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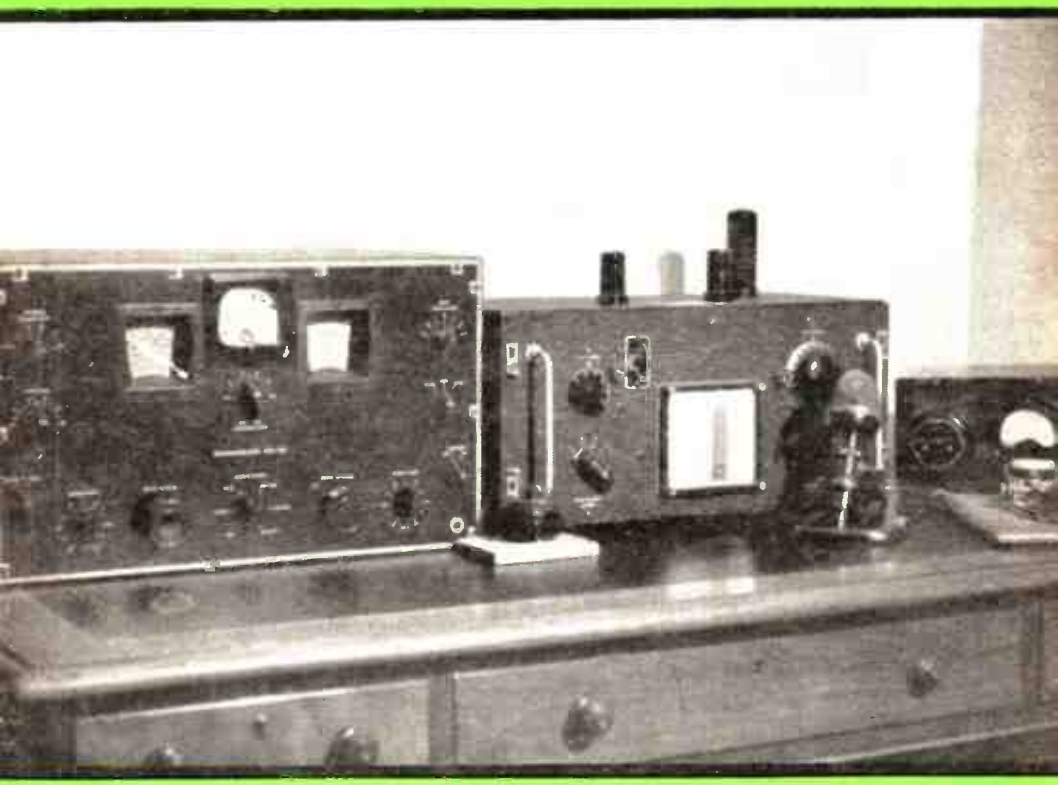
1953

The RADIO AMATEUR

FOR THE TRANSMITTER AND LISTENER



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The RADIO AMATEUR

Vol. 8 No. 3
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incorporating " SHORT WAVE NEWS "

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EDITORIAL

Thoughts on the Flood

We would like to add our condolences to the many which have already been expressed to the victims of the disastrous floods which swept the East Coast at the beginning of February. This editorial is being written just as the clearing-up begins and the magnitude of the damage is being realised. Your editor was very much in the centre of things and one of the chief memories he retains is that of the frustration resulting from failure of communications and public services. No electricity, no gas and no 'phone. Where some of the special services such as the police and ambulances were equipped with radiotelephony the value of this means of communication stood out a mile ! It is too early yet to know whether any radio amateurs were able to establish communication links, but had they been able to, their services must have been very welcome indeed.

We believe that the question of amateur radio communication assistance was discussed officially some years ago in relation to Civil Defence needs, but was turned down. Fortunately, disasters such as these floods rarely happen in this country and amateurs here have not given the attention to emergency communications which our colleagues in America have done. Whether official blessing or not is given to amateur participation in establishing such communications, there is nothing to prevent us from organising ourselves locally—or nationally for that matter.

We would suggest that clubs and groups—and individuals in isolated areas, which still do exist, even in this country—consider equipping themselves with low power gear which is reasonably portable and is not dependent on mains supply. We would suggest that the 28 Mcs band is the most suitable band for such work at present and we would further suggest that all the local QSO's which take place on the 3.5, 7 and 14 Mcs bands, be transferred to this band. Low power, whip aerials and alternative power supplies to the mains are the requirements and—if used for local QSO'ing—the gear would not stand idle until required for a similar emergency which everyone who has experienced this affair sincerely hopes will not happen for a very long time. But you can never tell ! Some predetermined " net " which could have been opened up immediately, or even three or four " walkie-talkies " would have been so useful. But there just wasn't time to rig anything up ! And there won't be next time, either !

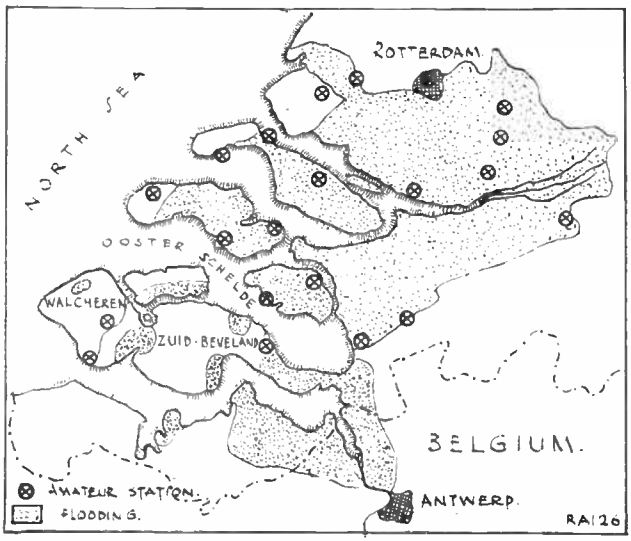
G2UK.

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.



OPERATION "SEA INVASION"

THE FIRST ACCOUNT OF THE Amateur Radio Communication in the Dutch Floods

by

PAØXE

Our correspondent, Evert Kaleveld, PAØXE, sends us this account of the part played by Dutch Amateur Radio stations in the recent floods in Holland.

February 1st, 1953 : a black day in the history of South Eastern England ; a very black day for Western Holland ; a date which will be remembered for a very long time in both countries.

The western part of Holland consists for the most part of land reclaimed from the sea. It is protected against it by high and strong dykes, of which there are generally three : a 'waker,' the first dyke ; a 'sleeper,' the second dyke and the third and last, the 'dreamer.' This part of Holland is very fertile, wheat and potatoes being grown in abundance and a great number of cattle are reared on its marshes. The area is densely populated by a hard-working people who are always ready to defend their land against their arch enemy—the sea.

But on this February 1st, the sea saw its chance : a spring-tide, together with a very heavy and long-standing northern gale were its allies and their combined attack on the dykes was victorious ! In numerous places the dykes gave way, the sea rushed in sweeping away houses and barns, drowning cattle and surprising unsuspecting inhabitants in their sleep. The map shown herewith will give an indication of the scale of the calamity : a calamity greater than any other ever encountered in Holland in peace-time.

Rescue work started immediately : the whole of Holland, strongly supported by the whole of the Western world, came to the relief of drowning people, often residing on roof-tops or in trees.

But where should the rescuers go first ? Where was help needed most ? What were the possibilities on this stretch of water with its occasional dry patches of ground ? No one knew, there was no communication at all, no military aircraft could make reconnaissance flights as all the flying personnel were either on weekend leave or had orders not to fly on Sundays—and it took some cutting of red tape, especially on a Sunday, to withdraw that order.

But radio amateurs were on the alert. PAØPN on Walcheren, was one of the first to come on the air, sending out distress calls from his badly stricken area. And so was PAØJLA in Raamsdonkveer. He saved his transmitter from an untimely death by dragging it upstairs to the highest part of his house and joined forces with PAØPN to give details about his part of the world. The BRD, or Byrondere

Radio Dieust, a special radio service which is part of the Dutch GPO and works together with amateur radio stations, immediately got hold of the situation and did its job very well indeed. Its able chief, PA1JF—the " 1 " indicates that he is an official station—Mr. Van Schendel, arranged with the help of amateurs in the Hague a system of three stations ; PAØGVB, the central station and two secondary stations, PAØYG 1 and PAØYG 2. These were manned by amateurs and consisted entirely of amateur gear, all working on a frequency of 3700 kcs, which was declared a distress frequency.

At the same time, PAØNOL joined by other amateurs, established a radio station for the Red Cross force which went to Rotterdam, the evacuation centre.

These were the three main stations for flood traffic. All were equipped with direct telephone lines to officials so that all messages received could be immediately dispatched to the official concerned.

In the meantime, many other stations in the stricken areas had managed to get themselves on the air again, often under very difficult circumstances, as most stations were built for mains operation only and of course there were no mains available. But as this was the only way of communicating with 'dry land,' everything possible was done to get these stations on the air. The frequencies used were those around 3700 kcs. and every call put out was ably intercepted by the amateur stations that were controlling the emergency net. PAØGUB looked after " official " work and PAØNOL handled Red Cross traffic, the whole system being brought into service within 24 hours.

Calls were made by the GPO for radio amateurs to go to the stricken areas with portable equipment and the next few days saw about 20 amateur stations together with more than 50 operators answering this call and volunteering for immediate service. They were distributed according to directions from the BRD and either flown or carried by DUKWS to their destinations.

How important amateur radio work was may be realised by the following story. The island of Schonwen was completely flooded. By Sunday night no one knew this as no word had been heard from the island. But a local radio service engineer worked like mad on an emergency transmitter—a one tube ECO with grid modulation—and in the evening he had it going, with a receiving valve and a tank coil wound around a bottle. As " emergency sender Zurihzee " he went on the air, was intercepted and did very useful work. After a few days, the call PAØZRK was allotted to him.

Later on, ships stations, army stations and airfield stations joined in the relief work, but they were all following directions from the amateur station in control of the net and they were often manned by auxiliary forces of amateurs so that they could operate a full 24 hours a day. The relief work was not always easy. PAØPQ was working alone in his busy and extremely important position at the lighthouse of Haamstede. After more than two days and nights he collapsed and it was then even more apparent how useful he had been. He was needed badly and was being called frantically by the whole of the network, but no reply could be got from him.

Flood relief traffic was not only handled on amateur frequencies. For instance, a Dutch importer lent a number of Pye 73 Mcs sets and these were used to great success. The main station was again PAØNOL in Rotterdam, being nearer than the Hague and much traffic was handled by amateurs on these frequencies.

Many foreign stations also lent help. I do not refer only to those very courteous ones who immediately kept clear of the emergency net frequencies or to those who assisted by asking those ignorant ones to keep clear but also to IINT, the Red Cross station in Milan, who came through daily to ask what was needed that Holland could not and maybe Italy could supply.

Monday night, February 9th, the emergency net was officially closed by BRD. Every operator was thanked over the air for his co-operation and a special and personal vote of thanks came from the Postmaster General. And it warmed the hearts and chill feet of all amateurs to hear our Prime Minister state officially in a declaration from the Government to our " House of Commons " :—

> " I should like to call your special attention to the excellent work that the radio amateurs did in providing us with immediate communications in the stricken parts of Holland, parts that would otherwise have been cut off completely until a very much later date. They deserve our warmest gratitude for this."

But before that he had said :—

> " We thank the British people, the British Army, Navy and Air Force for their very, very good help. Many thousands more lives would have been lost but for their help in men and material, especially their helicopters."

I should like to underline this. In times of distress, one gets to know one's friends and England being badly stricken herself, has shown herself a great friend of her little sister, Holland. I am glad to have an opportunity to express the feelings of the Netherlands population in an article in an English magazine so that I can say on behalf of all Netherlanders: " Thank you, England."

" ONLY FIVE YEARS LEFT . . . . "

Comment on " RSGB Bulletin's " January editorial

It was our intention to refrain from commenting upon the latest furore in the RSGB on the grounds that it is none of our business.

We have been asked by so many people to give our views on this matter, however, that we feel justified in stating them herewith. On further consideration, too, we realise what we hope every other radio amateur in the country realises, viz., that this issue is of very great importance to every radio amateur, whether he be a member of the RSGB or not.

The immediate cause of the present uproar is the question of increased subscription rates. But behind this outward and visible sign of trouble, there would appear to be, in some quarters at any rate, a sea of turmoil which has been broiling for the past year or two. There has been dissention in the camp for some time now and the " rebels " make the most of any opportunity presented to them to raise their flag. The AGM's of the RSGB for the past two or three years have all been troublous occasions.

No human organisation will ever be perfect and the RSGB is no exception. Of course there are features which need rectifying. We ourselves have been in correspondence with RSGB officials for the past two years or more over matters which concern us both, with which we are dissatisfied. But we consider it rather poor taste to try and make capital out of these matters. They should more properly be discussed in private, not aired in editorials.

Surely the better way to put wrongs right is by discussion and subsequent rectification. Pulling an existing structure to pieces and endeavouring to start building again is a painfully long and tedious business and—as we have seen in other fields—does not necessarily produce a better system.

If our memory serves us correctly, the three big issues which have caused trouble in the past have been first the question of representation of the membership at HQ, secondly, the Society's finances and now the question of a raise in subscription.

The first matter was solved to, apparently, most people's satisfaction some two years or more ago. Inevitably the present scheme costs more money than the old. The Society's finances have now been overhauled and a solution to the difficulties proposed. Those who wanted better representation got it, but now jib at the price. Those who wanted the Society's finances overhauled now complain at the remedies !

We would suggest that instead of airing the Society's difficulties so much in public, attention be directed at all the Society has done for amateur radio during the past few years. We have come a long way since we got back on the air after the war with 28 Mcs only. Where would we have been now if that frequency was the only one we could use ? Surely no one imagines that all the many additional facilities we now have, have been granted automatically by a benevolent government department. No ! They have had to be fought for and the RSGB has done the fighting for radio amateurs whether they be members of the RSGB or not. With the ever-increasing demands for " air space " these days, it is essential that the radio amateur be energetically represented at all the numerous committees where matters affecting the survival of our hobby are concerned. On the grounds of official representation of our hobby alone, the RSGB has done a good job of work and the cost has been worth it.

For 30/- a year, the RSGB are offering to continue this service ; to continue the present scheme of representation of members at HQ ; to continue local and regional meetings at which members can get together and enjoy the social aspects of our hobby and to continue to produce a magazine which will keep the membership up-to-date with society affairs. Surely this is good value for money ?

There are times when we wonder if the Society is not being subjected to a sort of " fifth column " activity by some members who should really know better. This is a democratic country, so let's use democratic ways of putting things right. As we said at the beginning of this comment no society is, nor ever will be, perfect. The RSGB has its faults, but it cannot be accused of not trying to rectify them. If you have a grouse, put it to your R.R. or air it in a letter to the editor of the " Bulletin." Don't just sit back and withdraw from the Society. That's the quickest way of cutting its throat. And if the fate outlined in the January editorial of the " Bulletin " should come to pass, don't expect any commercially sponsored concern to build a newer and better edifice out of the ruins and charge you less for the job !

LATE FLASH

We understand, that as a result of the voting at the Special General Meeting of the RSGB held 27th February, no change is to be made in the subscription rate to the Society, at present.

AN AMATEUR TRANSMITTER'S CONTROL and RECEIVING POSITION

SOME NOTES AND IDEAS by
C. B. RAITHBY, G8GI

Our front cover photo shows the gear described herewith

The receiving and control position at amateur station G8GI has been evolved after many changes over many years and at numerous QTH's in Lincolnshire.

As can be seen in the photograph, a desk is used for the equipment, which, from left to right, comprises a Hammerlund H.Q. 120X receiver, a VFO giving outputs on 1.8 Mcs or 3.5 Mcs as required, a Philips ET1013 sound cell crystal microphone, a McElroy "Stream Key" and a meter cum switch unit in a small box. Another switch is placed in front of the receiver.

The Receiver

This is preferred to many other types mainly because of the availability of calibrated amateur band bandspread and six position selectivity. It is automatically switched on and off by a pair of relay contacts in parallel with the normal on-off switch.

VFO

This utilises a TU5B cabinet, but it is not one of the usual designs. In fact the original condensers and inductances in the unit were left entirely undisturbed. Even the neutralising condenser is used as a coupling condenser. The method of building may be of interest. The valve holders are mounted on top of the inner perforated screen, but only at a height just sufficient to clear the outer case. The pressed aluminium cases are to be preferred, but the steel type can be used. Holes, requiring some considerable measuring to locate their centres, were drilled in the outer case to allow the valves to be inserted. Most of the components, condensers, resistors, etc., were also mounted between the two layers inner screen and the outer case. Where possible they were bolted to the lower screen, otherwise they were anchored by tieing to the screen with plastic sleeving threaded through the screen holes and securing the knots with "Durofix." Only insulated resistors and high quality condensers were used. The supply leads go via a screened double section filter, for TVI prevention, to the stabilised power unit under the desk. This method of valve positioning and construction keeps all the valve heat away from the tuned circuits. It is significant, that after six years of use and a change of QTH, the calibration is still accurate on the 2,500° dial to within 2° of the original calibration. And, of course, the oscillator stabilises within a minute or so of switching on.

The Microphone

The ET 1013 gives excellent quality, but having such a low output it has always been found necessary to use a preamplifier with a cathode follower output stage, with DC on the heaters in front of the main modulator. Recently DC has been used on all the modulator heaters and it is remarkable the amount of noise reduction and feedback troubles this removes.

Keying

This is done by breaking the stabilised screen supply of the untuned buffer valve between the oscillator and the tuned doubler. HF chokes and a suitable CR filter are used at the key contacts. No sparking is visible, using 80 watts input to the main transmitter, on a television set in the same room.

Control Unit

This consists of an "Elf" 10 ampere instantaneous cut-out on off switch and a 0-250 volt AC meter. Local mains voltage is appalling so a watchful eye has to be kept on the amount of mains boost (manual) in use. The "Elf" switch is in the supply mains to all the transmitter medium and high tension, receiver relay, VFO relay and aerial relay supplies. Changing from send to receive only requires the operation of the "Elf" switch.

The small desk switch allows the VFO to be switched on for "back tuning" when in the receive position.

Station G8GI may be heard at irregular times on the 1.8 and 3.5 Mcs bands.

The proprietors, The Short Wave Magazine Ltd., announce that their present number of "**Short Wave Listener and Television Review**" will be the last as they do not feel justified in continuing its publication in its present form. A quarterly manual will shortly be introduced.

MODIFICATIONS to the 1155 RECEIVER

by WILLIAM A. HOPE

Some months ago our contributor described the adaption of the 1155 receiver to the requirements of the amateur radio station. His article produced a crop of requests from readers for further modifications to this receiver and at our request he has, therefore, dealt with some of these in this contribution.

One question asked was " What is the most suitable aerial to use with the R1155 ? " Well, this is rather a sweeping question, but in the view of the fact that reception of the amateur bands is the chief factor amongst most listeners, we can go on to discuss a suitable antenna.

The 5-Band Marconi is probably the best example of a multi-band antenna, since it is economical with regards to length, etc. Fig. 1 shows the Marconi aerial which is suitable for 1.7 to 28 Mcs inclusive. As will be seen, the overall length of the Marconi is 80 ft., which can be bent if space is somewhat restricted : although the bend must be made halfway between any current loop and voltage loop of the frequency which will be most used. Right-angled bends should, if possible, be avoided, but if the restriction of space makes this impossible, then the total length of the aerial should be increased by approximately 2½ per cent. in this case an increase of 2 ft. This increase in length causes a slight variation in the polar diagram, but this is often an asset when receiving vertically polarised signals.

