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**JANUARY 1949
VOLUME 3 • NUMBER 2**

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THE SHORT WAVE LISTENER

A MONTHLY MAGAZINE FOR THE LISTENING AMATEUR

VOLUME 3

JANUARY 1949

NUMBER 26

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EDITORIAL

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for articles of short wave listener
interest.

Beginning

In the new year opening before us, it is certain that the ranks of SWL's will gain many new adherents—as, indeed, has been the case every year since the end of the war.

To a newcomer breaking into amateur short wave radio for the first time, one of the greatest difficulties is always that of learning the language of the radio amateur. He feels himself confused, groping in the fog of a technical jargon which he fears he may never rightly comprehend.

But it is a fact that practically every SWL and amateur transmitter has learnt the technical terms of Amateur Radio not with a glossary beside him, but by listening round the bands and reading the literature of Amateur Radio. In other words, he has found his way by experience, and as we have so often said, it is the experienced SWL who eventually makes the best amateur radio operator.

A VERY HAPPY CHRISTMAS TO YOU ALL
AT HOME AND ABROAD, WITH EVERY
GOOD WISH FOR THE COMING YEAR

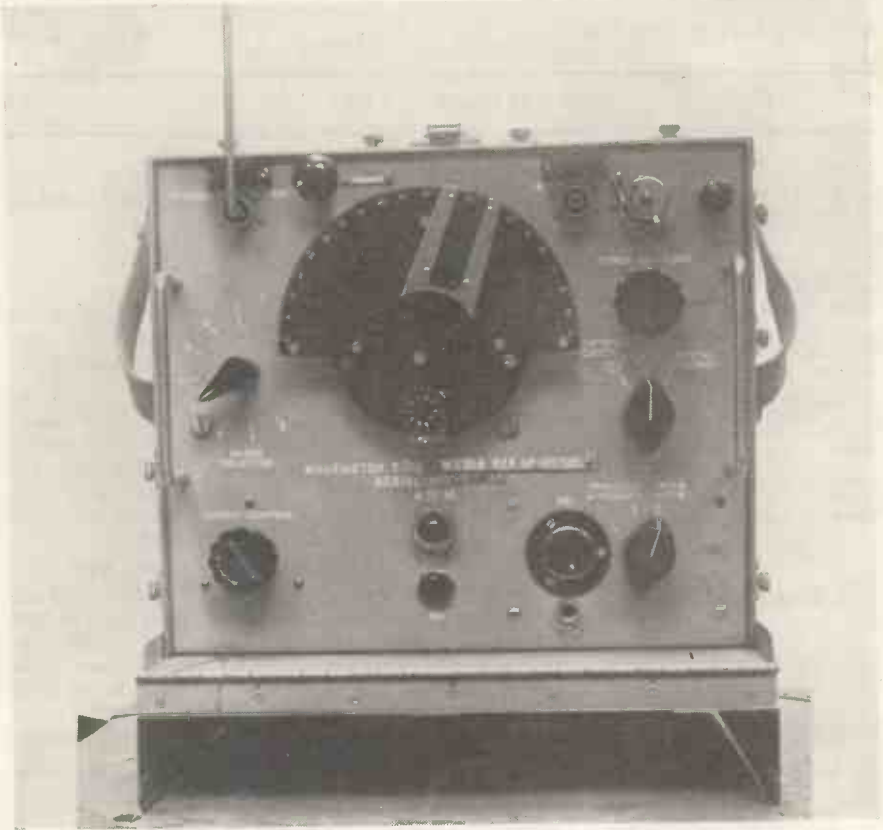
Much of the thrill and interest of Amateur Radio it is impossible to capture from the written word, which can only point the way and suggest the direction for the beginner to take. Amateur Radio is, pre-eminently, a pursuit from which the individual can derive the keenest satisfaction from his own efforts—and the first results, no matter how simple or commonplace, are always the most exciting and hence a constant spur to further achievement.

We welcome every new enthusiast, and we hope that the *Short Wave Listener* will help many of them to find their way in this greatest of all scientific hobbies.

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The W.1191A Wavemeter

Notes on Operation and Application

By **E. J. HATCH**, Grad.I.E.E.

(Here are details of another very useful item of surplus equipment. The W.1191A Wavemeter has the merit of being of immediate use without modification; a frequency meter of some kind is of great value for serious SWL work, and becomes essential if a transmitting licence is in prospect.—Ed.)

THE W.1191A Wavemeter is an R.A.F. instrument which has, so far, appeared on the surplus market only in relatively small quantities; however, it is felt that a

description of its circuit and operation will appeal not only to owners or prospective owners, but will also serve to promote an interest in frequency meters in general. (See Editorial, May *Short Wave Listener*.)

Apart from the measurement of frequency, the instrument may also be used to align any receiver within its range.

The wavemeter is thus capable of performing as follows:

(1) As a signal-generator, being a calibrated source of RF energy, continuously variable from 100 kc to 20 mc in eight ranges, either modulated or unmodulated by a 1,200 c.p.s. note internally supplied.

It is also possible to obtain a fixed, crystal-controlled output by plugging in a crystal of the desired frequency, which

may also be modulated if desired by the 1,200 c.p.s. signal.

(2) As a heterodyne wavemeter, incorporating a resonance audio indicator in the form of a detector and audio amplifier. As before, the range is 100 kc to 20 mc, or crystal control may be used.

The calibration, whether employed as a signal-generator or a wavemeter, is checked against an internal crystal standard of 1 mc, which in this case ensures a maximum error of the order of 0.1 per cent.; this, of course, complies with the amateur operating regulations.

Circuit Description

It is assumed in this description that the reader is acquainted with general circuit operation, but some points may require clarification.

As will be seen from the circuit diagram, Fig. 1, power is derived from batteries which are accommodated within the instrument case. The HT or "B" supply is 60 volts (minimum 40 volts), and the LT or "A" supply is 2 volts (minimum 1.8 volts).

Four directly-heated battery type valves are used. V1, a triode-heptode as oscillator-mixer; V2, a medium impedance triode as a detector; V3, a small power triode as crystal oscillator; and V4, a similar valve to V2, which is used either as an audio amplifier or oscillator. The latter three valves are not critical, but V1 is selected for inter-electrode capacity. In the majority of cases, variations in capacity will be taken up by the trimmer condenser, but as two spare VR82's are included in the transit case, trouble is not likely to arise in this direction.

TRF Oscillator

This is the function of the triode section of V1; resistors R6-R13 and inductances L1-L2 are included for stability reasons. The output from this circuit is taken *via* T4 and R1 to the output socket.

Crystal Check Operation

Most readers will know that if two radio frequencies are introduced into the same circuit, a number of other frequencies make their appearance. Among these will be the difference of the two original frequencies which (if they were close enough), will be of audio frequency, decreasing to zero as the original two are brought into step. The harmonics of both frequencies will also mix to produce these audio "beats," as they are called.

From the above, it will be clear that this

phenomenon can be used to determine whether two high frequencies are approximately equal, because then the difference will be zero, and no audio note will be produced.

Therefore, to check the TRF oscillator frequency, switches S3-S8 are switched into position 1, putting the check crystal into the circuit of V3. The output from this valve is then fed to the mixer *via* C13 and R16 and mixed with the TRF oscillations, the resulting beats being used as marker points to calibrate the TRF oscillator.

A list of the major check frequencies and their origin is given in Table I; these are used because of their strength and ease of identification. They are set out, together with other checks and intermediate frequencies, in the calibration charts stowed in the lid of each instrument. Table II is a specimen chart for Range 7.

Heterodyne Wavemeter Circuit

For this purpose, the frequency to be measured is applied *via* the input socket and C1 to the mixer grid, where it is mixed with the TRF source; the resultant beat note appears across the anode load R4, and is applied first to the grid of the detector valve V2, and thence to V4 for amplification, before being passed to the 'phones. (Switches S9-S11 at position 2.)

The function of the TRF oscillator may be carried out at a fixed frequency of high accuracy by setting switches S3-S8 at position 3, bringing into operation crystal control, and at the same time removing HT from the anode of the TRF section. V2 and V4 act as before.

Audio Oscillator

By switching S9-S11 to position 1, V4 works as an audio oscillator at about 1,200 c.p.s. The secondary of T1 is the feedback inductance; the feedback voltage appears across R19 and R20 in series, but for the sake of stability only a fifth of its value is fed back to the grid *via* R18. Modulating voltages for the TRF stage are taken from the primary of T1. When crystal control is used, the audio voltage across R19 and R20 is applied to the mixer grid together with the crystal frequency *via* position 3 of S8 and R3 respectively.

METHOD OF OPERATION

General Setting Up

Switch on, and allow the instrument to run for ten minutes.

To correct for frequency over the por-

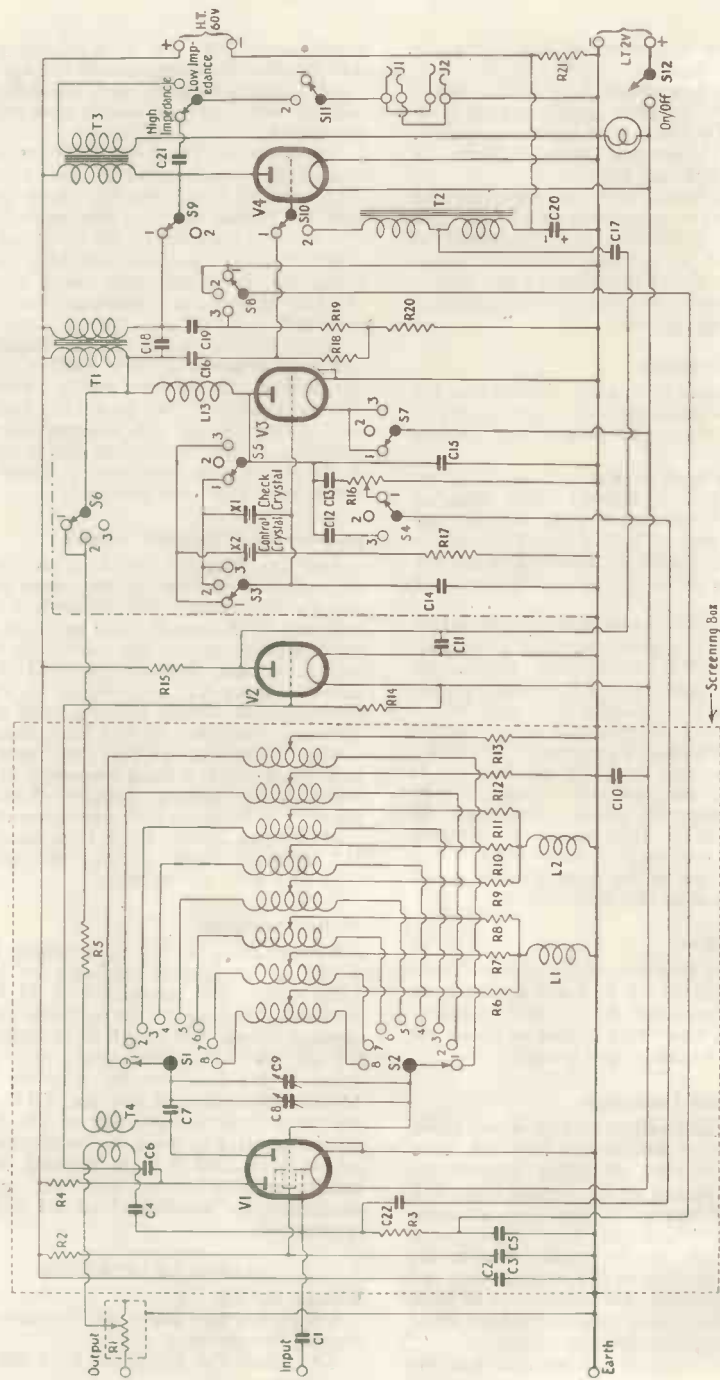


Fig. 1. Full circuit diagram of the W.1191A wavemeter

TABLE OF VALUES

Fig. 1. Type W.1191A Wavemeter

C1, C12 = 3 $\mu\mu\text{F}$	R11 = 1,500 ohms
C2, C3, C5, C7, C10 = 500 $\mu\mu\text{F}$	R13 = 5,000 ohms
C4 = 2 $\mu\mu\text{F}$	R14 = 1 megohm
C6, C13, C22 = 50 $\mu\mu\text{F}$	R17 = 2 megohms
C8 = 9-175 $\mu\mu\text{F}$	R18 = 250,000 ohms
C9 = 2-4 $\mu\mu\text{F}$	R19 = 40,000 ohms
C11 = 200 $\mu\mu\text{F}$	R20 = 10,000 ohms
C14 = 10 $\mu\mu\text{F}$	R21 = 300 ohms
C15 = 100 $\mu\mu\text{F}$	V1 = VR82 = 220TH
C16 = .002 μF	V2, V4 = VT50 = HL2k
C17 = .02 μF	V3 = VR19 = 215P
C18 = .01 μF	T1 = Modulation Transformer
C19, C21 = .1 μF	T2 = LF Interval Transformer
C20 = 25 μF electrolytic	T3 = LF Output Transformer
R1 = 1,000 ohms	S1-S2 = Range Switch
R2, R16 = 100,000 ohms	S3-S8 = CRYSTAL CHECK ON- CRYSTAL CHECK OFF- CRYSTAL CONTROL
R3, R4, R15 = 50,000 ohms	S9-S11 = TRANS. C.W. & RECEIVE- TRANS. M.C.W.
R5 = 15,000 ohms	
R6, R12 = 2,200 ohms	
R7 = 390 ohms	
R8, R9, R10 = 470 ohms	

TABLE I

Range	Main Heterodyne Frequencies	Origin of Heterodyne	
		Crystal Harmonic	RF Oscillator Harmonic
1	100 kc	1st	10th
	125 kc	1st	8th
	166-67 kc	1st	6th
	200 kc	1st	5th
2	200 kc	1st	5th
	250 kc	1st	4th
	333-33 kc	1st	3rd
	400 kc	2nd	5th
3	400 kc	2nd	5th
	500 kc	1st	2nd
	666-67 kc	2nd	3rd
	800 kc	4th	5th
4	800 kc	4th	5th
	1-0 mc	1st	1st
	1-25 mc	5th	4th
	1-5 mc	6th	4th
	1-667 mc	5th	3rd
5	1-667 mc	5th	3rd
	2-0 mc	2nd	1st
	2-5 mc	5th	2nd
	3-0 mc	3rd	1st
6	3-0 mc	3rd	1st
	4-0 mc	4th	1st
	5-0 mc	5th	1st
	6-0 mc	6th	1st
7	5-0 mc	5th	1st
	6-0 mc	6th	1st
	7-0 mc	7th	1st
	8-0 mc	8th	1st
	9-0 mc	9th	1st
	10-0 mc	10th	1st
8	10-0 mc	10th	1st
	12-0 mc	12th	1st
	14-0 mc	14th	1st
	16-0 mc	16th	1st
	18-0 mc	18th	1st
	20-0 mc	20th	1st

TABLE II
Specimen Calibration Chart for Range 7.

Both main and intermediate crystal check points are shown. The groups of corrected readings associated with each check point are alternately printed red and black on the chart for easy reading.

Mc	Dial Reading	Mc	Dial Reading
10.0 Crystal	13	7.2	55.55
9.9	14.85	7.2	55.55
9.8	16.65	7.0 Crystal	58.5
9.7	18.35	6.8	61.5
9.7	18.35	6.6	64.5
9.6	20	6.6	64.5
9.5 Crystal	21.67	6.5 Crystal	66
9.4	23.27	6.4	67.6
9.3	24.85	6.2	70.65
9.2	26.4	6.2	70.65
9.2	26.4	6.0 Crystal	73.8
9.1	27.9	5.8	77.05
9.0 Crystal	29.45	5.6	80.37
8.8	32.4	5.6	80.37
8.6	35.35	5.5 Crystal	82.05
8.6	35.35	5.4	83.77
8.5 Crystal	36.75	5.2	87.3
8.4	38.22	5.2	87.3
8.2	41.1	5.0 Crystal	90.96
8.2	41.1		
8.0 Crystal	43.9	Major Crystal Checks	
7.8	46.8	10 mc	
7.6	49.7	9 mc	
7.6	49.7	8 mc	
7.5 Crystal	51.17	7 mc	
7.4	52.6	6 mc	
		5 mc	

tion of the scale to be used, the phones are plugged in and the switches set to "Trans. C.W. & Receive" and "Crystal Check On." With the range switch set, the dial is turned to the chart reading corresponding to the nearest crystal check point to that part of the dial in use. (For rapid tuning, the vernier is disengaged by pulling the vernier knob, and re-engaged by pressing up the vernier block.) The trimmer is then adjusted for zero beat, thus correcting frequency for that part of the scale. If the heterodyne cannot be heard, the dial should first be corrected at the nearest major beat, which will be strong, and easily identified.

When frequency setting is commenced the crystal check coupling may be put at maximum to ensure that the beat is loud and easily found; afterwards the coupling should be reduced to comfortable audibility to reduce locking.

Locking between the crystal and TRF oscillator is denoted by a zero point covering several degrees of the vernier scale, and is caused by the more powerful oscillator pulling the other into step. This effect should not be confused with mechanical backlash due to imperfections in the dial mechanism.

