as being Ethiopian. Of the latter, ET3Q is the only representative, currently active, we imagine.

Twenty Metres

P. M. Crawford (Darlington) popped in an early report of the various choice ones his new S750 is pulling in.

Phone plums were: KC6QY, KR6s IN and LL, JA1AA, FK8AE, TG, F18AT, CR4EA and VP3AD. Others from Martin are: W7’s QH, ELR, OQØDZ, ZS, VQ4, SVØWG (Rhodes), CX4ML, HH2FL, ZA1F, TI2OE, EL9A, OA2CI, VP5BQ, VQ4AA/P and KH6IJ.

Additionally, he logged ST1AYR, VS4YK, HS7AP and ZS7E (a peculiar collection, Martin, may we be excused for saying!)

CW conditions were quiet, but brought in CR4BG, VK3LN, 20Q, KA2AT, CX2CL, ZL1AH and UM8AR.

V. Doidge (Callington) found the band very much up and down. His two valver pulled in Phones CO2CY, CS3AC, HC1FG, HK4FV, HP1JF, PJ2A1, VP9AV. ZP and VP2KM (St. Kitts).

G. M. Sifford (Dudley) reports after many months of “no listening” (Electrical and Mechanical Engineering studies had to take first place!), but is now equipped with an 1155A and an 80-ft. long wire.

Listening is mostly 2300-0000 BST, so most signals heard are from the West. CE3CZ, CO8MP (heard also on 40, A3), CX2CL, HH3DL, HK1DZ, HP, KP4HF, PJ, LU, HX1AB, VP1AB (One “CQ” and he disappeared beneath a mass of answering Europeans), 3A2AW and a new one, 9S4AD, whose S9 “CQ” remained unanswered, helped keep him happy.

Gordon wonders whether SU stations are official and if they may be QSL’d direct. SU1MR certainly may be (QTH given below), so we think may SUIAS, but *all* other SU’s and MD5’s are under cover and should be QSL’d only through the Bureau.

The score this year, all Phone, is 21Z-66C. Zone 6 is proving elusive, but the XE’s *do* occasionally come through. (See H. J. Hill’s info in the May “Commentary”).

R. J. Holliman (Cambridge) heard Phones’ HZ1TA, OA5P, SU1AS, KP4IS, OX3BD, OD5 and a rare one, SVØWP/P (Crete—more on him later) before the Dx vanished and was replaced by short skip.

Bill Hardie (Hawick), also troubled by short skip, singles out KH6OR, KL7AFR and KL7ZG.

I. G. W. Glen (Coldingham, Berwick) is with the R.A.F. but has been on leave and so gave all bands his attention. He still finds his old favourite, “20,” the best Dx producer and snatched a new one, KR6IG (Okinawa), EA9AW, HC1FG, HK5EI, HZ1AB, LU, MI3LK (now ET2LK, we imagine), OQ5, PJ, PY7ABK and VP9L. All Phone, using an S740 and an O-V-1.

H. Lee (Oslo, Norway) reports very bad conditions on all bands. He now has a 66-ft. long wire (which is rather better than his indoor 5-metre dipole!) and picked up Phone from AP2N, KR6AC, HZ1TA, KA2AF, PJ, SU1MR, VP9AX, VQ2DG, 5EB, VS6CL, ZD2RRW and 3A2AW. And very nice, too, especially as there are six new ones in that little lot.

D. E. Nunn (Hove) sifted the Phone band and collected three new ones, HH2Y, FQ8AZ and

PZ1WJ. Other good ones were CE's 3AB and 3CZ, EA9AT, 9AX, 8AY, FM7WF, HP, KV4BD, VE7AAD, VP6MO, 6YB, 6SA, VS7GR (S8 to 9), ZP5DC, 5CP and masses of W's, bringing his score to 3OZ-109C.

S. J. Melvin (Nuneaton) writes us his first report. He uses an 1155 and a 33-ft. wire (a 14-Mcs dipole, 30-ft. high is in the offing, though) and finds conditions best after 1630.

CW catches were AP2N, FF8AG, KG4AF, KP4CC, MD5DM, MP4BEN, UG6KAA, VP6GT and VQ9QE who, if good, is very good indeed. On Phone Steve picked up EA8BB, HZ1, HC1FG, KL7AFR, 7ARD, OD5, SVØWG of Rhodes and SVØWP/P of Crete, VS2CT, ZD4BF and 9S4BS.

D. J. Newton (Catford, S.E.6), is another newcomer to these pages, having, as he puts it, "just joined the ranks of the *real* SWL, after being confined to Top Band with a battery superhet."

Having acquired a "Hambander," Dave is sampling the delights and otherwise of the HF bands and proffers CW Dx HC1FG, KP4CC, KL7ATN, TF3AB and Eu's LZ1DC and HA2TQ, with Phones KL7ADR, LU3EB, PY, SVØWG, VO6B and VQ5AU.

He would like to hear from someone who knows Catford, ("a beastly QTH, surrounded by hills !"), on how to hear S.E. Asia.

DJ1EI, heard on 40 Phone, is queried, but he is a perfectly ordinary German (in a radio sense, we mean !), the "DJ" prefix being used instead of, say, DL1AAA, etc.

R. D. Williams (Ashchurch, Glos.) sends a first report. He has been a keen listener since 1947, though and so has undoubtedly heard his share of "the good stuff."

Using an S740, he pulled in AG2AF, 2AK, CO8MB, CR4AE, FE8AY, HK1BZ, HR1BG, JA1AI, KG4AA, KH6CT, KL7, OX, SVØWP/SV9 (Crete), VE6GH, VK2OK, VP2KM, VQ4, VS2UW, VS6CL, WØWNI/VO6 and VS4GI. (Would be hottish Dx, that. Anyone know about him ?)

C. J. Goddard (Warwick) reports a fairly successful month. He has a new receiver, an S640, and having organised the band-spread, both graphically and mathematically, he is now sure of his frequencies.

Phone was heard from CT3AC, HZ1AB, 1SD, 1TA, OQØDZ, SU1MR (a most active station, these days), VQ5CB, ZD4BA (1930) and 3V8AS, with CW from CN2AD, KV4AA, LU, MP4BBE, MD5NO, SU1PP and W6LW.

R. Goodman (Edgware), still chasing Russian Phones, remarks that things are looking up somewhat, especially on 21 Mcs, but we'll deal with that band later.

On 20, his best are: AP2, CE, CR6BC, CT3AN, DU1RS, FM7WD (0100), HE9LAA, HR1KS (0700), KA, KG6AGS, KH6IJ, 6OR (0730), KR6IG (1843), VE7CN, 8MD, VK, VQ2, 4, 5, VS1EG, 2BS, VS7GR and ZD4BK.

(If anyone should chance to hear ZD4BL, that is the new call of our very good friend G2ATU, formerly of Manchester.)

R. Balister (Croxley Green) found early May good, with a tailing off towards the end. He caught some good Dx on the key, examples being CE5AW, CR4AJ, 6AO, DU7SV, FF8AG, FQ8AP, 15GO, KR6IG, 6LL, MD5, OY2Z, ST2HK, VE8AW, VO6N, VQ2GW, VU2CS, ZC4IP and VQ9MR. (More on the VQ9, anon.)

A. P. Allchin (Clacton-on-Sea) used his domestic Murphy to good effect and snagged, Phones' VS6CL, VS1EG, KA2IM, VS7, HH2AL, OA4DT, HK3AA, CX2CL, CE2CC, VP7, M1B (a new one for him) and SVØWP/SV9, who does count as a separate country. Gotaways were: KG6AAZ and VQ9A (QTH, Mahe, Seychelles. Crikey, what in the world is going on over there ? Three of these reported in one month. Is there a Convention on or something !)

H. J. Hill (Whitley Bay) found general band conditions pretty foul, and suggests that those stalwarts who made the top of Everest may well have been a bunch of exasperated SWL's, trying to find where the Dx has gone !

Phone brought Harry seven new '53 countries, CX2CL, KG4AF, SVØWP/P, TI2FG, FI8AV, SP2, GI and GW, plus the consistent SU1MR, VP7NS, VP2LR, VP3VK, VP5AB, ZE3JP, VP9BJ, OQØDZ (also a very reliable signal, we find), VS1FK and CE3AE.

Mike, of GM3IGW, on a weekend visit, took a short look on the CW end, and extracted UP2AC, FQ8AH and VQ8AN (a useful new one), from a mass of European QRM.

J. P. Corbett (Birmingham) has been grappling with a new aerial tuning unit which refuses to do its stuff. He suspects the lack of an earth connection as being the trouble. (We suggest a different coil/condenser combination might help, too.)

Phone yielded OD5AJ, MD5EB, VQ5EB (No relation !), VO2VB, 3V8AJ, OY2Z, PJ2AA, CS3AC and VP9BC (2345).

J. Whittington (Worthing) succeeded in bagging several new countries. His catches were CP1BT (2230), ET2CG, 2LV, HR1BG, SVØWP/Crete, VP5BF (Turks Islands), 3A2AW (with SM5ARP doing the talking), HI8WF, OA6C (2300), VS2CP and KH6YL. On the key, John collected KH6WW, AP2K and KX6AT (0715) and so was not unduly put out by missing KW6BB.

B. J. C. Brown (Derby), now up to 31Z-110C this year, caught the spell of good conditions and also was on during the period of extreme short skip which brought in colossal signals from all parts of Great Britain. He has been hearing CR4AJ (1700), HK5ER, HR1JM, KH6OR, 6YL (0700), KL7AFR, KZ5CR, TG9RB, TI2JV, KR6IG (1800), FF8AG,

W7AH (the last three being on CW), as well as much of the more usual DX.