Construction

Hard drawn 14 S.W.G. enamelled wire should be used if possible, since the chances of a decisive length increase are not so great as with soft drawn wire. The aerial should be

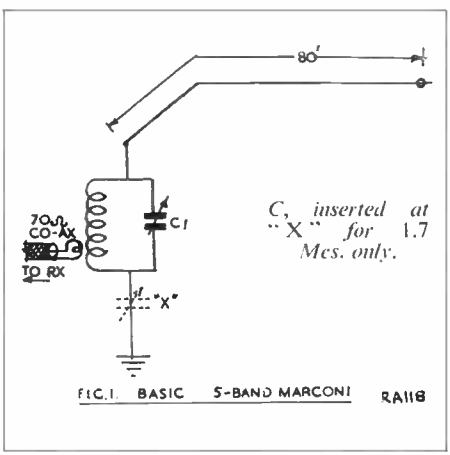


FIG. 1. BASIC 5-BAND MARCONI RA118

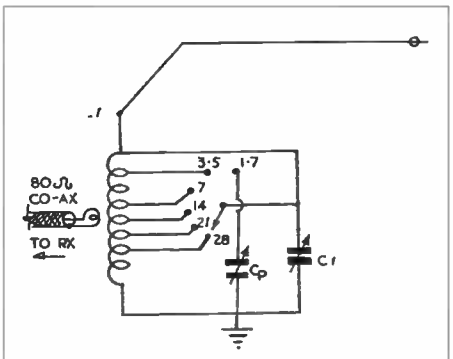
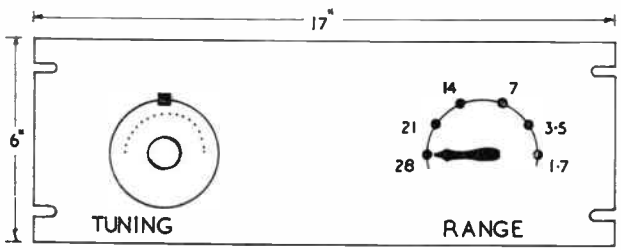


FIG. 2. 6-BAND MARCONI COUPLER RA119

erected as high as possible and well clear of trees, etc. The free end is connected to the antenna tuner (see Fig. 2) as shown. L1 consists of 35 turns of 14-guage copper wire wound on a 2 in. diameter ceramic former such as those obtained from the ex-Government TU units.

Various tapping points were tried for optimum results and those finally selected appear in tabulated form in Fig. 3. The coupling link can be connected to the aerial terminal on the " 1155 " by ¼ in. 80 ohm co-ax cable. This prevents pick-up between the Rx and the aerial tuner. The tuner can be built as an " add-on " unit to fit the rack (see page 207, June 1952 edition), details of which are given below in Fig. 4.

The unit is built on a 17 by 6 in. aluminium panel and takes the place of the switching unit in the rack shown on page 207. A 6-way ceramic switch was used for switching purposes and a slow-motion dial from one of the TU tuning units provided ample slow-motion tuning in conjunction with C1. After the unit has been wired up, we can test it on the R1155. Operation is simplicity in itself ; all that is required is to tune in a signal about the centre of the 1.7 Mcs band (this applies to the " 1155N " model only) and tune C1 to resonance as indicated by an increase in signal strength; Cp, the padder on this range, is set to give maximum results. On the other ranges, it is just a question of tuning C1 for maximum signal audibility.



Panel size for unit if used in rack as previously described.

FIG.4 COUPLER PANEL LAYOUT

Convertor for 21 Mcs

In the second instalment, I stated that the original unit had a 56 Mcs convertor, but this is now obsolete since this band is no longer open to our amateurs. However, with the opening of the 21 Mcs band for CW operation, the RF26 unit has been left in its former position in the rack, and has been modified as below. Fig. 5 gives the circuit of the RF26 unit in its original state. The tuning coils from an old RF24 unit were interchanged with those of the RF26 as detailed below. In the RF section of the RF26, the RF coil from the RF24 unit was soldered into position (L1), C33 being omitted from the T1 aerial transformer stage. Now for the mixer section.

Remove L2 and solder the mixer coil from the RF24 unit in its place. The oscillator coil L4 in the RF26 is removed and replaced by that from the RF24 unit. C31 is removed also and is replaced by a 3-30 pf. trimmer of the same variety. The three gang 75 pf. condensers can now be coupled to the Eddystone Full Vision Dial, and the unit tried out. The "1155" should be tuned to 7.5 Mcs and the convertor dial set to its midway position. If a signal generator is available, tune it to the centre of the 21 Mcs band, i.e., 21.1 Mcs, set condenser C7 to half capacity and adjust C3 and C6 for maximum noise on the Rx. Next to the mixer section C16 and C17 should be adjusted for maximum noise as before. The new 3-30 pf. trimmer in place of C31 should be rotated together with C30 for maximum output. This procedure should be repeated throughout until one is sure that the maximum possible output is being obtained on 21.1 Mcs. The convertor should be coupled to the aerial tuner and a CW signal tuned in and sufficient output should be obtained.

Mcs.	L1 TAPPING POINTS FROM AERIAL END
1.7	Full Coil
3.5	5 Turns
7.0	10 Turns
14.0	18 Turns
21.0	23 Turns
28.0	29 Turns

Fig 3. *L1 Coil Data*

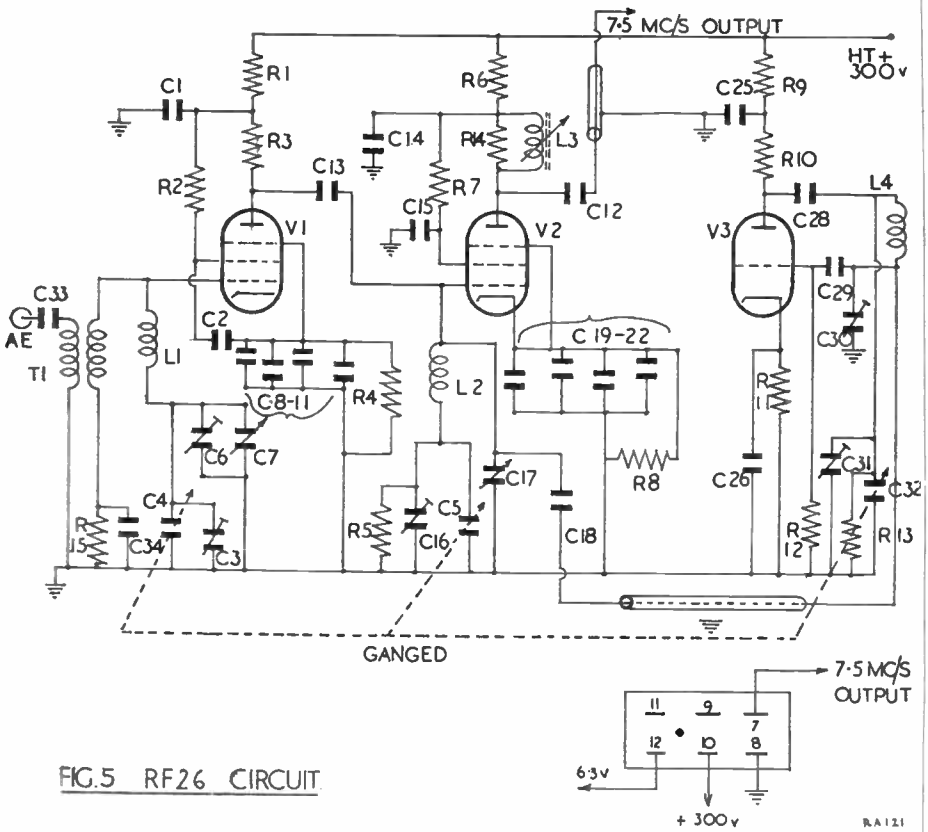


FIG.5 RF26 CIRCUIT

VR 136		*VR* 137	
PIN :—	1—*H*	*PIN* :—	1—*H*
	2—*A*		2—*G*1
	3—*G*2		3—*C*
	4—*C*		4—*A*
	5—*C*		5—*N.C.*
	6—*G*1		6—*N.C.*
	7—*C*		7—*N.C.*
	8—*C*		8—*N.C.*
	9—*H*		9—H

*V*1—*VR* 136
*V*2—*VR* 136
*V*3—*VR* 137

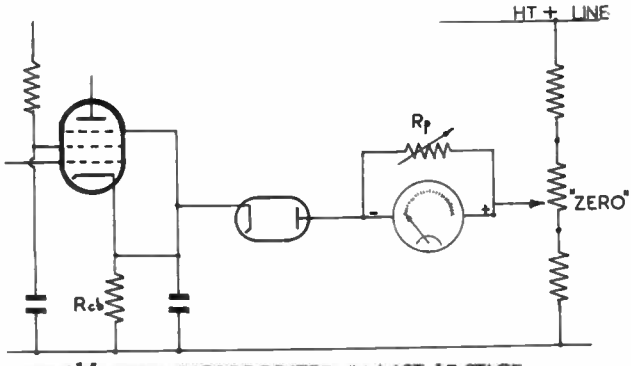


FIG. 6. "S" METER INCORPORATED IN LAST I.F. STAGE.

RA122

Rcb is the normal valve bias resistor.

Fitting an "S" Meter

The typical "S" meter circuit is connected to the IF stage of the normal superhet as shown in Fig. 6. The variation of AVC voltage does, in effect, actuate the meter movement so no readings will be obtained if incorporated in a set where the AVC is automatically switched off when the BFO is switched on. When the AVC voltage rises the cathode becomes less positive and current flows through the meter thus producing a forward reading. The diode protects the meter from reverse current flowing when the RF gain is reduced since conduction only takes place when its cathode is going negative with respect to its anode. The parallel resistor Rp is to limit the current through the meter in the case of an overload. Fig. 7 shows the theoretical circuit of the "S" meter using a 0-500 micro-amp movement as a basis.

As will be seen the meter is wired to an octal plug (as per Fig. 7) and the entire "S" meter can be built in a small black crackle box. Now we come to modify the "1155" to incorporate the "S" meter movement. An octal socket is fitted to the rear of the chassis, and wired up as in Fig. 8, which shows the last IF stage of the "1155", namely, valve 6. To set up the "S" meter, the aerial terminal should be shorted to earth and the set allowed to warm up. The RF gain control, if incorporated, should be turned fully anti-clockwise and the 500-ohm resistor marked "zero setting" should be adjusted until the "S" meter reads zero. Now reconnect the aerial and a forward reading should be obtained. If not check the "S" meter diode circuit and its associated network. Quite frankly, the author considers the calibration of such a unit more of a compromise than anything else, since the degree of aerial

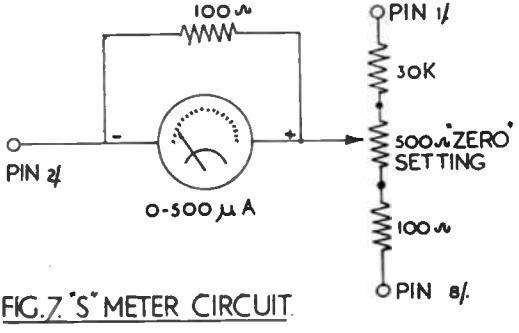


FIG. 7. "S" METER CIRCUIT.

RA123

N.B. Pin numbers refer to those on the octal plug.

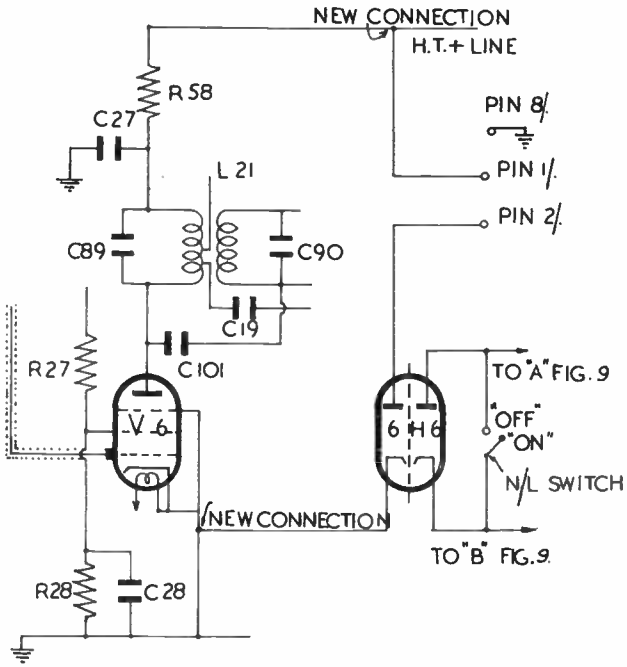


FIG. 8 FITTING "S" METER DIODE/NOISE LIMITER ON R1155.

RA124

Component numbers refer to those on the "1155" circuit. Pins 1, 2 and 8 refer to connections to the octal socket.

coupling, RF, gain setting, etc., all determine the amount of meter deflection. When this modification was carried out, the use of an Eddystone "S" Meter Type 699 was anticipated; hence the use of the octal socket. With the circuit shown, the 699 "S" meter will operate satisfactorily since it incorporates its own resistor network. This unit is calibrated to a very high degree in "S" units, at a rate of 4dB per "S" unit, and in decibels over S9. The author favours the use of this meter if serious reports are to be given.

Noise Limiter

We now come to the inclusion of a suitable noise limiter. The "1155" circuit does not readily lend itself to this modification, and much experimenting was done before the final points "A" and "B" were chosen for their respective merits. No trouble should be experienced here, Fig. 9 will clarify this point.

The second half of the 6H6 double-diode is used as the noise-limiter in this modification. The noise-limiter switch shorts out the diode when the noise limiter is not required. The two leads from the anode and cathode of the diode go to points "A" and "B" respectively on Fig. 9. No difficulty should be experienced here, and the choice of positions for the 6H6 valve and the N/L switch are left to the constructor as his particular set may have undergone previous modifications. The 6H6 filament supply is wired as follows:—

LT—ve to pin 2 on the nearest valve-holder.

LT+ve to pin 7 on the nearest valve-holder.

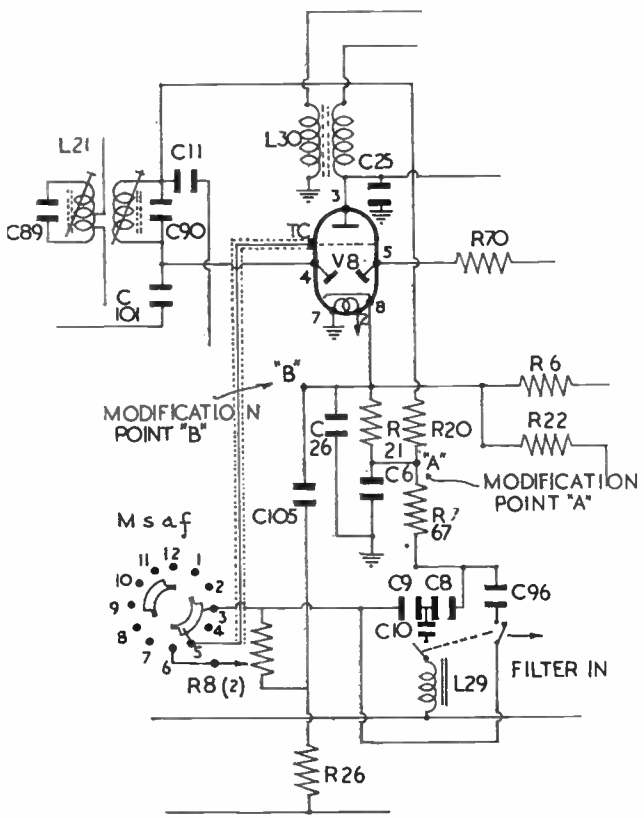


FIG. 9. NOISE LIMITER CONNECTION POINTS. RA125

Whilst the "U55" does not lend itself very well to the inclusion of a noise limiter, the modifications shown herewith will give very worthwhile results.

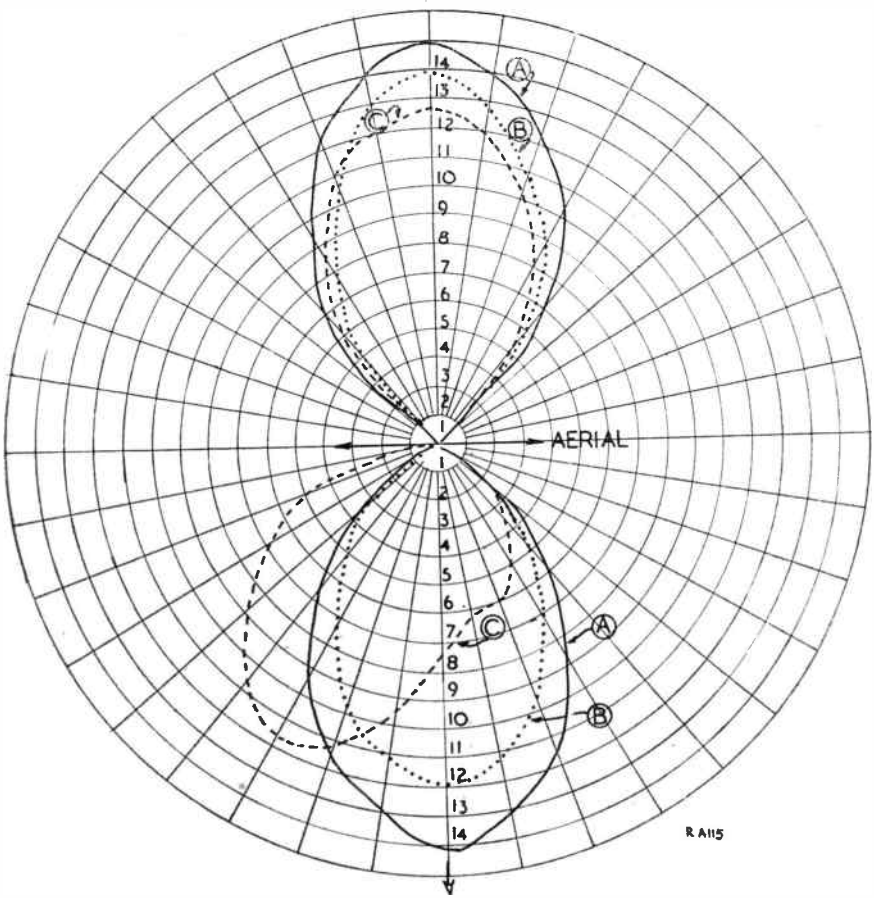
It is hoped that this series has answered the various queries on the subject of modification. If any constructor wishes data on the inclusion of a crystal filter—*remembering, of course, that the IF of the "1155" is 560 kcs*—he should contact the author through the *Radio Amateur*, as he is always ready to be of any assistance.

If you enjoy reading "**The Radio Amateur**" please tell your friends about us. We are still receiving letters from new readers saying they wished they had made our acquaintance earlier. We cater for the transmitting amateur; for the **Short Wave Listener**, and for everyone participating in the hobby of amateur radio. *Our circulation is on the increase.* Help us to push it up still further. **Next month**:—A theoretical and practical article on "*The ground plane aerial.*"

AERIAL RADIATION PATTERNS

by F. C. JUDD, G2BCX

No. 2. The Dipole. With Simulation of the Effects of Nearby Conductors



The patterns show radiation from a dipole together with the effects of (A), a metal mast at one end, and (B), the presence of electrical wiring, pipes and downspouts, etc., such as would be found in most houses. In the latter case the aerial was situated close to the wiring, etc., to simulate the conditions of an indoor dipole. Pattern (A) was taken with free surroundings and shows directivity closely approaching the theoretical. In this case the aerial was one wavelength high and the patterns plotted from the lower vertical lobe at approximately 20 degrees.