Backlash is best overcome by always turning the vernier knob in a clockwise direction to approach the silent point,

without overshooting. If this is done (both during checking and in subsequent use) minimum error will be introduced.

After this test, the crystal check is switched off. The calibration charts indicate for how far on either side of the check point the readings are correct.

Measuring Transmitter Frequency

The rod aerial supplied is plugged into the input socket, and with the phones in, the crystal check off, and the instrument set to "Trans. C.W. & Receive," the approximate dial reading is located for zero beat between the wavemeter and the transmitter. The instrument is then adjusted for frequency on that range (see above) and the dial reading again taken; this time it will be accurate. The frequency may then be read or interpolated from the calibration charts.

Measuring Received Frequency

In this case, the rod aerial is plugged into the output socket, the receiver performing the function of the audio resonance indicator. With the crystal check off, and the instrument set to "Trans. C.W. & Receive," the approximate dial reading is located for zero beat as before; this time, of course, the heterodyne is heard on the receiver. Checking and reading are then carried out as for transmitter readings.

Receiver Adjustment

For receiver calibration and alignment, either CW or MCW may be obtained from the output socket, according to the setting of the "Trans-Receive" switch. Calibration is carried out as before.

WORKED EXAMPLES

As an example of interpolation, suppose that the instrument indicates resonance at approximately 57° on Range 7. Inspection of the Calibration Chart for Range 7 reveals that 7.0 mc is the nearest crystal check point. After checking at this frequency, careful adjustment gives the exact resonance reading between wavemeter and transmitter at (say) 55.7° .

The frequency corresponding to this reading is calculated as follows:

From Table II,

$$58.5^\circ = 7.0 \text{ mc}$$

$$55.55^\circ = 7.2 \text{ mc}$$

$$\text{Subtracting, } 2.95^\circ = 200 \text{ kc}$$

$$\text{and } 1^\circ = \frac{200}{2.95} = 67.79 \text{ kc}$$

$$\text{Now } 55.7^\circ \text{ is } 2.8^\circ \text{ away from } 58.5^\circ (7.0 \text{ mc})$$

$$2.8^\circ = 2.8 \times 67.79 = 190 \text{ kc}$$

$$\therefore \text{The frequency is } 7.0 + .190 = 7.19 \text{ mc}$$

The procedure to set the wavemeter to a given frequency is similar.

Assume the required frequency to be 5.764 mc, which falls between 5.8 mc at 77.05° , and 5.6 mc at 80.37° .

$$\text{Subtracting, } 200 \text{ kc} = 3.32^\circ$$

$$\therefore 1 \text{ kc} = \frac{3.32}{200} = 0.166^\circ$$

The required frequency is $5.8 - 5.764 = 36 \text{ kc}$ away from 5.8 mc.

$$36 \text{ kc} = 36 \times 0.166 = .5976^\circ$$

$$\text{Wavemeter setting} = 77.05 + .5976 = 77.65^\circ$$

Experience has shown that by careful adjustment, accuracies of the order of .06 per cent. are usually obtained on the author's instrument.

Conclusion

From the above, it will be seen that the Wavemeter W.1191A is a very useful instrument to have in the station, and well worth the usual price asked—which, in the author's case for a brand-new instrument, was about half the cost of the cheapest commercial signal-generator with an accuracy of about 1 per cent.

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NOT, perhaps, such a good month as the last two or three. Plenty of DX there for the asking, but many dull periods, too. The 14 mc band has been the principal sufferer from these, and, funnily enough, there have been many occasions when 14 mc has been most uninteresting although 28 has been wide open. The 28 mc SLP was quite a success and yielded some nice DX, and ever since then the band has been good.

The 3.5 mc SLP produced only one list—from C. S. S. Lyon (Liverpool)—so I still conclude that interest in the two top bands is a long way below what it might be. The recent CQ contest showed that W's and VE's are there for the asking on 3.5 mc, and since then the first ZL's have been finding their way through (0700)—but apparently such things don't thrill the average SWL, who would sooner listen to his 200th VK on

Have
you
heard
?

country is being heard every night, not to mention the surprising daylight ranges.

To stir up interest in the competitive sense, I am definitely introducing a "Countries

going to involve some of you in a little trouble, because before I decide on the final results I want from the top-scorers a complete list of their representative stations heard during 1948—one from each Zone and one from each Country. This is necessary because (in the Phone and CW section, at any rate) it is going to be a close finish. I also fear that some of the scores are going to be slightly diminished, because some people may be counting things like AC4AK, AC4HF, YA3A, YA3B and so on. All such phoneys, of course, will have to be knocked out.

We have the definite information from Tibet (via AC4RF, who has recently arrived in Lhasa) that AC4YN, and now himself, are the only stations ever to have operated from there. We also know from AC4RF (who used to be AC3SS, by the way) that AC3GG was phoney. And

AMATEUR BAND COMMENTARY *by the DX Scribe*

14 or 28 mc than hear his first on 3.5!

One point, just to sting some of you into activity—your listening is more valuable to the transmitting man if it is carried out on the "difficult" bands, and a nice report to a DX station on 3.5 mc can hardly fail to produce a QSL. Try it out some time; in a year or two you'll be doing it anyway, because 28 mc will probably be flat on its back and 14 mc in poor shape.

Some excellent Calls Heard lists for 1.7 mc have come in this month, and I have made a special point of reproducing all of them. It is time that this band had its share of attention, too. The conditions up there are far, far better than they were last year, and 10-watt CW and Phone from all over the

Heard" Marathon on the Top Band, starting right from January 1, 1949. There will be one list for CW and one for Phone, and identification will have to be made direct from the station concerned and verified from the Call Book and the latest lists. So brush up those Top Band receivers and let us see whether some of the DX Kings find things easy or difficult on 1.7 mc.

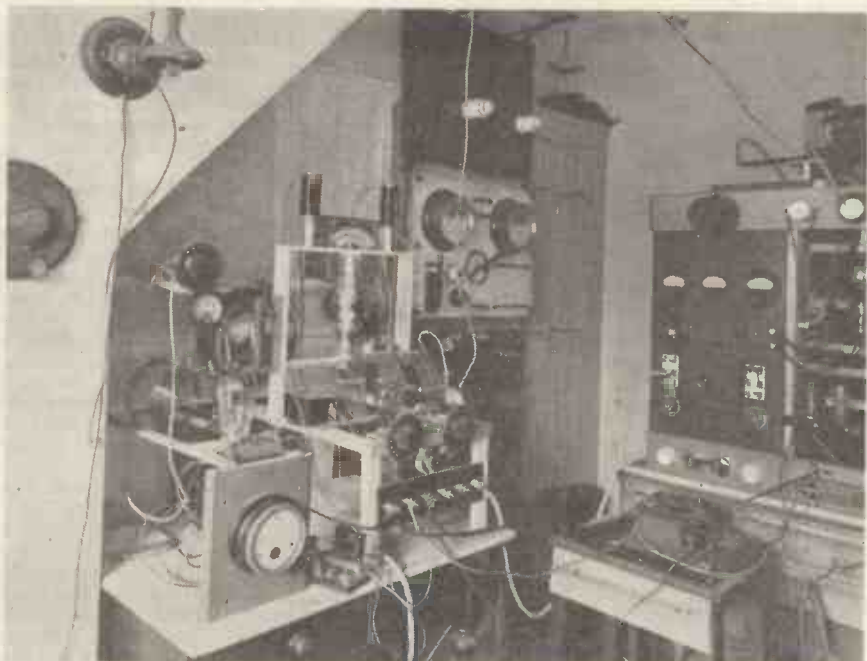
THE 1948 MARATHON — LAST LAP

Before leaving competitive topics, let me allude to the 1948 HAZ Marathon. By the time you read this there will not be many days left to run, and so in the next issue I want to publish the results and pat the winners on their deserving backs.

Now, I am afraid this is

lastly we have heard direct from Afghanistan that there is not, and never has been, an amateur station on the air from that country, wherever YA3A and YA3B may have been. So if you want to claim a country for either of those gentlemen, produce the QSL, complete with Afghanistan stamp and postmark, and you will be credited! There are other notorious pirates about, too; hence the necessity of sending in your lists for full and final checking.

Top scorers at present in the Phone and CW section are M. H. Preston (201), M. E. Bazley (197), A. Baldwin (196), N. A. Phelps (193) and D. W. Bruce (190). So if these five listeners will send me their checking lists by January 5 I shall have pleasure in proclaiming the final order next month.



G2DX, Camberley, Surrey, in 1925. The first 14-mc Tx was an Osram T.250 controlled by a DET-1. Running 200 watts input, world-wide working was obtained, including "firsts" with Tasmania and Chile.

In the Phone Only section E. J. Logan (39/149) is way out ahead of the others by virtue of being the only one to claim 39 Zones. The next three are D. W. Bruce (38/148), B. Needham (38/144) and R. A. Hawley (38/139). So if these four will send in their lists, too, I will refer them to the DX Committee. And let me add that non-arrival of lists by the due date will be taken to imply resignation from the competition!

So wait until next month and see who's for the Laurel Wreath!

PHONE AND CW

If I were to allow them to have their heads, a small cluster of readers would be starting up a "Phone-versus-CW" controversy in next to no time. But this has been

done so often before that it would serve no useful purpose. Let me say, though, that there *is* a certain amount of sense in the suggestion that all Orders of Merit, Contests and so on should embrace *both*. The Phone-Only man retorts "Yes, but the CW enthusiasts would always be at the top of the list; it's much easier to receive DX on CW." To which I reply "Then why don't you have a go at it yourself so that *you* go to the top of the list?" I note, too, that it's only the people who don't read code who invariably say that CW reception of DX is so much *easier* than phone. Funny thing, that.

Meanwhile R. G. Poppi (Beckenham) says he'd like to "do" N. A. S. Fitch for suggesting that the Phone Only lists might be cut out;

G. Braithwaite (Belfast) has taken hints and brushed up his CW, with the result that his country total is growing nicely; and D. K. Cocking (Farnborough) admits that he is a Phone-Only enthusiast although his mother was a Morse instructor during the war!! In passing he asks whether VE8MJ (Yellowknife) is in Zone 1 or Zone 2. Can't find him on the map, but he seems more like Zone 1 to me.

THE TOP BAND

Our 1.7 mc band is collecting a lot of admirers, and I think the Counties Heard competition will be well supported. D. W. E. Powell (Wilton) listened during the recent Contest (and, I hope, during the still more recent "MCC") and found the band packed with signals. Among

ZONES HEARD LISTING

Listener	1948		Post-War	
	Zones	Countries	Zones	Countries
'PHONE and CW				
M. H. Preston (London, S.W.12)	40	201	40	210
M. E. Bazley (Birmingham)	40	197	40	198
A. Baldwin (London, N.11)	40	196	40	200
N. A. Phelps (London, N.10)	40	193	40	205
D. W. Bruce (Eltham)	40	190	40	203
O. A. Good (Oswestry)	40	170	40	193
C. S. S. Lyon (Liverpool)	40	164	40	182
W. J. C. Pinnell (Sidecup)	40	153	40	167
L. N. Goldsbrough (Wirral)	39	159	40	182
R. A. Hawley (Goostrey)	39	159	39	179
T. W. Jones (Birmingham)	39	149	39	163
F. N. Baskerville (Southport)	39	147	39	147
G. P. Watts (Norwich)	38	136	40	164
A. Studley (Harrow)	37	130	37	130
G. Braithwaite (Belfast)	36	136	36	145
F. W. Lindley (Dundee)	36	132	36	132
A. W. Robertson (Cranford)	36	130	37	146
N. A. S. Fitch (London, E.10)	35	130	36	137
D. W. E. Powell (Wilton)	35	112	36	123
J. E. Hosking (London, S.W.11)	35	94	35	109
D. I. Cruse (Sidecup)	34	107	34	107
J. G. P. Butler (Portsmouth)	33	116	35	124
'PHONE ONLY				
E. J. Logan (Hertford)	39	149	39	171
D. W. Bruce (Eltham)	38	148	38	165
B. Needham (London, W.11)	38	144	38	147
R. A. Hawley (Goostrey)	38	139	38	165
D. L. McLean (Yeovil)	37	139	37	153
A. Bannister (Manchester)	37	136	37	144
J. M. Graham (Glasgow)	37	135	37	135
D. Kendall (Potters Bar)	37	134	37	137
E. Nottingham (York)	37	123	37	123
R. S. Craig (London, S.E.1)	37	113	37	135
O. A. Good (Oswestry)	36	131	37	144
L. N. Goldsbrough (Wirral)	36	128	37	149
G. Braithwaite (Belfast)	36	128	36	137
T. W. W. Dearlove (Frimley Green)	36	124	36	124
R. Baldwin (London, E.17)	35	128	35	128
F. L. Rogers (London, N.W.1)	35	126	35	126
G. P. Watts (Norwich)	35	118	36	140
D. G. Martin (Cheltenham)	35	115	35	118
W. T. Higgins (Camborne)	35	114	35	114
K. L. B. Dalby (Gainsborough)	35	103	35	103
F. K. Earp (London, S.W.11)	34	128	34	128
C. S. S. Lyon (Liverpool)	34	126	35	140
K. Parvin (Thornton Heath)	34	119	34	119
A. W. Robertson (Cranford)	34	116	35	130
D. W. E. Powell (Wilton)	34	102	35	110
A. R. Wybrow (London, S.E.22)	34	102	34	102
T. W. Jones (Birmingham)	34	93	36	126
J. R. Cooling (Manchester)	34	93	34	101
L. Shearlaw (Camberley)	33	106	36	128
A. E. Carter (Romford)	33	101	33	101
B. C. Cage (Ipswich)	33	90	35	120
L. Corder (Hadleigh)	32	116	33	120
H. M. Graham (Harefield)	32	100	32	101

others he logged OZ1W and DA5BF, and says he likes the spirit prevailing on the band. Reports from him have always been appreciated, and he says that he feels that he has missed a lot by not "discovering" the top band earlier.

A. Baldwin (London, E.11), whose activities on the other bands speak for themselves in the list, says the "yardstick of DX ability is slowly being relegated to the LF bands" and hopes to take his stand on 1.7 mc. SWL reports, he says, bring a surprisingly high return of QSL's, letters of appreciation and photographs. He has already heard 36 counties (within the past few months).

W. McBey (Kirkwall, Orkney) sends a 1.7 mc list of Calls Heard which should be much appreciated by some of those who figure therein. He has separated out the North of England stations, leaving only the "DX" call-signs. He, too, says that it is a very friendly band, and hopes that interest increases. Perhaps this little bit of "plugging" will awaken some others to explore new territory.

COMPETITIVE STUFF

R. A. Hawley (Goostrey) suggests that as we are not having a Marathon in 1949 we might have a *monthly* Zones Heard competition, the band being nominated each month. This is more than possible, and I'll promise to think it over. What do you think? R. A. Fowler (Cranford) would like a Marathon on the lines of the "Four-Band DX" lists in the *Short Wave Magazine*, all entrants having to be able to claim countries heard (above a certain total on 28, 14, 7 and 3.5 mc. Let me have comments on that one too, if you will.

VOICE FROM THE PAST!

H. L. Kershaw (Birmingham) writes to say that he has been a SWL since 1926, and his present receiver still con-

tains components from that era; the valves are PM1 metallised and Pen 220! What, he asks, would be their present-day equivalents? Another Old Timer is J. H. Hayden (Tunbridge Wells), who goes back as far as KDKA on 70 metres. (All right, you babes in arms, you wouldn't know what that meant!) He sends some Calls Heard and has been bringing in plenty of DX phone on 14 mc lately; but he's still waiting for a KL7 on phone.

F. N. Baskerville (Southport) is radio officer of s.s. *Hubert* on the South American run, and mentions that the "DX flutter" so often heard on South American signals in England does not work the other way round. G's are received well out there until about sunset, when the W's swamp them.

W. A. Kane (Ballywalter, Co. Down) says he is the only radio enthusiast within 14 miles, so he has a peaceful time of it. He is active on all bands from 1.7 to 58 mc, and hopes to add 145 mc very shortly. He has half an acre of ground, and visions of rhombics, but the present aerial, which gives good results on all bands, has a 69-foot top and twin feeders.

I was very interested to receive a list of Calls Heard from P. W. Kennedy (Southern Rhodesia). This list should also interest our DX-chasers at home. The "locals" which he has omitted are OQ5's, VQ2's and 4's, and "W1 to Ø inclusive!"

14 MC DX

"Old Faithful," the 14 mc band, has done its stuff again for us this month. O. A. Good (Oswestry), who sticks to this band like glue says that South African signals have been specially good, but also comments on the early arrival of Far East signals, such as J9ABJ (phone, 0950), HL1AB (phone, 1005),



The outfit at GW3ECH, Trecwn, Pems. Receivers are an HQ-129X, a BC-312 with a built-in "Q5'er," and an S-27; other operating and control equipment includes a frequency meter and oscilloscope. The Tx gear is out of view, to the right.

KG6AD (phone, 1005) and so on. Interesting stations he mentions are KX6AF, KX6BA, C3EA, MP4BAB, PJ5KO, VK6DD (all phone). Best days for O. A. G. were November 10, 12 and 17. Finally a query: is K4USA "just another American" or is he somewhere or something special?

