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The

SHORTWAVE

Magazine



Post

**EXCLUSIVELY FOR THE
RADIO EXPERIMENTER &
TRANSMITTING AMATEUR**

VOL. V No. II JANUARY 1948

Webb's FOR DIVERSITY OF STOCK

MODERN GRAMOPHONE EQUIPMENT
to be heard in our new Demonstration room



1. **Connoisseur Pickup.** A lightweight miniature moving iron Pickup, of high fidelity characteristics. Average output from secondary of Transformer .5 volts. Uses H.M.V. silent Stylus or the equivalent "Connoisseur" needles. Also suitable for use with special thin thorn needles. Sold complete with input Transformer£4 4 7
2. **Rothermel "Senior" Crystal Pickup.** A recognised standard of comparison for Crystal Pickups. Frequency range 50-7,500 c/s. Average output 1.5 volts. For standard needles.£3 1 10
3. **Lexington "Senior" Moving Coil Pickup.** Advanced modern design, incorporating ingenious semi-automatic insertion and rejection of sapphire needles. Given a good Amplifier and Loudspeaker, reproduction is superb£7 6 9
4. **Wilkins & Wright Type "N" Moving Coil Pickup.** First-class design and engineering. Combines high fidelity with robust construction and reliability. Needle pressure adjustable $\frac{1}{4}$ to 1 oz. Uses miniature needles such as "H.M.V. Silent Stylus," "Connoisseur," "W. & W. Ministyle," complete with "Equalizing Transformer"£7 13 4
5. **Lexington Input Transformer.** In mu-metal box for efficient screening. Made especially for Lexington "Senior" and "Junior" Pickups, and also recommended for use with home-made or experimental Moving Coil Pickups£1 13 2
6. **Wearite Type 207 Midget Transformer. Ratio 60/1.** A very useful step-up Transformer, for moving coil Pickup work. Its small size facilitates short wiring in Amplifier£15 0
7. **Wilkins & Wright "Equalizing" Input Transformer** for use with Wilkins & Wright type "N" Moving Coil Pickup. Incorporates compensating network (sold complete with Wilkins & Wright Type "N" Pickup)
- Wilkins & Wright "Scratch Filter." A useful low-pass

Filter. the top limit being adjustable between 3.5 to 8.5 kc/s (similar in appearance to Equalizer) £2 0 0

8. **Lexington "Junior" Moving Coil Pickup.** Of similar and general design to the "Senior" model, but without auto-insertion mechanism. Made especially to take miniature needles, "H.M.V. Silent Stylus," etc.£4 12 4

9. **B.T.H. Magnetic Pickup.** An excellent general purpose moving-iron Pickup, with built-in Volume Control, output approximately .7 volts. Takes all standard size needles.£1 16 0
- Miniature Needles for Connoisseur, W. & W. "N" Lexington Junior, etc.: "Sapphox" Sapphire. .14 0
- "Starr" Sapphire.12 6
- Wilkins & Wright Steel Needles, per 256 0
- Connoisseur Steel Needles, per 102 9
- Lexington Sapphires (only for use with Lexington Senior Pickups) two types .0025 in. or .0015 in. tip radius16 8

All the foregoing material is available from STOCK and immediate despatch can be made against post orders. The following items are available in smaller quantities and enquiry before ordering is advised

10. **Sound Sale Non-Magnetic Turn-Tables.** Cast in aluminium alloy with stroboscopic markings for 78 R.P.M. Size 12 in. diameter weight 3 lbs 6 ozs. Replaces the normal steel turn-table on your motor and eliminates magnetic pull from modern type Pickups£2 0 3

Rubber Mats, 12 in. diam for use with non-magnetic or original turn-table.7 6

"Audix" A.C. operated Gramophone Motor complete with Turntable£8 0 0

In our demonstration room you may hear modern gramophone reproduction at its best via Sound Sales, Acoustical, and Webb's etc. high fidelity amplifiers and Wharfedale Corner Cabinet, Acoustical Labyrinth, Sound Sales Phase Inverter, etc., loudspeakers.

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Telephone: GERRARD 2089. Shop Hours: 9 a.m.—5.15 p.m. Sats. 9 a.m.—1 p.m.



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The "Avo" Valve Tester gives reliable and definite indication of the state and efficiency of some 2,000 English, American and Continental valves under actual working conditions. It is accompanied by a comprehensive Valve Data Book and is a typical example of the high standard of accuracy associated with all "Avo" Electrical Testing Instruments. Fully descriptive literature available on application.



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ITEMS OF INTEREST !

WE were very gratified by the interest shown by the visitors to our stand at the recent R.S.G.B. Exhibition, and by their favourable comments regarding the construction, finish and reasonable prices of the equipment displayed.

TRANSMITTER TYPE 41P. This little rig excited considerable interest. Briefly it consists of a CO/Tritet and PA (807), with incorporated power supply, and provides an input of 25 watts. Supplied complete with set of coils for any one band but less crystal and RF valves. 5Z4G Rectifier supplied. £12/10/-.