(B) shows the effect of a metal mast (earthed) situated very close to one end of the aerial such as might be the case if the mast were supporting it. Note the loss of power due to "end effect." (C) shows the result of the proximity of house wiring, pipes, etc., as mentioned above and in this case the aerial was again one wavelength high. This might be the condition of a 10 meter aerial in the loft of a house of average height. It will be seen that the lobe on one side of the aerial is attenuated, and on the other, so badly distorted that directivity is shifted by some 30 degrees. This distortion is due to reflection from the nearby conductors and the attenuation may be due to both reflection and "end effects." In case (C) vertical directivity appeared to be unaffected ; it could, however, be changed or distorted because of ground effects and differences in the positions of nearby conductors.

"FM" and "AM." The Two Systems Contrasted.

by CYRIL NOALL.

The recent announcement by the G.P.O. of FM facilities for British radio amateurs will increase interest in this method of modulation. Our contributor discusses briefly the differences between it and the more familiar amplitude modulation.

It is possible to convey audio signals over RF circuits by three quite distinct transmission systems. At the moment, only one of these is in widespread use ; it will be familiar to all listeners under the name of amplitude modulation (AM). Of the two other methods, phase modulation (PM) has so far found few useful applications, but frequency modulation (FM) is already coming into service in America both for local service broadcasting and point-to-point communication. It is rapidly gaining favour in radio amateur circles and the recent G.P.O. permission to British amateurs to use it, will no doubt increase its popularity still further.

FM will undoubtedly play a large part in the future development of radio, and it is interesting to make a comparison between the relative advantages and disadvantages of the two systems. Before this can be done, however, it is necessary to obtain a sound grasp of the theoretical principles upon which they are based.

AM and FM differ from each other in the manner in which the AF signal is impressed on the carrier-wave. In AM, the radio frequency of the carrier remains constant, but its amplitude, or voltage strength, varies in sympathy with the modulating AF signal (Fig. 1). In FM, the AF signal is impressed on the carrier by varying the latters frequency (Fig. 2) the carrier amplitude not then being affected at all. Thus, an AM wave is constant in frequency, but variable in amplitude, the

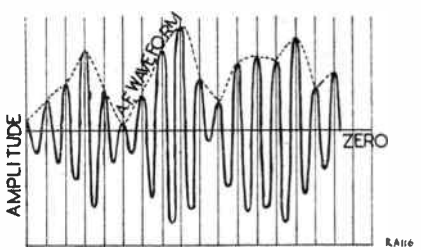


FIG 1. AMPLITUDE MODULATED CARRIER.

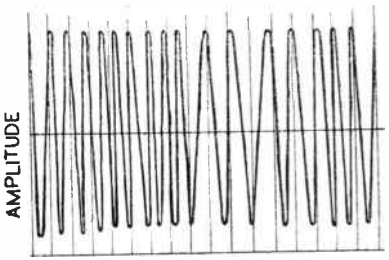


FIG. 2. FREQUENCY MODULATED CARRIER.

variation-rate of carrier amplitude corresponding to the AF frequency and the amount of the carrier amplitude variation to the strength of the AF amplitude, whilst an FM is constant in amplitude, but variable in frequency, the variation-rate of carrier frequency giving the AF frequency and the amount of carrier frequency variation corresponding to the AF amplitude. For the benefit of the curious, it may be stated that, in phase modulation, the change-rate of carrier phase provides the AF frequency, whilst the amount of carrier phase variation corresponds to the AF amplitude.

The following summary illustrates the chief points of difference between amplitude and frequency modulation :—

AM—Advantages

1. Usability over the entire radio spectrum, except on the very lowest frequencies.

2. A narrow bandwidth only required to give tolerable readability on speech ; even music does not demand an excessively wide frequency range for " hi-fi " reproduction.

3. Its suitability for long-distance communication, a circumstance deriving from the narrow bandwidth employed. A wide bandwidth, such as is used with FM, emphasises the effects of selective fading so strongly as to make speech almost unintelligible.

(*Contd. on page* 99)

"ICI PARIS . . . . . "

by ROY SAVILL.

"Pauline" (Helene Battut), "Jacques" (Jean Bacque) and "Bob" (Alan Adair) rehearsing "The French have a Word for It." Here "Bob" is learning how to pronounce the French "U."

This month marks the passing of eight years in the life of the English Service of Radiodiffusion Francaise, for it was in March, 1945, that the then British Ambassador in France, Mr. Duff Cooper, took part in the opening broadcast of this new venture designed at bringing about a better understanding between the people of the two countries.

Now the English broadcasts extend over 1½ hours each day, and the number of listeners in this country can be judged from the fact that in the offices in the Champs-Elysees there are over 7,000 indexed cards from British people who have taken the trouble to write to those running the service. Perhaps an even greater indication is the fact that in nine months over 20,000 copies of "The French Have a Word for It" were sold over here. This book was an aid to the progressive French lessons broadcast regularly.

Recently I paid a visit to the small group of English and French people who run the English Service. I made my way along the Champs-Elysees towards the Arc de Triomph and found No. 118 without difficulty.

This building, I found, was before the war the studios of the old Poste Parisienne. It is typically old French, with high rooms and equally high doors, and, to the average English eye, over-ornamented. I asked the porter where I could find M. Gromaire, the Assistant Director of the English Service. He told me the room number and I took to the lift (sorry, l'ascenseur).

I knocked on the door and admitted myself. In the large room—efficiently untidy like any newspaper office—I was greeted by a member of the staff who asked me if I had an appointment with M. Gromaire. I said I had and he went next door to make an inquiry.

So far I had struggled along in French, and was quite relieved when he came back and asked very ordinarily : "You English ?" I said I was. "So am I," he replied.

He went on to say that M. Gromaire had, unfortunately, been called away, but that in a moment the Director himself would be free. The moment was spent chatting very lightly about this and that. I had been scared stiff by Paris traffic, and was relieved when my companion said he had lived in Paris for years and it still made his hair stand on end. While talking I looked from the window and saw a procession of representatives from the various provinces all dressed in national costume making their way to the Arc de Triomph.

Then I was shown in to meet the Director—that sounds horribly formal, but believe me it was as far from that as can be imagined. With the Director, Jaques Legris, was the English Editor, D. Sturge Moore, sincere, friendly and utterly Bohemian. Between them they told me all about their work, about the English Service of Radiodiffusion Francaise.

Here were eight Englishmen and women and seven French—none of them overpaid—dedicated to the cause of understanding and friendship between the people of Britain and France. The term has a hollow, platitudinous ring these days, but here one felt was an instance that was different.

Together with the French Government (whose employees they are) and their French colleagues, these English people are doing a great job. They see France and the French daily, nightly : they see them with English eyes and are able to speak of what they see in English words, to give us an honest picture of that country.

There is no political propaganda attached to these English Service broadcasts. There are discussions once a week, and the news broadcasts are confined to points of interest about people and things in the country, in Paris in particular, with background information on what is reported.

In the programme "Land of France," a recording van visits various parts of the country for "live" features, with commentaries, interviews and so on. Concerts, music halls and other entertainments are visited, and the listener is, in fact, taken every evening on a sound journey to France.

A further feature is an annual competition, the first prize in which is a fortnight in France as a guest of Radiodiffusion Francaise. Second prize is a week in Paris and the Ile-de-France, again as a guest of R.D.F.

To ensure constant reception over here, the English service alternates between medium and short wave transmissions, the former being used in winter over the nearest station to the English coast, Lille, which runs 100 kW. The short-wave transmissions during the summer come, of course, from Allois, in the centre of France.

There are no independent broadcast stations in France now. In addition to Poste Parisienne, pre-war listeners will remember Radio Normandie, Juan-les-Pins and so on. To-day there is just the one state-run broadcasting organisation with three networks : Programme Nacional, the equivalent of our Home Service ; Programme Parisienne, like our Light Programme ; Paris Inter, which broadcasts more or less continuous light music with occasional short news bulletins.

NEW RADIO TRANSMITTING AERIAL BUILT AT ACCRA

The engineers of the Broadcasting Department have been able to help the Broadcasting Commission by building at Broadcasting House, Accra—in record time—an elaborate radio broadcasting aerial of novel design, believed to be the biggest of its kind anywhere in the world.

The aerial, which is supported on 20 steel poles each about 30 ft. high, covers an area of approximately 300 ft. by 250 ft. It is connected to the one-and-a-half kilowatt transmitter at Broadcasting House and it is designed to fire a narrow beam of radio power straight upwards into the air to a height of about 250 miles where a reflecting layer in the upper atmosphere turns the energy back downwards to the earth.

In this way, a powerful signal is expected to reach all parts of the Gold Coast lying within 100 miles of Accra—or perhaps rather more—and is expected to be much stronger than is at present received from the high-power transmitter at Accra.

First reports on the test transmissions which have been radiated in the 41-metre band indicate that the expected result is being obtained. All receiving stations within the 100-mile radius are reporting a greatly improved signal, and some are reporting a better signal than has ever been received from Accra before. The tests are continuing.

The aerial was designed by Mr. W. A. Roberts, of the Broadcasting Commission, and put up by the Broadcasting House engineers in four days, in order that tests might be carried out during the visit of the Commission of the Gold Coast. The time normally necessary to erect such an aerial is, in the opinion of Mr. Roberts, who is a Senior Engineer in the B.B.C., some two or three weeks.

WORKSHOP PRACTICE

by C. H. LAMBORN

The Use of Taps and Dyes

Everyone building radio equipment at some time or other must use Taps and Dyes in order to thread the holes in the chassis or components so as they can be secured by means of screws or bolts.

There are very many different taps of varying grades of steel used in industry each for its individual job, but in the case of the amateur who has to thread all of his holes by hand the most suitable ones to purchase are Carbon Steel Cut thread taps, which produce B.S.1 medium fit tolerances for commercial threads. These are made in three types, full taper, seconds (part taper) and plug (full thread). Fully taper taps are seldom required but both semi-taper and plug are essential, the former to start the thread in through metal holes and the latter for tapping holes which do not go right through the metal. If spiral pointed taps are available these have the advantage over the standard type because in through holes they throw the metal forwards thus avoiding choking which may result in tap fracture.

Obviously the hole which is to be threaded must be smaller in diameter than the tap itself. Standard tapping drills are used for each size of tap and tables are published in many handbooks. However, for the individual who has none available, a list of the most useful sizes as used for Radio is attached as below.

For tapping, Copper, Brass, Cast Iron, Ebonite, etc., slightly smaller drills could be used with advantage to obtain a full thread.

Lubricants

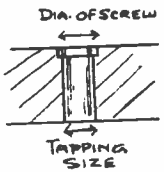
Brass, Copper and Aluminium require no lubricant and should be tapped dry. Should binding occur a spot of turpentine can be used. When tapping steel, cutting oil is the correct lubricant in preference to lubricating oil. For cast iron use paraffin.

Ebonite, Bakerlite, etc., all tap dry.

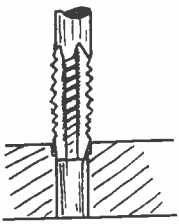
Notes on Tapping

For all through holes use a second taper tap. Work steadily through until the tap tightens, then reverse a turn or so to allow the swarf to free and fall through. Again proceed in the forward direction reversing as necessary until the tap turns easily as it rides through the hole. Carry on until the full thread appears. If the hole is through thick metal, it is advisable to use a plug tap after the semi-taper to assure a full thread right through. Never try to force a tap when it tightens as it is more than likely to fracture. If that does occur, in the case of sizes from 10 to 6BA, carefully punch through. A thread can still then be cut. From 4BA upward tap extractors are procurable. Never use a damaged tap with a tooth chipped, but grind out, otherwise the swarf will wedge the tap. For solid holes, if sufficiently deep, start

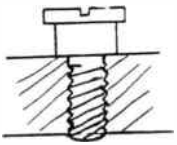
Steel, Aluminium			Steel, Aluminium		
B.A.	No.	Drill Size Nearest in inches	Whitworth	No.	Size Nearest in inches
12	61	.039	1/8"	40	3/32"
10	53	1/16"	3/16"	28	9/64"
8	48	5/64"			
6	41	3/32"	1/4"	8	13/64"
4	31	1/8"	5/16"	—	letter D or 1/4"
2	23	5/32"	3/8"	—	letter N or 5/16"
1	16	11/64"			
0	8	13/64"			



DRILL TAPPING SIZE THEN COUNTERBORE ABOUT 2 THREADS DEEP



MAKE SURE TAP IS SQUARE WITH SURFACE OF WORK



THE INCOMPLETE THREADS AT THE NECK OF THE SCREW ARE TAKEN CARE OF by the COUNTERBORE, THUS ALLOWING the shoulder of the SCREW TO COME FLUSH WITH THE WORK

the thread with a semi-taper, then change over to the plug, taking care to reverse and shake out the swarf frequently until the bottom is reached.

Dyes and Dye Nuts

These are not nearly so extensively used as taps in a radio shack, as screws and bolts are readily available, so a few of the common BA and Whitworth dye nuts should suffice. The general use for them is to run down tight or oversize screws. In the case of dyes if used for cutting new threads always be careful to adjust each side tensioning screw with the same tension, otherwise the dye will cut out of truth or bind and tear off the threads. The same careful procedure as tapping is necessary. Always reverse and free the swarf frequently to avoid damaging the thread.

"FM and AM" *Contd. from p. 95.*

4. The simplicity and cheapness of the apparatus required for detection.

AM—Disadvantages

1. Its "openness" to all kinds of natural and man-made static.
2. The readiness with which one station causes interference with another, both when they are sharing the same frequency and when working on closely adjacent channels.
3. The intense overcrowding of the MW and LW bands, where most AM BC stations operate.
4. The impossibility of reducing background noise, to which AM is particularly susceptible, save at the expense of audio fidelity (i.e., by the use of filters, tone controls, etc.).

FM—Advantages

1. Its relative immunity to all kinds of interference, particularly atmospherics and ignition noise.
2. The limitation of mutual QRM between stations owing to a phenomenon known as "capture effect." When two FM stations are received on the same frequency, the stronger will swamp the weaker signal, and so "capture" the receiver.
3. Over-modulation of the transmitter—a common fault with AM stations when these are not carefully monitored—cannot occur when FM is employed.
4. A great overall improvement in signal-to-noise ratio due to the noise-rejector circuits which may be incorporated with the system.
5. A lower field-strength voltage is required to give satisfactory reception.

FM—Disadvantages

1. FM stations cannot be received on normal AM broadcast or communications receivers; a dual-system receiver, at higher cost, is, therefore, called for if FM listening is to be enjoyed.
2. Owing to a number of technical reasons, FM cannot be effectively used save on the higher radio frequencies. It could never be employed for MW transmission.
3. A very wide bandwidth—usually about 150 kcs— is, generally speaking, required by a FM station. A normal AM station requires only about *one-fifteenth* of this allocation.
4. FM is useless except for direct-ray reception from the transmitter; the service area of a FM station seldom exceeds about 40 miles radius.
5. The extremely critical tuning required for satisfactory FM reception adds to the complication of receiver design.

It is possible to transmit FM on a very narrow bandwidth if one is prepared to accept a reduction in AF quality. This special type of FM, known as NBFM (Narrow Band Frequency Modulation) is of considerable interest to the amateur fraternity, as it eliminates all possible BCI right at its source of origin. As the NBFM wave is, like the FM wave, constant in amplitude, it cannot cause any AF interference in nearby receivers. NBFM should, therefore, prove a great blessing to TX licensees in built-up areas.

BROADCAST BANDS REVIEW

by JACK FAIRS

All Times G.M.T.
"Nf"—New Frequency.

Several readers have expressed their opinions on our recent comments regarding the inclusion of "rare DX" or the "easy ones" in these pages, and without exception all have been in favour of ruthlessly cutting out the "Paris S9 at 1900" type of report, the general request being that these notes should be devoted to items of greater DX-value. We shall continue with these helpful suggestions in mind, though it should be remembered that a few European stations will always be included, for the interest of overseas readers!

EUROPE

Germany. Manfred Lepple of Stuttgart has sent along full details of the test transmissions of Nordwestdeutscher Rundfunk. All programmes are in German for overseas listeners, and the 20 kW transmitter at Norden-Osterloog is used. The schedule is: 1800-2100 to Africa, 2200-0100 to South America, 0130-0430 to North America, and 1430-1730 to the Middle East, all on 7290 kcs; 1030-1330 to the Far East on 11795 kcs. Programmes consist of the regular NWDR broadcasts on MW at 1800-2100 (beamed to Africa at this time), and the other services are tape-recorded rebroadcasts of this period. The full European Service of NWDR is radiated by an omni-directional antenna on 6270 kcs daily at 0400 (Sundays 0500)-2400, but sometimes there are 24-hour transmissions.

U.S.A. in Europe. *World Radio Handbook* has supplied the following useful list of frequencies used by "Radio Free Europe": 5970, 5985, 6130, 6150, 6220, 7145, 7190, 7285, 9655, 9695, 9717 9775, 10189, 10314, 11674, 11725, 11745 and 11855 kcs. 9150 kcs is another one, logged by Ian Hardwick (Thames Line, New Zealand) at 0730. Noted here in the 15 Mcs band for the first time (?) on 15150 kcs around 1340. (Scribe).

Greece. The Forces Broadcasting Station, "Radio Jannina," has moved from 6200 to 7098 kcs (Nf). (WRH).

Ireland. "Radio Eireann" has abandoned the SW transmissions until further notice. (Roy Patrick, Oldham).

Belgium. ORU "Radiodiffusion Nationale Belge" is again on a new schedule, which includes the following transmissions. 1800-2100 for Africa (French/Dutch) on 7170 (Nf) and 9745 kcs; 1800-2100 for Northern Europe (French/English/Swedish) on 6000 kcs (Nf); 2115-2300 in Portuguese and Spanish on 6000 kcs (for Southern Europe) and 9745 kcs (for South America); 2315-0330 for America and Africa on 6085 (Nf), 9150 (Nf) and OTC Relay on 9655 kcs. (WRH).

Sidney Pearce has logged the 6000 kcs channel at 1800 through to 2100. From our own observations, the 7170 kcs frequency mentioned above is in use by the VOA Relay Base Tangier-4, at 1700-2145, and ORU was found on 7215 kcs (Nf) at 1800 onwards, in parallel with 9745. General reception of ORU (on any frequency) does not seem to be very favourable at all over here.

Austria (USSR Zone). Ron Thorndike (Kenton, Suffolk) reports Vienna (RAVAG) on 9664 and 11785 kcs, both with fair signals around 0930. Bill Griffith (Ashtead) has been listening to "Landessender Tirol" at Innsbruck (French Zone) on 600 kcs, S8 at 1600.

Spain. "Radio Juventud de La Coruna," La Coruna: heard with very good strength at 1730 on approximately 7055 kcs. (Griffith). "Radio Menorca," Mahon (Balearic Islands) was spotted one evening on 7410 kcs (Nf). (Robert Mercier, Juvisy-sur-Orge, France. Yes, this one counts as a separate country, Robert, and the used to verify reports at one time!)