R. Nixon (Stockport) has just added 10 and 15 metre convertors to his BC348 and has reached the conclusion that: (1) 15 is good; (2) 10 is awful! (We'd like his opinion of the band in another year or two, though.)

Twenty has been disappointing on the whole, with mornings producing little Dx apart from the regular KL7AFR, on most mornings, as is ZD4BF.

Roy noticed several openings to South and Central America at midday, quite usual at this time of the year. HI6EC is often to be heard about 1100/1200 BST.

Phone offerings are CE2CC, CO, CX4AR, ET2CG, FF8, FQ8, HI8WF, HK2DZ, KA2GU, 2NY, M1B, SVØWG, TI2FG, 4JG, VK6LA, VPIGM, 4AA, 5AK, 5DX, VS2ES, 2UW and ZP5. The VP1, loud and "foreign-sounding," is suspect!

R. Winters (Melton Mowbray) has heard his first 28 Mcs signals, and so put up with the erratic behaviour of 20, on which band he logged PY, SU, SVØWG, TF5TP, VP6HM, VP9, VQ2WA, VU2EH, VQ4, W2OJ/VOI, ZC4, ZD4, ZP5DC and ZS.

Richard has some interesting information on station MSF (Rugby), which has started experimental Standard Frequency transmissions on 2.5, 5, 10, 15 and 20 Mcs. Three frequencies only are broadcast simultaneously, to allow listeners to log WWV free of interference on the other channels. The station is run by The Dept. of Industrial and Scientific Research, National Physical Laboratory, Teddington, and reports, though not the mere—"Heard you S9 on so and so" kind—are welcome. Free information relating to schedules, etc., may also be obtained from the above address.

Dick Poppi (Beckenham) has become "fed up" with hearing the same old VS and VU calls! His 100-ft. long wire pulls in the Far East very efficiently, and Dick wants a change. He is after the Pacific area, to which end, diplomatic relations are being established with several garden-owning neighbours, with the object of erecting a noble wire some 400-ft. long and pointing due N. and S. (Should do a useful job, too. We await further developments with interest!)

In the meantime the following has been logged, mostly on CW: AP2N, 2R, 5B, CR9AF, DU7SV, JA1AQ, IAP, 2AD, 3AQ, KA2SQ, KH6ANK, 6IG, 6WW, 6OR, 6YL, KR6IG, 6LL, VSI's and 2's, 6AE, 6GC, 6CQ, 9AS, VU2CS, 2DL, 2GM, 2JG, 2MD, 2RC and FN8AD. (Yes, Dick, we see what you mean!)

D. L. McLean (Yeovil) was also battling with the short-skip. His latest catches, all Phone, are CP5AB (14180-2200), FF8AP, HH2PB (14270-2200), KG4AJ (14295), HPIHO,

KV4BB, OQØDZ, PJ2, SVØWG, VS2BS, 3A2AM and ST2NW.

Don recently received a QSL from KW6BD. On it '6BD relates his extremely bad luck in the recent typhoon, which destroyed his station and just about everything in it. If anyone is waiting for his card, he will be pleased to oblige on receipt of another QSL. We are glad to know that he expects to be back on the air again very shortly.

G2CMH (Yeovil Amateur Radio Club), where Don is one of the operators, worked Phones' CN8MC (Casablanca International Fair), OD5LC, PJ2AA, SU1MR, VS2BS and YV5AB and on the key, snagged SU1's SS and TQ.

N. C. Smith (Petts Wood) is the only one to report FU8AA, which excellent piece of Dx he heard on May 24th, at 0704. (W6SN told us this chap was sculling around and it's good to know he's audible in Europe.)

Other good CW Dx from Norman is in the persons of CP3CB (2000), CR5AE (1940), JA3AQ, CE5BC, ET2KW, CR9AH (1530), KR6IG, 6LL, 6KS, VU2ET and ZD6EF, a hot one heard at 1730.

Phone also includes some rare Dx, with ZK2AA (0615-0720), SVØWP/Crete. AP2N, VP5BF, PZ1WK and lots of KH6.

The score this year now stands at 38Z-175C.

Norman mentions how for a large part of the past month, the Scandinavians could be heard working all the Far Eastern Dx. We noticed it, too. Quite often, OH's could be heard giving S7 reports to JA and KR6, quite inaudible here.

G3HSL (West Hartlepool), still 100 per cent. CW, has been keeping up the good work. New ones for him were JA1AQ, VP6UN, VQ2GW, CR9AH and KL7ATN. Other Dx was YI2AM, VS7NG, VS6CG, KA2MH, HZ1HZ, VU2JG, FF8AG, MP4BBD, KV4AA, MD5, etc.

Fred now has 89C worked, so he should be knocking on the ARRL's door for a DXCC any time.

ZC4IP (Cyprus) gave us the following interesting information. George has been hearing VQ9MR (see back), who has a T4 note and a variable frequency of 14070, around which he drifts more than somewhat. Further "gen" is not yet forthcoming, so we shall just have to wait and see!

A Macquarrie Island Net is active on 14010 kcs around 0200 GMT, which is not going to be much help to "G" at that particular hour. However, the frequency is well worth watching, say in the late afternoon. Listen for VK1RL and VK1AF.

Finally, '4IP tells us to expect activity from Monaco in the shape of 3A2AY, operating July 10th to 20th. The station will be manned by G3BZL (YI3BZL), G4QK and G6LX.

G3ATU (Roker) has done a little eaves-dropping around the bands and was lucky

enough to work SVØWP/P for a new one. We contacted Ray on his return to Greece, also and gleaned the following. The station was operated from the island of Crete for two days only, May 18th, and 19th; the call sign used at first was SVØWP/P, which was soon changed to SVØWP/SV9. The transmitter was a Collins 30K, which put a formidable signal around as far as very poor conditions permitted. The aerial used was two half-waves in phase and the receiver, a very old HQ129X, proved to be the weak link. On the first evening of operation, only the stronger signals were able to get through what must have been Grade A QRM. Ray lined the receiver up fairly well on the second day, but by then things were getting touchy in the ionosphere and Dx was a difficult proposition. To cap it all, activity on the final night had to be cut short. The local electricity supply which had been falling in voltage, was suddenly switched off altogether, and that was that!

Not a single Western Hemisphere station was heard in the two days, but Ray was kept more than busy with Europe, Africa and Asia. We were listening to him for quite long periods and give him full marks for the efficient and good-natured way he managed things. All operation, by the way was on 20 Phone.

We heard FN8AD calling "CQ" on 14100 at 1545 GMT, but he was only S3 or so. More interesting is the reappearance of AC3SQ, heard very weakly working an OH at 1200 GMT on 14100. Any chance of working *him* disappeared when the AC3 was smothered by no less than three Phones—two 11's above, and a DL6 below him, working a blissful three way and probably saying how bad Dx conditions were!

We have heard AC3SQ briefly once or twice during the last three years and always on the same frequency, so if ever the Phone Boys leave the channel clear, that's where to look!

VS9AR, getting plenty of attention one evening, turns out to be in Aden, but VS9AP was heard recently calling "VS9AD, Oman, on sked." HZ1XA/MM (T4), QRH, was heard "CQ-ing" on CW. We wouldn't know about his status; General description is not unlike VQ9MR. Finally, via G3HSL from KV4AA comes yet another amended date for CEØAA/ Easter Island. Operation planned for June 15th to June 20th. If he finally made it, we hope you all got in on the good thing. If it has been delayed again, we can imagine CE3AG and the gang wishing they had embarked on the "Kon-Tiki."

Twenty-One Mcs

R. Balister caught some wonderful openings to South and Central America. On CW, he managed CP5EK (Ex-CP1AB and a staunch QSL'er), KV4AA, KZ5IL, LU3DAB, OA4C

and 9S4AL, while Phone brought in KZ5CP, TI2RC, VQ4RF and ZC4RX.

R. Goodman thinks 21 Mcs will eventually be the main Dx band. He has put up a sloping long wire for the band and with his trusty O-V-O (recently rebuilt), he listened to Phones' CE4BB (2140), EA6, HP3FL (2230), KG4AJ, KP4, KV4, KZ5, TI2RC (2300), VE1 2, 3, VP6CJ, VP9BG, VQ2, W1, 2, 3, 4, 8, 9 and Ø, ZD1SW (1930) and some North Africans.

Ron is pleased with the strength of Dx signals—none were less than S7 and lots were S9 and more. The band score is 19Z and 53C.

P. M. Crawford netted SVØWE (Athens), VQ4, ZS1JE, ZB1, PY, OD and VP5BQ on Phone, while R. J. Holliman settled for PY5UG, OD5BH, VQ4HJP and an OE.

Up in Oslo, H. Lee heard mostly Europeans, but did pick up a good one in CP5EK.

R. D. Williams found several VQ4's, VQ5CB, ZD1SW, ZD9AA and OQØDZ (Ruanda Urundi.)

C. J. Goddard, who hasn't used the band for very long, got some European CW and Phone from TA2EFA, OQ5BQ, 5NK, VQ5CB and ZS6.

J. Whittington's efforts on Phone, netted him EA6AS, ZD1SW, VQ2DT, ZC4, CS3AC (Azores), CE3CZ, AG2AF, HE9LAA and OQØDZ, with SP6XA and ZB1BJ on the key.