A. Studley (Harrow) logged VQ8AD on 14 mc CW, and also found CR9AG on the band. He has noticed the hour before daylight extremely good for W7, KL7, KH6 and VE5, 6, 7 and 8. T. W. Jones (Birmingham) mentions CR9AG and ZD9AA as good signals, and brings in three queer ones: OJ3FG, AC4AK and TM10' (the latter on 7 mc)

I am surprised that no one seems to mention ZD8B; I heard him for several consecutive days at 1800-1830, putting in a beautiful CW signal on about 14030.

28 MC

Our friend "Ten" has been in very good shape too, in spite of the constant shortage of CW DX compared with

the amount of phone. A. Bannister (Manchester) mentions the following: VS6OE (28200), CR7AH (28150), C1CH (28200), C7BC (28450) and VS6AM (28150). R. Baldwin (London, E.17) mentions ZE1JO, W7KMV/Iwojima and CPIAT as three nice new ones for him, and he enjoys the hours of 0730 to 0930, when lots of KG6's and the like are usually to be heard.

DX IN GENERAL

Letters from the readers which follow cover several bands and so cannot be segregated into the preceding paragraphs. First, from quite a few comes the news that TT1KY (Tannu Tuva) is a new and genuine station in Zone 23. He runs a schedule with VU4AC in the Laccadive Islands. There is also a mysterious station called HDPP in the Galapagos Islands, of all places, so don't just pass up the peculiar call and think he's a commercial harmonic. K. Parvin (Thornton Heath) queries XON4AA; he is ON4AA on board his own yacht, most probably in

DX QTH's

ET3AH	F. Frost, Box 858, Addis Ababa, Ethiopia.
FE8AB	Ivan Pastre, Base Aviation, Douala, French Cameroons.
HL1AY	APO 235, c/o PM, San Francisco.
J2AFB	APO 994, c/o PM, San Francisco.
J2GUY	Box 143, APO 925, c/o PM, San Francisco.
J2RJD	APO 243, Unit 1, c/o PM, San Francisco.
KZ5CE	Box 1460, France Field, Panama Canal Zone.
MD2KP	Sgt. Mackintosh, 1st Sqdn., 1st Inf. Div., Signals Regt., Tripoli.
MI3SC	Radio Marina, Asmara, Eritrea.
OA4BG	Box 538, Lima, Peru.
PK2KK	Box 222, Soerabaja, Java.
VP4TAN	USAAF, Waller Field, Trinidad, B.W.I.
VS7BH	Capt. R. T. R. Cocks, R. Sigs., Ceylon High Speed Wireless, c/o GPO, Colombo.
VU4AC	Minkol, Laccadive Islands, Indian Ocean.
ZD1PW	c/o GPO Waterloo, Sierra Leone.
YV5ABX	Box 1247, Caracas, Venezuela.
ZB2F	J. Swain, 16 Kings Bastion, Gibraltar.
ZD4AH	Box 287, Sekondi, Gold Coast.

the Mediterranean, judging by the time of year! He would also like a note on ZC8AG. M. E. Bazley (Birmingham) heard VQ8CB, who said he was in the Chagos Islands, and wonders if he is genuine.

Another query brought up by several readers is whether Nova Zembla (or Novaya Zemlya) counts as a country. It does: and it is represented at present by SM8CF and SM8SU—worth remembering.

K. Smeeton (Runcorn) has logged CR7IZ, VP7NK, HI6EC and HI8WF on 14 mc phone. VP7NK I regard with a small amount of suspicion, but let us hope he will turn out all right.

Why is it that one can be short of a Zone or Country for a very long time and then suddenly find loads of stations in that locality? N. A. S. Fitch (London, E.10) wanted Zone 17, but has now collected UI8AA, 8AE and 8KAA. Also, he had never heard Iceland, and then found TF3EA and 3AB on the same

day, with 3ZM a week later! N. A. S. F. asks whether any of the OQ5 stations are in Ruanda Urundi. OQ5AS certainly is—I have his card, complete with Ruanda (not Belgian Congo) stamps on it. But for some reason this has not yet been recognised as a country.

J. M. Graham (Glasgow) logged W3WB?/KW6 and wonders if anyone can tell him the full call-sign—28 mc phone. J. M. G. also tells me that from January 1 all "J" calls will be changed to "JA". His best during the month were ZS3G, VP2AC, J5AAW, VP3TR, PZ1WK (28 mc phone) and VP3HL, 3MCB, CR7IZ, ZD1PW and HI6EC (14 mc phone). On 3.5 mc he logged XE1DA. During the month J. M. G. heard 70 countries on 28, 51 on 14 and 16 on 3.5 mc—all on phone and a total of 89 countries for the month.

D. L. McLean (Yeovil) also listened on 3.5 and was rewarded by phone from KP4ES. His best on 28 mc

phone were CR7AH, ET3AH, HR1MB, W4HRN/MM (6 watts off Turkey), ZC1AZ, ZD1AS and ZS3G. More nice DX comes from D. W. Bruce (Eltham) with ZD9AA, VP8AC and 8AP, KZ5AX and 5MZ, CZ2AC and ET3Y (all 14 mc CW) and VP2KS, 3MCB, 3TY, ZD1PW, CR7IZ and HI6EC (14 mc phone). D. W. B. also heard an FQ8 on phone, but didn't get the call—can anyone identify? On 28 mc his best were VK9GW, ZD1AS, VS6AE (all phone).

D. W. B. mentions a QSO which shows why some people seem to hear different DX from others! G2PL, G5UX and G6LX were all working ZD1BD; at one time G6LX was losing him, G5UX giving him S4, and G2PL giving him S9 plus. All the G's are in South London.

3.5 MC DX

This band now seems to be in the hands of one specialist—C. S. S. Lyon (Liverpool). He says the SLP struck a bad time—too many Europeans about—but he did "dig" for some weakish phones from the East Coast USA. He was surprised, however, to find W5KMZ (Texas) also coming across. During 1948 C. S. S. L. has heard 50 countries in 18 Zones on 3.5 mc; during November he heard 32 countries. Come on, some of you jaded DX-chasers—can't any of you give him a run for his money?

F. W. Lindley (Dundee) says he covered the 3.5 SLP but "only heard W1-4 and 9" from outside Europe. But apart from these two stalwarts we have no 3.5 news at all.

MISCELLANY

Much sympathy for E. J. Logan (Hertford) over the non-activity in Zone 18 on phone! He only wants this one for 40 Zones on phone, and is still hoping. He is building a converter for 21 and 28 mc; incidentally, no official news yet about the

21 mc band, although the ARRL's forecast continues to be January 1950. A. M. Norden (London, N.W.11) would like the QTH of CR7JZ, if anyone has it. I know he is a W3, but have nothing further at present. A. M. N. also comments on the two SM stations in Novaya Zemlya, which, by the way, is in Zone 16.

A. E. Carter (Romford) sends his first letter; he is a disabled listener with an R.208 and has just passed his century mark with a score of 33 and 101. Nice work, A. E. C.

D. G. Martin (Cheltenham) remarks that listening on 7 mc late at night, with the South Americans coming in, makes him think an all-night session would be rather nice, but he always goes to bed instead! D. W. E. Powell (Wilton) has divided his time between the top band and 7 mc, and rather likes the latter, which he is treating as a DX band for the first time. His log shows KP4GP, PY7WS, HH3L, ZC1CL as well as lots of CN8's and an FA. D. W. E. P. says that he doesn't think the SWL's achievements are sufficiently recognised, and would like to see some nice certificates issued—the kind that really mean something. We are still thinking over the best way of running contests in the New Year, and don't be surprised if something with a certificate attached should arise.

L. Shearlaw (Camberley) suggests space-saving in the Calls Heard section by the ruthless cutting out of all Europeans. Up to now,

although they are really against the rules, such oddments as ZB1, ZB2, YR, MF2, SVØ and so on have been creeping in. I know such things are irregular, but the pruning of individual lists by cutting out one or two calls from each wouldn't really give us any space worth having. No—I am thinking of a drastic shortening of the General lists by suggesting that they be restricted to the "best twenty of the month" or something of that sort. How would you like that? It's for you to say. A. V. Butler (Onghan, I.O.M.) makes a similar comment about Europeans creeping in. He adds that he would like to know if there are any stations from CE, XE, XZ, VO6, VE8 or OX on 28 mc phone. If so, he would like to know where and when.

H. M. Graham (Harefield) is tickled by the peculiar call of RV2/FO8 on Raivavae Island, Tahiti, and asks whether some ingenious operator derived the call from the name of the island, or what? I have a hunch that it started as a commercial call-sign used on the amateur bands.

STOP PRESS

At the last moment two more 3.5 mc supporters put in an appearance. A. W. Robertson (Cranford) logged some W's on phone, and D. Kendall (Potters Bar) heard several W's and a VE; but remarks that the W's on 80-metre phone always seem to be having multi-way contacts and gabble their call-signs in a way that makes-things very difficult for SWL's.

So that brings us to the end of this Commentary and this year. May I say many thanks to all the readers who sent Christmas Greetings with their letters? And of course I should like to wish you all the very happiest of Christmases—with an SLP on the morning of the 26th thrown in for full measure! I don't expect quite so much support for the late evening period on Boxing Day, the 27th; the party spirit is apt to make short wave listening seem very unimportant, however keen you are.

But whether you feel like listening or not, may the Christmas period and the whole of the following year be happy and successful for you all.

I shall be very glad to receive the claims for the Marathon and to announce the winners next month.

SET LISTENING PERIODS

December 26, 1100-1200

GMT—28 mc Phone.

December 27, 2000-2200

GMT—14 mc Phone and CW.

January 29, 1700-1900 GMT

—14 mc CW and Phone.

January 30, 0600-0800 GMT

—3.5 mc CW and Phone.

Our closing date for the next issue is January 5, first post. This should give time for sorting out those Marathon claims, right up to 2359 on December 31—and, of course, lots of time for the SLP's. Address everything to DX Scribe, *Short Wave Listener*, 49 Victoria Street, London, S.W.1. So Merry Christmas, Happy New Year and Good Hunting.

MAPS AND MANUALS

The *Zone Map*, giving the fullest information on the international DX Zone system, and printed in five colours on heavy paper suitable for wall-mounting, is available at 6s. The *DX Operating Manual* tells you all that can be conveyed by the printed word about DX work on the amateur bands, for 2s. 8d. The *Principles of Short Wave Reception*, at 1s. 8d., will be found of

great value by beginners. And a subscription to the *Short Wave Listener* (16s.) and/or the *Short Wave Magazine* (20s.) will guarantee you the best reading in the literature of Amateur Radio every month for a year.

Send your order, with remittance, to the Circulation Manager, *Short Wave Magazine, Ltd.*, 49 Victoria Street, London, S.W.1.

CALLS HEARD

Please note the following simple rules for sending in lists of Calls Heard :

- 28 and 14 mc : No Europeans, No USA except W6 & W7
No VE except VE5, 6, 7 & 8.
7 mc : No Europeans.

Arrange logs in the form given here, with (a) prefixes in alphabetical order, but not repeated; (b) numbers in numerical order and repeated as part of the call-sign; (c) call-signs in alphabetical order. For example:—VK2GW, 3CP, 4UL, YP1AA, 6CDY, YQ3HJP, 4EJT, W6ENV, 7VY. Please underline each prefix, keep each list to one band, and, in short, make your lists exactly like those below, except that the more space you leave, the better.

SET LISTENING PERIODS

28 mc

Nov. 27, 1500-1700 GMT

W. Eyre, Orchard Field, Whaley Bridge, Derbyshire.

*PHONE: CN8BA, 8EQ, 8MU, 8MZ, CX2AA, FA3GZ, K0ABA/MM (Pacific Ocean), LU1BK, 3DH, NY4LB, OQ5AB, 5BH, 5LL, PY2CK, 2JU, 2OS, ST2AM, TA3FAS, VO2CR, VP6CDI, 9HM, ZB1AJ, 1AK, 1AM, 1FK, 1Q, ZD4AU, ZE2H, ZS1EQ, 1FD, 6EK, 6Q. (Rx : 640.)

J. M. Graham, 2 Kelvinside Terrace, West, Glasgow, N.W.

*PHONE: CN8BA, 8EQ, 8MU, 8MZ, CO2LW, CR7AH, FA3GZ, KZ5CD, LU3DH, 3DJY, 4DP, PY1JY, 2GP, 2JU, 2OS, OQ5BO, 5LL, TA3FAS, VO2CR, VP3TR, 6CDI, 9L, ZB1AH, 1AK, 1AM, 1FK, 1Q, 2A, ZS2ET, 6OV. (Rx : CR 100.)

A. E. Carter, 86 The Drive, Collier Row, Romford, Essex.

*PHONE: CN8MZ, CO2LW, FA3GZ, LU3DH, M13LZ, OQ5BH, 5LL, ST2AM, VO2CR, VP9G, ZB1AJ, 1AM, 1Q, ZS1FD, 6EK. (Rx : R208.)

Ray A. Hawley, Torrviv, Brookfield Crescent, Goostrey, Cheshire.

*PHONE: CN8BA, 8MZ, FA3GZ, M13LZ, OQ5AB, 5BH, 5LL, PY2CK, VO2CR, VP6CDI, 9HF, ZB1AH, 1AK, 1AM, 1Q, ZS5CJ.

CW: CN8ER. (Rx : 504 and 640.)

G. P. Watts, 62 Belmore Road, Thorpe, Norwich, Norfolk.

*PHONE: CN8BA, 8EQ, 8MU, CO2LW, CR7AH, FA3GZ, HC1JW, LU3DH, 3DJY, OQ5LL

PY2CK, VO2CR, VP6CDI, 9G, ZD4AU, ZP7FA, ZS1DH, 1EQ, 5DD, 6EK, 6Q. (Rx : S640.)

L. Shearlaw, Kaduna, Frimley Road, Camberley, Surrey.

*PHONE: CN8EQ, 8MU, 8MZ, CO2LW, FA3GZ, LU3DH, OQ5BH, 5LL, PY1JY, TA3FAS, VO2CR, 2GS, 6AN, VP6CDI, 9G, 9L, ZS1FD, 2ET, 6EK, 6OV, 6Q. (Rx : R.208.)

W. J. C. Pinnell, 40 Melville Road, Sidcup, Kent.

*PHONE: CN8MU, 8MZ, CO2LW, CR7AH, FA3GZ, LU3DH, OQ5BH, PY2CK, ST2AM, TA3FAS, VO2CR, 2GS, VP6CDI, ZB1AH, 1AK, 1AM, ZE1JM.

CW: W2KEZ/MM (Red Sea). (Rx : V55R with Presselector Converter.)

N. A. S. Fitch, 79 Murchison Road, London, E.10.

*PHONE: CN8BA, 8EQ, 8MU, CO2LW, FA3GZ, LU3DH, OQ5LL, PY2CK, ST2KR, VE1SE, 2UV, 3ABP, 3AKN, 3ANY, 3B1B, 3BMS, 3FU, 3NO, 3RU, 3VK, VO2AQ, 2CR, 6AN, VP6CDI, 9G, VO2JC, ZB1AJ, ZP7FA, ZS1FD 6Q. (Rx : Mains 1-V-1.)

W. J. Wills, 17 Alfred House, London, E.9.

*PHONE: CN8BA, 8EQ, 8MU, FA3GZ, KZ5CD, LU3DH, PY2CK, TA3FAS, VE2AOL, 2YQ, 3VBD, 3ZL, VO2CR, 6AM, ZB1AK, 2A. (Rx : Eddystone 504.)

L. Tombs, 31 Little Avenue, Swindon.

*PHONE: CR7AH, LU3DH, OQ5BH, VO2AQ, 2GS, 2CR, 6AN, VP6CDI, 9G, ZB1AM, 1Q, ZS1FD. (Rx : 12-valve Superhet.)

T. W. W. Dearlove, Lattices, 138 Coleford Bridge Road, Frimley Green, Surrey.

*PHONE: CN8BA, 8EQ, 8MU, 8MZ, FA8GZ, LU3DH, NY4LB, PY1JB, ST2AM, TA3FAS, TG9HM, VO2CR, 4AC, 6AN,

VP6CDI, 9G, 9L, ZB1AH, 1AJ, 1AM, ZS1FD, 6OV. (Rx : CR.100.)

Kenneth L. B. Dalby, Marshlea, Green Lane, Lea, Gainsborough, Lincs.

*PHONE: CN8BA, 8MZ, CR7AH, LU3DH, OQ5BH, PY1JY, VE1IO, 1LU, 1QG, 1SE, 2EP, 2UV, 3AEL, VO2AQ, 2CR, VP6CDI, 6CR, VP9G, ZB1AK, ZS1EO, 1FD, 1K. (Rx : S640.)

D. Kendall, 40 Aberdale Gardens, Potters Bar, Middlesex.

*PHONE: CN8BA, 8MZ, CO2LW, FA3GZ, 3JY, 8CF, KP4CU, LU3DH, MD2D, 2FU, M13LZ, PY1JY, TA3FAS, VO2CR, 2GS, VP3TR, 4TAI, 5RS, 6CDI, 6JC, 9L, ZB1AH, 1AJ, 1AK, 1AM, 1FK, 1Q, 2A, ZS5DD. (Rx : 14-valve home-built Superhet.)