AFRICA

Ethiopia. "Radio Addis Ababa. The Voice of Ethiopia" has been sending out a bundle of QSL's again, this time a rather quaint affair dated December, 1952. The daily programmes are listed as follows: English at 0430-0530, 1000-1100, 1600-1630 and 1815-1930, with English News at 0500, 1030 and 1830; Amharic at 1100-1200, 1630-1800 and Arabic at 1800-1815. Frequencies given are 9658 and 15060 kcs, while "new frequencies in the 16 and 46 metre bands are in preparation." The QRA is now P.O. Box 1364, Addis Ababa. (Jim Symes, Streetly, Staffs., Roy Patrick and Scribe). According to "Sweden Calling DXers" the 15 Mcs transmissions (15042 kcs) have been dropped, and English is heard on 9624 kcs at 1900-1930.

Angola. The "Radio Clube de Angola," Luanda, has again moved the 9 Mcs station (no doubt still CR6RN) from 9687 to 9780 kcs (Nf) and, at the time of writing, has wandered back to the old long-forsaken channel of 9470 kcs. (Radio Sweden and Radio Australia DX Programmes). Sidney Pearce of Berkhamsted has heard the 9470 kcs frequency, in parallel with 11862 kcs, to close at 2130; 11862 continues until 2230.

Madagascar. "Radio Tananarive" has abandoned 9693 kcs (Malgache-language programme), leaving 7374 kcs the sole outlet for these transmissions. (Radio Sweden). The French network has been logged on 9515 kcs with varied light recordings from around 1630;

Representatives of the Swiss Broadcasting Corporation in the Swiss Shortwave Studios in Berne, interviewing by radio members of the 1952 Mt. Everest Expedition on their arrival in New Delhi. The two-way transmission was arranged by courtesy of All India Radio

the call, " Ici Radio Tananarive," is announced at 1700. (Pearce).

Sudan. Radio Omdurman is quoted by " Sweden Calling DXers " to have new English broadcasts on Sundays and Wednesdays at 1615-1630, in addition to the regular Friday transmission at 1730-1800. Sidney Pearce confirms this, hearing them with good signals near 9737 kcs, but weak on 7000 kcs. Another report mentions daily English programmes at 1600-1630 for Southern Sudan, and yet another lists them at 1615 on Tuesdays ! The latest news to hand is that of a move from 9735 to 9850 kcs (Nf).

Senegal (French West Africa). " Radio-Dakar " is now using 4950 kcs (Nf) for their French-language " Dakar-Inter " programme ; heard at 2200 to close at 2303, Q4, S5-8. (Scribe). Robert Mercier also spotted this additional outlet, adding that it is in parallel with 11894 kcs ; the 4 Mcs frequency is not announced, and Robert assumes it to be, as yet, experimental.

Gold Coast. Fred Pilkington, R O on the M.V. " Kirriemoor," airmailed us a fine report from Aden, and he says that ZOY Accra is now on approximately 4780 kcs (Nf). This is presumably a move from 4915. (Scribe).

French Morocco. WNAF at Port Lyautey is now on 1512 kcs (MW). (Pilkington).

Azores. An American Forces Station situated at Lages Field is operating on 1500 kcs (MW) with the call CSA3 and the schedule of 0900-0100. (Pilkington).

Tripoli. The American Forces Station is at Lias Field, and uses 1590 kcs (MW) at 0530 (Sundays 0800)-2300. The announcement is : " This is AFRS Lias Field, Tripoli, broadcasting on an assigned frequency of 1590 kcs. . . . " (Pilkington).

Liberia. ELBC Monrovia is now on 6022 kcs (not 6025), and a new 15 kW Tx should be on the air shortly ; a request has been made for frequencies to be allotted in each band. (Roy Patrick).

Tangier. "Radio Tangier International" has recently put into operation the new 50 kW Tx on the old channel of 6110 kcs. The frequency is still badly QRM'd, and detailed reports are requested, especially from remote listeners; QSL's will be accompanied by a photo of the new Tx, and a special "mail-bag" programme in French is featured at 2130-2200 daily. The address is: "Radio Tanger International," 34 rue Goya, Tanger. (Robert Mercier).

Tanganyika. Dar-es-Salaam Radio is heard at 1600-1830 daily except Sundays, by Fred Pilkington at Aden, on 5030 kcs. The station opens at 1600 with the BBC News relay. (The last report for this frequency gave 5050 kcs. Scribe).

Nigeria. Jim Symes sends us the full schedule of the Nigerian Broadcasting Service, Lagos, as received with a veri—within 10 days!—for reception of the 4975 kcs outlet. The National station at Lagos operates on 6100 kcs (300 watts) at 0500-2200; 4975 kcs (7.5 kW) at 1000-1300 (also during part of each evening as the Western Region station), and on 4933 kcs (300 watts) at 1600-2000. Kaduna (Northern Region Tx) is on 7170 kcs (300 watts) at 1030-1600, and 3300 kcs (Nf-300 watts) at 0440-0945, 1615-1700. Enugu (Eastern Region) is on 7097 kcs (300 watts) at 1000-2200 weekdays and 0500-2210 Sundays. A 20 kW transmitter at Lagos is due on the air later this year, the Kaduna station will increase power to 7.5 kW, and that at Enugu to 2.5 kW.

John M. Simpson (Hassocks, Sussex) lists Lagos on 7080 kcs at 1915-2030, including the BBC News at 2000; John adds that the "amateur phone QRM was excruciating!" (This must have been the Enugu Tx, as listed above, OM. Note: This spelling is correct—"Emugu," as mentioned in the January "Review," was a typographical error!) The frequencies still appear to be somewhat unstable, and Roy Patrick found the NBS on 4750 kcs to close at 2000 on January 25th, which was probably the 7.5 kW Lagos Tx "officially" on 4975. D. Berry (West Ealing) lists Lagos on 4970 kcs, being heard quite well from 1800, though sometimes with heavy CW QRM, to sign-off at 2000. Fred Pilkington logged them on 4995 kcs at 1800 with the BBC GOS News.

NEAR EAST

Iran. We have a correction to make in respect of EQO Teheran mentioned last month: the frequency should be 3850 kcs (Nf) and not 3980 kcs, the old channel. (Sorry, OM's).

ASIA

Burma. D. Berry has located Rangoon on 9543 kcs, closing at 1515 with: "This is the Burma Broadcasting Service, and we are now closing down. Goodnight, everyone."

China. Radio Peking is reported using 15585 kcs (Nf) and heard at 1430-1500 in South Africa, in parallel with 9430 kcs. ("Sweden Calling DXers.")

India. New frequencies in use by the External Services of All India Radio, New Delhi, are: 5980 kcs. (0045-0055, 1730-1830, 2245-2300); 6040 kcs (0345-0420, 0315-0330); 11950 kcs (0100-0300, 0930-1045); and 15085 kcs (0430-0530, 1100-1315). 5980 kcs was S9-plus when ending the Indonesian programme at 2300. (Scribe).

Ceylon. Two new frequencies for "Radio Ceylon," Colombo, have been discovered by Fred Pilkington. One is 4865 kcs, heard around 1530 to close at 1645, and the other is 9610 kcs, logged at various times around 0500, 0615 and 1010.

Taiwan (Formosa). BEC26 is now reported on 10056 kcs; this is Tsoying Military Radio Station at Tsoying, Kaosuing City. (Radio Sweden). BED7 "The Voice of Free China," Taipeh, 7140 kcs, was Q2-4 S8 at 1545 with Chinese at dictation speed, reports D. Berry.

Japan. JKJ Nazaki, 7285 kcs, is generally audible around 0930 with the Home Service of NHK, though often wiped-out by Moscow at 1000. (Sidney Pearce).

Thailand. Bangkok has been heard on several occasions on 6240 kcs at 2345 with American recordings, chime signal at 2357, and clock chimes on the hour. The station announcement in Thai is followed at 0001 by a short identification in English: "This is the National Broadcasting Station of Thailand. . . ." A programme in the Thai language then commences. (Mercier).

Pakistan. "Radio Pakistan" is now heard on 9630 kcs (Nf) with English News at 1515-1530. (Pearce and Scribe). "Australian DXers Calling" quotes this same newscast on 3320 kcs, adding that this may be either Lahore or Karachi, while WRH, in the latest schedule, gives 3325 kcs as Dacca. The 15335 kcs outlet is a strong signal around 0945, and 17835 kcs carries the English News at 1230-1240. (Sidney Pearce).

Indo-China (Vietnam). "Radio France-Asie," Saigon, has been heard on a frequency near 11935 kcs from around 1400 with French/English programmes to close at 1655. On 9750 kcs English News at 1600 followed by records are regularly featured to 1630. (Ron Young, Chelmsford, and Sidney Pearce). The name of "rue MacMahon" has been changed, and the address of "Radio France-Asie" is now 86, rue Marechal de Lattre de Tassigny, P.O. Box 412, Saigon.

Malaya. Fred Pilkington is hearing "Radio Malaya" on 4820 kcs (Nf) in English to sign-off at 1530, signals being Q5, S9 at Aden; they open again at 2300 and the first English programme is at 0530.

PACIFIC

Australia. VLQ9 Brisbane, 9660 kcs, has been putting up a fine performance at 1100 when featuring the ABC News, followed by the Queensland State News, in parallel with VLM 4 on 4917 kcs. BBC News is heard at 1300, then another ABC bulletin, and close-down is 1330 excepting Saturdays at 1400. (Pearce). Bill Griffith also reports VLQ9 this month : S5-6 at 0830 with some QRM from RAVAG, Vienna.

Philippines. The latest and sixth transmitter of the Far East Broadcasting Company, Manila, DZ16 on 17806 kcs, is of 1.5 kW output and is " home-built " ; transmissions are expected to commence on 2.14 Mcs during the next few months, also with a power of 1.5 kW. (" Australian DXers Calling " and WRH). DZH9 on 11855 kcs of the same network was noted S6-7 with English evangelistic programmes on Sundays at 1530 to after 1600. (Scribe).

NORTH AND CENTRAL AMERICA

United States. The World Wide Broadcasting Foundation, operators of Station WRUL " The Voice of Freedom," is now known as the World Wide Broadcasting System, Inc. European transmissions are at 2015-2115 daily on 9570 and 11740 kcs.

Trinidad. VP4RD " Radio Trinidad," Port-of-Spain, 3360 kcs : logged at 2230-2300 with a commercially-sponsored musical programme and BBC New relay at 2300. (John Simpson).

Haiti. Station 4VCP Cap Haitien, has been logged regularly from 2100 onwards on 6380 kcs (Nf), reports Robert Mercier. Strength is good, but readability poor due to a nearby carrier. The announcement, given every quarter of an hour, is : " Ici la Voix du Nord, Poste Commercial de Radiodiffusion 4VCP, affilie a la chaine des Nations Unies." Logged here with dance music around 2230-2300, signals being distorted and with auto-CW QRM. (Scribe). (John Whitington) This is your unidentified station on the HF side of Lisbon).

" Radio Station 4VEH," Cap Haitien, is now heard (January 11th) on 9680 kcs (Nf) at 2245 to 2305, when swamped by Moscow. (Mercier). " Radio Australia " quotes 9655 kcs for 4VEH, and also 9710 as the very latest channel.

SOUTH AMERICA

Peru. Station OAX4B at Cerro de Pasco has the slogan " Radio Azul—La Vox Andina del Peru." Power is 350 watts on 6170 kcs, at 2200-0430 daily. (WRH).

French Guiana. Robert Mercier has received a letter veri for his reception of " Radio Cayenne ": it was written by the Prefect of French Guiana in person, who is the highest authority of the territory. And is, without exception, a QSL to be proud of, Robert !) This reader's report was the first from Europe, though they had already received others from many parts of the world, and, as Robert points out, it seemes rather strange that although the station opened as long ago as June 7th, 1951 on 6600 kcs), no DX Bulletin or magazine has mentioned " Radio Cayenne " until he identified it on November 26th last year. The frequency was altered to 6200 kcs last July. (We can only assume that there must be quite a large number of " lone wolf " BC DXers in many countries, who keep their activities a secret !)

The Tx at Cayenne is a BC610 running 350 watts, and the antenna a half-wave doublet. Since the beginning of January transmissions are now daily at 2300-2400 on the corrected frequency of 6198 kcs. The director of the station is a lady, and reports should be sent to Madame la Directrice, Radio Cayenne, Radiodiffusion Francaise, Prefecture de la Guyane, Cayenne, French Guiana, South America. Robert has warned the station that they may now expect a flood of reports, and has even gone to the trouble of sending them a specimen verification text, so that QSL cards can be prepared, so when you receive your QSL from Cayenne—remember that Robert Mercier helped you get it !

Uruguay. The latest schedule, call-signs and frequencies of " Difusoras del Uruguay," Montevideo, are as follows : CX14 " El Espectador " (810 kcs MW) 1100-0300 : CXA19 " El Espectador " (11835 kcs) 1100-0300 ; CX18 " Libertad Sport " (890 kcs MW) 1300-0200. (Ian Hardwick). CXA6 "Sodre" (" Radio Electrica "), Montevideo, 9620 kcs, has been found with strong signals from around 2245 with classical music ; from 2330 an oriental station in the background may be " La Voix du Vietnam," Saigon. (Pearce).

Brazil. We are again indebted to *World Radio Handbook* for more information on new Brazilian stations. " Radio Sociedade Triangulo Mineiro " at Uberaba (State of Minas Gerais) operates on 4835 kcs ; " Radio Exelcior," Sao Paulo, is due to open a 50 kW Tx, and probable frequencies are 6125, 9585 or 15265 kcs. The " Radio Clube do Brasil " is also due to commence SW broadcasting and has been allocated 6035 and 11795 kcs, while ZYR63 " Radio Emissora de Piratininga," Sao Paulo, 6025 kcs, has been granted licences to use 9635 or 11745 kcs.

" Emissora Continental," Niteroi (State of Rio de Janeiro) on 6195 kcs is now listed as PRD21, and the power as 20 kW. (This is probably the station we can hear under BBC Station GRN around 2300, Scribe). PRD22 " Radio Cruzeiro do Sul," Rio de Janeiro, is a new one of 20 kW on 11735 kcs. " Radio Ministerio da Educacao e Saude," Rio de Janeiro, will increase the power of both SW channels, PRL4 (9770) and PRL5 (11950 kcs) from 1 to 7.5 kW. (WRH). " Radio Jornal

do Commercio," Recife, has altered some call-signs : 6085 kcs is now ZYK31 (ex-ZYK2) and 11825 kcs is ZYK32 (ex-ZYK3). (WRH). Ian Hardwick tells us that 15145 kcs is now ZYK33.

ZYR57 " Radio Cultura," Sao Paulo (9745 kcs) have obliged Sidney Pearce with a QSL letter which states that ZYR57 relays PRL4 on MW. They have a programme called " Midnight " (North American dance music) at 0300-0400, and " Starlight " (varied popular music) at 0400-0500.

Station ZYY2 " Radio Brasil Central," Goiana (State of Goias), 4995 kcs (1 kW) : Q3-4 S4 at 2200 with light orchestral music and call at 2217 which included " Emissoras Goiana." ZYZ20 " Radio Relogio Federal," Rio de Janeiro, 4905 kcs, has now commenced regular time announcements and logged around 2230 (Q4-5 S7). No musical items were heard, but station identification is given very frequently indeed. (Scribe).

ZYY9 " Radio Timbira," Sao Luiz (State of Maranhao) on 4975 kcs (2.5 kW) was noted with S7-8 signals at 2240 (John Whitington, Worthing), and found with Latin-American music at 0110. (Ron Young. Rx : Eddystone S.740 plus Radiovision pre-selector). Heard with news in Spanish at 2230. (Scribe). ZYS8 " Radio Difusora Amazonas," Manaus (State of Amazonas) on 4805 kcs : logged regularly at good strength around 2200. (Simpson).

Colombia. HJCF " La Voz de Bogota," Bogota, 5960 kcs, is heard after 2400 to close at 0200. (Manfred Lepple).

Venezuela. " Radio Aeropostal," Caracas, is a new station operating on 5010 kcs with 1 kW output. (WRH). " Radio Barquisimeto " have sent a letter veri and two silk pennants by airmail to Sidney Pearce for reception of YVXJ on 9510 kcs. YVMM " Radio Coro," Coro, is being heard well near 4948 kcs. (Pearce). YVLK " Radio Rumbos," Caracas, 4973 kcs : logged at 0130 (Ron Young) and closing at 0428 (John Whitington).

Ecuador. HCJS5 " Ondas Azuayas," Cuenca, on 4980 kcs has 250 watts power and the address is " Radio Servicio Nacional, Bolivar 190, Apartado 4980, Cuenca. HCIMI " La Voz de Imbabura " at Ibarra is listed on 4905 kcs with 350 watts ; the QRA is Radiodifusora Municipal, La Voz de Imbabura, Apartado 59, Ibarra, and this station QSL's by air mail. (New Zealand DX Times).

" Radio La Voz de la Democracia," Quito is logged on 9557 kcs (Nf) with quite good signals after 2300. Robert Mercier, who reports this interesting item, wonders if this one replaces the old 6210 kcs channel (HCACI). (As far as we know, this station does QSL, OM).

British Guiana. ZFY " Radio Demarara," Georgetown on 5981 kcs is often a good signal around 2330, and at 2345 they give the time as " 8 pm.". (Pearce). ZFY was featuring the " Bing Crosby Show " at 0005 on December 24th (Young), and was very good on January 19th at 2345 with the announcement : " This is Radio Demarara, British Guiana." (D. Berry).

Jim Symes has received his QSL card for reception of ZJA6 Georgetown, 15075 kcs ; the accompanying letter states that this station is only used on special occasions, i.e., cricket test matches, etc.

CONCLUSION

The Honour Roll of Countries Verified will appear, as usual, next month. Readers will have noted that the " QSL's Received " section has had to be omitted lately because of the increase of BC News available ; do you want this feature reinstated, or shall we go on as at present and include as much News as possible ?

The Editor and your Scribe thank all readers for their interesting letters, and we make due acknowledgements to all contributors to these notes. Your Broadcast News for next month should be sent to : J. Fairs, 2a, Durham Road, Redcar, Yorkshire, England, to arrive not later than March 27th for inclusion in the May issue.

The best of DX to you all, and 73 till next month.

AROUND THE SHACKS

G2UK

ARTHUR C. GEE,
Oulton Broad,
Suffolk.

In response to several requests, your editor herewith has pleasure in presenting himself!

Interest in radio started in the early crystal set days, to be followed later by the building of SW valve receivers, upon which he had his first taste of short wave listening. Later, service in the RNWAR put him on the air and later still—in 1936—the call G2UK was obtained. Operation was on all bands, including 5 metres, until the close down in 1939. From then on until call-up he was RSGB County Rep. for Lincolnshire.

The present gear shown above consists of a 150 watt transmitter which can be operated on CW or phone by the turn of a single control and by means of plug-in coils will operate on 14 or 28 Mcs. A very strong preference is held for 14 Mcs phone, however. Whilst working DX naturally gives satisfaction, QSO's with more local and better known friends, takes precedence. The transmitter is crystal or VFO controlled and is monitored by the small oscilloscope shown in the photo. The valve line up is a 6C5 VFO on 7 Mcs—6F6 buffer—6L6 crystal oscillator/buffer—807 doubler and a pair of 8019's in push pull. Modulation is by a Class B modulator using 830 B's. Speech amplifier is 6S7J, 6C5, followed by a 6L6. A crystal microphone is used. The whole of the transmitting equipment is in the rack shown. The receiver is an Eddystone 750. A G.E.C. Miniature Crystal Calibrator is used for frequency checking.