VHF CONVERTERS. Uses 6AK5, 9001 and 9002 valves, and is gang tuned. VR105/30 Voltage stabiliser is fitted. Precision slow motion dial. Supplied with cabinet, valves and set of iron cored plug-in coils for three-band operation. Normal I.F. of 1.6 Mc/s but special to order. £13/10/-

Compact power supply also available. These and many other items of interesting equipment are fully detailed in our latest lists.

CONSTRUCTIONAL AND MAINTENANCE SERVICE. We can still construct special equipment to order, and can modify, adapt, and re-align existing apparatus (especially the BC312, 342 and 348 series of receivers). We will supply quotation upon receipt of details. Radiocraft also supply first grade items of equipment such as transformers (including Audio), high wattage bleeder resistors (50 and 75 watts), H.V. condensers, racks, chassis, cabinets, etc. We can provide special types of transformers etc. to order, and, of course, carry a stock of standard types.

SPECIAL ITEM FOR JANUARY. Mains Boost transformers. This ensures that your rig receives the correct mains voltage, in spite of volts drop, etc., in the supply line. A very necessary piece of equipment.

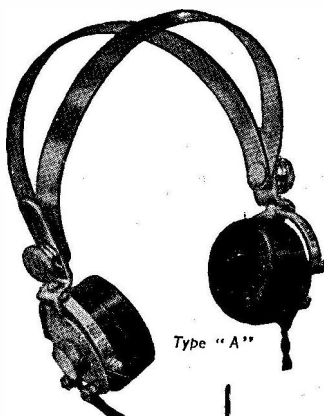
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Price 60/- per pair
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5,000 S/W STATIONS

In a letter recently received by us from Mr. H. R. Lodge, of Worthing, Sussex, he says:—

"With further reference to the S/W list of Stations heard on my ONE Valve Receiver using your TYPE 'A' Headphones, I have pleasure in reporting that I have now listed 5,000 S/W Stations mostly 40 and 20 metres with a few on 10 metres, with 130 Territories represented.

"Among the G Stations recorded were four working on low power. Henley-on-Thames ONE watt, Falmouth 3 watts, Lincs 5 watts, and S. Wales 8 watts.

"Am now out for ten thousand! But each additional thousand now is hard work; but, careful listening with these sensitive headphones should eventually secure the target.

"Yours sincerely,

H. R. Lodge."

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S. G. Brown, Ltd.

VICTORIA RD., NORTH ACTON, LONDON, W.3

WE are all familiar with shortages—material shortages—but there is one shortage that nothing on this earth can put right—and that is TIME. On every hand, one hears such remarks as "I haven't had the time."

Radio amateurs are no exception—in fact, it is true to say that radio amateurs lack time more than most—to build or modify equipment—erect new aeri—actually work "on the air"—and the host of other complications which attend a radio amateur's life.

In the "good old days," there was little option but to build one's own equipment. Today, we say good luck to the man who still prefers to build his own gear—there is nothing like some practical experience. Many "hams" will have learnt that, whilst "straight" sets are not difficult to make, even then many snags crop up and it is not easy to obtain a good performance over the wide range of high frequencies allotted to amateurs.

Few will question the necessity of using a highly selective superheterodyne receiver in these days of congested bands. Those who have actually attempted to build one will know that a lot of time is taken up in the actual construction and usually even more in making adjustments, getting rid of the "bugs" and obtaining adequate performance on all the usual bands!

Some amateurs (usually those with a professional background) have the knowledge, and test equipment, to build an excellent receiver. To others we say buy an Eddystone "640" Receiver. Commercial interests aside, we can assure you in all sincerity that you will be well satisfied with its performance—many receivers are now in use and by every post we receive testimonials to the excellent results obtained. You will get excellent value for your money—the receiver is a solid engineering job, entirely British made, and costs £42 : 0 : 0, plus P.T., which, judged by modern standards, is anything but dear.

Space does not permit the discussion of the finer points of the "640" and of their relative importance but we hope to do so in future advertisements. If you are not already familiar with the receiver, you are invited to get into touch with one of our agents, or with us direct.

With a first-class communications receiver sitting on your operating table, your problems on the receiving side will be at an end, and you will have more of that infinitely precious if abstract commodity—TIME—to devote to your many other interests.

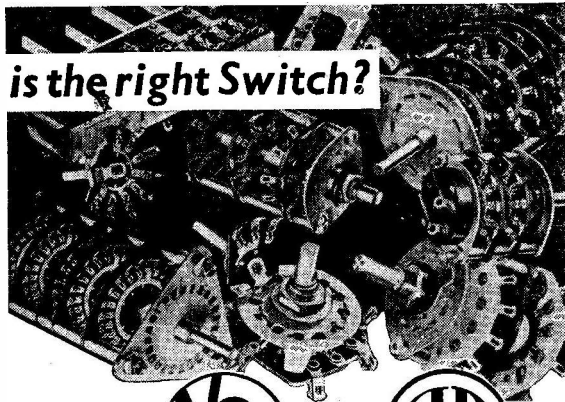
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The new Eddystone 640 Receiver—specially designed for the amateur bands. Illustrated brochure on request. £51/11/1.