3.5 mc

Nov. 28, 0700-0800 GMT

C. S. S. Lyon, 15 Ullet Road, Liverpool 17.

*PHONE: W1MZQ, 5KMZ (Texas).

CW: FA8BG, W1EKN, 4SU. (Rx : 1-V-1.)

GENERAL

1.7 mc

William McBey, 12 Albert Street, Kirkwall, Orkney.

*PHONE: G2ACV, 2AMV, 2DR2, 2DT, 2DTQ, 2FFY, 2FJR, 2OO, 3ABZ, 3AEX, 3ANM, 3BGU, 3BOC, 3BVJ, 3CJB, 3NL, 5AU, 5SK, 5VW, 6HN, 6VS, 8HI, 8LG, GD5CZ, GW2BG. (Rx : R107.)

A. Baldwin, 28 Wallwood Road, Leytonstone, London, E.11.

CW: G2ASY, 2BTO, C2MK, 2DCG, 2DM, 2FRG, 2FTU, 2LC, 2QN, 2YT, 2YY, 3AAX, 3AGG, 3AKW, 3AOT, 3ART, 3BVJ, 3CG, 3DNL, 3EGJ, 3FAB, 3KP, 3LC, 3LP, 3MA, 3OB, 3PU, 3QD, 3VF, 3VM, 4IV, 4ND, 5JO, 5RI, 5UQ, 6GL, 6NM, 6YQ, 8OZ, GC8OK, OZ1W.

*PHONE: G3BTM, 3BU, 5RV, 6LL, GW2BG. (Rx : 14-valve Superhet with Presselector.)

D. W. E. Powell, Loughrigg, Shaftesbury Road, Wilton.

CW: D2LM, DA5BF, G2AAU, 2AEX, 2ASY, 2ATJ, 2AUF, 2AAU, 2BGP, 2BTO, 2BVU, 2CXW, 2DDR, 2DTD, 2FBU, 2FFY, 2FIS, 2IK, 2KO, 2PT, 2SC, 2YU, 2YY, 3ADI, 3AKW

3AMF, 3APJ, 3APU, 3ARS, 3AUH, 3BHS, 3BSM, 3BTP, 3BWR, 3CBU, 3CMI/1A, 3CNN, 3DCC, 3DUQ, 3EAB, 3ECU, 3EDW, 3EEY, 3EGJ, 3EGW, 3EKK, 3EMU, 3FAB, 3NJ/A, 3NL, 3NT, 3PU, 3VF, 4AG, 4AJ, 4AL, 4AU, 4JS, 4ND, 5HB, 5HC, 5LX, GC4LI, GM2AWF, 2BA, 2CD, 2HIK, 3BXV, 4FK, GW2HH, 3AZQ, 3VL, 5BI, 8NP, OZ1W. (Rx: 0-V-1. 5 hours. 1900-0100 GMT.)

J. Bagshaw, Sunlea, Saltash Road, Callington, Cornwall.

'PHONE: G2DRT, 2DTQ, 2FLK, 2HKF, 200, 3AAZ, 3ANM, 3ART, 3BCS, 3BGU, 3BLQ, 3BVJ, 3CMI/1A, 3CUM, 3CWC, 3QS, 3TP, 4GA, 4GJ, 4OK, 5AU, 5LU, 5MM, 5XM, 6JB, 6HG, 6UT, 8GP, 8JM, GC8OK, GW3ALV. (Rx: SX.24)

3.5 mc

J. M. Graham, 2 Kelvinside Terrace West, Glasgow, N.W.

'PHONE: VE1GL, 1LR, 1QW, 1OZ, 1RF, 3BDF, 3RM, W1AOH, 1ATE, 1FBF, 1CMP, 1EKN, 1EJ, 1IFH, 1IHL, 1IHM, 1IXO, 1IYL, 1MHA, 1MHN, 1NQ, 1PLK, 2DBN, 2MLM, 2MUT, 2OMM, 2RGA, 2RTM, 2SKE, 2SMA, 3AVL, 3DHM, 3DQ, 3LFU, 3LID, 3NA, 4DCQ, 4GNE, 4IYC, 4KQO/4, 4UWO, 4HSD, 8KWI, 8REU, 8TAJ, XEIDA. November 7 and 14, 0500-0730 GMT. (Rx: CR.100.)

C. S. Lyon, 15 Ullet Road, Liverpool 17.

CW: CM7RA, CN8MI, FA8BG, 8IH, 9RZ, HH2BL, KP4HU, 4KD, OX3MG, OY6AB, VO2R. (Rx: 1-V-1.)

7 mc

K. J. Foskett, 19 Pattison Road, Child's Hill, London, N.W.2.

CW: CN8MI, CO1MS, 2LN, 2RE, 8OH, FA9IP, KP4GP, 4KD, KV4AA, KZ5AX, 5BP, PY2AC, 2AYI, 2TD, 4LE, 7WS, 8MD, T12EXO, UG6KAA, VO6J, VP2SA, 3AA, ZC4AC, 6AK. (Rx: Collins TC312.)

14 mc

J. H. Hayden, 7 Linden Gardens, Tunbridge Wells, Kent.

'PHONE: CE1AR, CO2LB, 2LW, 7CX, 7VP, CN8AR, 8BA, 8BB, 8MZ, CR71Z, CX2CL, 2LU, 5AP, EA7BA, 7CA, 9AI, EK1AD, FA3GZ, FT4AT, HI6AC, HK1DZ,

IS1AEX, KAI1AK, KH6AQ, LU4CL, 7CK, MD1A, M13BC, 3CD, 3FC, MT2D, OA4BH, OQ5BR, 5CF, OX3MC, PY1TZ, 7DD, T12OFR, VE5HU, VK2TI, 4UL, 5RN, VO1AF, 1T, 2BF, 4AB, 6J, VP1IH, 3MCB, 3NCD, 3PW, 4TH, 5RS, 9F, 9G, 9R, 9WW, VQ2JD, 4CUR, VU2BH, W6DI, 6FNK, 6PAX, 6QS, 7ADH, 7ADS, 7AKC, 7AVC, 7E7L, 7EKA, 7ESK, 7GUI, 7HTB, 7VT, XE2AF, YN1HB, YS2AG, ZC1AZ, 6JL, 6XY, ZD1AB, 1BD, ZL3FL, 3LC, 4HP, ZS1JY, 2DY, 2X, 3D, 3F, 6AY, 6DY, 6JS, 6NT. (Rx: HMV Model 481.)

B. Davies, 73 Eden Road, Elmers End, Beckenham, Kent.

'PHONE: M13DC, OQ5CF, VP3MKB, 3TY, 4TH, VQ1JD, W3KIF/CR71Z (Beira), ZC1AZ, ZD1B, 3A, ZSICK, 2DY, 3F, 6DY, 6IH, 6JS. 1700-2000 GMT. (Rx: 0-V-1.)

F. N. Baskerville, Radio Officer, SS "Hubert," South Atlantic.

CW: CPIAP, IAS, EA7AV, FG8AB, FI8ZZ, HP1BP, 1BR, HZ1A, IS1AFM, J2AAO, 6DKV, 9ACS, KAI1AK, KH6BA, 6JL, 6NZ, KJ6AB, KM6AJ, KN1MM, KP6AE, KX6ECN, W, PK2KK, 4PO, 7AC, UL7BZ, VK7AZ, 7BS, 7JT, VP3JM, VR2BD, VS1CV, ZD1LO/EL, ZD2RGY, 8B, 9AA, ZE2KC, VE3BFA/MM. (Rx: 1-V-1.)

O. A. Good, 1 Western Drive, Oswestry, Shropshire.

'PHONE: C3EA, HC1FG, HLIAB, 1CC, J2AFB, 2AQY, 2RID, 2ROC, 9ABJ, 9ACL, 9ACN, KAI1AF, 1AI, KG6AD, 6DE, 6DI, KL7DJ, KX6AF, 6BA, MP4BAB, M13BC, 3CD, OQSCA, 5CF, PJ5KO, VE7ZM, 8MI, 8OH, VK4UL, 4VD, 6DD, 7AZ, VP2KS, 3MCP, 3PY, 5RS, VQ2JC, 2JD, W7CHZ, 7DL, 7EKA, 7ESK, 7HTB, ZD1BD, 1PW, ZE1JX, ZLICD, 1ON, 3CV, 3FL, 3HC, 4AW, 4GA, ZS1AJ, 1DO, 1DY, 1N, 2DY, 3D, 3F, 6AJ, 6CZ, 6DY, 6GJ, 6JS, 6Q, 6Z.

CW: CE7AA, CR6AW, J9ACX, 9ADE, KA6AC, KH6J, U18KAA, UL7BS, XZ2JB. (Rx: Mod. R.1155, 2RF.)

A. Ross, 40 Chiltern View, Letchworth, Herts.

'PHONE: AP4B, AR8BM, CN8AB, 8BB, 8BV, 8EI, 8MB, CO2LY, 7CX, 8MP, CR71Z/W3FK, CT2AB, EK1AD, 1CG, 1MD, F8IH, HI6EC, HK1DZ, 1FO, MD1A, 1J, 1L, M13BC, 3CD, 3SC, OQ5CF, OX3BC, 3BD, 3GF, 3GG, 3MC, PJ5KO, ST2AL, 2GE, V6PMM, VO2BX, 2FL, 4Q, 6AG, 6AL, VP4TH, 9G, VQ2JD, 4ERR, VU2LS, W6GY, 6PJ, 7ERK, 7HVK, YV1AN, 5AB, ZBZA, 2E, ZC1AZ, 6JL, 6XY, ZL4PH, 6DY, ZS2DY, 3M, 6AY, 6DY, 6KA. (Rx: Ex-Army R107.)

T. W. Jones, 56 Cuckoo Road, Nechells, Birmingham.

CW: AC4AK, CM2CT, CR6AF, 6AI, CX1BZ, KG6DE, MP4BAB, OH2QE/MM, O13FG, OQ5AV, OX3RG, TP3JS, VE8NS, VK2RX, 3RW, 4SU, 5FL, 5RX, VQ4IMS, 4KPB, 4SGC, VS2CQ, ZL2FA, 2QM, ZS1BK, 2C, 5BS, 6FN, 6IJ, 6RT, 1530-1630 and 1900-2000 GMT. (Rx: V55R.)

D. G. Martin, 65a Winchcomb Street, Cheltenham, Glos.

'PHONE: CN8BV, CT3MN, CX2CO, 2CR, HK3ACC, MD1A, M13SC, MT2E, OX3BC, 3BD, PY1KZ, 8GD, 8GL, TI2RC, VK2ADA, 2KS, 2CO, 3AGW, 3JT, VO6AG, VP3MKB, 4TH, 5RS, 9F, 9WW, YV4AB, 5ABV, ZC6XY, ZS1T, 3F. (Rx: 640.) Total Time: One hour.

A. M. Norden, 9 Leaside Crescent, London, N.W.11.

'PHONE: AR8AB, 8BC, CN8BA, 8BB, 8BF, 8BV, 8EN, 8MZ, CO8MP, CR71Z, EK1AD, FA3GZ, 8BE, 8DE, FT4AI, 4AP, HZ1AB, LU7AJ, MD1A, 1H, 1J, M13DC, NY4BA, OX3BC, 3BD, PY1KZ, 4IO, 7AD, 7GD, 7QG, SM8CF, UA6OK, VE6TM, 8MI, 8OA, VK2AWN, 3JT, 5HP, 5NP, VO4Q, 6AL, 6F, VP4TH, 9F, VQ2HG, 2JC, 2JD, 4ASC, 4NSH, W7ESK, ZC6AA, 6XY, ZD1BD, ZS3F, 1AJ, 6AJ, 6AY, 6CZ, 6JS, 6JT, 6Q. 1800-2000 GMT. (Rx: Phillip's B.C. 7-V-Super.)

A. Studley, 274 Kings Road, Harrow.

CW: CE3AG, CR9AG, HK3FF, 6JLPP, KH6CY, 6GF, 6IJ, 6LG, KL7DD, 7GG, 7NK, 7RT, KP4HX, LUSBM, 9EV, VEGMZ, 6PY, 7SB, 8PX, VK4EL, 5FM, 7AL, VQ8AD, VS7BJ, ZD4AM, ZL1D, 1MR, 2BH, 3BV, 4GA. (Rx: 1-V-2. 0630-0700 and 1700-1730 GMT.)

K. Parvin, 98 Winterbourne Road, Thornton Heath, Surrey.

'PHONE: AR8AB, CN8AR, 8BB, 8BQ, 8BV, 8MA, 8MU, 8MZ, CR71Z, EA9AI, EK1AD, FA3JB, 8BE, 8CC, 8CF, 8IH, 9HS, 9KJ, FT4AC, 4AH, 4AI, 4AP, 4AT, HZ1AB, MD1A, 1L, M13CD, 3SC, MT2E, OQ5AV, 5CA, 5CF, OX3BC, 3BD, PY1ACQ, 6AG, 7AD, 7QG, VE8MB, VK2OC, 3JT, VO6X, VP4TH, VQ2JD, 1AAS, XON4AA, ZD1BD, ZC1AL, 1AZ, 6UN, 6XY, ZS1DO, 3F, 6DY. (Rx: R1116A. 1800-2000 GMT.)

G. Braithwaite, Belfast N. Ireland.

CW: CM8AZ, CN8MI, EA7AU, 7TA, FA8CR, 8IH, FT4AR, HA4EA, IS1FIC, KAI1AK, LU9EV, MD1A, OX3MC, PZ1NE, PY2AL, 2OE, 6CO, TF3AB, 3EA, 3SF, UA6OK, 9CC, 9KOG, UF6KAB, UNIAB, UO5AD, UR2KAE, VK2XU, 3EO, 5FH,

5JS, VP3AC, 8AM, VS9AL, W6TQD, XZ2JB, YR5A, 5C ZB1AC, 1AU, ZC8PM, ZS6CT. (Rx: V55R.)

A. W. Robertson, 149 Firs Drive, Cranford, Middx.

'PHONE: CO2TF, 7CX, 8MP, CR7Z, CT2AB, CX2CL, EK1EA, FT4AI, HK1AQ, 3UL/airborne, 7HA, HZ1AB, KP4AZ, MD1A, M13BC, MT2E, OQ5CF, 5CL, OX3GE, ST2FU, T12AFR, VE8MI, 8NY, VK2NS, 3IG, VP2KS, 3CMB, 4TH, 4YB, 5RS, 9AA, VQ4ERR, YV1AU, ZC6UN ZD1PW, 2AQ, ZS1DH, 3F.

CW: OX3BG, PZ1NB, TF3SF, UA6LJ, 9HA. (Rx: 1-V-1)

584537 A/A Fowler, R.A., "A" Flt., "C" Sqn, App's Wing, No. 1 Radio School, R.A.F. Cranwell, nr. Sleaford, Lincs.

'PHONE: AR8BC, C3KC, CE2BO, CN8BB, 8BV, 8DN, C07CN, CR7RZ, CX2CO, EA9AI, EK1AD, FA8CA, 8CB, 9NL, EK1AB, FE8BA, HI6EC, 6VP, HK1AL, 1DZ, 5AF, HZ1AB, KB6AW, KP4HX, LU2AY, 6AJ, 6CO, MD1A, 1AD, 1L, MD4XB, M13SC, OQ5CR, OX3BC, 3BG, 3GE, 3MC, PY7CE, 7GG, TA3FAS, T17Q, VE7ZM, VE8MI, VK3JE, 3SP, VQ4Q, VP4Q, VP3F, VP4C, 9F, VQ2JD, 4ERR, 4ASC, W7KLU, W7IYA, YV4QC, ZC6AL 6UN, 6XY, ZD1BD, ZE2KH, ZL1MP, 2GH, ZS2G, 5AW, 5DK, 6DY, 6MD, 4X4AA. (Rx: 0-V-2)

D. E. Tyler, 106 Clarendon Road, Road, London, W.11.

'PHONE: F8BCF, FT4AI, MB9AB, MB9AD, MT2E, OQ5CF, OX3BC, 3GG, PY1ACQ, T12OH, VE8MB, 8MI, VK2KS, 2QC, 3JT, YV5AB, ZB2A, ZL3CL. (Rx: Hambander/6-valve Broadcast.)

H. L. Kershaw, 29 Pottery Road, Warley, Birmingham, 32.

'PHONE: AR8AB, CE2BQ, CN8AB, 8BB, 8EI, 8MZ, EK1AD, FA3GZ, HZ1AB, KP4HX, LU2FN, OQ5CF, PY6CO, 7QG, VE8MI, VK2KS, 2US, 3JT, VQ6AL, 6X, VP3TY, 2NCB, 9F, ZC6XY, ZD1BD, 1KQ, ZS3F, 5GK, 6CZ, 6JS. (Rx: 0-V-1. 1830-2000.)