In addition to the TX shown, there is a small Q.R.P. 80 metre CW transmitter used for G contacts. The 14 Mcs aerial at present in use is a half wave dipole with 300 ohm ribbon tuned feeders and a 132 ft. end-on for the 3.5 Mcs rig.

Of a variety of hobbies which have been indulged in from time to time, that of amateur radio takes the foremost place, but time is found for a keen interest in colour cinematography and in sailing.

AMATEUR BANDS COMMENTARY

by

STANLEY HERBERT, G3ATU

The first month of the New Year seems to have gone very much according to plan. While our high-frequency bands continued to sink into the awful trough and for most of the time produced little except "semi-DX" (accompanied by loud "Holas" from Europe), the 80 and, especially, the 160 metre bands have saved the situation. Conditions on both bands have been quite remarkable on occasion and with a little luck, this happy state of affairs should continue for the next couple of months at least.

For the benefit of those of you who are not too familiar with DX work on these two bands, a few words on the difficulties and problems to be overcome, may not come amiss. On the Top Band, the first requirement is as much wire, as high as possible, as you can manage. This is true both for reception and transmission. Indeed, we would say that the transmitting amateur has little chance of raising anything spectacular in the DX line, unless he is lucky enough to have half-wave or better. Given a good aerial and a location reasonably free from local interference and it becomes largely a matter of waiting for suitable conditions, losing a certain amount of sleeping time in the process. Asian DX-TA, ZC4 and the like, may be heard from, say 2100 to the early hours of the morning. North Africa comes in any time from late evening right up to dawn, while the Trans-Atlantic stuff is very much an early rising affair—0400 to 0830—with 0600 often the peak time. Hearing the DX is made easier, because the majority of G and other European stations operate below 1800 kcs, while the DX uses 1800 to 2000 kcs, the majority being between 1800 and 1825 kcs.

Eighty presents a very different picture. Here (we're talking about CW DX), almost all the exotic stuff clings for some reason to the LF end of the band. It is rare to hear DX higher than 3520 kcs. Now the Europeans trying to work this DX are all jammed together in this same part of the band, which makes the situation somewhat sticky for a start. To make things perfect, we now have to cope with the additional menace of dozens of non-amateur stations, happily bashing away with frightful, unstable AC notes, clicks, chirps, whoops and completely unreadable fists. If you can raise DX in the middle of the lot—you've earned it !

In case we have depressed you unduly, let us say that these things aren't there all the time ! From midnight to dawn, 80 can be as reasonable a DX band as any other, but anyone trying to raise VK5KO at 1900 GMT (Yes, he comes through around that time) really has something on his plate.

Top Band

N. C. Smith (Petts Wood), who started the season so successfully, has done even better this time. It is usually a tricky business copying phone DX, but on January 10th, Norman logged snatches of phone from three W1's, W8?SQ and copied W2RYJ at S9 peak. The W2 is 19 miles NE., of Niagara Falls and runs 200 watts. On the same date, W8SYJ was heard on CW.

January 11th, saw excellent conditions and CW produced 13 W1, W3HL, 3TBG, 4LRN, 8NJC, 8HFZ, 9MFV, 9FIM, 9PNE, ØNWX, VE1HJ, W5(?)HOK, and on phone, W2HCW.

On January 17th, WØNWX was heard again, calling G5JU. Norman continued to hear W1 and 2 on various occasions up to February 4th, and heard a good one—KV4AA —at 0514 on February 1st.

J. L. Hall (East Croydon), whose doings have previously been passed on to us by friend N. C. Smith, reports in person ! In an interesting summary of DX conditions, he admits to hearing 59 W/VE's already, this season ! These include VE1YW, 2AIE, W4DTB, W8GDQ, 8SYJ, 8HMF, 8DNB, 8BKH, 9CZT, 9FIM, 9PNE, 9MFV, 9BQQ, KV4AA, with W2RYJ on phone. This additional to the DX reported last month. The KP4 mentioned then is believed to be KP4KD, known to be active.

John is receiving QSL's by now and includes some points of interest therefrom.

W8GDQ—runs 45 watts, but uses a 137-ft. tower. In a photo, his two-story house looks like a matchbox by comparison !

WØFXV says "Kinda unusual to get reports from over there for 160 metres"—to which J.L.H. comments "I suppose it is, Hi !"

W8NJC—runs 200 watts into a full wave centre-fed aerial.

W9FIM—runs 200 watts into a modest 2,000-ft. long wire. Not unnaturally, has worked many G's.

W9PNE—has now worked several G's and welcomes further reports.

W1BB tells John that KP4's KD, DV, W5ENE (1822 kcs), W6KIP (1999 kcs) and ZL1AH (1903 kcs) are all active during tests. W5ENE has already worked one G—G5JU, and was heard on 20 recently, arranging a Top Band sked with a 5A station.

J.L.H. sums up by harking back to the winter of 1940–41, when he listened at odd

moments on army gear and heard the W's roaring through on Top Band phone—says he wouldn't be surprised to hear the DX still audible this coming April/May.

P. D. Lucas (Redhill) had the misfortune to lose his aerial mast and as a result now has a wire 66-ft long and 6-ft. high. This is practically underground as far as Top Band is concerned, so we give him full marks for picking up, of all people, ZC4RX on CW!

K. B. Ranger (Strood) has been occupying his time to good purpose and has made a completely portable O-V-O receiver, covering 20, 40 and 160 metres. The Top Band performance is excellent and seven countries have already been logged on CW. EI9J, GC3EML, OH7OH and OK1QS are among them, but K.B.R. had bad luck with the W/VE DX on January 25th. He was up early and listening, but a local radio beacon was on the job in a big way, so that was that. (In any case, that particular morning saw a combination of poor DX conditions, together with a band full of G's, batting it out in the RSGB Top Band Contest, so the beacon didn't do as much damage as it might have done !).

R. Balister (Croxley Green) finds the W/VE's still elude *his* small receiver, but he did manage to pull in GD3UB, EI9J and numbers of GW's.

R. Winters (Melton Mowbray) is still awaiting delivery of a 40-ft. steel mast. This is due to support one end of a 100-ft. aerial. When this sky-wire is in place, R.W. thinks he may be keen enough to get up early (in a Top Band sense), which he confesses he cannot do at the moment (we know just what you mean, Richard—5 a.m. is a deadly time to be concious !). In the meantime, the counties score is progressing apace and now stands at 24, with 20 confirmed.

B. J. C. Brown (Derby) was in on the opening of January 11th and, despite local interference, he pulled in K3ANR, W1's BB, LYV, 2HCW, 3HL, 3TBG and W8NJC. Bernard still has heard neither OH nor OK, but they are bound to come in time.

G3HMR (Windermere) is now on the air, albeit with a poorish aerial, just at the moment. It is 80 ft. long and 10 ft. high and fires straight into a hill to the west. This reflects the doings back onto a near-mountain 800 ft. high and to the east, so we imagine Guy will be having an interesting time for the next few weeks, plotting the radiation pattern !

HMR confesses that he, too, is fonder of shut-eye than DX chasing. Sensible fellow !

G. Curtis (South Harrow) is welcomed to these pages. His Top Band "gen" tells of KV4AA, heard on 1823 and 1899 kcs. Other information, heard, we imagine via the V.O.A. Amateur Radio Programme, is of W1BB, working OH3NY with a kite-borne vertical which eventually iced up and collapsed (Stew, of 1BB has it cracking again now. The balloon-cum-kite, which he calls a "kiteoon," supports a half-wave vertical, which puts a juicy signal into Europe). W2QHH, using a 6L6 CO, is up to 12 countries on the band !

Which wraps up Top Band for the time being, after quite a month.

Eighty Metres

Despite the difficulties already referred to, things have been happening on the band and the keen types have unearthed some choice pieces of DX, both on CW and phone.

K. J. Gurney (Aylesbury), a phone enthusiast, finds 20 boring. He prefers 40 and the band under review and has so far heard 48 countries on phones on 80 metres. Latest catches are EL2P, EA9BC, PY7GC, HR1BG, W6UGA, 6UJ, 7AI, ØPY (these in the early morning), 10 W5's—three of them at midnight—and two W9's using A3a (single sideband). K.J.G. remarks that the two W9's would have been inaudible on ordinary AM telephony. One morning at 0750, he heard EA2CQ calling KG6A ? The KG6 was not heard, but seems worth chasing, when the band is open in that direction.

R. Goodman (Edgware) picked up some good phone DX on his Mighty one-valver. His best are CN8FR, EA8BB, (2300), IS1CYZ, OY3PF, PY7GC (0140), VE1BF, 1RN, W1, 2, 3, 4, 8, 9, W4KGC/Portable, *Mobile*/KP4, and a net consisting of KP4's CP, ES, NV, ZA and KV4AI (0130).

D. L. McLean occasionally checks the phone band and this time, heard FA8MV, KP4CP, VE1CN, 1QW, W1, 2, 4 and 8.

D. E. Nunn (Hove) now uses an 1155 receiver. Recently, he heard an HB9 on 80, saying that his present power was 2 Kw. ; he hoped one day to break away from this QRP and run a respectable input—something in the region of five kilowatts or so. Anyone got any spare water-cooled 6J5's ?

D. E. N. likes the band, but would like it even more without the CW noises all over the phone band !

N. C. Smith found HR1BG on phone at 0733. On CW, he dug out CT3AB, FF8AG, KP4, KV4AA, OY3PF, VE1, 3, VO1X, VP6SJ W6ZAT, ZL1CI, 1ALF, 1HM, 3JT and lots of more usual DX.

J. L. Hall also snagged HR1BG's phone. His CW list uncovers some interesting activity between 3500–3520 kcs. LU4ZI (Deception Islands-South Shetlands), active most mornings, VP8AP (0500—most weekends), CO2PY, LU1EP, OX3UE, VO6N, VP4LZ, W6ZAT and W7GHU, were all heard in January/February.

John has no less than 106 countries heard on the band, with 62 confirmed !

B. J. C. Brown heard only one DX phone

signal, but is was a good one—VP9G working G3HSN at 2345.

G. Curtis pulled in a nifty VP8AP (3504), says DU6IV and KC6QY are expected on the band and that G6ZO skeds an AP (heard, RST 349–2200 on about 3550).

G3ATU heard W8TJ calling ZK2AA (3501–0840). Didn't expect to hear the ZK2 and so was not disappointed !

Forty Metres

Despite the ever increasing volume of rude noises and the ever decreasing standard of operating on the band, the DX is still being pulled from the second or third layer by those with the necessary patience and skill. European activity seems to have reached a new high and the tactics employed by some of the newcomers have to be heard to be believed.

H. Lee (Oslo) skipped CW and picked up a nice new one—CR4AI—LU4BH and TA3AA, all on phone.

Henry used a PCR 1 receiver, but expects to have a new set soon and accordingly will be able to listen on all bands.

N. C. Smith braved the yatterings on the LF end (He's well able to cope with such distractions) and pulled in CX1DZ, CE7ZC (0630), VK2PA (1945), LUØ's AC and ZDV, VP8AP (0715), many ZS, ZL, MD5, VQ4, YI, etc., HH3L, W5JFI, ØANY and three very hot ones—ZS7D (1855), ZS2MI (1715 and 1838), and ZS5LB/MM (Tristan Da Cunha).

J. L. Hall, too, heard ZS7D and ZS2MI, the latter on both CW and phone. Both were new countries on the band and bring J.L.H.'s total QRM or no QRM to 180, with 110 confirmed !

K. B. Ranger's O-V-1 and O-V-O between them pulled in phone from FF8GP (2145), EA9AS and a doubtful OX4BQ, and CW was heard from FA8, CT2AE, ZS6UX, YI2AM, LU6AX, OD5, 4X4, ZC4 and several Russians, including UG6.

Keith comments unfavourably on the shocking CW emanating from all too many stations. Incidentally, his O-VV-1 was responsible for the score of 147C-37Z, phone/CW and 136C-35Z, phone only, during 1952.

R. Balister found 0900 about the best time for DX from both ZL and W. He heard W7GHU (Ariz.) and ZL2KX around then, also CR4AC (1825), OD5AD, UG6KAA, YI2FD and ZE3JP (1945).

We have done a little snooping on the CW end lately (we've given up phone listening on the band, being by now allergic to the Latin languages !) and heard ZS7F (1930) calling ZS91 and later working an HB9. Numerous Europeans (including a few G's—who should have known better), were calling the ZS at the same time, which didn't help.

We heard and called ZS2MI, only to discover later that the aerial feeders were well and truly twisted. 20 ft. from the transmitter. No wonder the thing was flashing over !

VQ2GW is active around 2330 and VQ3KIF is often to be heard working VQ4HJP at 1730.

Here we are, almost through this commentary and we have so far not touched on our former top DX band-Twenty. Perhaps its just as well, because doings up there are in rather a bad way. So that we propose to take the remaining bands together, more or less and see what they can produce between them.

Other Bands

P. M. White (Williton) found 20 poor, but was not discouraged. He is testing an 1155, but still uses his 1-V-2, on which his best phone catches were CE3CZ, HP3FL, nine LU's, VP4CO, OX, YV, W7ADS and W7KT.

Future plans for P.M.W. include converters for 21, 28 and 1.8 mcs, some decent aerial arrays and eventually, a full " ticket." Good luck in all those projects, too.

W. Hardie (Harwick) has been pushed for time lately. On 20, his best DX was VQ2DT, W6BAX, ZS6L and ZS7C.

21 mcs produced IS1CYZ (The only IS station on the band), FF8JP, ZE5JP. Bill asks the status of IT (counts as Italy), ZS6 (which is part of the Union of South Africa, together with ZS1, 2, 4 and 5). ZS7 is Swaziland and counts separately.

D. Wilson (West Hartlepool) was not excited at phones CO2WV, VU2BH, YV5AB, ZE2JE and ZC6UNJ (all new ones for him, though) and CW boys CN2AN, SVØWC and ZC4IP.

P. M. Crawford (Darlington), snatched brief moments of relaxation from the awful business of house decorating and grabbed onto phone from ZD9AA, ZD6AF, HZ1TA, CM5GN, TG9RV and a couple of W/VO2. UAØARQ and UAØMR were heard on CW—all this being on 20.

Martin dismisses 80 as " Just one mass of QRM, and lids bidding fair to rival The Roaring Forties at its best " !

V. Doidge (Callington), with his 2-valve battery job, extricated phone on 20 from CR4AI, CR7AG, HZ1TA, KZ5WA, SU5EB, TF5SV, VQ2DT and WØQZ.

N. C. Smith's researches into 20, resulted in phone being picked up from SV1T (who appears to be in Crete at the moment), UA4CB (rather unusual, these days), W4EFH (on Peewit Island, a little thing South of Miami and only 7 miles by about 1), ZD2RRW and ZD4AF.

CW found FB8BE (1745), VK1JC (1640) and YK1AH.

On 15 CW, N.C.S., turned up AP2K (1120), CR7AF, 7RN, KV4AA, KZ5IL, TF3NB, VK4FJ (1125), VU2CQ (1130), ZS's and ZE3JJ, while phone was logged from 3V8, VE, ZS and ZS7C.

The 1953 score has so far reached 106C-3OZ, with 83C-26Z on the 21 mcs band alone !

P. D. Lucas, even without his aerial pole, managed to hear KA2IM, SU1JP, ZD4BK and 3V8AS on phone ! 20 metres.

K. B. Ranger, struggling with "rock-bottom" conditions, reports phone from AP2K, ZD2RRW, 4AX, VO6R, VK2LK, 6WJ, VQ2DT, ZS6ZU/P and ZL2BE. The CW side produced FF8, FQ8AP, OY2Z, ZD2HAH, PJ2AI, VQ2RA, MP4BBD, LZ and, again, ZS6ZU/P. Also 20 metres.

R. Balister's efforts on 20 CW gave him OD5AD, OY2Z, PZ1A, VE4RO, VP6BM and W5VSS, with phone from W6BAX, OX3AN, SU5EB and W3MQN/VO2.

R. Winters struggled along with LU3EB (his very first south American), SP5AG, north Africans and CS3AC. 20 once more.

H. Lee combed 20 and had to settle for KV4BB (a new one for him), EA8AY, OY2Z and ZS5KP, all on phone.

B. J. C. Brown should surely qualify for a prize of some sort. He actually heard a signal on 10 ! VP6JB was the man in question.

On 21 mcs, Bernard collected W1, 2, 4, 9, VE1 and 3, ZE2JV and various north Africans.

The best on 20 were—phone—CE2CC (2230), CO8CA at midday, HH2AM (1850), KA2IM (0800), OQ5RU, PJ2AB, VP9BE, ZS3N, ZS7C. CW was used by EA9BC, five LU's, PJ2AI, PY8GZ, VP6BM, W6CZQ and ZL1AGE,

K. J. Gurney found 21 mcs open nicely one Sunday and was able to add CE3CZ, CR7RF, VQ2DT, VU2RX, ZC4RX, ZD9AA and an unusual one, VE7CE (R5, S9-1500) to his phone collection.

On the same band, R. Goodman heard PY5SN, TF5TP, VE1, 2, 3, VK6MB, 6RW (1250), VP9G (1500), ZE2 and ZS7C.

On 20 phone, Ron caught up with CP5DC (2200), EL9A, JY1XY, KA2IM, 2OM, 2PW, KG6AEX, KL7ADP, 7ADR, OQ5YL, OY2Z (1300), SV1TSV, VE8OP (BaffinIsland), VO6R, 6VB, ZL2BE, 2BY, ZS2, 6, and friend ZS6ZU/ Marion. All the above was logged on a one valve receiver and, what's more, the 66 ft. dipole in use had a broken feeder. Just shows !

D. L. McLean, finding 10 dead as usual, turned to 21 mcs where he pulled in 11 ZS's—including ZS7C (1515), CE3CZ, CR7RF (1530), FA, FF8GP, OQ5HL, 5RU, SVØWP, VE, VQ2DT, 4AQ, ZD9AA (1540), ZE and 4X4.

Of 20, Don says his most productive times were 1700-1900, with signals mostly from Africa. CR6AJ, 6BX, EL2P, 1ØA, FF8, HP1EB, HR1KS (1730), KA2IM, SU5EB, VQ5EB (1720), ZD4BL, ZL4AQ (1830), ZS3N (14150-1850), 6ZU and 35 assorted ZS's give a sample of what he means.

J. Holliman (Cambridge) sends his first report of phone heard on 20, using an eight-valve Super and a 50 ft. wire. The best recently are KG4AA, W4JBC/KP4, VP6FO. ZS6AFF and CE3CZ.

D. E. Nunn found 20 poor except for north Africa, but he did hear KL7AFR for a new one, plus K1FBH/VO2, CS3AC, EA8AL, MI3LV, YI2 and ZL2ADS.

G3HSL (West Hartlepool) continues to add to his score, which is now up to 81C worked. Latest on 20 CW are VO6N, VS1FE, WØDDC/ VE8, KP4JE, VO1AK, SV1SP and FP8AP.

G3AWL (Wingate) has been doing well on 40 CW, working KV4AA (0100), G3AAT/OX (0130) and, unfortunately, missing AP2K and VU2JV (1835).

G3ATU was lucky enough to nip in a QSO with VS9AS while the latter was on a flying visit to Salalah (Oman). Normally, the VS9 operates from Aden. JY1RT and JY1BS were worked, also on 20, and as ex-JY1AJ was in the '3ATU shack at the time, the QSO went down extremely well. LB6QC, active on CW, is in northern Norway. ST2AR is on CW and ST2AC on phone, which makes the Sudan workable, once more.

Anyone requiring the state of Arkansas for WAS, will find W5MPG quite active on 20 CW around 1700.