B. J. C. Brown has experienced mostly short skip, including DL2RO, who was heard to say he had heard ZL3JA making a "CQ" at 1900! Phone Dx for Bernard consisted of OQ5NK, ZD1SW, VQ2DT, VQ4, ZP5FI and YV1AA (2030).

R. Nixon has been trying out his converter, which is a variably-tuned RF24 unit. This, in two weeks, brought in 7Z and 24C, including AG2AF, CN2AP, PY, VQ2HA, 4AQ, 4RF (very consistent signal), TA3AA and ZP5DC.

R. Winters heard seven European countries, plus ZD1SW and OQØDZ.

D. L. McLean found the band rather down when compared with April. Phone was logged from CE3CZ, 3QK, CP5EK (1750), EA6AS, 9AR, FA8, OD, OQ5, ØDZ, PY's, TI2RC, VQ2HA, 4AA, 4AQ, 4BVF, 4ERR, 4DS, 4HJP, 4PBD and, of course, 4RF. (The list gives some idea of the way the VQ4's feel about the band!) VQ5CB, YV1AP, ZD1SW (1900), ZD2S (1840), ZD9AA, ZE2JK, ZS6 and North Africans.

Nearby G3CMH worked KV4AA on CW and, on A3, QSO's AG2AF, CE3CZ, EA6AS, 9AR, FA8, PY, ZB1, ZD2S, 4X4BO, lots of Europeans, VQ4BVF and 4RF. The latter, remarked that he had worked Europe as early as 0530, so it seems that the band can be good for Dx communication for most of the 24 hours.

N. C. Smith has now reached the impressive total of 94 countries on the band. His latest on CW include, TI, KZ, KV4, EA9 and LU8, and Phone, CE, ZP, HC, YV, TI2RC, and

VQ5CB. ZP5FI, using only 20 watts, was S9 plus on Phone.

The Other Bands

The only Dx reported this month on the 80 metre band comes from **Ron Goodman**, who did well to pick up CN8, EA, KP4UH, W's 1, 2, 3, 4, 8HRV, 9RLK, PY6RU, VE1EA, 2RM, 2AAC and YU1AG, all on Phone and all on the O-V-1 receiver. His score on the band has now reached nine zones, 38 countries.

H. Lee is county chasing. He already has all "G" counties confirmed both on 20 and 40, and in three month's work on 80, he is over half way there. On Top band, G3GGN (Phone), was the only station heard.

N. C. Smith kept a check on the now, rather poor 40-metre band, and dug out PY, LU, TI, CM, W5, ZL, KP4 and EA6 on CW.

John Whittington dug out one good piece of Dx—PZ1WX on the key. On 10, he heard SP6XA, CW (G3ATU worked him, too, for a new country on 10 !) and 11NU (Trieste) and an OK on Phone.

Also on 10, **Richard Winters**, in addition to the usual Europeans, picked up the very short skip signals of GM3JC and GC3EBK.

Bill Hardie stole a march on everyone else by pulling out the only 10-metre Dx mentioned. This was CR6BX, heard at 1800 GMT.

Having written the above, we owe an apology to B. J. C. Brown, who heard the Phone signals of LU5DS on May 7th !

Bernard logged some DX on 40 CW also, with CT2BO (2345), HH2LD (2340), VE1, W4IGH/VO4 and ZL3OQ (0500). On the same band, C. J. Goddard heard UA9CB (7040-1125), YO3RF, UQ2AN, TF3TD on CW.

John would like to see more "QSL's Rcd." news which, he remarks, gives an idea of the stations who are likely to come forward with the necessary ! (Always pleased to oblige, when space permits—see below.)

Martin Crawford mentions the way the ZL Phones still come through on 40. ZL2QI, 2AKZ and 2AAM are active, with 2QI and 2AAM looking on the LF end of 14 Mcs also and hoping to work lots of "G's."

P.M.C. remarks that PI4JG, queried by E. Parry in our May issue, would seem to be PY4JG, heard regularly on Phone.

Dx QTH's

SV0WP/SV9 Via G3HLS, or to C. Tavanotis, 17-A, Bucharest St., Athens, Greece.

SV0WE. APO 206, c/o P.M., New York, N.Y., U.S.A.

ET2WW. Box 374, Asmara, Eritrea.
ST2UU. Box 801, Khartoum. Or via RSGB.

Top Band

We apologise for an unfortunate typographical error we made last month. The new

frequencies should, of course, be 1800 to 2000 kcs, and not 1800 to 1900, as stated.

Some Recent QSL's Received

Bill Hardie has a 7 Mcs QSL from KV4BB. Card in colour, showing a photograph of the island of St. Croix.

J. Whittington: KP4EE, 4ID, 4UB (3.9 Phone), VS2BS, OQ0DZ, KB6AQ, SV0WG, MP4BBD (21 Mcs CW), CX7BH (28 Mcs), KP4KD and OH7OH (both 1.8), CT2AD, LU3CS (7 Mcs). J.W. wonders if VQ6MY QSL's. Well, he did to us !

R. J. Holliman: 5A1TO, KV4AZ.

D. L. McLean: CM2KC, CR6AG, EA9AW (7 Mcs), OD5AJ, 5AO, 5BA, VE5GF, VE3AIU (21 Mcs), VK2ID, VP9AV (21 Mcs), 9 BE, Y12AM (7 Mcs), ZS1BK (21 Mcs).

* * *

Ralph W. Kastner, writing in the URDX Club *Universalite*, remarks: "Dx reception is kind of tough and interesting." Guess he's got something there, so please send your tough and interesting reports to reach S. A. Herbert, Roker House, South Cliff, Roker, Sunderland, by July 8th. For the following month, the deadline will be August 8th.

Good Dx-pedition chasing to you all and 73.

VERON CW Proficiency Certificate
GW8WJ, J. Philip Evans, Hon. Sec. of the TOPS CW Club, sends us the following details of the CW proficiency certificate issued by VERON.

On the last Sunday in each month PA0AA will transmit code runs at 1115 GMT on 3505 kcs. The speeds will be 15, 20, 25 and 30 w.p.m. and each speed will be over a five-minute period and in plain English.

Anyone copying one full minute at these speeds will be issued with a Certificate for the highest speed copied correctly, without any aids (personal or mechanical) and should be accompanied by a signed statement to that effect. Two IRC's must also be enclosed . . . to defray costs and postage.

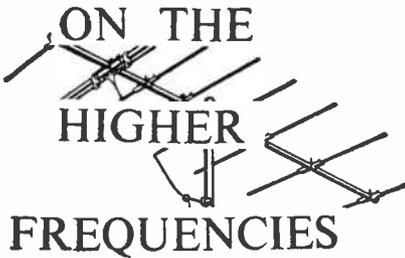
If, for example, you receive a Certificate for 20 wpm and later qualify for 25 or 30 wpm a gummed sticker will be issued.

The station PA0AA will be operated by **Tops Member PA0LR** and he has asked that as many as possible should try their hand at reading these transmissions (both amateur and SWL).

Your CW code copy should be sent to: **Traffic Manager, VERON, M. Smit, Middenduinerweg 77, Santpoort, Netherlands.**

It is requested that Hams in the U.K. keep clear of 3505 kcs at the above times and dates.

ON THE HIGHER FREQUENCIES



Monthly Notes and News

by H. E. SMITH, G6UH

Moonraking

Our first reaction to the news of the "World-shattering" feat of DL3QA and WIRFU was that it seemed far too "pat" to be true. Now it appears that two people were more surprised than we were to read of this great epic; they were DL3QA and WIRFU!! So the whole thing was just an All Fools Day hoax. We will not go into the matter of whether the hoax was in good taste or not, but it certainly does show how careful one has to be to check the facts before committing such claims to print. We had heard some of the story before our last month's issue went to press, but we decided not to publish anything until we were certain of the facts. We, in this magazine, are only concerned with *facts*, as our readers are fully aware. This subject of moon reflection is not one which should be dealt with lightly however. During late 1949 your conductor carried out schedules with ZS6GX in Johannesburg on 144 Mcs using tilted beams in the hope of obtaining reflections from the moon or meteorite clusters. Although nothing resulted from these tests, we claim to have been the first two stations making a serious effort in this direction. We should be the last to discourage anyone from making an effort to obtain reflections from the moon, in fact we are convinced that it is quite possible, *provided* suitable equipment is used. The angular diameter of the moon is roughly half a degree. Any aerial with a beam width greater than half a degree will therefore be wasteful. As many of our readers will know, it is difficult enough to build a beam with a 10-degree forward lobe, and we would suggest that the only answer would be to construct a parabolic reflector some 20 wave-lengths wide! This would entail the use of a theodolite for accurate aiming. With the $1\frac{1}{2}$ or 2 degree beam width produced by the paraboloid, the beam would require to be reset every few minutes. Taking into consideration the relative directions of rotation of the moon and the earth, the apparent angular velocity of the

moon will not exceed about a quarter of a degree per minute, the actual value depending on the height of the moon in the sky. Having made the initial line up on the moon, the time for which the moon stays within the beam is simply 4 minutes per degree beam width, provided the line up is made on the "leading edge" of the moon. If we find we have room later in these pages, we will give a few more figures relating to the amount of signal one could expect to receive back from the moon under ideal conditions. It takes a great deal to surprise us these days, but we certainly shall be very surprised if any moon reflected signals are heard from a transmitter using the maximum of 150 watts allowed in this country. It looks as though we shall have to revise our ideas on converters and think up something with a noise figure of something under 1 db? Would it not be better if we concentrated on improving our semi-local QSOs, rather than go moon-chasing? There is still much to be done in this direction. Has anyone thought of trying to send a VHF signal *through* the earth? Just think of the thrill in reading a headline like the following "F9xxx (down a mine at Rouen) works G7zz/P (in a drain at Bootle.) Perhaps it's not so fantastic as it sounds. Anyway remember that we are the first to forecast *this* one!