28 mc

P. W. Kennedy, P.O. Box 20, Fort Victoria, Southern Rhodesia.

'PHONE: AP2FD, ARIUK, CE2CC, 3DK, D4AGI, 4AQV, 4AW, 4AXK, EI3J, FO8TU, 9LR, FO6CN, 8SN, G2AV, 2DPZ, 2EC, 2MF, 3AH, 3BI, 3BK, 3DAH, 3JU, 4KG, 5TP, 5UX, 6AG, 6LY, 6UT, 8MX, 8NK, 8SB, GW5VX, J2AAZ, 4AFA, 9ACO, 9ANZ, KA6TB, LU3DH, 3DJU, 3DM, 7HJ, 8FV, MD4JD, OH2OI, ON4AB, 4CE, OZ1S, PY1FR, 2CK, 2JJ, VK2HK, 2HR, 2MH, 3AB, 3AQ, 3BZ, 3EE, 2IY, 3KX, 3PG, 3QK, 3YC, 3ZB, 4CS, 5II, 5OW, 5RN, 6AQ, 6DD, 6HL, 6MB, 6RL, 6RU, VQ2CB, VQ6NL, VS1CW, 7BS, VU2GB, W1PHV/MM, 5ACN/MM, 5OCN/MM, XE1AC, ZCIAZ, 1CL, 6XY, ZD4AB, 4AP, ZL2PV, 4X4AA. (Rx: S640.) October 16-31.)

A. V. Butler, 8 Falkland Drive, Onchan, I.O.M.

'PHONE: AP2R, 4B, C1CH, C08CV, FA3GZ, HK4CI, HR1MB, J9ACR, 9ABK, KG6GF, KP4ES, PY1FR, PZ1RM, ST2KR, TG9JK, VK2AB, 2AJK, 3HW, 6KR; VP6CDI, VQ2JA, 4CUR, 5PBD, VU2CR, W5AXI/MM, 5OCM/MM, 6JRA, 6RET/P/KG5, YV4AN, ZE1JO, ZL1DW, 3BS, 4AN, ZS1CN, 1JL, 1MM, 1P, 2AF, 6PT, 6Q. (Rx: R.F.25 into Murphy A104.)

A. Bannister, 58 Demesne Road, Manchester.

'PHONE: C1CH, 7BC, CE1AR, CR7AN, CX2CL, 5AP, EL5B, HC1FG, 3AB, HK3AB, J2AAG, 2AZA, 2BBD, 2IMR, 2RLK, 5AAW, 5LOK, 9AAW, 9ABJ, 9ADD, 9ADI, 9AMZ, KG6CX, 6DF, 6DN, 6LL, HK6FG, MD7BL, OA4AS, 4AT, OQ5BL, 5CA, 5LL, PZ1M, TG1M, TG9JK, VE5BO, 5EA, 5LY, 7JT, VK2ADK, 2AKR, 2AQL, 3HW, 4KS, 5LR, 6AS, 6BD, 6HF, 6HL, 6MU, VP4CU, 5EM, VQ4CUR, VS6AM, 6OE, 7PS, VU2BF, W2EJV/PK3, 6RET/KG6, 7KMV/Iwojima, XE2W, ZD4AB, 4AU, ZE1JO, ZL2CY, 2FG, 3CX, 3DS, 3JA, 3JO, 3LE, 3LR, 4AC, 4AO, 4HP, ZS39, 5DD, 6EB. (Rx: Modified P22.)

R. A. Hawley, Torview, Brookfield Crescent, Goostrey, Cheshire.

'PHONE: AP2F, 2R, 4L, AR8AB, CN8BA, 8ER, 8MZ,

CO7GM, G3DEZ/AP, HR1MB, HZ1AB, J5LQK, KG6DF, KP4IJ, KZ5CD, LU3DH, 4BC, MD2BU; PY1GQ, 2CK, 3BX, 4ZI, ST2AM, TA3FAS, VQ5CUR, 4HRP, 4CS, 5PBD, VK2ADK, 2AKR, 2QR, 3AQL, VU2CO, 2GB, W1PHV/MM, 2LDH/MM, 5AXI/MM, 5OCM/MM, 7HHQ, 7ITN, 7KOP, 7LAF/MM, 8ZXH/MM, YS1AC, ZB1AH, 1AK, 1AM, 1Q, 1S, 2E, ZC3A, 6XY, ZE2JK, ZL3DS, 3G, 3LE, 4BN, ZS1AZ, 1P, 3G, 4AF, 5CJ 6AG, 6B, 6Q, 4X4AC, 4AD.

CW: F8IS, WZKEZ/MM. (Rx: Eddystone 504 and 640.)

D. L. McLean, 9 Cedar Grove, Yeovil, Somerset.

'PHONE: AP2R, 4L, AR2AB, 8BM, CN8ER, 8EI, 8MI, ET3AH, FA8CC, HZ1AB, J2AAD, 2AZA, 2GUY, 2EYS, 2IMR, 2RLK, 3KBE, 5AAW, 9ABJ, 9ABO, 9ACD, KG6CX, 6DE, 6DJ, MD2BU, MT2FU, OQ5CA, 5HL, ST2AM, 2FU, TA3FAS, VK7AZ, VQ4CUR, 4CS, 5WCP, VS7PS, VU2BF, ZL1AZ, 6UN, 6XY, ZD4AB, 4AH, 4AU, ZEZJK, ZL3DS, 3LE, ZS3G. (Rx: AR88LF. 0800-1000 G.M.T.)

D. W. Bruce, 39 Dunkery Road, Eiltham, London, S.E.9.

'PHONE: AR8AB, CX2CL, 5AP, HC1FG, 2OA, HK4AD, 5MU, HLIAY, HR1MB, HZ1AB, J2AZA, 9ABS, KG6DQ, 6ET, KP4AJ, 4CL, 4ES, 4EZ, 4HU, LU3DH, OA4BG, PY6AG, VK3AOL, 3KK, 6HM, VQ2Z, VP4TAI, 4TAN, 4TV, 5AL, 5EM, 6CDI, 6JC, 6YB, 6ZI, VS7PS, VU2CQ, ZB1AH, ZC6XY, ZD1AS, ZL1OF, 2JB, ZS1T, ZS5AW. (Rx: 1-V-2 TRF with 6V6 amplifier. November 28. 1000-1400.)

D. Kendall, 40 Aberdale Gardens, Potters Bar, Middlesex.

'PHONE: CE3AB, 4BP, CM2AB, CO2EH, 2LW, 7CM, 7RO, CX2AA, 2CL, 4CS, 5CA, HC1FG, 2OA, 2OT, HH1AB, 1SW, 3DL, 7HB, H18WF, HK1DJ, 3AB, 3CU, 4CO, 4EB, 4JB, HR1MB, KP4AJ, 4BN, 4CU, 4ES, 4EZ, 4FP, 4HN, 4HZ, KZ4FL, LU3BQ, 3DF, 3DH, 4DE, 7FA, OA4AQ, PY1AGP, 1GQ, 1JY, 2AC, 2CP, 4ZI, 6AG, 7QG, PZ1RM, 1WK, TG9CH, 9RV, T12C, 2OA, VP2CB, 2GE, 3TR, 4TAI, 4TAJ, 5EM, 5RS, 6CDI, 6FO, 6JC, 6YB, 9L, YS1AC, YV4AM. (Rx: 14-valve home-built Superhet.)

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Consists of a fully-wired and calibrated Coil Pack of the latest type. 5 Position Switch includes a Gram. position. Wavebands covered: 13.6-52 metres (22-53 mcs.), 51-200 metres (5.9-1.5 mcs.), 200-550 metres and 900-2,100 metres. Air Dielectric Trimmers on all Short-wave Coils. Unit consists of 3 Screened Sections, Aerial, B.F. and Oscillator. Dimensions of Pack, 6" x 4 1/2" x 2 1/2". Drive Spindle, Drive Wheel. Price with circuit diagram, £4/11/8 (including P.T.).

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PORTABLE LOUDSPEAKER CABINETS

To take Rola 10" Speaker. Internal measurements 16 1/2" x 13 1/2" x 5 1/2". There is also a small compartment 16 1/2" x 5 1/2" x 2 1/2" at the top of Cabinets, etc.

This is an ideal Cabinet in which to construct a portable amplifier, and a chassis specially made to fit the Cabinet can be supplied if required.

Cabinet	21/6
With Rola 10" Speaker	45/-
Chassis to fit	6/6

ALUMINIUM CRASSIS

Substantially made of bright Aluminium with four sides.

7" x 3 1/2" x 2"	4/6
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10" x 5" x 2 1/2"	7/-
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14" x 9" x 2 1/2"	7/3
16" x 8" x 2 1/2"	8/6
20" x 8" x 2 1/2"	10/6
22" x 10" x 2 1/2"	13/6

ALUMINIUM PANELS

7" x 6"	1/8	7" x 4"	1/4
9 1/2" x 6"	2/-	9 1/2" x 4"	1/6
10 1/2" x 9"	3/3	10 1/2" x 7"	2/6
12" x 9"	4/-	12" x 7"	3/6
14" x 9"	4/9	14" x 7"	3/6
16" x 9"	5/3	16" x 7"	4/1
20" x 9"	8/6	20" x 7"	5/-
22" x 9"	7/3	22" x 7"	5/6

2v BAKELITE CASED ACCUMULATORS

By Oldham, Dagenite, Exide, etc., New and unused, unspillable vents. 7" x 4" x 2". each 8/6

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These incorporate Metal Rectifiers and Transformers. For 200-250v. A.C. mains.

SECTIONAL WHIP AERIALS.

Seven sections which plug into each other making an Aerial 14ft. long, a steel wire runs through the centre to stiffen. Thinnest section 1/2" in diameter, thickest section 1 1/2" in diameter. Weatherproof Green Enamel. each 3/6
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diameter, green screen, 4v 1s. Heater, 2,500v max. H.T. Complete with socket, in maker's original cartons, 35/-.

MULLARD M.W.18-2 TELEVISION TUBES.

7" diameter, 2v Heater, 5kV max. H.T. Mazda Octal Base, £39/10/6, in maker's cartons.

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We have available a large quantity of F.M.I.4/1 Cathode Ray Tubes, 3 1/2" diameter, green screen, short persistence, 4v 1.3a Heater, 800v H.T. Complete with socket, 17/6 each.

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diameter, green screen, 4v 1a Heater, 1,200v H.T. Complete with socket and Mumetal Screen, 19/6 each.

PLESSEY AUTO CHANGER with magnetic pick-up.

A.C. 200/250v 8-records mixed. £18/8/8

GARRARD ELECTRIC GRAMOPHONE UNIT with magnetic pick-up.

A.C. 100/250v. £5/19/5

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With Crystal pick-up £11/2/2

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A.C. 100/250v £5/18/4

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turntable. 200/250v A.C. 57/6
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NEW 2-VALVE ALL WAVE KIT.

16 to 2,000 metres. Switched Coil Pack ready wired and tested. 2 Mazda HL23 Valves, Phones, H.T. and L.T. Batteries, Condensers, resistors, diagrams and steel case, all ready to assemble, £3/10/-, including P.T.

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All parts including Valves, M/O Speaker and Instructions. 4 valves plus Metal Rectifier. 16-50 metres and 200-257 metres. 200 to 250v A.C. or A.C./D.C. mains. State which is required. Size, 10" x 6" x 6", £8/5/-, including Purchase Tax.

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Complete and ready for use in Bakelite Cabinet, 12" x 6" x 6".
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A.C. or A.C./D.C. for 200-250v mains.
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A Kit of Parts to build a 6-valve (plus rectifier) receiver, covering 16-50 metres. Medium- and long-wave bands. Valve line-up, 6K9, 6K7, 6Q7, 6Z7, two 2A5s in pushpull. Metal Rectifiers are incorporated for H.T. supply. Output impedance is for 3 and 15 ohms. The latest Wearite Coil Pack incorporating Iron Dust Coils is used, making construction and alignment extremely simple. A pick-up position on the wave-change switch and pick-up

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PSE QSL

The operators listed below have informed us that they would like SWL reports on their transmissions, in accordance with the details given. All correct reports will be confirmed by QSL card. To maintain the usefulness of this section please make your reports as comprehensive as possible.

- CT1TR *Rua Latino Coelho 257, Oporto, Portugal.* 7183, 14132 and 14347 kc 'phone, 0800-0900, 1230-1330, 1830-2100 and 2300-0100 GMT.
- F9GU 37 *Ave. Jeanne d'Arc, Perigueux, Dordogne, France.* Operating 7 and 14 mc 'phone and CW.
- G3CQQ 63 *Hallcroft Road, Retford, Notts.* Operating 14 mc CW, 1800-2359 GMT.
- G3CSE 568 *James Reckitt Avenue, East Park, Hull, Yorks.* QSL's all accurate reports on 'phone operation in 3-5, 7 and 14 mc bands.
- G3DEI 461 *Footscray Road, London, S.E.9.* VFO-controlled 3-5 and 7 mc CW, at week-ends.
- G3EEK 1 *Longridge Avenue, North Heaton, Newcastle-on-Tyne.* 7. Operating 3600, 7020, 7055 and 14040 kc CW.
- G3EGH *Healthside Road Post Office, Withington, Manchester, 20.* Operating 7018 kc CW, during period 1800-2200 GMT, and at week-ends.
- G3EIT 28 *Matfield Road, Upper Belvedere, Kent.* QSL's all reports on 1-7, 3-5, 7 and 14 mc CW, operating 1900-2300 GMT, and at week-ends.
- G6UP 23 *Ashwood Crescent, Walkerville, Newcastle-on-Tyne, 6.* CW on 7, 14 and 28 mc.
- G8CZ 125 *Thorpe Road, Melton Mowbray, Lecester.* Reports on 3-5 mc, VFO (over 500 miles), also on 14054 and 14140 kc and 28 mc CW and 'phone, 1200 and 1800-2100 GMT, and week-ends.
- G8HV 7 *The Furrows, Walton-on-Thames, Surrey.* 1785-5, 3715, 3627-5, 7014 and 14028 kc CW, Saturdays 1800-2000, Sundays 0900-1300 GMT.
- G8UA 406 *Higher Brunshaw, Burnley, Lancs.* Will QSL all reports on QRP (3 watts) CW transmissions, 3588 kc, Sunday mornings.
- H89FF *Avenue Duinas 13, Geneve, Switzerland.* VFO-controlled 3-5, 7, 14 and 28 mc 'phone and CW, operating 1900-2300 GMT.
- HK1DZ *P.O. Box 59, Barranquilla, Colombia.* Carrier check and modulation reports on 14356, 14365, 14383, 14394 and 14398 kc 'phone.
- I1BI *Glais per Avlano, Marsure, Udine, Italy.* Operating 7, 14 and 28 mc 'phone and CW.
- I1BW *Via del Porto 24, Bologna, Italy.* 7100 kc 'phone, 2300-0100 GMT. Report on modulation, and check for spurious 14200 kc transmissions.
- I1LI *J. Jacobini, Pretura, Desio, Milan, Italy.* VFO-controlled CW, 7000-7050 and 14000-14100 kc, 0700-0900, 1230-1400 and 1900-2100 GMT.
- KAI1A *A.P.O. 74, c/o P.M., San Francisco, California.* Modulation reports, 14155 and 28460 kc 'phone, 1000-1600 and 2030-0400 GMT.
- LAIQB *Tjorsvag 1 Nes, Flekkesford, Norway.* Operating 3-5, 7 and 14 mc 'phone and CW.
- LA8LA *Brochsigt 1, Oslo, Norway.* Operating 3-5, 7, 14 and 28 mc 'phone and CW.
- LX1DC *Esch-sur-Alzette, Luxembourg.* 3-5 and 7 mc 'phone, 1300-1350 and 1900-1100 GMT.
- MT2E *P.O. Box 400, Tripoli, N. Africa.* Report modulation, stability and Wx, 14 mc CW and 'phone, after 1900 GMT. IRC's for airmail QSL.
- OH6ND *A. Chydeniuksenkatu 23, Kokkola, Finland.* 7 and 14 mc 'phone and CW, operating 0900-1000 and 2000-2200 GMT.
- OH6NF *Ilmari Juva, Selmajoki, Finland.* VFO-controlled 14 mc CW and 'phone, operating 0400-0800 and 1500-2000 GMT.
- OH6OW *Nykarleby, Finland.* Operating CW, 7 mc from 1500 GMT, 14 mc from 0100 GMT.
- ON4AF 45 *Rue de Laroche, Tangisart, Belgium.* 3-5, 7, 14 and 28 mc 'phone and CW.
- OZ3KA *Karen Brahesvej 11.B, Odense, Denmark.* 3-5, 7, 14 and 28 mc 'phone and CW, 2200-0200 GMT, weekends 1500-1800 and 2200-0400 GMT.
- OZ8IX *H. Pedersen, Norregade, Hals, Denmark.* Operating 3-5 mc 'phone.
- PA01MK 12 *Da Costastraat, Nymegen, Netherlands.* 3-5 and 7 mc 'phone, operating 1800-2000 and 2300-2359 GMT.
- PA0JA *Brederostraat 83, Zwolle, Netherlands.* Operating 3-5 and 14 mc 'phone.
- PY1CT *R. Domingos Ferreira N.121 apt.81, Copacabana, Rio de Janeiro, Brazil.* Operating 14 and 28 mc 'phone and CW.
- PY1DG *P.O. Box 4704, Rio de Janeiro, Brazil.* VFO-controlled 14 and 28 mc 'phone and CW, operating 1000-1100 and 2000-0200 GMT.
- PY4MG *P.O. Box 299, Julz de Fora, Minas Gerats, Brazil.* 7150, 14300, 14108 and 28600 kc 'phone, operating 2200-2359 GMT.
- SMSAPP *Kluekulleveggen 53, Traneberg, Sweden.* 3540, 7019, 7029, 7086, 7092 and 7099 kc CW, operating 2000-0100 GMT.
- SMSWN *I.G. Klang, F2, Viggbyholm, Stockholm, Sweden.* Operating 7 and 14 mc CW.
- SM7VX *Ordensgatan 10, Karlskrona, Sweden.* Operating 7 mc CW.
- VE2MZ 52 *St. Foy Road, Quebec City, Canada.* 14150 and 14313 kc 'phone and CW, 2030-0030 GMT. Details of modulation, stability, QRM.
- VE3BBO *Box 93, Kirkland Lake, Ontario, Canada.* VFO all bands CW and 'phone, 0001-0600 and 1130-1230 GMT. Reports on AM and NBFM quality.
- VE7HC 2075 *Nelson Street, Vancouver, B.C., Canada.* 3-5 mc CW, VFO, 0600-0800 GMT.
- VK3JT 30 *Eleanor Street, Ashburton E.13, Victoria, Australia.* 14 and 28 mc 'phone and CW, operating 0700-0800 and 1900-2200 GMT.
- VK5KO 25 *Farrell Street, Glenelg, South Australia.* 50000, 50100, 51250 kc and 144 mc 'phone and CW, Sundays 0830-1100 GMT.
- VK5RP 7 *Olive Avenue, Cottonville, Adelaide, South Australia.* 14036, 14120, 28072, 28240 kc, also VFO-controlled, 'phone and CW.
- VQ4SGC *Box 777, Nairobi, Kenya.* 14062 and 28124 kc CW, 1500-2000 GMT, and week-ends.
- W2KSN 17 *Nunda Avenue, Jersey City, N.J., U.S.A.* QSL's all comparative reports, 14 and 28 mc 'phone, 0800-1000, 1130-1400 and 1930-2100 GMT.
- W2LKB 119-17 *Hillside Avenue, Richmond Hill, N.Y., U.S.A.* Readability reports of phase-modulated 14225 kc 'phone, 1130 and 2230 GMT.
- W3BBC *Lawnton Terrace, Primos, Pennsylvania, U.S.A.* QSL's all reports on 7 mc and 28972 kc 'phone and CW.
- W6GFE 3815 *Mohawk Street, Pasadena, California, U.S.A.* VFO-controlled 14 mc 'phone and CW.
- W6NIG 1718 *Lets Avenue, Corcoran, California, U.S.A.* Comparative reports on VFO-controlled 'phone operation in 28-5-28-6 mc band.
- W8PQQ 1529B *Dixie Street, Charleston, W. Virginia, U.S.A.* Report reception during bad condx of VFO-controlled 7, 14 and 28 mc CW.
- W0UYC 718 *Florence, Webster Groves, Missouri, U.S.A.* 14 mc 'phone, 2300-0040 GMT.
- ZBIAR *Sgt. Watson, REME, Tigne, Malta.* QSL's all 3-5 and 7 mc reports on CW operation, after 1700 GMT.
- ZL1QW *Kelso, Moresby Avenue, Waihi, New Zealand.* QSL's all detailed reports on 3-5, 7, 14 and 28 mc 'phone and CW, 0600-1000 GMT.
- ZS1HM 8 *Ridgeway, Pinelands, Cape Town, S. Africa.* VFO-controlled 7, 14 and 28 mc CW and 'phone.
- ZS6RD *Railway Hotel, Standerton, Tvl, S. Africa.* 14036 kc CW, 1800 GMT Sunday to Wednesday.