Talking of WAS, Matti—OH3NY—tells us he has had 47 states confirmed for many months. All he needs now is a contact with Montana, so should this happen to catch the eye of a W7 in that fair state ! OH3NY is doing fine on Top Band, too and has 14 countries up there, to say nothing of his score of 66 counties.

Set Listening Periods

We have had so many requests for a resumption of these little tests that we invite you to get cracking as follows :

No. 1. 21 mcs CW ; Saturday, March 28th 1300 to 1500 GMT.

No. 2. 21 mcs phone ; April 11th, 1400-1600 GMT.

Both periods coincided with the BERU Contest, so with luck there should be some DX about. Please ignore Europe, north Africa, W and VE1, 2, 3. Lists, marked SLP, on separate sheet.

So that, once more, is it, except to ask for your next reports to reach Roker House, South Cliff, Roker, Sunderland, by March 7th please.

Good hunting and 73.

NOTE TO TRANSMITTING READERS

Please send us your DX logs., you may not think them very exciting, but they are of interest to others less fortunate than you.

ON THE HIGHER FREQUENCIES

Monthly Notes and News

by H. E. SMITH, G6UH

VHF conditions during mid-January were some of the best ever for the time of year, and at times even exceeded the peaks of last summer. As expected, the activity rate increased with the good conditions, thus proving once again that many stations listen regularly even if they do not transmit. As predicted in last month's issue, your conductor has been able to put in more time on the band, and it was nice to renew contact with some old friends, including G2JU (Wittering), G3ANB (Brightlingsea), G6PG (Dartford), whom we were very pleased to hear on the band again after a long absence, G3EBW (Hurstpierpoint), now working from his new QTH and putting out a fine signal (G3EBW says he has great difficulty in raising stations although he can hear them OK. This surprises us in view of the strength of his signals).

Many of the hardy locals were contacted once again during January including G3SM, who had that " all the year rounder " listener Len Whitmill in the shack. Quite an enjoyable month altogether, but it was a pity that we were unable to raise some of the DX we heard. G6CW was heard several times and called without result, and we now hear from him that he also heard and called us ! (must be our local noise level. It runs a steady S4 at times). The converter pre-amp as described in the February issue is giving most excellent results, even better than we claimed for it, and is far superior to any other pre-amp yet tried. We were extremely tickled to receive no less than three listener reports during January. This is really something ! Dare we hope that more listeners are slowly but surely getting down to VHF reception ? We have been thinking that perhaps a little material encouragement will assist in keeping up the interest, so a scheme has been devised by your conductor especially for listeners, and it is hoped that it will provide some incentive for them to send in their reports each month. See special announcement for full details. Remember, it is *not* a Contest in any sense of the word. It is a Listener Encouragement Campaign, designed not only to assist listeners in a material manner, but to provide some useful information for the Transmitter.

SPECIAL ANNOUNCEMENT FOR LISTENERS

Commencing with the April issue, we shall make TWO AWARDS each month for the most informative Listener Reports received. This scheme will go on until further notice. For the two best Listener Reports received we shall award useful pieces of VHF equipment, including VHF receiving valves, split stator condensers and various other items. This is not a Contest, and it is quite unnecessary to have received tons of DX signals in order to qualify for an award. The merit of the Report will be assessed on the manner in which it is presented, and on the detailed information given, including local weather conditions existing at the time that any DX stations were heard. Assessment will be quite impartial, and there is no limit to the number of times that any one operator can win an award. This scheme is not confined to regular readers only, anyone and everyone is welcome, from all parts of the British Isles.

Space permitting, all reports will be published (all calls heard over 100 miles certainly will). There are no other conditions, just send in your report, covering the month, to your conductor at 176, Station Road, Hayes, Middx., to reach me by the 7th of the month, and please mark your envelopes " VHF Listener Report."

(The awards are all new equipment, not junk !)

RSGB Still Silent

We note that there is still no official reaction by the RSGB to the many questions we have asked in these columns regarding their future attitude to the VHF operator, and to operation on the VHF bands. Apart from publishing *one* letter (from G3WW) in the January issue, the whole affair seems to have been dismissed very lightly. Much correspondence has been received from our readers on the subject and in not one single case has there been any disagreement with our comments in the December and January issues. Many have said that our comments were not strong enough. One says " I hand you a bouquet for taking up the cudgels on behalf of the VHF operator, but how I wish I could hand one to the RSGB." So do we, and we are still quite ready to do so. We will hand them the biggest bouquet ever, if they will only do *something* to promote some real interest and activity. We fully realise that the Society is passing through a very difficult period financially, and we cannot but agree that the subscription rate requires some adjustment. There is talk in the January Editorial of the Bulletin of the Society fading away within five years if no general agreement is reached on the question of increased subscriptions. If the Society would do more to *justify* an increase, we honestly do not believe there would be much opposition to it.

Whether the Council believes it or not (and they should do by now), the majority of members do not think they are getting full value for their money. Surely the obvious thing to do is to make an effort to give more value. The mere organisation of Contests is not enough. We can only speak for the VHF man, probably a mere 500 or 600, most of whom are members, but the VHF population is growing rapidly and as time goes on will probably equal the LF bands operator in numbers. (Perhaps even in five years). The promotion of VHF study groups, regular tests, both on 70 cms and 2 metres, point to point schedules, all cost nothing, except a little *interest* plus a little *effort*. It is these last two items that appear to be missing. Wake up, Council ! Your predecessors kept the Society going through some thin times years ago. No *reasonably* minded bloke wants to see it go under, so what about some new ideas? The VHF fraternity are waiting to do some serious work.

The 2 Metre Band Plan

A correspondent commends us for having the courage to admit that we were wrong about the Band Plan. We freely admit that our views have changed since the Plan was first introduced. Our main grouse was that insufficient space had been allocated to Zone J, and that severe QRM would result. (We were not wrong in this, because there is, at times, very severe QRM in the London area). However, as time went on, it became quite obvious that the majority of VHF operators were working to the Plan, and that it was, indeed, workable. (We must point out that even in the early days, when we were against the Plan, we rarely allowed ourselves to operate outside of Zone J, although we had the crystals to do so). There seemed no point in banging one's head against a brick wall and screaming " I'm right and all these other fellows are wrong," or, indeed, sitting back in an armchair and writing an Editorial advising people to throw the Plan overboard, *unless one has a better Plan to offer*. We certainly can't think of a better one at the moment, so let us tie it all up nicely and say we are quite satisfied as long as the majority are.

The VHF Newcomer

A somewhat larger postbag than usual lead us to think that we should have some difficulty in fitting all the queries in this month. Strangely enough, at least six letters dealt with the same question. All required details and circuit of a simple 2 or 3 valve complete receiver for 2 metres. There must be dozens of potential VHF listeners who, not having a super-het type Communications Receiver, think that it is not possible to use a converter with a TRF receiver. That at least, is the reason given by four of our correspondents. Taking the first question, that of building a complete 3 valve receiver for 2 metres, there are two major reasons why this would be very difficult. Firstly, if built as a TRF with, say, two RF stages and a double triode as detector and output stage, the sensitivity would not be high enough for the reception of weak signals. As most of the signals encountered on this band are of very low intensity, except, of course, for locals and a few of the more distant and powerful stations, the overall performance would be poor and entirely unsuitable for any serious work. Secondly, the only alternative to this would be a super-regen circuit with RF stage and separate quenching stage, with its very high noise level. A carefully designed circuit of this type would most certainly bring in the more distant phone stations. Reception would be limited to phone because of the difficulty in introducing a heterodyne on the signal, and there would be the ever-present danger of radiation from the super-regen part of the circuit which would not only affect other listeners on the 2 metre band, but cause severe QRM on all television receivers over a wide area. So, for the moment, leave the super-regen alone altogether. It may have some commercial applications, but from the amateur VHF operator's point of view it is a dead loss. Provided your TRF receiver has an efficient RF stage and a reasonable selective input circuit, there is no reason why a converter should not be used in conjunction with it. Any of the types recently described in this and other journals will give results. You will not expect the results to be comparable with a converter used with a good super-het receiver, of course, and the IF selectivity will be very poor. All tuning will have to be done on the oscillator of the converter with the RF stage of the main receiver set to a point of no signal. If the tuning is attempted on the main receiver, there will be severe IF breakthrough due to the poor selectivity. The addition of another RF stage to the main receiver will greatly improve things, both sensitivity and selectivity will be increased and the overall results will be almost as good as with a super-het.

Finding the 2 Metre Band

An interesting problem was recently sent in by a newcomer to VHF. A converter had been constructed, using a 6AK5 RF stage with a 6J6 mixer and an IF of 20 Mcs. In spite of very careful tuning it was found impossible to locate the 2 metre band. Suggestions sent to this operator quickly put the matter right. As we suspected, the tuning coils were far too large, and even at the minimum capacitance of the tuning condenser the circuits did not resonate much above 100 Mcs. This is a point for the beginner to watch, and the following data may be of some interest. The input capacit-

ance of the 6AK5 is 4.5 pf, and this value must be deducted when calculating the required capacitance to tune the input coil to resonance, plus a pf or so for the circuit strays. For instance, a .22 microhenry coil (5 turns of 16 SWG wire on a ½ in. former, with each turn spaced the wire diameter, and with ¾ in. leads) require 5 pf to tune it to 150 Mcs, and 9 pf to tune it to 112 Mcs. So, by forgetting the additional capacitance due to the valve, we can be in error by as much as 40 Mcs ! ! With a coil to the dimensions as given above and when used in conjunction with a 6AK5, tuning should be carried out either with a dust iron slug, or with a variable capacitor which has a *maximum* value of 3 *pf*. Even a 3 to 8 pf trimmer is too large for the job. The 6J6 has something like half the input capacitance of the 6AK5 (2.2 pf to be exact) which allows the use of a slightly larger value of capacitance. It is good practice to allow for 1 to 2 pf of stray circuit capacity. However carefully you construct the converter *some* strays are bound to exist. To assist in coil calculations, here are some useful figures for your notebook. Using 16 SWG wire on ½ in. diameter former with each turn spaced exactly the wire diameter, the turns/inductance figures are as follows :—

No. of turns	Microhenry
3	.12
4	.18
5	.22
6	.28
8	.4

Using these figures it is quite simple to calculate from an ABAC the capacitance necessary to resonate the coils to any frequency in the VHF range. (It should be noted that the coil sizes stated, include ¾ in. leads).

Transmitter Notes and News

Look out for **DL3QA** of **Alsdorf-Aachen** on 144.790 Mcs and 145.300 Mcs. He tells us that he will be active again early in March, specially looking for Gi and Gm stations, but will also be listening over the whole band. Main operating hours will be 2000 to 2200 GMT and both phone and CW will be used. The aerial consists of 24 elements in phase, and the input 100 watts.

News from Ireland

Ei2W sends us some more news of activity over there. An interesting note is that membership of the VHF Research of Ireland is now open to all Amateurs, no matter where they are situated. Membership fee is 10/- per annum, and all applications should be sent to the VHF Research Society of Ireland, 97, St. Stephens Green, Dublin.

Membership entitles you to the quarterly issue of the *Upper Spectrum*, a most informative and interesting publication. The next issue is due out shortly, and will contain contributions from Germany, Belgium and the U.S.A. Ei2W hopes to make the Society an international exchange for research on the VHF bands. A highlight during January was the visit by G6CJ and G2UJ to Dublin, and a dinner was given in their honour, with the Lord and Lady Mayoress of Dublin, and the Minister of Posts and Telegraphs present. On the day following, G6CJ gave one of his famous model aerial demonstrations and the lecture was voted as being one of the best demonstrations ever given in Ireland. The Irish Amateur Television Society has now linked up with the VHFRSI, and a joint meeting will be held early in March when arrangements will be made to give a combined VHF and Amateur TV demonstration in the early part of April. VHF activity is still on the increase. Ei3S (Dublin) has been on the band consistently. Recent QSO's have been with Gi3BIL and Ei6A (Wicklow). (Ei6A is on nightly after 2300). Ei2W, operating under his second call, Ei2B, has also worked Ei3S, Ei6A and Gi3BIL. Ei2B and Ei3S beam east and south-east every night after 2345 GMT and ask all G stations active at this time to keep their beams towards the west. Ei2L in Kildare is putting a strong signal into Dublin, and has received Gi3BIL at S9. Gi3IJM (Lisburn) and Gi3GZQ (Belfast) will be on the band before these notes appear. Ei9C is active in Dublin on 2 metres and 70 cms. Other Dublin stations are Ei3L and Ei9N. (G stations please note these calls). Two stations almost ready to start up are Ei4E (Killarney) and Ei4R (Listowel, Co. Kerry). (Thanks Harry for another interesting report).

From **G3GBO (Denham)**, who missed the boat last month with his report, comes news of a move into a new shack, with a short period of enforced inactivity due to matters other than radio. The new beam is now up and working and several new contacts have been made, including G3EGV (Farnborough), G6CW (Notts), G3IEX (Uxbridge), G2JU (West Wittering) and G5SK (Coventry). The all-time score now stands at 314. Don comments on the common mistake made by some locals in giving a short call when calling another local, and wondering why the other fellow does not come back. As Don says, to tune carefully through the whole 2 metre band may take as long as five minutes, and when one has sent out a CQ, one usually listens in the zone to which the CQ has been directed. It is, therefore, quite easy to miss local calls unless they are long ones. G3GBO may soon be discontinuing his regular reports to these columns as he is daily expecting his call up. We wish him luck and hope that he may find some odd moments to appear on the band.

G3DIV (Eastbourne) found the conditions excellent towards the Continent during January, and at least three new French stations

were worked, F8DB, HL and F3XY. On the 16th January a *six way* contact was made with F3CA, JW, F8BY, GH and LO. All the French stations were hearing each other as they were all in the Paris area. Conditions to the east have not been quite so good, although several contacts have been made with ON4HN and BZ, and several PA stations heard but not worked.

G3HZK (Hayes, Middx.) is still operating under adverse conditions, being unable to erect anything in the way of an outside aerial. John says that he hopes to operate from a /A QTH on the roof of a local factory during the next VHF Contest. A simple dipole in the bedroom has been used for recent activity, and G2BM, G3IIT and G3WW have been heard.

G3EBW (Hurstpierpoint, Sussex) is now in full swing again after a long absence from the band. Guy is finding the new QTH difficult in that he hears and calls many stations, but finds some trouble in raising them. Stations worked during January include G2UN, HDZ, UP, AVR, G3HWS, MI, BNC, FAN, DDD, WW, G5UM, G6PG, UH, G8IL.

G3AJP (Fritton, Nr. Great Yarmouth) reports that he is active once again if only on a small scale. The beam has not yet been re-erected after being blown down some months ago, but John says the 68 ft. Windom, fed with 300 ohm ribbon, seems to put out a signal of sorts. On a similar aerial last year G3AJP heard DL3FM and several PA and G stations. (Listeners please note). The transmitter is not operating as well as it should, but it is hoped to get this trouble ironed out very shortly. We were extremely sorry to hear from G3AJP that G3CFK of Yarmouth suffered in the recent flood disaster, and at the time of writing, most of his equipment is still under water. (When conditions return to normal with G3CFK, we should like to hear from him if he requires any material assistance in getting back on the band).

G3HBW (Wembley, Middx.) is getting down to normal operation again now that he is no longer in the RAF. (How time flies. It only seems a month or so back that he was just going in !) Arnold took advantage of the abnormal conditions during the period 4th to 17th of January and again between the 25th and 29th. Contacts over 50 miles included F8AA, F8GH (twice), ON4BZ (twice), G2UQ, G3AEP, ARL, FIH, GJZ, IAI, IUK, NL, G5YV and G6CW. The Continentals were all received at strengths between S8 and 9, and the best DX was ON4BZ at 220 miles. Excellent phone signals were also heard from G2FZU and G5RW (Ilkestone) and G3AUS (Torquay). G4GR in Monmouth was heard on CW at 589. On the morning of the 18th of January, G2HQ/P in the Sheffield area was heard at 569, but although called for most of the morning, did not come back. (Thanks for the Gen. OM, and we are glad to hear that you are back with us again).

G8LN (Plumstead, London, S.E.18) has not been quite so active due to business QRM. Among other things, Will had to make a hurried trip to Dublin. During the limited free time at his disposal, he made an effort to contact Ei2W but could not trace the QTH in time, as he had to catch the boat back. (Ei2W will be sorry about that OM). G8LN informs us that G3ECA (Ilford) is organising a 70 cms group, working with simple gear. This is good news, and we hope that G3ECA will send in some details of the gear in use and some collective notes on what is being achieved. G8LN thinks we are overdoing our criticism of the RSGB, in view of the fact that the going is very heavy at the moment. He says the RSGB is the parent organisation which has established the amateur on a sound footing, and should not be allowed to die. (We wish nothing more than that the RSGB should continue to be the representative body for the amateur, and we are still ready at any time to support them in full, but only if they show some interest in what is going on. Several operators are already packing up the 70 cms gear because of the official disinterest in that band (see G3EHY's report). Surely the advice to all VHF stations to spread out over the band is not evidence of interest? Such a move can only result in less and less activity because of increased QRM. The high frequency end of the band is already choc-a-block with Irish stations. The middle with Zone J stations, and the LF end with northern stations. Who is going to spread out, and to where ? Sorry to argue the point with OT G8LN, but it by no means indicates that we do not appreciate his viewpoint). G8LN was pleased to notice that his call was included in a list supplied by Len Whitmill of Harrow, and thinks it is about time that Len wrote up a few details of his aerial and receiving equipment. (What about it L.W. ?)

G3EHY (Banwell, Som.) has given up 70 cms operation because of the failure of the RSGB to rectify the omission in the 70 cms scheme for regular calls to be sent out in certain directions. No provision whatever was made for the south-west, and letters to the Society produced no result whatever. (More evidence of the Society's interest in the VHF bands. Could it possibly be that those responsible were so ill-informed on VHF matters that they could not see that G3EHY, so excellently situated for VHF operation, could easily have become the key station in his area for some really serious experimental work on 70 cms. So there we are again, one of the keennest and most regular VHF operators in the country, driven off the 70 cms band by non-co-operation). On

2 metres, a regular schedule has been maintained with G5RW (Ilkeston) and kept at 100 per cent. For about 75 per cent. of the time, phone operation has been possible at S8/9. G2FZU in the same town, also puts out a similar signal and many contacts have been made with him during the month. The regular schedule with Gi3GQB has also been kept without interruption, and the path has been covered many times (368 miles). Every night during January was good for DX, and between the 8th and 15th the band was wide open night after night. On the 16th, things were so good that Midland and Northern stations were heard working their own locals, whose call signs were quite unknown to G3EHY. Louis agrees with us on the importance of the listener community, and says how useful and informative many listener reports are. (We hope the announcement to listeners will produce some more reports for these columns).

G5GX (Leven, Yorks.), also reports on the good conditions during January. Malcolm is still using the " Pip Squeak " transmitter, and does not expect to get much DX on it, but he is there listening each night. G5GX mentions that it seems rather strange that Thursday nights, which are supposed to be Activity Nights, are the only nights on which no signals can be heard. Malcolm and G3ITI (Cottingham) have been busy building the pre-amp described by yours truly in the February issue, and we have been threatened with an unnamed fate if the results are not better than the existing ones. (We hasten to assure G5GX that when this job is trimmed correctly, it is *almost* possible to hear the tiny scratches caused by the PD between a flies feet and the dural elements of the beam. (But not quite). Seriously, though, it is performing better than anything ever used previously at G6UH, and we have used a few types from time to time, including most of the better known ones).