Down to Earth again

Most operators report poor to fair conditions this month. The weather has certainly not helped in any way, and the prize comment of the month comes from VHF listener Reg Russell down in Southampton. He says, "The rainy, squally weather from May 11th to 21st, killed all the signals and most of the activity. In fact the only thing that reached the grid of the first EC91 was *water*, coming down the co-axial cable, the top seal having broken!!" In spite of the conditions, we were glad to receive some interesting listener reports again, and these are dealt with in the appropriate section.

The QRG Lists

Thanks to the co-operation of G3BLP we are able to present another list of QRGs again this month and we are more than pleased to know that so many of you are finding them useful. Please bear in mind that these QRGs have been compiled by G3BLP over a number of years and some of the calls listed may no longer be heard on the band. John has done a grand job in keeping the list as up to date as possible and it's just impossible to keep track of who is active and who is not. However, we do thank everyone for the letters expressing appreciation of these QRG lists, and we can only repeat that it is due to the splendid co-operation of G3BLP that we are able to publish them.

Transmitter Notes and News

Many of our regular Transmitter contributors seem to have missed the post this month. Everyone is aware of the closing date for reports by this time, whether they receive a reminder or not. We rely on regular reports in order to make this VHF section interesting, and it is *your* news that the other fellow looks for. Please make a note that the closing date for all reports is the 6th of each month, direct to your conductor at 176 Station Road, Hayes, Middx. We are doing our best to help you, and co-operation would be appreciated OMs.

G2DHV (Lewisham, London, S.E.13) is working with an indoor. 4-element rotary beam and has contacted a number of semi-Dx stations including G3BEX/P, G5MA/P, G4SA, G5NF, G5UM, and many locals. It is hoped to erect a 5 over 5 Yagi beam and an 8-element Stack shortly, and the input will be increased to 50 watts on Phone. G2DHV operates on the following frequencies, 144720, 144990, 145206 and 145314 Mcs.

SWL reports from over 20 miles are welcomed. Stations heard and worked recently will be found in the "Calls Heard" section.

G3WW (Wimblington, Cambs.) went portable on May 10th assisted by G2HOP with G3BK's portable equipment some 3 miles NW. of Oakham, Rutland, on a site 637 ft. above sea level. This is believed to be the same site as used by G8KZ two or three years ago. A 4-element Yagi at 20 ft., with a 12AT7 push-pull output stage with 6 watts input, provided the signal source, and a G2IQ converter plus a Command RX the receiver. Contacts were made between 1715 and 2025 with (on Phone) G2FJR, G2FNW, G2FQP, G2UQ, G2XV, G3BK, FRE, CHO, GHU, GJZ, G5YV and G6CW. On CW, G2YB, G3BA, IUK, JEW, G8AO/MM. Stations heard but not raised, G2AVQ, G3ABH, G4SA and G6RH.

G3IIT (Trumpington, Cambridge) has been ill, but we are very pleased to hear that he has now recovered. Bernard has not quite reached the Century at the time of writing, but 19 new ones have been worked recently, G2FCL, FNW, HOP, G3AAN, ANB, EYV, FOO, GHI, HAZ, HSC, MY/P, NL, G6NU, YU, G8DV/A, PX, QY, Gw2ADZ and PAØFP. G3IIT hopes to be on Phone before this report appears.

Gw2ADZ (Llanymynech, N. Wales) sends some 70 cms notes and news, together with some more QRGs. G2FKZ, G2FNW, G3GZM and G3BKQ have all been worked recently and the skeds with the latter never fail.

G3IOO is active locally with a good receiver and beam. Details of the 70 cms schedules being run by Gw2ADZ are as follows:—

Mondays. 2000, Call CQ beamed on London for five minutes.
2030, Schedule with G3BKQ.
2200, Call Ei2W.
2215, Listen for Ei2W.
Thursdays. 2030, Test with G3BKQ.
Fridays. 2030, Test with G3BKQ.
Saturday. 0830, Call PE 1 PL.
0835, Listen for PE 1 PL.

Some 70 cms QRGs

G2BFT-433080 Mcs, G2BVW-432600 Mcs,
G2MV-436400 Mcs, G3100-432540 Mcs,
G5DT-436050 Mcs, G6YP-435740 Mcs,
Ei2W-432500 Mcs, PAØNL-435000 Mcs,
PAØJOB-434000 Mcs.

G3ANB (Brightlingsea, Essex) has been running regular lunchtime schedules with PE 1 PL who is operating spot on 144 Mcs and looking for G contacts between 1300 and 1400 BST each day, and is hoping to get on the air each Saturday between 1200 and 1500 BST. PE 1 PL can also operate on the 70 cms band. (He can receive between 430 and 436 Mcs.) G3ANB has already got a 70 cms signal across, and G3FIJ has also been successful. During the Whitsun holiday, Bill was very pleased to receive a visit from G2HCG/P who was on holiday in the area. Other welcome visitors were G2CZS and XYL. Bill sends us another very interesting extract from his Log which is indicative of his terrific activity during May. Looking through the extract we were very glad to see that G5AM of Ipswich is about on the band again.

G3ANB passes the information that the following stations are active in his area: G3FIJ and G2BCB (both of Colchester), G4OT (Nr. Maldon), G5AM (Ipswich), G4AC, G2CZS and G3WS (all of Chelmsford) and G3VI of Braintree. G3INU and G3BRW will soon be active from Clacton.

To those who find difficulty in working the semi-Dx and Dx, G3ANB offers this suggestion, "Don't rely on *Watts* or Phone for your call, just use the key a bit more, that's all."

G3DDF (Ealing, London, W.5) reports that a converter has been constructed ready for a return to the band after a very long absence. The SCR522 is being de-cobwebbed and it may well be that G3DDF will be in action again before this appears in print.

News from Ireland

Due to a fractured rib, Ei2W was not very active during May, but we are glad to learn that he has now recovered. Gm5VG was worked for the first time on June 7th, followed by QSOs with Gm3DIQ and Gm6WL. 'DIQ reported hearing G5YV and is hoping for a QSO with the Yorkshire station soon. Ei2G is building the Tx and hopes to be on shortly. Ei3Y (Ballina) will also be active in the near

future. G16VU has returned to the band after an absence of some months.

Ei2W heard G5YV on 70 cms at 1519 on May 31st, the distance being just over 200 miles. Ei2W is using an 832 tripler on 432540 kcs into a 16-element stack.

Trans-Atlantic Tests

All arrangements are complete for the tests which take place between July 4th and 12th, and the first transmission will take place at 0001 hrs. on the 4th. There will be two 10-minute CW calls and one telephony call each hour, and three 10-minute listening periods. Operation will continue night and day throughout the whole period of the test. The station at Kilkee (Co. Clare) will be equipped with a 24-element stack and a Yagi (type not stated). Ei3Y will keep in touch with the U.S.A. on 14 Mcs and relay weather and other information to Kilkee via a 2 meter link. (Whether any success is obtained or not, we congratulate all concerned in this venture, for the splendid co-operation and enthusiasm which is being shown.)

International VHF Society

At a recent meeting of the Society, the following members were appointed Honorary members in recognition of their work in the VHF field: Mr. F. J. Charman, B.E.M., G6CJ; Mr. H. E. Smith, G6UH; and Mr. W. E. Tilton, WHDQ. (Your conductor was surprised and delighted to receive this honour and would like to assure everyone concerned that his efforts in the cause of VHF will be strengthened by this most generous gesture.)

All reports by August 6th, please, direct to your conductor at 176 Station Road, Hayes, Middx. 73 and good luck to all—G6UH.

VHF LISTENER SECTION

Special Award for the Month of May

As stated in previous issues of this Journal, Mr. J. H. Gibbons, an advertiser, offered a complete kit of parts to build a converter for the best listener report covering the month of May. We therefore handed all the reports over to Mr. Gibbons for his impartial scrutiny. His verdict was that R. W. Russell had submitted the most comprehensive and detailed report. So to R. W. Russell of 7 Nightingale Grove, Southampton, goes a 4-valve converter kit, including valves. (Many congratulations OM. The kit will be dispatched direct by Mr. Gibbons.) During his examination of the listener reports, this generous donor was struck by the valiant efforts being made by Peter Blair of 31 Byron Road, Mill Hill, London, N.W.7, in getting on to the band with a super-regen plus RF stage, and logging quite a number of stations. Mr. Gibbons decided to award this listener something by way of encouragement, and Peter Blair will receive

four VHF valves (two grounded grid triodes, one 6J6 and one VHF pentode) which may assist him to build something more ambitious in the way of a converter. On behalf of our listeners we should like to extend our thanks to Mr. Gibbons, both for the awards, and for the keen interest he is showing in the VHF listener.

Our Monthly Listener Awards

Listener support in general is not yet up to the expected level, but we are no way discouraged. There are still many who think that their reports are not worth sending in because of the small number of stations logged. We once again stress that *all reports are useful*, even if no Dx has been heard, and don't forget that other listeners are interested to know what gear you are using. So *please* drop us a line and don't be shy. Now to the awards for the month. These have been increased to *Three* this month because apart from Reg Russell, who's report was outstanding, two other listeners sent in reports full of detail and interest. So to three listeners detailed below, we have pleasure in awarding to each, 1-Germanium Crystal Diode plus a VHF split stator tuning condenser.