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CITY AND GUILDS EXAMINATIONS

RADIO SUBJECTS

We have been asked by the Superintendent, Department of Technology, City and Guilds of London Institute, to remind those of our readers taking their examinations of the dates by which entries should be received.

Students who propose to enter for the 1949 Examinations should make their entry through the local Technical College or the office of a Local Education Authority not later than the dates given below, which apply only to candidates in the United Kingdom and Ireland.

SUBJECT 50—TELECOMMUNICATIONS ENGINEERING

Last date of entry, March 1, 1949.

SUBJECT 53—RADIO SERVICE WORK (INTER-MEDIATE)

Candidates must have completed an approved Course at a Technical College or in H.M. Forces. Last date of entry, March 1, 1949.

SUBJECT 53—RADIO SERVICING CERTIFICATE (FINAL)

Candidates should apply to the Secretary, Radio Trades Examination Board, 9 Bedford Square, London, W.C.1, not later than February 1, 1949, upon a special entry form obtainable either from the City and Guilds of London Institute, Department of Technology, 31 Brechin Place, London, S.W.7, or from the Radio Trades Examination Board.

SUBJECT 54—RADIO AMATEURS' EXAMINATION

Entries should be made through the local Technical College or the office of the local Education Authority not later than March 1, 1949.

All enquiries regarding any of these examinations should be made to your Technical College, or the Local Education Authority's office, or the Superintendent, Department of Technology, City and Guilds of London Institute, 31 Brechin Place, Kensington, London, S.W.7.

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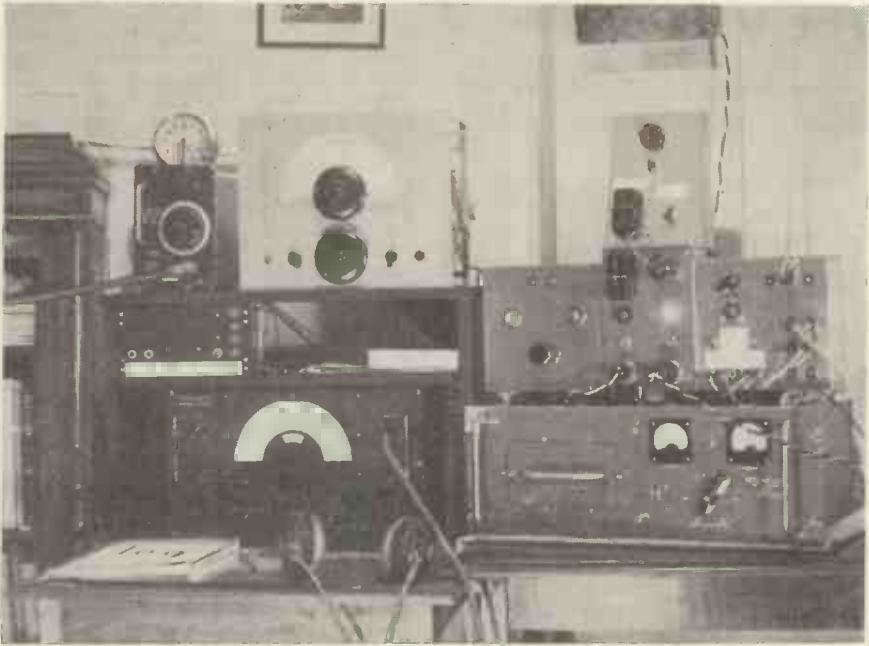
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SWL STATIONS

No. 17

A. W. MILLET runs this station at 37 Beverley Drive, Edware, Middlesex. His main receiver is a Radiovision "Hambander," which has proved to be a very fine performer, particularly on 28 mc. A Type 27 RF Unit works into the Hambander for 58 mc reception, though to date A.W.M. has not had much luck on VHF, as he uses an indoor dipole actually in the room—as he says, this wants hoisting up on something outside!

To the right of the Type 27 is the home-constructed 1-V-2, battery operated, which is held as a stand-by; it is capable of operating a speaker. Just below the RFU 27 is an audio oscillator for Morse practice, and to the right of the operating position is the power section, the main item being a Power Unit Type 3; this feeds into a distributor panel, which is divided into sections, and includes aerial control, speaker switching, and power outlets for tool connections. To prevent

a forgotten soldering iron burning its way through the floor, these outlets are fitted with "winking eye" indicators. The main panel also provides suitable connecting points for HT and LT supplies, with voltage control, bleeder selection, and a neon indicator on the HT line.

Although A.W.M. has a small collection of QSL cards, these are not on show—instead, the XYL's picture serves to remind him that tidiness is essential if the gear is to be allowed to remain indoors!

Like many another of our readers, A.W.M. is working for his ticket, and as for him this involves study at evening classes and a certain amount of "homework," it is not leaving much time for activity on the air just at present. But obviously he has the essentials of a very effective SWL station, and we wish him good luck in his encounter with the R.A.E. when the time comes.

Have you a Zone Map?

The VHF End

Contest Results—G. E. Magrow the Winner — VHF Conditions — Calls Heard

by A. A. MAWSE

"WELL, well, well!! To pick the best VHF conditions ever for the Contest." We quote these words from a letter from G5BY to G2XC. It might be added that G5BY made 70 "over 150-mile" scoring contacts on 5 and 2 metres combined during the Transmitting Contest. For the opening evening, November 12, a large temperature inversion (as much as 15 degrees between ground and 1,500 ft. up) occurred over the southern half of the country, and there was also a marked change in humidity between ground level and the upper air. These combined to cause an abnormal bending of VHF signals, this very effectively increasing the ground-wave range and signal strengths generally. So great was this increase that at one place in southern England where the normal field-strength of the London Television is about 25 microvolts, the signal peaked to 750 microvolts! Both five-metre and two-metre conditions were excellent, distances up to nearly 400 miles being worked on the latter, and we are consequently sorry to see such a poor entry for the 2-metre section of our Receiving Contest.

The winner, as many of you anticipated, was G. E. Magrow, who scored all his points on 5 metres and we congratulate him on another very fine performance. His best DX was G3WW (Wimblington, Cambs) and G5MP (Hythe, Kent) both in Zone G (*i.e.* over 200 miles). The runner-up, very close behind G. E. M., was G. Elliott, who was one of the few to put in a two-band entry. He was the 2-metre winner, although his log for that band only included six stations, G6VX at 140 miles being his best.

G. E.'s Rx on 145 mc is CV66 RF and 6J6 mixer-oscillator with IF on 7.6 mc. This circuit does not, in general, seem to be too successful on the 145 mc band. We know quite a number of people who have tried it and in every case the result appears to be the same, namely, signals are weak and few, and G. E. confirms this in his Contest report when he says that 2-metre signals were much weaker than 5 metres. From the evidence of the entries in the Tx

Contest (which ran concurrently with our own event) it is certain that 2-metre signals, on the Friday evening at least, were better than those on 5 metres. On five, G. E. used a modified Type 27 Unit, and on both bands rotary dipoles were employed. His location is 450 ft. a.s.l.

M. Taylor logged stations in 21 different counties and his total of 59 stations is good proof of both activity and conditions on five during that week-end. Unfortunately his 2 m. Rx was not completed in time. L. C. Blanchard encountered some bad luck when his 2 m. receiver, a modified 1147B, developed a fault a few minutes after the Contest started, and he was compelled to confine his listening to 5 metres. His 4-ele. w.s. beam brought in G3HW/A and G5BY as Zone F DX, and he heard 17 counties in all.

Due to being home on sick leave from the R.A.F. P. J. Towgood was able to enter for the Contest. His illness has, however, prevented him putting up his 145 mc beam. During the Contest he logged G5BD on 5 m. in Zone G, but unfortunately the Lincolnshire station was calling CQ and therefore P. J. T. could only claim the reduced points. G. V. Haylock, using a Type 26 Unit into a B2 and a $\frac{1}{2}$ -wave rotary dipole, found the Contest enjoyable and comments that it gave plenty of scope for patience and good listening. His best DX signals on 5 were G3HW/A and G5BY in Devon, G5JU in Birmingham and G8QX in Malvern.

R. M. James was another who was

Five-Metre Counties Heard

R. Rew (Birmingham)	36
P. J. Towgood (Bournemouth)	35
W. H. Pierce (Reigate)	33
G. Elliott (Chard)	31
G. E. Magrow (Dawlish)	31
L. C. Blanchard (Coulston)	28
G. V. Haylock (Lewisham)	24
M. Taylor (Tooting)	23
N. Harris (Cheam)	16
R. M. James (Chatham)	16
M. McBrayne (Westcliff)	13

Two-Metre Counties Heard

W. H. Pierce (Reigate)	22
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VHF RECEIVING CONTEST

November 12-14

POSITION	COMPETITOR	LOCATION	POINTS		
			5 m.	2 m.	Total
1	G. E. Magrow	Dawlish, Devon	300	—	300
2	G. Elliott	Chard, Somerset	263	31	294
3	M. Taylor	Tooting, S.W.17	151	—	151
4	P. J. Towgood	Bournemouth, Hants	117	—	117
5	L. C. Blanchard	Coulsdon, Surrey	107	2	109
6	G. V. Haylock	Lewisham, S.E.13	95	—	95
7	R. M. James	Chatham, Kent	49	—	49
8	M. McBrayne	Westcliff, Essex	24	—	24

unable to get his 2 m. converter finished in time, but found five-metre conditions excellent. He comments on the particularly fine signal from G3WW (Wimblington, Cambs) since the latter erected his 50-ft. mast. R. M. J.'s entry consisted of 'phone signals only and his best DX was G3ABA (Coventry) who was S9. M. McBrayne, being able to read only the slowest Morse, was only able to score reduced points, but logged G3HW/A and G5BY, the latter in Zone G; both were as loud as anything he has ever heard on the band.

Comment

We should like to thank all those who supported this event. Without exception all competitors seem to have thoroughly enjoyed participating. The entries have been very carefully checked against the Transmitting Contest logs and all distances

have been measured on the "Ten-mile" Ordnance Map. In consequence, a number of modifications have had to be made to the scores (some up and some down) but you can be sure that no alteration was made to any score unless we were absolutely satisfied that the new figure was the correct one. Incorrect logging of the reference number or RST of a Zone F or G signal has in one or two cases dropped the score considerably.

The Rest of the News

The great fog in the last week or so of November brought with it another spell of good VHF conditions, and in our own opinion the evening of November 25 exceeded even the Contest days. Again there was a marked temperature inversion, greater than that of November 12. In Norfolk the inversion was as much as 22

FIVE-METRE ZONE ANALYSIS

Competitor	Stations Heard in Zone							Total
	A	B	C	D	E	F	G	
G. E. M.	3	2	1	2	13	13	2	36
G. E.	—	3	2	1	28	5	1	41
M. T.	32	7	7	6	4	3	—	59
P. J. T.	—	2	9	14	7	—	1	33
L. C. B.	28	5	6	5	1	2	—	46
G. V. H.	19	4	4	4	4	2	—	37
R. M. J.	1	4	1	4	2	—	—	12
M. McB.	—	—	6	3	—	1	1	11

degrees, and in Wiltshire 19 degrees. Many two-metre contacts were made between Yorkshire and the south coast, as well as with the Continent (F, ON and PA). A number of stations are now active across the Straits of Dover and are being heard and worked from places as far away as Yorkshire, Shropshire and Devon. Calls to listen for are F8BY, 8GH, 8LO, ON4FG, PAØAD, ØPN and ØZQ.

VHF Listeners' Club

The list of members continues to grow. Several enquiries have been received regarding conditions of membership. The only requirements are an interest in VHF work and a promise to encourage and support all forms of VHF activity. A circular letter is sent round to all members about every two months. Although not a condition of membership, we do appreciate regular reports from members—just to let us know that they are still active. No membership fees are involved, such small

expenses as are incurred being met by the *Short Wave Listener*.

The Achievement Tables

As we said last month, all those who have not sent in claims recently have been deleted from the Tables. So if you don't appear this time (but are still interested and active) send along details by the date given below and we will reinsert your name in the Tables.

In Conclusion

We should like to wish all our readers and correspondents a Merry Christmas and good luck in the New Year. Latest date for your first report in 1949 is January 7, and we hope a few more 2-metre converters will be in operation by then. The address is as usual, A. A. Mawse, *Short Wave Listener*, 49 Victoria Street, London, S.W.1. We shall be with you again on January 20.

VHF CALLS HEARD

TWO METRES

G. Elliott, Hallfield House, Wadeford, Nr. Chard, Somerset.
G2MR, 3AEX, 5BM, 5BY, 5MA, 5TZ, 5US, 6LK, 6VX, 8DM.

L. C. Blanchard, 122 St. Andrews Road, Coulsdon, Surrey.
G2AXG, 2CIW, 2XC, 5TP, 6VX.

W. H. Pierce, Canon Gate, Reigate Hill, Surrey.

*PHONE or CW: F8BY, 8OL, 8ZF, G2AAN, 2ADZ, 2AJ, 2AOK/A, 2AXG, 2BMZ, 2BRH, 2BXN, 2CIW, 2FVD, 2HCG, 2IQ, 2MA, 2MC, 2MR, 2MV, 2NH, 2NM, 2UJ, 2YC, 3ABA, 3AZT, 3BMP/A, 3CGQ, 3DEP, 3DMU, 3DUP, 3EIL, 3FD, 3RI, 4AP, 4IG, 4LU, 4RO, 4ZU, 5AA, 5BD, 5BM, 5BY, 5CD, 5DT,

5JU, 5KH, 5LJ, 5MR, 5OO, 5RD, 5RP, 5UM, 5US, 5VC, 5XA, 5YM, 6DH, 6NB, 6NF, 6OH, 6OS, 6PG, 6UW, 6VX, 6WT, 6YO, 8DM, 8KZ, 8PX, 8QX, 8SM, 8TS, 8VW, PAØAD, ØPN. (Converter 6AK5, 954, 955. October 24-November 30.)