G3ITI (Cottingham, Yorks.), who sent in his first report last month, has found conditions to be very satisfactory and has worked G2MV for his first DX on 2 metres. Other contacts include G2XU, FNW, G3FUM, G4MW, and of course, G5GX. Roland has constructed a new cascode converter during the month, the local oscillator being a BC638-A Signal Generator multiplying a 7,500 kcs crystal to 135 Mcs and tuning 9-11 Mcs on the AR88. It is hoped to add a 70 cms converter. Among the converters being tried is a two stage EC91 GG pre-amp which has terrific gain on both noise and signal. Tests with G5GX show that Malcolm's signal is about 5 dbs up. " What a fight it is on VHF to get those precious dbs," says G3ITI. (Cor, you're telling us, OM !)

G3ANB (Brightlingsea, Essex) reports again after a very long absence. (It was a real pleasure for us to have a renewed QSO with Bill again during January). The transmitter at G3ANB is Xtal oscillator/6V6/TT11/TT1/1 829 with 400 volts on the final anode, running at about 26 watts. A 6J6 neutralised RF stage into a modified RF 27 with an HRO at 7 Mcs. Bill is situated about 50 ft. above sea level, and his beam is a four element close spaced Yagi, T matched to 300 ohm feeder, at a height of about 35 ft. Bill is active most evenings between 1900 and 2000 GMT and sometimes up till 2130, but seldom later. During these times he puts out CQ calls regardless of conditions, and has been amply rewarded. He finds that phone CQ's are of little use and says " After all, if a CW contact develops into a good one, you can always try a spot of phone—all of which means, can we have more CW chaps ? "

G3ANB *likes* working people he has worked before, as many times as they like. A regular schedule is kept with G8IL (Salisbury) at 1930 on Wednesdays and at 1845 on Saturdays. (It might be a pointer to conditions for London area stations to listen for G3ANB at these times. QRG 144.960). Commencing on February 19th, a schedule has been arranged with PA/FC. This will be at 1900 GMT on Mondays.

G5ML (Coventry) is now going to town with the new QRO rig and the 16 elestack at 45 ft. The increase in power has proved to make a bigger difference than was expected. The London area has been worked regularly with incoming reports of S8 and S9. Reports of 5 and 9 plus were received from G5YV, G3EHY has been worked regularly with reports never less than 569, G3YH (Bristol) has been worked for the first time, also G3IER (Cheltenham). Other contacts include G2YB, G4AU, G6VX and G2AHP. Another new station was worked on February 3rd, G3IOO (Oswestry).

Summary of conditions, very good 16th to 25th January, fairly good 26th to 29th January. Local activity low. (Thanks, Fred, and to your scribe/2nd op. Ray).

G3SM (North Harrow) sends us a first report (and very welcome it is OM). An 832 is used in the final with about 10 watts, modulated by a pair of 6L6's. A 6J6 pre-amp and a modified RF27 unit feeding an SX24 comprise the receiving equipment. The aerial is a 3 over 3 Yagi on a 40-foot tower and rotatable from the operating position. New stations worked during January include G8PX, G2BRR (Woodford, Essex), G3IEX, G6OH, G2WA (Banstead, Surrey), G6PG, G3ANB and G3HAK (Reading). It is hoped to increase the power very shortly and Don then hopes to obtain a few more replies from the DX stations.

G6CW (Nottingham) decided to give the

band one more chance before going QRT on VHF. His verdict is that as far as he is concerned, the band has almost " had it." " Too many undermodulated phone stations you cannot read, and the key seems to have fallen into disuse. I tried about two weeks or so on the key, but was forced to go over to phone in order to obtain one contact a day." (Thus we reprint the verdict of an old-timer on the VHF bands. We can only hope that John will once again decide to give it another trial. Perhaps just for the summer. What say, OM ?) Over 30 contacts were made during January, and these stations heard, but not worked, G2FUD, HCG, HQ, JU, KF, XV, G3EHY, IRO, IUK, YH, G5NV, YV, G6UH, XX, G8PX.

G5LK (Reigate, Surrey) says that everyone appeared to be missing the TV programme on the evening of the 13th of January, when our friends across the channel were loud enough to make one think they were holding a Field Day in our back gardens! F8NW was the star station as far as signal level was concerned. F8GR was heard calling many G stations without reply. F8BD was heard at good strength, but was not raised. Contacts were obtained with F8AA, and ON4BZ was heard at good strength but not raised. Leslie suggests that far more DX would be worked by some of the London area stations if they would only use more CW. He does not wish it to be thought that he is trying to dictate any operating policy, but it is just a suggestion. (Hi, you blokes, more CW from now on please, *and* more important still is the need to sign off on CW at the end of a phone QSO.) Leslie recently had an invasion by G3GBO, 3HBW and 3HZK, who proceeded to erect a new wide-spaced Yagi with 300 ohm feeder, new guys to the mast, and fitted the aerial 6 feet higher than the original. Results seem to be greatly improved, and Leslie wishes to say how grateful he is for the help given to him by these boys. (For the benefit of those who may not know it, G5LK is blind.)

G6PG (Dartford, Kent) having been away from *Amateur Radio* since May, 1951, has now returned to the 2 metre band. At the time of his QRT he was working only on 70 cms, and it has taken quite an effort to restart on 2 metres. Since restarting in mid-December G6PG has worked some 45 stations in 17 counties, and it might encourage some listeners to know that half of this total were worked from an indoor dipole about 11 feet from ground. As space is getting very tight in this issue, we shall include more details of G6PG's outfit in next month.

G3WW (Wimblington, Cambs.) has been finding the new stations again. Recent new contacts include G3IEI, IUK, BKQ and G5BC. On the 13th January G3WW heard and called F8AA without result, but was answered by ON4BZ who told him that three other Belgian stations were active. At 2126 WW was called by G6RH to say that he was hearing F8AA, F3EC and F8GH. Later on during the same evening, ON4HC was worked. On the 28th G5QL and F8GH were worked for new contacts, and G6PG for the first time for many months. Many of the usual locals were worked, and G3DIV and G2AVR as the best DX on the 28th.. We know that G3WW will excuse us if we cut his report short this month. Space is short due to the many extra reports.

GW2ADZ (Llanymynech, Mont.) is still in the throes of the rebuild, but has done a little listening. Bill hopes to be full swing again by the time these notes appear. January Calls Heard: G2FFG, FNW, MV, G3ASC, IOO, EAY, FAN, FRY, FUM, GHO, GJZ, HWJ, HXO, G4SA, G5BC, ML, FH, G8DV/A, ML, MW, VZ, F8NW.

G5YV (Morley, Leeds) has been active again since January 11th after an absence of some 10 weeks, and has found conditions since then to be well above the summer average. 115 QSO's were obtained between January 11th and February 6th. The best night was January 16th, when 21 QSO's were made between 1900 and 0000. The outstanding contact was with G2BMZ at 245 miles, S9 phone both ways. Harold made a total of 1248 QSO's between February 6th and October 30th last year. G5YV is on every night looking south.

Listener Section

We were nearly overwhelmed by the stack of reports this month! No space to waste, so lets get on with the important Calls Heard section.

R. W. Russell (Southampton) has the 6J6 RF stage to the converter working OK, and he reports on the good conditions during January. The only French station heard during the good spell was F8AA.

Calls heard, over 100 miles: F8AA, G2XV, G3ANB, G4MW, G5ML.

Non-local: G2AHP, AVR, BMZ, BUJ, DDD, DTO, FUD, HCG, HCW, JU, MV, NM, YB, G3AVF, BLP, BPM, DJX, EBW, FUH, FRG, GAO, GBO, GSE, HBW, HXO, IEX, G4SA, G5NF, G6PG, RH, TA, UH, G8DV/A.

M. McBrayne (Westcliff-on-Sea) Rx. No RF stage. 6J6 mixer. 4 element Yagi in roof space.

Heard: G2AIW, AVR, BCB, FFG, FTS, UJ, UN, WJ, XV, G3ANB, BK, BLP, DIV, FAN, GBO, GHI, GWB, HBW, IAI, WW, G4AC, AU, MW, OT, G5DS, NF, G6LL, PG, RH, TA, UH, YP, ON4BZ.

(OM McBrayne has been a keen VHF listener since 1935, and a battery-operated super-regen was used in the old 5-metre days.)

D. T. Hayter BRSI9283 (Worthing, Sussex) Rx.EF54 RF, EF54 Mixer. 4 element Yagi at

30 feet. Heard: G2AHP, ANT, AVR, BMZ, BUJ, DDD, DSP, FVD, HCG, JU, MC, NM, TP, UN, YB, G3ANB, ARL, AUS, BK, BNC, BPM, BUN, DIV, EBW, FAN, FRG, FSD, GBO, GOP, GSE, HBW, HCU, HVO, HWJ, WW, MW, SA, G5BC, DS, NF, G6RH, UH, G8IL, DV/A, ON4BZ, F8AA, GH, NW. (Don tells us that the local stations G3FRG (Worthing), G2UN (Lancing), G2DDD (Littlehampton) and G2DSP (Bognor) are all looking for contacts with the London area).

J. E. Harman (Eastbourne). Heard: G2BRR, FFG, HCG, HWJ, KF, MV, UN, WJ, G3AEP, ANB, BK, BLP, EOH, FD, GJZ, GHI, IAI, IIT, G4MW, G5DS, IG, LK, NF, UD, YV, G6PG, TA, G8DV/A, PG, F8AA, NW, F3JR, ON4PJ, UV, PAØFC, PAØPAX.

L. A. Whitmill (Harrow Weald). Heard: 70 cms G2DD, FKZ, MV, QY, RD, WJ, G3FP, G4RO, G5CD, DT, RD, G6NF, YP. 2 metres: G2AHP, AIW, ANT, AVR, BMZ, DDD, DTO, DUV, FNW, FTS, FZU, HCG, HDZ, HIF, JU, MV, PU, UQ, WA, WJ, XV, G3AGR, ANB, ARL, AUS, BKQ, BLP, BNC, BPM, BRG, BVU, CVO, DIV, EBW, EGV, FAN, FD, FSD, FUM, GBO, GHO, GSE,GWB,GZB, HAK, HBW, HCU, HWJ, IAI, MI, SM, ZI, G4DC, KD, MW, OT, G5BC, DS, DT, LK, NF, QB, RO, SZ, YV, G6LR, QN, RH, TA, WU, XH, G8DV/A, IL, OU. (18 counties were logged between January 1st and February 1st. Total score now stands at 462 stations heard).

Ray Bastin (Coventry). Apart from scribing the G5ML report, Ray finds some time to listen at home. Most consistent signals during the month have been G6CW, G3BKQ, IAI, G2FNW, FZU, HCG and G5YV has been audible at S7 nearly every night. G4SA was a terrific signal on January 24th. On the 29th G2HDZ and G6RH were the only signals audible from the London area after TV hours. (Both were S8 on phone).

Peter R. Horne of W.B.B., R.N.O. Hospital, Brockley Hill, Stanmore, Middx., has built receiving gear for 2 metres and has already heard some stations including G3GHI. The aerial is a simple dipole 6 feet above ground. Peter would like to hear from other 2 metre operators or listeners. Would anyone like to drop him a line?

There is not much space left for us to sign off the month, but we do thank everyone for the fine batch of highly interesting reports, and for the many comments contained therein. If you like this journal (and many of you seem to), please pass your copy on to a friend to look at. In spite of our efforts, there still appears to be many who have never heard of us! Don't forget those listener reports, and we specially welcome reports from transmitters containing calls of stations heard but not worked. All reports by the 7th of March at the latest please, direct to your conductor at 176, Station Road, Hayes, Middx.

Good Hunting and 73 to all.

G6UH (145.000).

STRICTLY FOR THE BEGINNER

by O. J. RUSSELL, G3BHJ

Part 4—MORE ON SIMPLE MODULATION

The simple Heising circuits discussed earlier have the advantage of providing effective modulation with the minimum of complications. However anyone starting on modulation, is bound to make a number of adjustments before results are satisfactory. It is best NOT to conduct preliminary tests "on the air," and some form of artificial aerial is desirable to enable adjustments to be made BEFORE putting the system on the air. This will enable the first phone transmission to be as good as possible, thus avoiding the infliction of "spitch" upon the ether. It also has the advantage that a modulator can be built, tested and be ready for operation before the initial period on CW is ended. When the 'phone ticket arrives one is ready to start on 'phone straight away.

While highly elaborate artificial aerials may be constructed, nothing more elaborate than a link coupled resistance is required. The value of resistance may be anything from 50 ohms to some 300 ohms or so, and should be capable of dissipating the full power output of the TX. While non-inductively wound resistors can be used, these are not essential, and a useful resistor capable of dissipating 100 watts or so is available at small cost in the "electric iron" replacement consisting of resistance wire wound on a slotted sheet of mica. The purists who insist on "non inductive" resistors can quite easily rewind the element in the approved zig-zag fashion, but it is also possible to "tune out" the inductance by a large series variable of say 500 pf. However the artificial aerial here serves the purpose of a

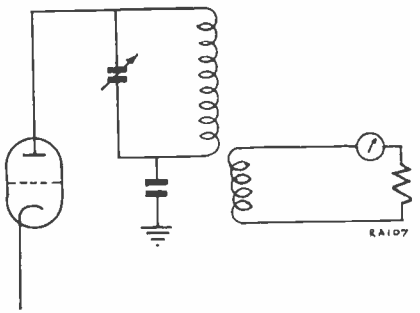


Fig. 1.

The simplest possible artificial aerial enables phone adjustments to be made without inflicting the signal upon the air, but with the transmitter operating under normal loading conditions.

suitable non-radiating transmitter load, and not a precision wattmeter. A load of this kind is recommended, as the use of lamps coupled to the transmitter is open to the objection that the lamp resistance varies widely under modulation. The resistance wire on the "electric iron replacement" is not varying greatly in resistance, even if one is running QRO and the wire is at a gentle red heat! Such a resistor load is tougher and cheaper than one made by connecting banks of carbon resistors. As shown in Fig. 1, the load can be link-coupled to the TX tank, and the RF ammeter enables the effect of loading adjustments to be observed. The aim is to load the TX up to its usual running condition and power input. The RF resistance of the power dissipating resistor is unlikely to be the same as its DC resistance, so that power values measured on the basis of the DC resistance are unlikely to be very accurate. However the changes in the ammeter reading on any given band ARE an accurate measure of relative power changes, so that the precise effect of RF adjustments can be seen. Finally one needs some monitor to enable the modulation to be heard. The station receiver may serve with the gains tuned well back, and with little or no aerial, but the ultra simple crystal receiver of Fig. 2 employing a surplus germanium diode crystal is ideal. In fact a number of hams have been known to use low priced BCL crystal sets as 'phone monitors. If the tuned circuits are rehashed to cover the required ham frequencies, such a "monitor" will pick up enough "soup" anywhere in the shack to enable the 'phone transmissions to be effectively monitored, even if a few feet of aerial has to be used!

So much for monitoring devices (although a cathode ray modulation monitor is ideal, we must leave this till later) we can now consider using these simple devices. As already stated, the simple crystal oscillator type of QRP rig is happiest when NOT loaded too heavily. This can readily be checked by increasing the loading by putting the link coil further and further into the tank coil, when a position will be reached in which distortion will be very evident. The upward kicks upon the RF ammeter may actually become DOWNWARD kicks if the loading becomes too heavy. Incidentally, do not be disappointed in the upward kicks of the RF ammeter are not very great. Theoretically the upward kicks on 100% sine wave modulation as from an audio oscillator tone source should be an increase of 22.5% in the RF meter reading. Thus an unmodulated steady carrier reading of 1 amp becomes 1.22 amps on a steady sustained sine wave modulation level of 100%. However, speech itself is neither steady nor sustained at a single level. Further the speech waveforms are NOT single pure sine waves. Due to this, the actual observed increase in reading on an ordinary RF ammeter with genuine 100%speech modulation is actually around a 15% increase in reading. Thus a steady 1 amp reading on an unmodulated carrier would only show about 1.15 amps on 100% modulation with speech. Not least of the reasons for this is the inability of an ordinary meter to follow the sharp intensity changes of speech. These "increase" figures apply to any correctly adjusted amplitude modulated system of the normal types including grid modulation, screen modulation and even certain so-called "super" modulation systems.

While we have concentrated upon the simple crystal oscillator type rig, the Heising system previously described is also applicable to a PA of the normal type. As a single 6L6 is capable of some 11 watts output, it offers a chance of modulating fully a 22 watt PA This offers a useful stepping stone to the full power rig, as due to the power restriction on

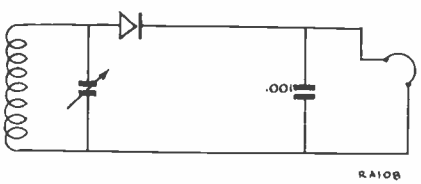


Fig. 2.

A simple modulation monitor using a germanium diode is adequate for initial tests.

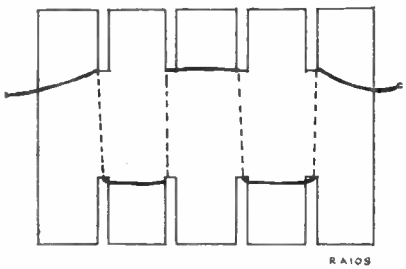


Fig. 3.

Method of winding resistance wire in a "flat zig-zag" on a slotted mica sheet, to form a "noninductive" resistor for an artificial aerial. Raw materials are conveniently to hand in replacement electric toaster or iron elements.

newly licensed operators, the great majority are running 25 watt rigs. A single 6L6 thus offers the possibility of an ultrasimple phone rig at the respectable input of, say, 22 watts. A few pointers on adjusting the PA for phone operation are in order.

The most important factor is the RF drive to the PA grid. As pentode and tetrode final stages are now the rule, we will assume that some such tube as the popular 807 is being used. First of all take the normal CW conditions, it is found that optimum carrier output under CW conditions is obtained with round about 1.5 ma of grid drive. The operator no doubt found that for CW use this seemed to be the best figure, and in fact increasing drive to say .3 ma resulted in a slight decrease in output. Further increase in drive results in a definite decrease in output. However, modulation under the CW drive conditions of, say, 1.5 ma of grid current, is not satisfactory, and the condition of downward kicking of the plate meter may be observed. For effective modulation of an amplifier, ample RF drive is necessary, as full class C conditions must be preserved even at the peaks of the modulation cycle, when the effective value of HT voltage is doubled on positive speech peaks. This requires heavier drive than for CW operation, and for the 807 some 3 ma of grid drive is required for linear modulation. The plate meter should then show little or no kicking under modulation. If grid leak bias is used for CW operation, the increase in drive will automatically take care of the bias requirements. If a bias supply is used, then the bias should be increased to the value recommended in the handbook for anode modulated telephony operation. It is an easy matter to check the improvement effected by increasing the drive from a very low value to full drive conditions. Anode modulation is not too critical, but operation with correct drive and PA loading is necessary for best results. The use of an artificial aerial as load enables loading, drive and other tests to be carried out WITHOUT radiating QRM on the ham bands. It is as well to warn you, however, that an artificial aerial load does not necessarily cure TVI, so if you are bothered with TVI be careful !

CLUB NEWS

Club Secretaries are invited to submit notes for this feature by 9th March, for inclusion in next month's issue.

Birmingham and District Short Wave Society. Hon. Sec. : A. O. Frearson, 66, Wheelwright Road, Erdington, Birmingham, 24.