R. W. Russell, 7 Nightingale Grove, Southampton.

M. McBrayne, 252 Hamlet Court Road, Westcliff-on-Sea.

L. A. Whitmill, 762 Kenton Lane, Harrow Weald, Middx.

Congratulations to all three. To those who have not been lucky this month, we say, keep up the good work, your report is just as much appreciated, and it may pay you to keep the reports up regularly !!

Activity Reports

R. W. Russell of Southampton, in a most comprehensive report, says that May was a disappointing month on the whole. From the 1st to the 10th with the weather bright and warm, conditions were only fair, the NE. wind preventing good conditions from developing. Signals from 100 miles or more distant were audible most evenings if you looked hard enough. The RSGB Contest came in this period and in spite of the moderate conditions, a fantastic number of stations were logged. The 7th was an interesting evening. A local depression existed over the area, with the wind suddenly changing to the SW. bringing light rain. G5YV was heard all through the rain, and signals were also heard from G8AO/MM 10 miles off Southend, as well as several medium distance stations. This shows how a *difference* in the weather over a given path will bend or deflect the rays sufficiently to enable them to be detected. On the 17th a ridge of high pressure reached the area. After heavy rain in the morning the clouds dried rapidly, and even with a strength 3 south-west wind G2AHP

was received at S7/8 during the early evening. Towards dusk the wind dropped, and during the late session many London area stations were heard, with increasing signal strengths until midnight. From the 21st until the end of the month, conditions improved with the more settled weather. On the 23rd, the band opened to the north with G5YV and G3CC audible all the evening. Another slight opening occurred on the 28th, Cambridge and Lincoln stations being audible in the late evening. *Local activity on 70 cms.* G3GOP, G3CGE, G3FAN, G3ARL and G2DDD are all fully equipped. G3FAN has worked the two Southampton stations and G2DDD is testing with G2HCG and hopes to "make it" when conditions improve.

M. McBrayne, Westcliff-on-Sea says his impression is that May was a month of low activity and consequently missed opportunities. Some of the best Dx heard during the month was extracted from a seemingly otherwise empty band. Continental reception was possible on three or four occasions during the month, and here again few G stations were there to exploit the openings. In spite of the low activity 65 stations were logged over the month, with May 3rd, as the best day of all. An RF stage has now been added to the converter in the shape of a 6AK5, (previously M.McB. used a 6J6 mixer with no RF stage) and it appears to have made very little difference to the noise level but has certainly improved the performance. Severe QSB was present on most signals during the month. The most consistent Dx signal is G5YV who appears to be audible every time he turns his beam southwards. For sheer consistency of operation however, it would be hard to beat the locals, G2BCB, G2CZS, G3ANB, G3FIJ, G4AC and G4OT. Most of them are there every day, both before and after TV, though they seldom seem to be reported. All are now turning their attention to 70 cms. Most have tripler stages built and G4OT has a receiver working.

L. A. Whitmill (Harrow Weald) reports that activity has been good for most of the month. G5MA/P was logged from Rutland on May 24th, and G8SC (Malvern) was heard on the 22nd. The grand total of stations heard has now reached 501 (Congrats OM). Activity on 70 cms has not been outstanding, only G2DD, G4KD, G5DT, and a new local G2HDZ. Len sends a nice list of Calls Heard which appear in the appropriate section.

A. W. Blandford (Mitcham, Surrey) has found conditions poor and activity low. May 24th was perhaps the best night of the month. Bert was hoping to add another county to his list when G5MA went portable in Rutland, but found he had to work that week-end and was unable to do much listening.

The grand total now stands at 517 stations heard (come on L.A.W. ! Bert is 16 in front !).

Peter Blair (Mill Hill, London, N.W.7) has at last got going on the band with a unique arrangement of a 12AT7 working as RF amplifier plus super-regen. The beam is a 3-element Yagi at 29 ft., rotatable by leaning out of the shack window and turning the pole. Since May 4th, Peter has logged 19 stations in six counties, the best being G2TP at 30 miles. He sent one report to G6YP and received a card by return of post, which, he says, shook him after his experiences on the LF bands. (We shouldn't wonder that the special award he has received will shake him still further. Hi.) Keep it up OM and we look forward to hearing from you again.

Special reminder to Listeners

Don't forget that the transatlantic tests between Ireland and the U.S.A. take place from July 4th to the 12th. It may pay you to keep the beam westwards every evening, *just in case*. Some of the American stations will be on unusually high power, and using gigantic beams. Should conditions be right, there is a good chance of signals being heard. If any listener does hear a W signal, please check the time, frequency, and any part or whole of the signal heard, and communicate the news immediately to Ei2W or the RSGB Headquarters (Telephone Holborn 7373), as these tests are important, and if a W signal is heard over here, the existing World Record will be broken by over 1,000 miles.

* * *

We should like all listener reports to be in the post by August 1st, if possible. It gives us a little more time to sort them out. Please tabulate Calls heard in numerical order, G2s, G3s, etc., and if possible, in groups up to 50 miles, 50-100 miles, etc. .

Good luck and 73 to you all.

G6UH.

QRG Section

Call sign	QTH	QRG (normal)	QRG when last heard
G2DMK	Catterick, Yorks.	144120	same
G2DPD	East Sheen, Sy.	145190	"
G2DGW	_____, Herts.	144780	"
G2DSW	South'ton, Hants.	145360	145355
G2DTO	Tooting, Lond.	144860	same
G2DVD	Slinfold, Sx.	144865	145180
G2DSP	Bognor Regis, Sx.	144210	same
G2FJD	Cambridge.	145220	144370
G2FKZ	Dulwich, Lond.	145480	145495
G2FMF	Hillingdon, Mx.	145440	144880
G2FKO	Bideford, Devon.	144450	same
G2FCV	Warrington, Lan.	144055	"
G2FFG	Sheffield, Beds.	144170	144745

THE RADIO AMATEUR

Call sign	QTH	QRG (normal)	QRG when last heard	Call sign	QTH	QRG (normal)	QRG when last heard
G2FCL	Bouldon, Yorks.	144370	' same	G3AAK/A	Crowborough, Sx.	145000	"
G2FJR	Nr. Spalding, Lincs.	144325	"	G3ABA	Coventry, War.	144720	144545
G2FNQ	Farnham, Sy.	145445	"	G3ABH	Sandbanks, Dor.	145560	145515
G2FNW	Melton Mowbray, Leics.	144380	145125	G3ADT	Wanstead, Ex.	145420	same
G2FO	Stockton, Co. Durham.	144160	same	G3AEP	—, Cambs.	144760	"
G2FPP	Sidcup, Kt.	144410	"	G3AEX	Bromley, Kt.	145220	145185
G2FQP	Ramsey, Hunts.	144740	"	G3AGA	Falmouth, Corn.	145610	144980
G2FVD	Morden Park, Sy.	145040	"	G3AGS	Manchester.	144425	same
G2FWW	Coventry, War.	VFO	144300	G3AHB	Slough, Bucks.	145335	"
G2FZR	Snodland, Kt.	145130	same	G3AHT	Oswestry, Salop.	144440	144725
G2FZU	Ilkston, Derby.	144905	144570	G3AHT	Oswestry, Salop.	144435	same
G2FTS	Nr. Hailsham, Sx.	144010	145245	G3AIU	Epsom, Sy.	145120	"
G2FXK	Walsall, Staffs.	144600	same	G3AJP	Fritton, Suff.	144720	144800
G2HCG	Northampton.	145230	144920	G3AKU	St. Ives, Hunts.	144685	144590
G2HDJ/A	—, Lancs.	144375	144920	G3ALC	Oakham, Rut.	145850	144550
G2HDY	Roehampton, Sy.	145080	145235	G3ANB	Brightlingsea, Ex.	144960	same
G2HDZ	Pinner, Mx.	144845	144900	G3AMP	Woodley, Berks.	144120	"
G2HX	Malvern, Worcs.	145360	same	G3AOP	Denton, Lancs.	144500	144110
G2HZ	Sheffield (?)	144120	"	G3APY	Kirkby, Notts.	144460	same
G2HGR	Bolton, Lancs.	144250	"	G3ARL	Sandown, I.O.W.	145340	"
G2HIR	Wantage, Berks.	144740	"	G3ASG	W. Ewell, Sy.	145070	"
G2HLF	Heathfield, Sx.	144770	"	G3ATZ	Chester.	144410	"
G2HOP	Stanford, Lancs.	144175	"	G3AUA	Dartford, Kt.	145210	"
G2IQ	Sheffield, Yorks.	144405	"	G3AUH	Codnor, Derby.	144480	"
G2JF	Nr. Ashford, Kt.	145210	"	G3AUS	Torquay, Devon.	145235	145495
G2JT	Chester.	145700	"	G9APP	Stow-in-Wold, Glos.	145650	same
G2JU	W. Wittering, Sx.	145210	"	G3ASC	Oswestry, Salop.	145070	145550
G2JZ	Kingswinford, Staffs.	145470	"	G3AVF	Torquay, Devon.	145130	145215
G2KF	Edenbridge, Kt.	144725	145205	G3AYT	Nr. Manchester.	145020	same
G2KG	Chelmsford, Ex.	145660	same	G3AZJ	Heston, Mx.	145250	"
G2LW	Sydenham, Lond.	145570	"	CALLS HEARD			
G2MA	Rother'm, Yorks.	145050	144320	R. W. Russell (Southampton)			
G2MC	Pinner, Mx.	145110	same	50-100 miles:—G2AHP, BMZ, DDD, DTO, FKZ, HCG, HCJ/P, HDZ, MV, NH, UN, YB, G3AUS, BEX/P, BLP, DJX, DKZ, FD, FUM, GBO, GDR, GHO, HXS, ION, G4RO, SA, G5BC, DS, MA, TP, G6NB, RH, G8DM, DV/A. G8SU, UH. Gw5MA/P.			
G2MM	Nr. Swindon, Wilts.	145460	"	100-150 miles:—G2FJR, XV, G3ANB, BKQ, WW, G4MW, G5ML, G6WF, G8AO/MM, G8QY/P, Gc3EBK, F8NW.			
G2MQ	Amersham, Bks.	144770	"	150-200 miles:—G4JJ/P, G5YV, G8MW.			
G2MR	Surbiton, Sy.	145050	"	Over 200 miles:—G3CC.			
G2MV	Kenley, Sy.	145450	145725	L. A. Whitmill (Harrow Weald)			
G2NH	New Malden, Sy.	144980	same	G2AHP, ANT/A, AVR, BRR, BTY, DDD, DL, DTO, DUV, FJR, FKZ, FSD, FSU, FTS, HCJ/P, HDZ, MQ, PU, RD, UJ, WA, YC, G3AEX, ASR, BEX/P, BLP, BOV, CGQ, DJX, EYV, FD, FO, FUH, FUM, FYY, GBO, GCJ, GHI, GSE, HBW, HWJ, HZK, IEX, IIR, ISA, IWA, MY/P, WW. G4AU FB, GT, RO. G5QL, RW, TP, YK, YV, G6QN, RH, TA, WU. G8AO/MA, DV/A, KZ, LN, MW, SC, TB, VR.			
G2NM	Bosham, Sx.	145400	145280?	M. McBrayne (Westcliff-on-Sea)			
G2NS	Bournemouth.	145440	same	Over 50 miles:—G2AVR, BTY, FTS, HCJ/P, XV. G3AAN, AEP, CFK, DIV, GBO, GDR,			
G2OI	Eccles, Lancs.	144410	"				
G2PU	Cambridge.	145340	"				
G2QV	Hurst Green, Sx.	145340	"				
G2RI	Leicester.	144750	"				
G2TK	Scarborough.	144600	"				
G2UJ	Tunbridge Wells.	145535	"				
G2QY	Pinner, Mx.	145035	"				
G2WJ	Dunmow, Ex.	145330	"				
G2UQ	Cambridge.	144720	144385				
G2UW	Lancing, Sx.	145025	same				
G2TP	Dorking, Sy.	145260	"				
G2XC	Portsmouth.	145320	"				
G2XV	Cambridge.	144245	"				
G2ZV	Kensington, Lon.	145060	"				
G2ZY	Hampton, Mx.	144490	"				
G3AAG	Richmond, Sy.	145910	"				