FIVE METRES

G. Elliott, Chard, Somerset.

0-50 miles: G2BMZ, 3HW/A.
50-100 miles: G3TN, 5BM, 6XM, 8OO, GW2AVV.

100-150 miles: G2AXG, 2HLF, 5JM, 5MA, 5US, 5WP, 6CJ, 6HD.

Over 150 miles: G2CIW, 5MQ, 8UZ. (All prior to Contest.)

G. V. Haylock, 63 Lewisham Hill, London, S.E.13.

G2AJ, 2AOK/A, 2BRR, 2DD,

3ABA, 3AEU, 3APY, 3BLP, 3BOB, 3CGQ, 3CWW, 3EHY, 4AP, 4KD, 5BY, 5JM, 5JU, 5LC, 5LO, 5LQ, 5MA, 5PY, 5RP, 5UM, 6HD, 6KV, 6NB, 6NK, 6SC, 6SM, 8KZ, 8LY, 8QX, 8TL, 8TS. (RF 26 Unit, $\frac{1}{2}$ -wave dipole.)

M. Taylor, 159 Coteford Street, Tooting, London, S.W.17.

*PHONE and CW: 50-75 miles: G2AOK/A, 2AUA, 4AP, 5HB, 5IG, 5RP, 5UI/A, 8LY.

75-100 miles: G2XS, 3BK, 3WW, 5PP.

100-150 miles: G3APY, 5JU, 8KL, 8QX.

150-200 miles: G3HW/A, 4LU, 5BY. (Rx: Mod. RFU 27 to IIV Superhet. 3-ele. rotary beam. November 12-14, 1948.)

NEW BANDS

With effect from January 1, new amateur bands as follows will be released to G's: 144-145 mc (widening the present 2-metre band to 144-146 mc); 1215-1300 mc; 5650-5850 mc; and 10000-10500 mc. Inputs of 25 watts will be permitted on all bands, and FM may be used from 420 mc up.

The latest information is that the 58.5-60 mc band (five metres) will remain in use till March 31.

TELEVISION SURVEY

The British Television Viewers' Society (HQ: 11 North End, Croydon, Surrey) plan to carry out a poll on viewers' ideas about television, on the widest possible scale. Readers interested can obtain the questionnaire form from their local dealers, or from the address above, and it is proposed to publish the results of the Survey in the February issue of *Scan*, a monthly magazine for viewers.

Please mention the *Short Wave Listener* when writing to Advertisers

Monthly Comment by R. H. GREENLAND, B.Sc.

DX broadcast

WORLD WIDE RECEPTION OF SHORT WAVE PROGRAMMES

Correspondents may have found that because of postal delays their notes have not been included in the following month's number of the *Short Wave Listener*. It has therefore been decided that, beginning in the New Year, all letters received at our London office up to and including the 15th of each month will be dealt with in the following month's commentary; correspondence received after that date will be held over until the next month.

We welcome a long letter from George Mould in Trinidad; his observations on Latin-American stations in particular, will be of great assistance to every reader of this feature.

AUSTRALASIA

From James Shelley, Director of the New Zealand Broadcasting Service, a verification of a report on the inaugural broadcast on September 27 has been received. He writes: "We were delighted to know that our inaugural broadcast had been so well heard in the United Kingdom. Our transmitters radiate a power of 7.5 kW only and we do not expect reception in England to be of any consistent strength or clarity. Your letter, therefore, was all the more welcome."

In Australia, VLH3, 9580 kc, broadcasting the ABC Inter-State programme, is normally a good signal at our lunch-time during the winter months. Nowadays, you can hear the News at 1300, and the service closes at 1330 (1400 on Saturdays) with the playing of God Save The King.

AFRICA

The station CR6RF, Benguela, on 8090 kc, can now be heard from 1830 onwards; the postal address is: Caixa Postal 19, Benguela, Angola. In the British island colony of Mauritius, the broadcasting station Poste de l'Île at St. Louis operates daily from 1500 to 1715 on a frequency of 7340 kc. French is the only language used, but BBC recordings are given at 1600 and God Save The King is played at 1715.

October 21 was an excellent day for the South Africans. In particular, Johannesburg III, 4895 kc, was a good signal with a Sunday service at 1800, and Cape Town, 5882 kc, was well heard during the evening and especially when closing at 2108 with its two National Anthems.

Here is a new one for many of you! On October 21 at 2055, on approximately 4800 kc, the writer heard an epilogue, and at 2100 came this direction: "This is your Forces Broadcasting Service, Benhazi," after which the station closed down to the strains of the Ted Lewis Goodnight Melody. It has since been heard, at 1815 on November 27, with news from London of progress in the Natal v. MCC cricket match at Durban. On 4932 kc, a few minutes before 2100, another station with a lady announcer has been heard concluding its English broad-

cast with the same Goodnight Melody. Signals are not very good because of the heavy background noise, but it has proved to be CR7BU, Lourenco Marques, Mozambique, and it finally closes with the Portuguese National Anthem.

Congratulations to J. P. Burden (Portsmouth), who, already a century-holder in the number of countries heard, was successful in bringing in four additional new countries during one week in November. He, like the writer, logged ZOY, 4915 kc, between 1730 and 1800, with a News bulletin in English before the direction at 1800: "This is Accra calling on 61.04 metres. We are now closing down. Goodnight, everybody." The final item from this Gold Coast station is God Save The King. Incidentally, the News on November 29 was read by a native who spoke of the Colony's century-old Teachers' Training College, founded in 1848 and believed to be the oldest in British West Africa.

St. Andrew's Day found VQ7LO, 4855 kc, relaying the speeches broadcast from the New Stanley Hotel, Nairobi,

All times given in this article are GMT except where stated

TABULATED SCHEDULES

I. Radio New Zealand. Daily Transmissions from 0700 to 0900. Stations : ZL3, 11780 kc ; ZL4, 15280 kc. Power : 7.5 kW. Studios : 38 The Terrace, Wellington, N.Z.

Transmitters : Titahi Bay.
Postal Address : The Director, Radio New Zealand, P.O. Box 3045, Wellington.

Programme Notes and Special Features.

	0715	0730	0740	0830	0840
Sundays :		Travel Talk.	Maori Music and Lore		
Mondays :		Sports Commentary		Background to New Zealand	
Tuesdays :	N.Z. Musical Artists	Farm Topics		Short Story	
Wednesdays :		Sporting Paragraphs		Leisure Hours in N.Z.	
Thursdays :		Mail Box		Geography of N.Z.	
Fridays :		Play			
Saturdays :				Listeners' Digest	N.Z. Musical Artists

A short bulletin of New Zealand news is read daily, except Sunday, at 0830.

II. Canadian Broadcasting Corporation. International Service. Postal Address : 1236 Crescent Street, Montreal, Canada.

Transmitters :	CKNC 17820 kc.	CHOL 11720 kc.
	CKCX 15190 kc.	CKOB 6090 kc.
	CKCS 15320 kc.	CHLS 9610 kc.
	CKLO 9630 kc.	CKRA 11760 kc.

Daily Schedule of English Broadcasts: (Effective as from December 5, 1948)

	To : EUROPE.
1500-1530	Opening and music.
1530-1545	CKNC and CKCX.
1600-1630	Experimental Programme. CKNC and CKCS.
1700-1715	CKNC and CKCX.
1715-1730	English—Monday to Saturday. CKNC and CKCS.
2130-2300	CKLO and CHOL to 2200. CKLO 2200-2215. After 2215 CKLO and CKOB.
	To : AUSTRALIA and NEW ZEALAND.
0845-1035	Sundays only. CHOL and CHLS.
	To : LATIN AMERICA and the CARIBBEAN.
1845-1925	CKCX.
2145-2220	CKRA and CKLO.
	To : NORTH-WEST TERRITORIES.
2310-2400	Sundays only. Winter Service to Arctic Settlements. CKLO and CKOB.

from 1823 to 2043, on the occasion of the Annual Dinner of the Caledonian Society of Kenya. Air Commodore Vickers of the R.A.F. was the principal guest speaker, and Scots everywhere must have enjoyed equally the musical interlude provided by the pipers present.

ASIA

From O. Walker, Engineer i/c Studios, Kol-Israel, we have received an interesting and helpful letter which gives the official frequencies of the

State of Israel Broadcasting Station at Tel-Aviv.

The short-wave outlet is 6820 kc with a power of 2 kW, and there is a medium-wave transmitter using 651.63 kc. As from November 1, the following are the times of transmission : 0500-0600 ; 0930-1215 : 1515-2030, with English news bulletins at 1200 and 2000. Kol-Israel has been well received here recently, and on November 20, after the English news and a "seven-pips" time signal to conclude at 2015, the station continued

with dance music until 2100—obviously a Saturday night extension. A national air in a minor key brought the proceedings finally to a close ; the local time is three hours in advance of GMT.

Around the same frequency you may hear Khoramabad, Iran, 6854 kc, on Sundays between 1630 and 1730 ; Persian is used throughout.

A comparatively new one in the Arabic tongue is to be found on 6765 kc ; Sunday appears to be a good day and the time of broadcasting from 1715 onwards ; tangos and fox-trots are a feature. Perhaps this is Radio Aden ?

Radio Beirut, Lebanon, 8036 kc, has been prominent recently. Its normal English broadcast can be heard daily between 1500 and 1600, but commencing November 17, when the third general conference of UNESCO opened in Beirut, there have been additional English transmissions. For instance, on November 23 at 1715 came the direction : "This is UNESCO calling the Peoples of the World," and recordings of speeches and general news were heard until 1745. Again, at 1900, came another news in English—this is not a daily News—and fifteen minutes later listeners were taken over to the Conference Hall in UNESCO House in Beirut, where M. Charles Bidault, ex-Premier of France, spoke to a house packed from floor to ceiling on the subject : "The Near East as the Nursery and Playground of Civilisation."

From the Far East we have heard from Howell S. Teeple, Advisor, Radio Bureau, Office of Civil Information, U.S. Armed Forces in Korea, advising us that the Korean Broadcasting System operates eleven radio stations in South Korea under the supervision of the U.S. Armed Forces in that country. The key station, HLKA, operates on 970 kc, with a power of 50 kW, and from it the programmes are

fed to the sub-stations *via* the short-wave frequency of 7935 kc, with a power of 5 kW.

Though the latter is only a link in a large network, it is this transmitter whose signals have been so well received in Europe. J. C. Catch (South Shields) has logged it at 2130 with signal strength S8-9. The operating schedule is : 0200-0530 ; 0800-1405 ; 2100-2330, and the address : Korean Broadcasting System, 1 Chung Dong Jung, Seoul, Korea.

J. C. Catch has now had his verification from Nippon Hoso Kyokai, Tokio, Japan. In China, the latest and best signal is to be found on 9605 kc, which J. P. Burden gives as XGSH, but which announces as XGOA, Nanking ; an English news from the Central Broadcasting Administration is given at 1400. J. C. Catch reports XGOY, Chingking on 15170 kc at 1200 (local time given as 7 p.m.) with news in English, followed by a weather report. His friend, J. Broomhead (Four Oaks, Birmingham) adds that a woman announcer gives the station slogan : "This is the Voice of China." It is reported, also, that a station XAET, using 12700 kc, is on the air daily 1100-1300, and that XGAF, on both 11680 kc and 7100 kc, is anxious to receive reports ; the address is : Major C. Y. Chen, Radio Broadcasting Station XGAF, Chinese Air Force HQ., Nanking, China. XORA, Shanghai, is now using 11870 kc, and the schedule is : 0145-0315, 0600-0730, 1050-1500.

Radio Hong Kong has been at its best during November. On the 20th its dance session, 1430-1512, closing with the Destiny Waltz, was excellent. ZBW3, 9525 kc, usually closes around 1515 after a local weather report with the words : "This is Radio Hong Kong. The time* is sixteen minutes past eleven and we are now closing down until 10.30 tomorrow. Goodnight everybody, Goodnight." J. Holden



The GEC's new BRT-400 Communications Receiver. This is a very fine job, with coverage to 33 mc, and incorporated noise-limiter, S-meter, variable selectivity and input trimmer control.

(York) reports Singapore, 15300 kc, S9 around 1500, and J. P. Burden logged Kuala Lumpur, ZGE, 6025 kc, with a pips time-signal at 1530, and before closing with the National Anthem, it gave a late News summary.

Radio Saigon has been well heard of late. J. P. Burden logged FZS on its 6165 kc channel 2300-2330, and R. Iball (Langold, Notts) on 11780 kc at 0918 with the direction : "This is Radio Saigon, and now till 1000 hrs. you will hear a programme of dance music." An English news was read at 1000.

Radio Indonesia, Batavia, YDC, 15150 kc, has been logged by J. Holden with news in English at 0945, and by J. C. Catch with a similar broadcast at 1155. YDB3 on 7270 kc is supposed to be working in parallel with YDC. At present the power of both is 3 kW but it is expected to be 100 kW in the New Year ! The Voice of Free Indonesia, YHN, Djokjakarta, with an announced wave-length of 27-66 metres (10840 kc) was heard with an English broadcast, 1400-1430, on November 2 ; on November 21, Franz Lehar selections, with English

announcements, were noted at 1345.

J. P. Burden has logged the Burma Broadcasting Service's elusive station on 6040 kc, this between 1430 and 1515 on November 20. An English news bulletin at 1500 was followed by the day's racing results and, a programme preview for the next day, after which came the direction : "This is the Burma Broadcasting Service closing down till 2045 to-morrow evening. Goodnight Everybody." The National Anthem of the Burmese Republic concluded the broadcast. On November 27 at 1500, preceding the news in English, the Burma Standard Time announcement and the direction : "This is Rangoon calling" were given.

Early in November, J. Holden received Radio SEAC's special Sunday evening programme to the United Kingdom ; this may have been Radio SEAC's "swan song"—it was not heard on November 21 at 1830—for, on November 30 at 1830 (midnight, Ceylon Time), the Forces Broadcasting Service station in Colombo was handed over to the Government of Ceylon and in future

it will be known as Radio Ceylon. But since writing this the writer has logged the Sunday broadcast for November 28. Peter Haddon, the announcer, said: "This is the Forces Broadcasting Service, Radio SEAC, Ceylon, calling the United Kingdom," but went on to explain that as from Sunday, December 5, Radio Ceylon using the same frequencies, 15120 kc and 17770 kc, would continue to broadcast these special Forces programmes but with changed times, namely 1630 to 1830. So remember to look for Radio Ceylon! H. T. Saunders (Shrewsbury), a newcomer to short-wave broadcasting, has logged Delhi during its experimental transmission between 1900 and 2000. The frequency was 9630 kc (VUD2), though A.I.R. has announced that 9680 kc and 9565 kc would be used.

SOUTH AMERICA

Another newcomer to this feature (and we welcome all of you) has had good luck with some of the South American stations. He is J. T. W. Blyth (Leigh, Lancs.), who has logged ZYN7, Fortaleza, 15165 kc, testing 1900-2100. D. Branhaft (Chorlton-cum-Hardy), and J. Holden, too, mention this one. J. P. Burden definitely ascertained that the first letter of the call was Z (Zee), for in the Spanish announcement he heard mention of the letter *zeta*. J. T. W. Blyth kindly forwards the schedules of other Brazilian transmitters: ZYK2, 15145 kc, 1100-1900, and 6085 kc, 2100-0200; ZYK3, 9565 kc, 1100-1700; 1900-0200. The 15145 kc transmission was also logged recently by W. A. Rowston (Grimsby); G. Mould (San Fernando, Trinidad) who hears them all, says they are operated by Radio Journal de Comercio and that they give the occasional irregular direction: "This is

Pernambuco speaking to the World."

J. P. Burden adds the following: ZYB9, Sao Paulo, 15155 kc, heard at 1000 and in the evenings; ZYC9, Rio de Janeiro, 15370 kc; and PSF, also in Rio, 14690 kc, with the National programme, 2230-2300.

PZH5, Paramaribo, is mentioned by J. C. Catch, who has just received their verification card. The frequencies quoted are: 5757 kc and 15700 kc, and the period of transmission appears to be 2230-0200 daily; on November 21 at 2250, this Dutch Guiana station was relaying a sermon in English from the United States. The same night, ZFY, Georgetown, British Guiana, was giving a local weather forecast at 2310; the new frequency is 5985 kc. In Ecuador, the following new ones are announced: HC4NN, Manta, 9870 kc; HC5AZ, Riobamba, 7500 kc; and HC1GO, Radio Nariz del Diablo (The Devil's Nose), now on 9190 kc.

YVKO, Caracas, 5019 kc, was logged on the day following the Army *coup* in Venezuela. Spanish announcements were more prominent than hitherto, but some swing music was also heard. G. Mould has sent us first-hand news of Venezuelan and Colombian stations and there is sufficient to compile a complete article! His information has enabled us to make several alterations in our Station List, for G. M. advises us that a number of Latin Americans change their frequencies very often!