The Officers and Committee for 1953 are as follows : Chairman, T. Burton, G2BON ; Vice-Chairman and Minutes Secretary, F. C. Cooke ; Secretary, A. O. Frearson ; Treasurer, R. Collett, G3EGS ; Committee, R. Yates, T. E. P. Ellis and W. Muller, G2CJY.

To meet the increased running costs of the Society it has been found necessary to increase the membership subscription to 12/- per year and 6/- for junior members.

At the February meeting one of the ever-popular Mock Auctions of surplus gear took place.

Coventry Amateur Radio Society. Hon. Sec. : K. Lines, 142, Shorncliff Road, Coventry.

The Society have a full programme of Lectures, Discussions, Field Days and Outings arranged for the year. Entries for all competitions are now being scrutinised and results will be announced next month. Congratulations are due to the President, " Freddie " Miles, G5ML, for his win in the Low Power Field Day to secure the coveted Trophy awarded by the RSGB.

The 21st Anniversary Dinner took place in Coventry on February 27th. Future programmes at the Y.W.C.A., Queens' Road at 7.30 p.m. include : March 2nd, " Application of Wavemeters "—fourth in the series of popular lectures by F. Bowman, G3FAB. March 16th, Lecture by J. Hanson, G6YU. March 30th, " Mathematics—Which ? " a lecture by T. R. Theakston, B.Sc.

Television Society. Hon. Lecture Sec. : Mr. G. T. Clack, 43, Mandeville House, Notre Dame Estate, S.W.4.

At the Cinematograph Exhibitors' Assooiation, 164 Shaftesbury Avenue, W.C.2, at 7 p.m. on Thursday March 12th, " Television Aerial Equipment," by N. M. Best of Antiference, Ltd. The Society's Annual Dinner will be held on Friday, March 27th.

Liverpool and District Short Wave Club. Hon. Sec. : Arthur D. H. Looney, 81, Alstonfield Road, Knotty Ash, Liverpool, 14.

The Committee have arranged an extensive programme for the coming year which will include a DF contest for which the reward will be a Fb Cup.

Messrs. Goodmans demonstration and lecture on Hi-fi reproduction was the star event over the past few months, followed by a lecture on Computing by Mr. Hancock of H.M.F. We welcome a visit from any amateur of SWL who may find himself in Liverpool and we extend an invite to any unattached Ham or SWL in the area—we meet every Tuesday evening at 8 p.m., Room 5, St. Barnabas Hall, Penny Lane, Liverpool, 15, or drop a line to the Secretary. All letters answered.

Midland Amateur Radio Society. Hon. Sec. : P. L. Hunt, G3FWB, 39 Antrobus Road, Birmingham, 21.

At a recent meeting of the Society a discussion on " Modern Trends in Amateur Radio " was organised, members present taking part ; this was much enjoyed.

Meetings of the Society are held on the third Tuesday in the month at the Imperial Hotel, Birmingham.

Cambridge and District Amateur Radio Club. Hon. Sec. : T. Davies, G2ALL, Meadow Side, Camberton, Cambridge.

The March meeting of the club takes place at the Jolly Waterman, Cambridge on Friday, March 13th, at 8 p.m.

It is the Annual General Meeting of the club and members are reminded that, by the rules, any proposed alteration to the rules must be received by the Secretary in writing at least 14 days beforehand.

Derby and District Amateur Radio Society. Hon. Sec. : F. C. Ward, G2CVV, 5 Uplands Avenue, Littleover, Derby.

At the Annual General Meeting of the Society held on the 4th instant the following were elected as officers for the ensuing year :— Chairman : C. M. Swift (G3IUK) ; Hon. Sec. : F. C. Ward (G2CVV) ; Hon. Contests Sec. : K. J. Pegg (G3FSH) ; Hon. Treas. : W. R. Chaffe (G2DLJ) ; Committee : Messrs. F. Clay (G3IBL), T. Darn (G3FGY), C. Rodgers (G3IIJ), G. Mather and B. J. C. Brown (G1889) ; Magazine Editor T. Darn (G3FYG) ; Auditors : Messrs. C. Drinkwater (G3FNK) and W. M. Sudbury (BRS 13922) ; The Society's President A. G. G. Melville Esq., F.R.C.S. presided.

Programme for the month :—

March 4th, Printing Magazine ; March 11th, Talk " The Amateur and Home Repairs " T. Darn G3FGY ; March 18th, Open Evening ; March 25th, Demonstration " Frequency Measurement " F. C. Ward G2CVV March 27th, Meeting of Committee. End of Term.

The Club Room will be closed during : 1st, 8th and 15th April, 1953.

Alterations and Additions will be published in the Society's Club Rooms and displayed in Messrs. R. F. Potts, Babington Lane, Derby.

All meetings commence at 7.30 p.m. and will be held in the Society's Club Rooms, unless otherwise stated.

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

Members and readers are reminded that the Midlands Topsfest takes place at the " Black Horse," Wolverhampton, on Saturday, April 11th. Doors open at 3 p.m. Tickets, including Buffet Tea, price 6/- may be obtained from G3COI . . . John Worthington, 9 Links Road, Penn, Wolverhampton. This looks like being a very FB meeting.

We are sorry to ' lose ' Jack Cowles G2AJU who will shortly leave for VK6 but he will continue his Tops Membership. Good luck and a safe voyage OC.

The Hester Trophy contest (2-hours duration) took place on January 18th. Conditions on 80 metres were very poor for inter-G contacts, therefore it was not surprising that DL7AH/P and SM7AKG took first and second place. G3EBH, G3ABG, DL100, G8KP being third, fourth, fifth and sixth, respectively. Judging by the logs it would appear that 30 odd members participated.

The Flight (RAF) Section scored 151 points, the Army 102, the Old Salts 83 and ' X ' 60 points.

Several Members have asked us to organise a special Coronation QSL., this is being looked into and your scribe has quite a neat arrangement in mind.

Monty GC2CNC reports having made 5 watt WAC on 20 metres. QSO's included VO6N, HC2OT, MF2AG, FQ8AP, OD5AD, VK3AWW. His antenna is a pair of C/S 4-element beams which can be turned over to give world coverage. (He's telling us ! !).

Our Xmas Fund sent parcels of brand new RSGB Ham booklets to G3CCF and 2 BRS men. All three being semi-bedfast.

New members to join our ranks include : OH2YV, SM7QY, G3AHS, G3DNR, GW3FSP, GW3GCZ, G3INR, G3HPF, G3CKF, G8KP.

Four Tops members, at least, are known to have qualified for WABC on 160. They are GM3JDR, G5LH, G6ZN and G8KP.

Details of an interesting stand-by loft antenna appear in the current edition of " QMF." A ' Sausage type ' 5 wire job.

Warrington and District Radio Society. Hon. Sec. : G. S. Leigh, G2FCV, 49 School Road, Orford, Warrington, Lancs.

The A.G.M. was held on Tuesday, January 20th. Mr. A. Rigby G3FGI was the new Chairman, Mr. G. Leigh G2FCV the new Secretary and Mr. B. Webster the Treasurer, re-elected. Future lectures (first Tuesday in each month) by :— Mr. N. Atkins. G3EXG—" Teleprinters." Mr. S. Allen, G8TR—" Random Radiations." Mr. A. Rigby, G3FGI—" CRO and its Applications."

Ragchew and business evenings are held as usual on the third Tuesday of each month.

Leicester Radio Society. Hon. Sec. : N. Wibberley, 21 Pauline Avenue, Belgrave, Leicester. Hon. Publicity Officer : C. L. Wright, B.Sc.(Eng.), 36 Woodstock Road, Mowmacre Hill, Leicester.

The Society's Annual Dinner and Dance, which was a great success, was held on January 23rd, at the Empire Hotel, Leicester, and the next meeting was held on Tuesday, February 3rd, when the Hon. Publicity Officer presented a film show comprising of three interesting films which were loaned by Philips Electrical Limited. These films showed the uses of the cathode ray oscilliscope in the alignment of receivers and industrial vibration detection, the manufacture of electric lamps and a very good cartoon film on radio. The usual humour was added by our old friends Abbott and Costello and all members are looking forward to the next show, again by the kindness of Philips Electrical Ltd., on March 3rd, 1953. These two meetings have departed from the usual run of the first and third Monday in the month due to the availability of the 16 mm. sound projector. All future meetings will be held at the Holly Bush Hotel, Belgrave Gate, Leicester on the first and third Monday of each month and full details of coming events can be obtained from the Hon. Secretary.

QRP Research Society. Hon. Sec. : J. Whitehead, "The Retreat," 92 Rydens Avenue, Walton-on-Thames, Surrey. Hon. Press Officer, Vic Cundall, G3FAV, 93 Chandos Road, Stratford, E.15.

QRP Skeds are being arranged between members of the Society, and the co-operation of SWL's is invited in reporting on same.

Also it is proposed to hold a regular Society " Net " on the first Sunday of each month between 3500 and 3545 kcs, CW only.

Work is continuing with the development of a QRP communications receiver, the first details of which were published in the January issue of " QRP."

Any person interested in QRP transmitters or receivers, (including the VHF's), are invited to join us.

Why not write to Hon. Secretary for details.

Pontefract Area Transmitting Group. T. R. Pontefract, W. Farrar, G3ESP, Stanton, Hemsworth Road, Ackworth, Pontefract.

Preparations are in full swing for the second Annual Dinner and Social, to be held on March 6th, at the Darrington Hotel. About 50 guests, including XYL's and YLs are expected to attend, and it is hoped to make the evening even more successful than last years. RSGB will be represented by Mr. Ian Auchterlonie, G6OM.

In the RSGB Top Band contest late last year, G3HCX and G3US came well up the list. The latter hopes to do even better in the recent contest, having doubled his aerial length to 270 ft.

Slow morse practices continue on 1990 kcs. at 10.30 a.m. each Sunday until Easter.

East Surrey Radio Club. Hon. Sec. : L. G. Knight, Radiohme, 6 Madeira Walk, Reigate, Surrey.

The Annual General Meeting was held at club headquarters. The British Legion H.Q., Redhill, on January 29th. Officers for the coming year were elected, the Treasurer's report was adopted and the Secretary's report on past progress and future activities was appreciated by the many members present.

The club is open at 8.0 p.m. on Mondays for Morse practice and on Thursdays for practical radio work. There are regular monthly meetings with a lecture or demonstration. New members are assured of a warm welcome.

Slade Radio Society. Hon. Publicity Officer : M.D. Fowler, 25 Crossway Lane, Perry Barr, B'ham, 22B.

A discussion on the relative merits of television and sound broadcasting was the subject of a January meeting, and this was followed in February by a lecture entitled " Radio Mathematics." The lecturer showed his audience that mathematics could be a very great aid to the radio enthusiast, rather than an abstract subject to be avoided at all costs.

On March 6th, the subject is " Radio Fundamentals," and on March 20th, it will be " Television Tubes : Their focusing and deflecting systems."

Both meetings will be at the Church House, Erdington. Visitors are always welcome.

South Shields and District Amateur Radio Club. Hon. Sec. : W. Dennell, G3ATA, 12 South Frederick Street, South Shields.

The above Club is now in full swing and is busy with the new transmitting which we hope to have on the air in the next few days, using the call sign G3DDI.

New members are joining every week and the membership is now about 35.

The annual dinner will be held sometime in March and members from other clubs in the North East will be in attendance.

Lectures, Cinema Films, Socials, etc., are held each week which tends to keep the members interested. A new syallabus is in preparation and any person interested can have a copy by applying to the Secretary.

Our meetings are held each Friday at 7.30 p.m. in the Trinity House Social Centre, Laygate Lane, South Shields, and we are always pleased to welcome visitors to the centre.

Dances and whist drives are held during the week and other entertainments are provided.

When a member joins the Radio Club he automatically becomes a member of the Centre and he is his XYL or YL can enjoy the full benefits of the house and meet up with new friends.

Southend and District Radio Society. Hon. Sec. : G. Chapman, 20 Leigh Hill, Leigh-on-Sea.

On Friday, February 6th, Mr. Peter Salton, of Cathodeon, Ltd., gave a talk on " Industrial Electronics," a subject which was new to most of us. Time did not permit the speaker to finish his lecture, and we look forward to a continuation in the not too distant future. Mr. Salton is to be congratulated on speaking for one-and-a-half-hours without notes.

On Friday, March 6th, Mr. B. R. Webster will give us a talk on " Commercial Receivers."

We are also soon to have a talk by Mr. R. J. Varcoe, A.M.I.E.E., A.M.Brit.I.R.E., on " The Diode Detector," and a description and demonstration by Mr. J. C. Wallace of his " Voltage-Regulated Power-Pack " which won him the Hudson Cup in 1952.

Willesden Radio Club. Hon. Sec. : M. G. Nevell, 51 Dudden Hill Lane, Willesden, N.W.10.

Our licensed members number 11, calls as follows, G2AYN, G3AMI, DKB, EQM, FYY, GZW, HBZ, ICU, IUE, JEA, JED, and Club call G3BFZ.

Our activities at present are centred around the forthcoming City and Guilds radio amateur exam. We have several members taking this exam prior to obtaining their Ham tickets.

Plans are being prepared for a DF Contest to take place as soon as weather permits.

Activities this month include a construction competition.

A new Top Band rig is under construction and we hope to rejoin the Wednesday night net with the Barnet club.

West Lancs. Radio Society. Hon. Sec. : B. J. Whitby, 46 Argo Road, Waterloo, Liverpool 22.

The important news this month concerns, once again, a change of premises. As the new rooms have proved unsatisfactory, we are moving back to our old quarters on February 24th. The address is a follows : Room over Gordon's Sweet Shop, St. John's Road, Waterloo, 22. Meetings are held every Tuesday at 8.0 p.m.

An informal talk by Mr. Ron Bird, of the Post Office Radio Dept. on BC1, TU1, causes and cure, was enjoyed by a fairly large gathering.

The following evening saw a trip over the Port Radar Station at Gladstone Dock.

Both events were greatly appreciated.

On Wednesday 18th, members will be conducted over BI Callendar Cables at Prescot.

A visit to Holme Moss Television Station has been arranged for March 20th. Plans for building a club transmitter are also being prepared.

New members and visitors always welcome.

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

FOR SALE. 200 copies, *Short Wave News*, *Short Wave Listener*, *Short Wave Magazine*, *Practical Wireless*, etc. Wanted R1116. Phillips, St. Mary's Lane Dilton. Wilts.

FOR SALE. AR88, with matched loud speaker and Antenna Tuning Unit BC306A. Come and try it out for yourself at flat 5, number 1 Mapesbury Road, Willesden, N.W.2.

FOR SALE. Copies *Short Wave News*/*Radio Amateur*. Volume 1 less 2 and 3. Volumes 2, 3, 4 and 5 complete. Vol. 6 less 10 and 11. Vol. 7 less No. 4. Also *Radio Constructor* Vol. 4 Nos. 6, 7and 8. Offers. SIWL/G2747, 35 Grove Road, Solihull, Birmingham.

WANTED. Amateur requires car radio cheap, faulty considered, also test equipment. 10 Oakgrove, London S.E.20.

FOR SALE. 105 copies *Practical Wireless*, Jan. 44-Dec. 52. 33 copies *Radio Constructor* March 50-Dec. 52. Offers. S. Clements, 17 Semple Street, Burnbank, Lanarkshire.

FOR SALE. Ex 103A Receiver, self-contained mains battery vibrator power supply, 6 valve supersonic heterodyne circuit, 1.7 Mcs.-7.5 Mcs, two ranges, ideal for Top Band and Field Days. New with handbook, £6 or near offer. Mr. Pays. 146 Oaklands Road, Hanwell, London, W.7.

FOR SALE. Radiocraft Preselector, two stage 6SG7-6SK7, brand new. Offers. H. James, 448 East Prescot Road, Liverpool.

FOR SALE. CR100 Receiver in good order. £17 or near offer. Carriage paid. Rowlands, " Theta," St. George's Crescent, Leganny, Caerns.

MAGNETAPE. Recording Deck. Little used. 7½-15 I.P.S. 19" × 12". Black perspex panel. Fast rewind. Low imp heads. £10 carriage paid. Box No. C 108.

WANTED. Circuit diagram or any information for ex-Govt. receiver type R-4 ARR-2. Hill, 1 Hardwen Avenue, Lea, Preston.

FOR SALE. BC342M good condition £14. 1355 twin channel with RF26 £4. Another single channel RF25 £2. R3206 complete £2. BC624 £2. CV22 10/-. Various ex-Govt. valves, state wants. Barron, 20 Second Avenue, Halifax, Yorks.

FOR SALE. Quality Amplifier, 6F9-6F5-2,6J5 (Splitter) —PP 6V6's triode connected—5 watts output. Provision for Radio. Price including 12" " P40 " Speaker £12 10s. 0d. P. Nevard, Transmitter Station, RAF Hullavington, Chippenham, Wilts.

WANTED. Time base kit, Premier preferred. 74 Oxford Road, Waterloo, Liverpool, 2.

WANTED. To buy or loan. Service Manual for Murphy A.5C.C. Box No. C 106.

FOR SALE. Clifton low inpedance head with matching input transformer £2 5s. 0d. Haynes wire wound focus coil F912H 15/-. Gilbert, 70 St. Andrews Drive, Stanmore, Middx.

FOR SALE. 1155A Receiver. 1 RF52 set with built in signal xtal check, 13 valves, range 1.25-16 Mcs. 1 Bendix Ru 19 receiver 500 kcs-15 Mcs. 1 Rx 18 set, 1 RF24 converter. 1 AFV38 Tx Rx with 1134 Amplifier. Above sets complete with power packs, 3 speakers, 3 sets of phones. Buyers collect. W. Turner, 70 Addiscombe Road. Croydon.

FOR SALE. Radio Course £3 10s. 0d., also *Modern Practical Radio and Television* £2 10s. 0d., as new. A. Wareham, 72 Amberley Road. North End, Portsmouth.

FOR SALE. Viewmaster Console 9" £27 10s. 0d. AVO Electronic Testmeter £30 0s. 0d. Taylor 65B Signal Generator £8 10s. 0d. Tamsa Recording Heads H/Track £2 10s. 0d. pr. Caxtons *Modern Radio and TV* £3 0s. 0d. VCR97 no cut-off 25/-. VCR138 15/-. EHT trans 2.5 kV 25/-. All as new. Cossor 6" TV working £10 0s. 0d. VCR97 TV on EE chassis, 2 Magnifiers, giving 10" picture, perfect £20 0s. 0d. J. Conway, 46 South Eaton Place, London, S.W.1.

SELLING OUT. All post free. 807 8/6d., 5R4GY 8/-, 6SH7 4/6d., SP61 4/6d., 6SK7 5/6d., 6F8 5/6d. Few other types, list free. Parcels containing fuses, valve holders, wire, sleeving, cable markers, condensers, resistors, trimmers, nuts, bolts, washers, switches, etc. Genuine offer. George, 164 West Street, Gorseinon, Swansea.

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TRADE

Kendall and Mousley, Manufacturers of Laboratory Equipment, chassis and instrument cases, also suppliers of BVA valves Radio and TV components. 99 Dudley Port, Tipton, Staffs.

LOOK VALVES. 12AT7, 12AX7, 12AU7, 6J6, 6CH6, 6BW6, 9/-. 6AM6, 6BA6, 6X4, 7/6. 6AL5, R10, EY96/6. EF92, 6C4, EAC91, 3A4, 1L4, 6/-. A. A. W. Skillman, 74 Franchise Street, Weymouth.

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.

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ARE YOU STUCK ? Laurence for any parts S.A.E. for list LAURENCE, 134 Cranley Gardens, N.10.

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