GHO, HCG, WW. G4RO, MW. G5MR, NF, TP. G6FO, NB.

Over 100 miles:—G3CC, FUM. G4SA, G5BD, YV. G8IL. F3LL. F8AA. On4HN. On4BZ. PAØFC, FP, JOB, LB, VLM, WA. P. Blair (Mill Hill)
DG2MQ, TP, WA, YC, AHP, ANT/A, DGY, DUV. G3DUE, GBO, GHI, GSE, HBW, IEX. G4GT. G6AG, YP.

A. W. Blandford (Mitcham, Surrey)

Dx and Semi-Dx only.

May 8th. G5YV. G3100.

„ 20th, G5YV. G3AAN. G2FNW.

„ 22nd, G2PU. G3GHO.

„ 23rd, G3DIV. G5YV. G8SC.
Gw2ADZ.

„ 24th, G2FTS. G2XV. G3CJY.
G3DJZ. G3EDD. G3IIT. G8SC.

„ 27th. G5YV.

„ 28th, G3BNC, G3GOB, G3WW.
G4MW. G5UF. G8CK.

G2DHV (Lewisham, London, S.E.13)

Heard, but not worked:—G2BFT, DCI HCJ/P, HDZ, HQ/P, MV, NH, RD. G3AEP, AGR, BI, CFF, CGQ, EYV, GHI, GSE, HWJ, IEX, IOO, IWA. G4GT, JJ/P, KD. G5ML, YV. G6NB, PG, RH. G8VR. Gw2ADZ. Gw5MA/P.

G3WW (Wimblington, Cambs)

Heard, but not worked:—G2AOK, FKZ, MV, YB. G3EEL, EHY. G5NV, TP, MA/P (Berks and Sussex.) G6IA. G8QY/P.

FROM OUR MAILBAG

The Editor,
"Radio Amateur,"
57 Maida Vale,
LONDON W.9

Dear OM,

You may be interested to know that I am experimenting with NBFM on 80m, here. Early reports are very satisfactory, but I have been amazed at the number of people who do not know how to receive an FM signal, despite the publicity that has been given in your, and other, journals.

Reports state that the signal compares favourably with high level anode modulation—the two systems are interchangeable at this station. The band-width is stated as no greater and the signal strength unchanged in the majority of cases. As might be expected, reception does vary between receivers. Some work better with the AVC switched off, but this does not apply to all. High selectivity seems to be an advantage, but a man using a "Command" receiver at a considerable distance reported my signal as outstandingly loud! It would appear to be up to everyone to find

out how to get the best from his own receiver.

The purpose of the change was to minimise BCI due to images received in local BC sets. With the new system there is a marked improvement, interference in most cases being reduced to nil. Any of your readers who have serious BCI trouble would be well advised to try the system.

Up to now, I have been using a reactance modulator applied to a Clapp VFO but I intend to try the diode modulator described in your last issue, probably on my top-band rig.

Reports (including listener's reports) will be welcome and I promise to QSL 100 per cent.

Yours faithfully,

R. J. Donald, G3DJD.

2, Canfield Rd.,
Brighton.

The Editor,
"The Radio Amateur,"
London, W.9

Dear Sir,

We are now taking a new and more active part in Dx activities and as we hear sometimes that there is a feeling in England against the Japanese, we would like to contact English SWL's, via your columns, so that we can encourage mutual understanding.

The following is a description of our Club. We shall be very pleased if you would be kind enough to introduce it to your readers.

The Japanese Short Wave Club is a non-commercial organisation similar to other SW clubs, but it is for SW broadcast listeners only. We publish a monthly bulletin named the *SW Dx Guide*. This is written entirely in English. It is full of up to date, correct and interesting Dx news. There is a "Among the News" feature column regularly. From time to time we publish a "Station Introduction" and "Club Introduction" feature. Many other similar articles appear from time to time. A sample copy will be sent free of charge upon request to:—Japanese Short Wave Club, P.O. Box 29, Sendai, Japan. Membership fee is 7s. or 12 IRC'S per annum.

May I conclude by saying that I find your *Radio Amateur's* contents, in every issue, are very fine and in fact, I often pick up ideas from it, which I find of help from the editorship point of view.

Yours very truly,

Kenro Wada.

Kitagobancho 48,
Sendai, Japan.

P.S. We welcome membership from any country in the world—especially from your country. For the interest of your readers may we say that Japanese QSL's can now be handled by:—J.A.R.L., P.O. Box 377, Tokyo Central, Japan.

CLUB NEWS

Club Secretaries are invited to submit notes for this feature by 15th July, for inclusion in next month's issue.

Tops CW Club. Hon. Sec.: J. Philip Evans, GW8WJ, 2 Fford Ty Newydd, Meliden, Flintshire.

There is still no official news regarding the proposed OH Certificate, but it is suggested that those who intend trying for it should work all the present OH districts and be prepared.

Readers within reach of Chester are invited to attend our meetings on Saturday, July 11th, and September, 12th. The former will commence at 1800 hours and the latter at 1500 hours. In both cases the venue will be—The Tarran Hut, YMCA Grounds, Chester—by kind permission of the Chester and District Amateur Radio Society.

The September meeting will be our Annual North-Western Topfest, and tickets for tea, etc., will be available in August. DL7AH hopes to be there this year.

SWL readers of *The Radio Amateur* may be interested to know that our members have voted in favour of allowing SWL's to join Tops as associate members. The main qualifying details are: (1) Supply QSL's from six Tops members, or (2) In cases where Tops members are not known, a Certificate of CW proficiency for at least 15 wpm from either VERON or ARRL. Although not compulsory, it will be beneficial if applicants would also enclose a "sponsorship" note from a Tops member.

In all cases an SAE should be enclosed.

Details of the VERON Code Proficiency Runs are given elsewhere in this issue of *The Radio Amateur*.

Latest recruits to the Club are: G2DZG; G2FT; G2HAW; G3AWL; G3ELZ; G3FFV; G3HVX; GM3HXI; G3IGK; G3IHR; G3ILT; G3US; G5PP; OH2MA; and OH2NB.

The Flight Section of Tops will be holding a contest on Sunday, July 26th, on 3.5 Mcs between 1800 and 2000 BST. This section is comprised almost wholly of ex-R.A.F. men. Tops members are asked to support by giving points. Non-members please note that they too, can help by giving points so, if you hear stations signing /Tops or /FL don't let it discourage you from giving them a buzz.

QPR Research Society. Hon. Sec.: J. Whitehead, 92 Rydens Avenue, Walton-on-Thames, Surrey.

Organisation of a Club QRP Contest is now being worked out, and any clubs desiring to take part, and who have not yet got into touch with the Hon. Sec., are requested to do so without delay, when full details will be sent.

This Society, having an existing organisation for the benefit of students of amateur radio, would be interested to hear from science masters of any schools in which the senior science pupils might be interested in developing a closer touch with the Amateur Radio hobby. Special facilities for collective membership of the Society are being developed to cover such cases.