In particular, YV6RK, La Voz de Tigre, at El Tigre, is now on 3330 kc, and YV7RB, Radio Sucre in Cumana, is on 3590 kc. YV8RB, Radio Monagas, Maturin, 3490 kc, and YV4RM, Radio Jirojota, Maracay, 3620 kc, are both new! YV5RU, Ondas Populares, Caracas, 4880 kc, puts over an English news bulletin at 0235, but as G. M. says: "Everything connected

with Time in Venezuela is approximate!"

He mentions a Saturday-night-only programme from Colombia from 1700 to 1800 on 9520 kc. This station is: Emissora Nuevo Mundo, Correos y Telegrafos, Bogota, announcing as: "HJKB, 830 kc; HJKC, 600 kc and Estacion Internacional de onda corta HJKF."

WEST INDIES AND CENTRAL AMERICA

J. C. Catch's latest card from Radio Trinidad, 9625 kc, gives the following schedule: Sundays: 1100-1800; 2000-0300; Weekdays: 1100-1300, 1600-1800, 2000-0300. G. Mould, who lives only 40 miles from the transmitter, writes: "It often fades badly, and the transmitter itself is a *shocker*. Everything sounds sliced off at the top; I doubt if it puts out any audio frequency above about 5000 cps!"

The writer has been receiving ZQI, Kingston, Jamaica, regularly on 4950 kc between 2200 and 2230. The call, given at 2200, precedes a $\frac{1}{4}$ -hr. Children's session, then comes the News, and at 2230, the time-signal for "5.30 p.m. E.S.T." after which ZQI closes for two hours to return on its lower frequency of 3480 kc with the evening programme. Already it has deserted its 6070 kc channel mentioned last month!

J. T. W. Blyth informs us that HHCM has moved from 6165 kc to 6420 kc and opens up at 2330, and J. P. Burden has logged it with good strength on the new channel. He also recorded HP5B, Radio Mirimar, Panama City, 6030 kc, S8 at 0330 on November 14; it closed at 0400. HOLA, Colon, 9505 kc, has again been heard by J. C. Catch, this time at 2247 with the slogan: "Radio Atlantico." At the conclusion of the sponsored English programme at 2300, the announcer said

that reports would be welcomed; the address: Radio Atlantico, P.O. Box 444, Colon, Panama.

It is reported that TGWA, Guatemala City, 9760 kc, now has an English broadcast at 0400.

NORTH AMERICA

J. Holden has been checking up on WWV, Washington, and has logged it on both 30 and 15 mc. He reports CJCX, Sydney, Nova Scotia, 6010 kc, with a commercial programme at 0145. R. Patrick (London, N.4) also hears this one frequently and bemoans the fact that even the News at 2350 is sponsored! R. P. logged CHNX, Halifax, 6130 kc, at midnight on November 9 with "Quiz Time from Toronto." D. Branham heard CHNX, 2315-2330 on Novem-

ber 15, advertising soap, hats, car tyres, and the new season's ladies' evening dresses; R. Iball heard this station on November 10 with with News followed by a weather forecast at 0400, and at 0415 this announcement: "CHNX, Halifax, operating on 960 kc—the Maritime Broadcasting Company—now concludes this transmission. We shall be on the air at 0700 tomorrow."

EUROPE

R. Iball reports reception of the new Forces station in Cyprus on 7220 kc, opening at 0330; strictly speaking, this is an Asiatic station! The direction is: "This is your Forces Broadcasting station in Cyprus—Good Morning—the time now is 0630 and here is the Musical Clock." On Saturdays, 2300-2400, they give a special test transmission

during which they acknowledge reports "received from Ireland to New Zealand," according to J. P. Burden. On November 27, the writer attempted to listen to this, but found side-band interference too severe, though names of some correspondents were recognised.

R. Patrick has had a card from Reykjavik, Iceland, which shows the control desk and part of the transmitter there. Operating on 12175 kc, the Icelandic language is used, 1615-1645 on Sundays only.

From Greece, J. P. Burden hears Athens, 9606 kc, with broadcasts in the native tongue at 1100; on November 21, on 7300 kc, the English news was well heard at 1640. The same day at 1905, signals from the rebel transmitter were S9 plus: working on 6770 kc, the direction was: "Ici Radio

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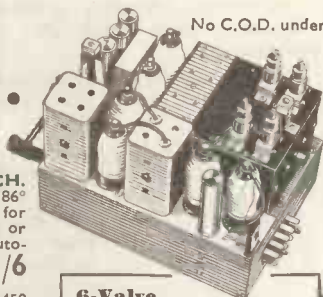
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de la Grecque Libre." On November 26, however, it was back on its old channel of 6835 kc. J. C. Catch hears KJOY, Athens, 8000 kc, broadcasting Friday evenings only, 1830-1930; it is operated by the United States Corps of Engineers in the Greek capital. On November 27, American sports news was given at 1835, but persistent Morse trouble.

Finally, from Radio Falange de Alicante, Spain, J. C. Catch has received a letter verification in which they hint that shortly they may have an English programme on 7948 kc; the address is: Direccion Seccion, Radio Falange de Alicante, Duque de Zaragoza 2, Alicante, Spain.

Letters relating to reception during December can be

received up to the 22nd., but for January, 1949, please send your correspondence to reach us by January 15. Address to: R. H. Greenland, *The Short Wave Listener*, 49 Victoria Street, London, S.W.1. And every good wish to you for the New Year—and may SWB/C enthusiasts go from strength to strength.

"PSE QSL"

Once again may we remind SWL's who operate on this feature that transmitters receiving listener reports as a result of appearance in "Pse QSL" are not obliged to respond with a card unless the report contains a reasonable amount of useful information. A definition is difficult, but it will be obvious that reports of the "Ur Sigs S9 plus EB" category will not be of much use, unless accompanied by a lot of supporting data. For those who wish to get the best results from "Pse QSL" and to make the utmost of this valuable feature (already helping many readers to maintain a 70-80 per cent. return on reports sent) the obvious thing is to study carefully what is required: and then to make out a report giving the maximum of information.

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SHORT WAVE MAGAZINE, LTD.,

49 VICTORIA STREET, LONDON, S.W.1

THE CLUB CONTEST

When the *Short Wave Magazine* 1.7 mc Club Transmitting Contest opened on December 4, nearly 40 Clubs had entered and the 160-metre band was busy with "MCC" calls. Conditions were good, and Club stations were working all over the United Kingdom. The results of this Contest—the outstanding event in the Club year—will be fully reported in the February issue of our *Short Wave Magazine*.

FALL CALL BOOK

The Autumn issue of the *Radio Amateur Call Book* lists amateur stations throughout the world—and there must be well over 100,000 of them now. British amateurs occupy nearly 40 columns, representing the addition of approximately 300 new G stations to the lists appearing in the previous issue of the *Call Book*. It is obtainable as advertised elsewhere in this issue.

HAVE YOU

had your FREE copy of our 32-page illustrated catalogue? It's about the same size as this magazine, with everything from A to Z, and good illustrations of all the important items.

No surplus gear is listed, all articles mentioned are the current products of the makers concerned, no need to bother what condition they are in, very much different to some of the surplus going about.

We sell a large amount of surplus as well, and issue special lists from time to time, copies of which are sent free to all customers on our regular mailing list. Are YOU on it? All orders are POST FREE, we're about the only firm that do this, no need to bother with postage, and every order is actually despatched on the same day that we receive it, a real RETURN OF POST SERVICE.

Orders large or small are attended to promptly, so if you only want a few resistors, couple of condensers, or a coil, send us your order.

The following are just a few of the things described and illustrated in the catalogue.

Belling-Lee plugs, sockets, fuses, aerial kits, etc.; Denco: the complete range of their well-known products is available; Gardners transformers, chokes, etc., a very wide range stocked; Muirhead National HRO dials; Partridge transformers, chokes and the rest of their range here; Sifam instruments, including full details of their 3½" moving coil, multi range test set, at a really amazingly low price; All Taylor instruments are here, and we do the H.P. terms for these: Wearite coils, switches, I.F. transformers, etc. Condensers, valves, and hundreds of other things. Send a Post Card now, simply write "Catalogue Please", and your name and address, it's quite easy, and we'll have your copy in the post straight away. If you're wanting anything at the moment, just mention it, and we will send full information.

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43 Colley End [Park], Paignton . S. Devon

SHORT WAVE BROADCAST STATIONS

Revision 49-71-87-21 Metres

Giving Frequency, Wavelength, Callsign and Location

These lists appear each month, covering the 11-128 metre section of the wave band within which all the short wave broadcasting services of the world operate. For economy of space, this band is dealt with in five sections, a list of active stations in one of these sections being given in full every month. Such revision is necessary due to constant changes of frequency, callsign and operating schedules. All stations appearing in our lists are normally receivable in this country and are under regular observation.

Fre- quency	Wave- length	Callsign	Location	Fre- quency	Wave- length	Callsign	Location
6035	49-71	CXA3O	Montevideo.	4940	60-73	YV3RN	Barquisimeto.
			Rangoon.	4935	60-79	HJAR	Manizales.
6060	49-75	HP5B XEXW CFVP	Monte Carlo. Panama City. Morelia, Mexico. Calgary, Alberta. Moscow.	4932	60-88	CR7BU	Lourenco Marques.
				4920	60-98	VUM2	Accra, Gold Coast.
6025	49-79	PGD	Hilversum. Singapore.	4915	61-04	ZOY YV5RN CR7BV	Caracas. Lourenco Marques. Coro.
6024	49-80		Brazzaville.	4903	61-19	HJAG	Barraquilla.
6020	49-83		Kiev, U.S.S.R.	4900	61-22	ZOH	Colombo, Ceylon.
6018	49-84	HJCX	Bogota.	4895	61-29	PRF6 HJCH	Manaos, Brazil. Bogota.
6016	49-87	PRA8	Pernambuco.				Johannesburg.
6015	49-88	JKD	Nazaki.	4890	61-35	YV5RM	Caracas.
6012	49-90	XEOI	Mexico City.	4885	61-41	HJDP	Medellin.
6010	49-92	OLR2A VUD11 CJCX OAX4O CE6OI	Prague. Delhi. Sydney, N.S. Lima, Peru. Antofagasta.	4880	61-48	YV5RU VUB2	Caracas. Bombay. Pietermaritzburg.
6007	49-94	ZRH H11J	Johannesburg. S. Pedro de Macoris.	4878	61-51	HJFH PRCS	Armenia. Belem, Brazil.
6005	49-96	CFCX HP5K J08G FK8AA	Montreal. Colon. Sapporo, Japan. Noumea, N. Caledonia. Dornbirn, Austria.	4860	61-73	HJEX VUD11 YV3RM VQ7LO HJCA	Caracas. Delhi. Barquisimeto. Nairobi. Bogota.
6000	50-00	ZFY HJKB HHYM	Rabat, Morocco. Georgetown, B.G. Bogota. Port au Prince. Salisbury, S.R. Damascus.	4855	61-79	VY7RO	Barquisimeto.
5995	50-04	PRI3	Bello Horizonte.	4847	61-90	HJGF	Bucaramanga.
5995	50-05	HS8PD	Bangkok.	4845	61-92	CSX2	Ponta Delgada.
5990	50-08	HCJB	Quito.	4840	61-98	VUC2 XV1RZ	Calcutta. Valera.
5986	50-12	LRS1	Buenos Aires.	4835	62-05	HJKE	Bogota.
5980	50-17	YSW	Santa Ana. Andorra la Vieja Trujillo. St. Johns.	4830	62-11	YV2RN	San Cristobal
5970	50-26	H14T VONH	Vatican City. Port au Prince.	4825	62-18	PRJ4 HJED	Parnaiba. Cali. Singapore.
5968	50-27	HVJ	Port au Prince.	4826	62-18		Singapore.
5948	50-44	HH2S	Godthaab, Greenland.	4820	62-24	YV9RA	San Fernando de Apure.
5942	50-49	OXI	Tegucigalpa.	4815	62-31	HJBB	Cucuta.
5940	50-51	HRA	Lima, Peru.	4810	62-37	YV1RL	Maracaibo.
5907	50-78	OAX4V	Mafeking.	4800	62-50	YV1RX	Maracaibo.
5900	50-85	ZNB	Lima, Peru.	4794	62-58	HUB	San Salvador.
5889	50-94	OAX4Z	Cape Town.	4790	62-63	YV6RU EQE	Bolivar. Teheran, Iran.
5882	51-00		Praia, C. Verde Is.	4783	62-73	HJAB	Barraquilla.
5880	51-02	CR4AA	Tegucigalpa.	4781	62-75	YV4RO	Valencia.
5875	51-06	HRN	San Jose.	4780	62-76		Singapore.
5870	51-11	TIGPH	Lourenco Marques.	4777	62-80	HJGB	Bucaramanga.
5860	51-19	CR7AA	La Paz, Bolivia.	4752	63-13	YV1RV	Maracaibo.
5855	51-24	CP15	Santiago, Chile.	4725	63-49	YV5RY	Caracas.
5800	51-72	CE8AA	Leon, Nicaragua.	4712	63-66	HC2ET HHCA	Caracas. Port au Prince.
5758	52-10	YNJAT	Paramaribo.	4665	64-31	HC2AK HC4FS	Guayaquil. Esmeraldas.
5757	52-10	PZH5	Port au Prince.	4656	64-44		Johannesburg.
5660	53-00	HHCN	Trujillo, Peru.	4560	65-79		Guatemala City.
5620	53-38	OAX2A	Djokjakarta, Java.	4373	68-60	TGOA	Ibarra.
5615	53-43	YBJ	Tulcan, Ecuador.	4170	71-94	HCHM	Cuenco.
5580	53-76	HCI	Caracas.	4020	74-63	HC5EH	Lusaka.
5019	59-77	YVKO	Barquisimeto.	3935	76-24	ZQP	Bulawayo, S.R.
4990	60-12	YV3RS	Singapore.	3914	76-65	ZEB	Salisbury, S.R.
4985	60-18		Santiago, D.R.	3800	78-95	ZEA	Cumana.
4980	60-24	H11A	Cartagena.	3658	82-01	YV7RB	Caracas.
4963	60-45	HJAE	Riobamba.	3590	83-57	YV5RD	Caracas.
4960	60-48	HC5HC VUD2	Delhi.	3570	84-03	YV5RD	Caracas.
4955	60-54	HJGQ	Bogota.	3550	84-51	YV2RM	San Cristobal
4950	60-61	ZOI	Kingston, Jamaica.	3530	84-99	YV5RS	Caracas.
		H11L	Trujillo.	3515	85-35	YV6RC	Barcelona.
4945	60-67	HJCW	Bogota.	3505	85-59	YV5RX	Caracas.
				3490	85-96	CR7AB	Lourenco Marques.
				3480	86-21	ZOI	Kingston, Jamaica.
				3460	86-71	YV4RP	Valencia.
				3450	86-97	YV6RH	Barcelona. Damascus. Johannesburg.
				3440	87-21	YV1RU	Maracaibo. Stanley, Falkland Is.

SMALL ADVERTISEMENTS

CHARGES : Readers', 2d. per word, minimum charge 3s. Box Nos. 1s. 6d. extra. Trade, 6d. per word, minimum charge 7s. All advertisements must be of radio interest only. Add 25% extra for Bold Face (heavy type) announcements. Copy date for next issue, January 10, addressed Advertisement Manager, *Short Wave Listener*, 49 Victoria Street, London, S.W.1.

CALL BOOK. Complete list of HAMS throughout the world, 10s., plus 9d. postage. *Radio Handbook*, latest edition, 17s. 6d., post paid. Order now, the above are in stock. *CQ*—the Amateur magazine published in the U.S.A. Subscribe now, only 20s, for 12 large monthly issues. Dale International Publications, 105 Bolsover Street, London, W.1.

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HRO IF's, 12s. 6d. ca. or 35s. set. Valves : 807's, 10s. 6d. : Acorns 954, 955, 956, 10s. ca. AR88 mains trans., new 55s. Buyer collects latter. Frearson, 66 Wheelwright Road, Birmingham, 24.

R1116A RECEIVER. 15-2000 Metres. 8-Valve double-superhet. Two accumulators, eliminator, trickle charger. Perfect. £8 15s. Carriage paid.—Anderson, 17 Broughinge Road, Boreham Wood, Herts.

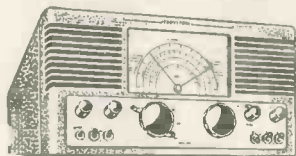
CANADIAN R103 Mk.1 (Not R103A) 7-valve communications s'het. 1-16 mc in 3 bands. AVC, BFO, Built-in speaker and 230v. AC Power Pack, spare valves and vibrator. Good Perf., £15.—K. J. Foskett, 19 Pattison Road, Child's Hill, London, N.W.2.

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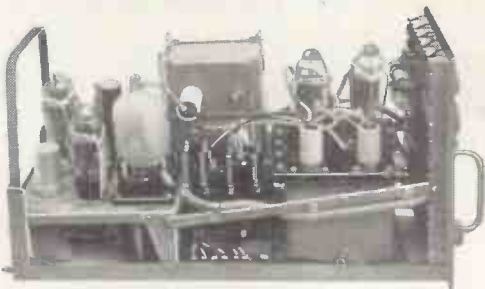
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