We are the only organisation with an international coverage which caters solely for the interests of low power radio, both transmitters and SWL's. It is in fact unique in affording Club facilities to members resident outside the areas covered by "local" club activities.

New membership data leaflets have been prepared, and are available on application for prospective new members.

Southend and District Radio Society. Hon. Sec.: (pro tem.) J. H. Barrance, 40 Swanage Road, Southend-on-Sea.

July 25th, and 26th, are the dates of the International Radio-Controlled Models Society's Contest at Southend-on-Sea. Boats at Southchurch Park on 25th, and aeroplanes at Rochford Aerodrome on the 26th.

The Medway Radio Society hold their Hamfest on July 12th, at Chatham. Tickets: 1s. 6d., two for 2s. 6d. Their Outing to Southend is fixed for August 9th.

Our Treasurer reports that about one-third of the members have not yet paid their subscriptions this year. Don't forget, chaps, it was due last January. We don't wish to increase our worthy Treasurer's worries this Coronation year, and his 32nd year of honorary service. Incidentally, we congratulate him on the marriage of his daughter, and transmit 73 to the happy pair.

Bradford Amateur Radio Society. HQ Cambridge House, 66 Little Horton Lane. Hon. Sec.: A. R. Bailey, G3IBN, Scarr Croft, Parkside, Bingley.

The next meeting on July 7th, will be a discussion on Transmitters. Meetings commence at 7.30 p.m., preceded by Morse classes at 7 p.m. All interested in Amateur Radio welcomed.

Top Band Transmitter. (Contd. from p. 245)

The co-axial lead to the aerial is used to provide better screening, and less losses on the way.

Screened lead is used for the HT to the PA anode and screen as this makes the connection of the proposed modulator much easier, i.e. plate and screen.

Stations worked include GM31GW, G15HZ and a couple of GW's and as far south as Otford in Kent, all with a very poor aerial and about six watts, quite adequate I think, and I hope to get better results when I get a better aerial up.

Circuit values to go with the accompanying diagram.

C1. 100 pf variable cut down (see text).

C2. 160 pf Band set variable.

C3, 4. .001 μ f silver mica.

C5, 6, 10. .001 μ f mica.

C7, 8, 9. .01 μ f mica.

C11, 12. 250 pf Raymast VC 250 X.

C13. 150 pf mica.

C14. 200 pf mica.

R1. 100k $\frac{1}{2}$ W.

R2. 33k, 1W.

R3. 47k, 2W.

R4. 10k, $\frac{1}{2}$ W.

R5. 550 Ω , 2W.

RFC. 1, 2, 3. 2.5 mH, RF Chokes.

L1 : 60 Turns 28 swg on 1" dia. } close wound

L2 : 40 " 20 " " 1 $\frac{1}{2}$ " " }

M : 0-50 mA DC.

V1 : 6AC7 (or 6AG7) (no different connections).

V2 : TT11 (VT 501).

SHORT WAVE BROADCAST STATION LIST

(T) Denotes Tentative Construction.	Frequency or Station Under Construction.	Frequency or Station Under Construction.	Frequency or Station Under Construction.	(E) Denotes Experimental Channel.	(I) Denotes Inactive at the time of publication.		
(V) Denotes Frequency liable to Variation.							
Kcs	M	Call	Location	Kcs	M	Call	Location
5480	54.06		Frunze, Kirgiz S.S.R.				Innsbruck, Austria, (Fr. Zone).
5599	53.38		Stalinabad, Tadzhik S.S.R.				Belo Horizonte, Brazil.
5720	52.45		Magadan, U.S.S.R.				Bogota, Colombia.
5750 (E)	52.18	CE8AA	Santiago, Chile.			PRK5	Ankara, Turkey.
5757 (V)	52.11	PZH5	Paramaribo, Surinam.	(T)		HJKD	Manila, Philippines.
5758	52.10	YNJAT	Leon, Nicaragua.			TAN	Montevideo, Uruguay.
5770	52.00		Victoria, Seychelles.			DZH4	Bangkok, Thailand.
5780	51.90		Moscow, U.S.S.R.			CXA2	Noumea, New Caledonia.
5838	51.38	QOM4	Bissau, Port. Guinea.			HSIJS	Hollandia, Dutch New Guinea.
5842 (V)	51.35	4VHW	Port-au-Prince, Haiti.			FK8AA	
5875	51.07	TIGPH	San Jose, Costa Rica.				
5885 (V)	50.98	CR4AA	Praia, Cape Verde Is.	6001	49.99	OAX2A	Trujillo, Peru.
(V)		HRN	Tegucigalpa, Honduras Rep.	6005	49.96		Berlin (U.S. Sector), Germany.
5886 (V)	50.97	OAX4Z	Lima, Peru.				Moscow, U.S.S.R.
5890	50.93		Cape Town, South Africa.				Colon, Panama.
5900	50.84	ZNB	Mafeking, Bechuanaland.			HP5K	Vatican City.
5902	50.83	4VPL	Petionville, Haiti.	(T)		HVJ2	Montreal, Canada.
5905 (V)	50.78	OAX4V	Lima, Peru.			CFCX	Kawachi, Japan.
5912	50.74		Moscow, U.S.S.R.	6006	49.95	IJKO21	Rabat, French Morocco.
5915 (V)	50.72	HRA	Tegucigalpa, Honduras Rep.			CNR3	Colombo, Ceylon.
			Aleksandrovsk, U.S.S.R.	6008	49.93	TIHBG	San Jose, Costa Rica.
5922	50.69		Moscow, U.S.S.R.	6009	49.93	HJFC	Armenia, Colombia.
5930	50.59		Khabarovsk, U.S.S.R.	6010	49.92	GRB	Daventry, England.
			Yakutsk, U.S.S.R.				Moscow, U.S.S.R.
5932	50.57		Bucharest, Rumania.				Rome, Italy.
5940	50.51		Moscow, U.S.S.R.			OLR2A	Prague, Czechoslovakia.
		YNDG	Khabarovsk, U.S.S.R.			VUD2	New Delhi, India.
			Leon, Nicaragua.			VUD3	New Delhi, India.
5950	50.42		Moscow, U.S.S.R.			VUC2	Calcutta, India.
			Paris, France.			CJXC	Sydney, Nova Scotia, Canada.
5951 (V)	50.42	4V2S	Port-au-Prince, Haiti.			XEO1	Mexico City, Mexico.
5952	50.41	TGNA	Guatemala City, Guatemala.	6011	49.91	YSS	San Salvador, El Salvador.
5955	50.38		Warsaw, Poland.	6012	49.90	OAX4Q	Lima, Peru.
5959	30.36		Moscow, U.S.S.R.	(V)	49.88	CE601	Antofagasta, Chile.
5960	50.34	VUD	New Delhi, India.			4VM	Port-au-Prince, Haiti.
		YDO2	"Radio Free Europe."			ZOY	Courier-1 (VOA relay).
5964	50.29	OXI	Bandjarmasin, Borneo.			JKK	Accra, Gold Coast.
		HJCF	Godthaab, Greenland.	6016	49.87	PRA8	Nazaki, Japan.
5965	50.28	OAX4S	Bogota, Colombia.	6018	49.85		Lakatamia, Cyprus.
5968	50.26	HVJ	Lima, Peru.				Recif, Brazil.
5970	50.25		Vatican City.				Salisbury, Southern Rhodesia.
			Moscow, U.S.S.R.	(V)	49.83	HJXC	Bogota, Colombia.
		VUD	Ashkabad, Turkmen, S.S.R.			WRCA-1	Bound Brook, N.J., U.S.A.
		CKNA	"Radio Free Europe."			KRCA-2	Dixon, Calif., U.S.A.
		CBNX	New Delhi, India.				Kiev, Ukrainian, U.S.S.R.
(I)		ORU	Sackville, Canada.				Khaabrovsk, U.S.S.R.
		HI4T	St. Johns, Newfoundland, Canada.				Warsaw, Poland.
			Wavre-Overijse, Belgium.				"Radio Free Europe."
5973	50.24	TGTN	Ciudad Trujillo, Dominican Republic.			HROW	Tegucigalpa, Honduras Rep.
		OAX4X	Guatemala City, Guatemala.	6022	49.82	XEUW	Vera Cruz, Mexico.
5974 (V)	50.23	CP5	Lima, Peru.	6023	49.81	CR8AB	Monrovia, Liberia.
5975	50.21		Warsaw, Poland.				Goa, Goa. (Port. India.)
(V)		YSWW	La Paz, Bolivia.	6024	49.80		Colombo, Ceylon.
5980	50.16	APK	Djeddah, Saudi-Arabia.				Libreville, Fr. Equat. Africa.
			Santa Ana, El Salvador.	6025	49.79	ZYR63	Huizen, Netherlands.
			Karachi, Pakistan.			APL	Sao Paulo, Brazil.
			Moscow, U.S.S.R.				Lahore, Pakistan.
		VUD	Rome, Italy.				Kuala Lumpur, Malaya.
5981	50.15	ZFY	New Delhi, India.	6026	49.78	HI1J	Warsaw, Poland.
5985	50.12		Georgetown, British Guiana.				San Pedro de Macoris, Dominican Rep.
			"Radio Free Europe."	6030	49.75		Muhlacker, Germany. (U.S. Zone.)
		BEA9	Moscow, U.S.S.R.				Moscow, U.S.S.R.
5986	50.11	LR51	Shanghai, China.	(T)		HVJ3	Vatican City.
5990	50.08		Buenos Aires, Argentina.			DZH6	Manila, Philippines.
			Andorra la Vieja, Andorra.			HP5B	Panama City, Panama.
			Moscow, U.S.S.R.			XEKW	Morelia, Mexico.
		APK2	Karachi, Pakistan.			CFVP	Calgary, Canada.
		VUD	New Delhi, India.	6035	49.71	GWS	Daventry, England.
		TGJA	Guatemala City, Guatemala.			3AM3	Monte Carlo, Monaco.
		TIQ	Puerto Limon, Costa Rica.				Moscow, U.S.S.R.
		HC6GY	Ambato, Ecuador.				Karachi, Pakistan.
5995	50.04		Warsaw, Poland.				Rangoon, Burma.
		HOSO	Panama City, Panama.				
(E)			Suva, Fiji Is.				
6000	50.00	ORU	Moscow, U.S.S.R.				
			Wavre-Overijse, Belgium.				

TO BE CONTINUED

SMALL ADVERTISEMENTS

Readers' small advertisements will be accepted at 2d. per word, minimum charge 2s. Trade advertisements will be accepted at 6d. per word, minimum charge 6s. If a Box number is required, an additional charge of 1/- will be made. Terms: Cash with order. All copy must be in hand by the 12th of the month for insertion in the following month's issue.

PRIVATE

Premier model Tape Recorder for sale complete with Ronette ball-type crystal microphone, spares, record and erase heads, 2 valves and oscillator coil. £25 or near offer. Anersley, 46 Lawrence Avenue, London, E.12.

Large Console Cabinet, suitable television £8; 12-valve chassis £10; Radio magazines. SAE to L. Marks, 14 Avenue Road, Kingston, Surrey.

Advance Signal Generator Model E2 for sale. New, unused and perfect. Complete with accessories and instructions. Offers above £20. Rice, 68 Vernon Drive, Stanmore, Middx.

Test Set 73 converted scope £9; R1132 complete 65s.; Atkins Valve Tester £9. Carriage paid. Bryant, 26 West Street, Cromer, Norfolk.

Modified 1355 for Alexandra Palace and RF25 for sale. Good picture. All wave coil pack, new. The lot, £2 5s. Box No. C 129.

"Electro Dynamic" Converter 230 DC, 230/250 AC, soundproof case, designed for television. As new, £18. Beal, 1 St. Helens Road, Sheerness.

Ferranti T12/46 Tube with Mask and Focus Ring NB 109/1, £6 10s. Newnes *Radio and Television*, £4. Burgoyne Solder Gun, less bits, £1 10s. Box No. C 131.

Aerialite 63A Holme Moss aerial for sale, complete, £4, carriage free. K. Murray, 8 Manor Road, Longbenton, Newcastle upon Tyne, 7.

Premier magnetic 9 in., TV, working, complete, spare set valves, no cabinet, £18. Also over 200 various valves, new and Ex Govt; Radio and TV components. SAE for details, S.W. London. Box No. C 132.

12-inch static tube with mounting for sale, also timbase with valves including sync separator. Best offer over £5. H. G. Weston, 16 Pitfold Road, Lee, S.E.12. Phone: Lee Green 5702.

Eddystone S640 for sale, choice of two, mint condition, matching speakers, two German receivers and spares, model 18 receiver. Offers, buyer collects. Fawkes, St. Chole Green, Amberley, Stroud, Glos.

Eddystone S640 RX and matching loudspeaker for sale, £20. AVO 1948 type All Wave Oscillator £9; EX-R.A.F. Test Set Type 73 (see May *Radio Constructor*) mains driven scope £7; all above in mint condition. Also 1938 Ekco TSC 102 TV Console chassis, power supply and Time Base Chassis and Mazda CRM71 CRT, in perfect order but requires rebuilding of receiver chassis, £10 complete with manufacturers servicing sheets and circuit diagrams. (Appointments to demonstrate—no dealers please.) Nearest offers within 10 days or exchange photographic equipment to D. R. Edwards, 333 Greenwrythe Lane, Carshalton, Surrey.

WANTED, to buy, Service Manual for Bush TV22. Box No. C 130.

WANTED, *Practical Wireless*, February issue 1946. Prowse, 5 Tresluggan Road, St. Budeaux, Plymouth, Devon.

TRADE

RADIO CONTROL THAT MODEL. Circuits, methods (state requirements), and unlimited advice, details 3s. 6d. All information from Wavemaster Kits supplied. Carter, A.M.I.E.T., 101A, High Street, Harlesden, London, N.W.10.

BLUEPRINTS. High Gain 10 Metre Converter, with a de-luxe circuit comprising EF91 RF stage, ECC91 double triode mixer and oscillator, EF92 IF amplifier, with stabilised voltage supply via a 7475. 1s. 8d. post free with full instructions. A.S.W.P., 57 Maida Vale, London, W.9.

JOIN THE ISWL. Free services to members include QSL Bureau, Translation, Technical and Identification depts. Dx certificates, contests and activities for the SWL. Monthly magazine "MONITOR," containing articles of general interest to the SWL and League member. Membership 10s. 6d. per annum. 86 Barringer Road, London, N.10.

AMATEUR STATION RECORD CARDS. 6 in. by 4 in., best quality card, for recording that QSO and full details of the contact. An invaluable aid to quick reference of stations worked, etc., 3s. per 100 from Data Publications, 57, Maida Vale, London, W.9.

METALWORK. All types cabinets, chassis, racks, etc., to your own specifications. Philpott's Metalworks, Ltd. (Dept. R.A.), Chapman Street, Loughborough. "GLOBE-KING" (Regd.) Miniature Single Valve Receiver gets real DX—Amateur Radio enthusiasts should send for free copy of interesting literature and catalogue (enclose stamp for postage). Write to makers: Johnson (Radio), 46 Friar Street, Worcester.

BOOKBINDING. Volumes of Radio Constructor and Radio Amateur fully bound, imitation leather, gold lettering. 7s. 6d. post free. Prices for other publications on application. Jerome Alcock, CHEADLE, Stoke-on-Trent.

Announcement

New Service for the Amateur and Experimenter

A stamped addressed envelope will bring you details of the new series of blue-prints of aerial tested circuits, from single valve to six and seven valve super-hets. In the near future, kits of parts will be offered, both for the home constructor and the Amateur Transmitter and Receiver. Coming off the drawing board shortly is a simple Communications Receiver circuit. Further announcements will be made shortly concerning equipment for the T/A home constructor, including wide ban pre-amplifiers, etc., at prices which will be right for you pocket. Get your name and address on the files NOW by sending your S.A.E. to J.H.G. Box No. C 107.

Miller's "PANL"—the air drying black crackle enamel. From dealers 3s 6d jar or direct 4s 6d including postage —8 Kenton Park Crescent, Kenton, Middx.

OAK TYPE SWITCH SERVICE. Multi-Way Switches made to specification, approx. cost 2/6 Clicker Plate + 2/- per wafer. Box No. C 117.

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THE EDITOR invites original contributions on short wave radio subjects. All material used will be paid for. Articles should be clearly written, preferably typewritten, and photographs should be clear and sharp. Diagrams need not be large or perfectly drawn, as our draughtsmen will redraw in most cases, but relevant information should be included. All MSS must be accompanied by a stamped addressed envelope for reply or return. Each item must bear the sender's name and address.

Component Review. Manufacturers, publishers, etc., are invited to submit samples or information of new products for review in the section.

CHEQUES and Postal Orders to be made payable to Data Publications.

ALL CORRESPONDENCE should be addressed to "The Radio Amateur," 57 Maida Vale, Paddington, London, W.9. Telephone CUN. 6518.

BOOKS FOR THE TV ENTHUSIAST



"... A book that should be in every television dealers service workshop, and in every home-constructor's, for that matter."

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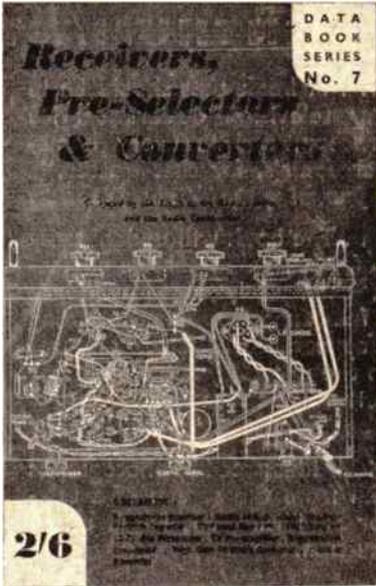
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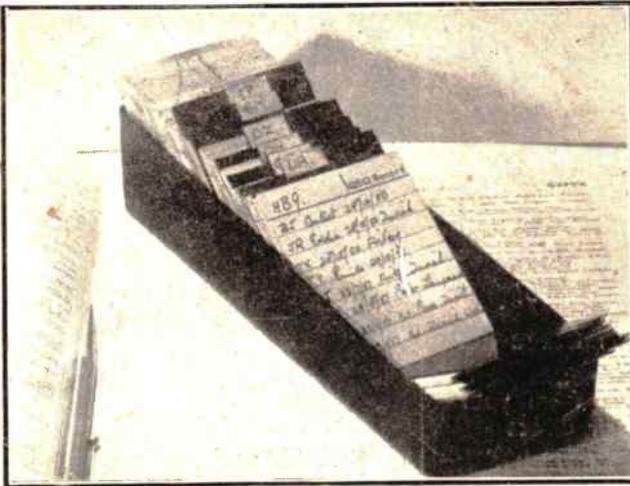


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