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One only, Philco T43 transmitter, 2.0 to 12.0 mcs. easily adapted for 20m and 10m operation. Has many exceptional features such as voice controlled carrier and a very fine VFO. Final amplifier 2×813. Requires external power supplies. Brand new and unused. £65.

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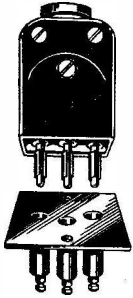
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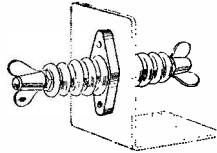
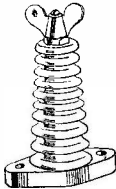
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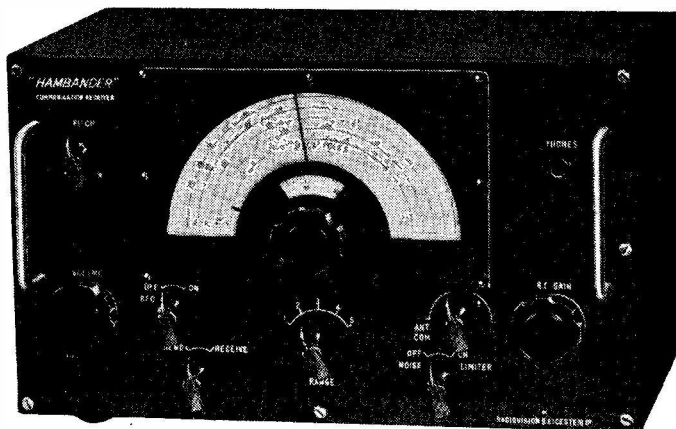


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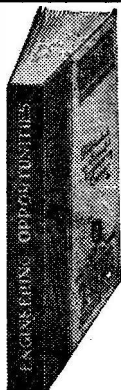
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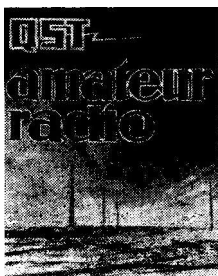
(Dept. "S.W.") 121 Kingsway, London, W.C.2
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NOTE: The original of the above and many similar letters can be inspected at the London office of The Candler System Co.

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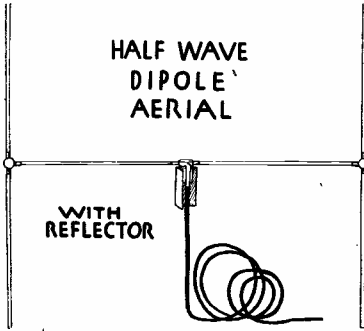
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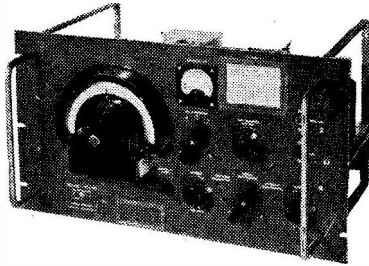
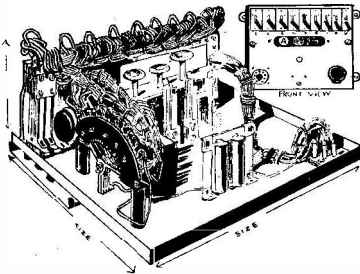
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Our Price only

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Post & Pkg. 2/- extra



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Available with fundamental frequencies in the 1.7, 3.5 and 7 Mc. bands for fundamental operation or frequency multiplying to any higher frequency band. An official certificate of calibration is sent with each P5 unit, giving the frequency under stated operating conditions to an accuracy of 0.025%.

PRICES: Ground to your specified frequency in the above bands ... £1/17/6
Or ground to a frequency not specified by you but taken from our stock ... £1/12/6

Please note that all the leading dealers in amateur equipment now carry stocks of the P5 crystal unit.

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3. 2 or 4 mfd 500v.w. Oil immersed condensers.
4. 10,000 ohms 5 watt potentiometer.
5. 150,000 ohms 1 watt resistor.
6. 5Z4G rectifier and valveholder.
7. 4 Panel-mounting fuseholders and fuses, two as spare.
8. Bulgin 3-pin sunk-type mains plug and socket.
9. Bakelite S.P.S.T. toggle switch.
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5v 3 amp. Tapped at 4v 3 amp.

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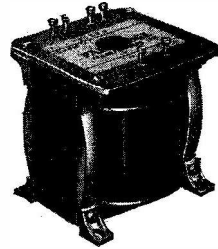
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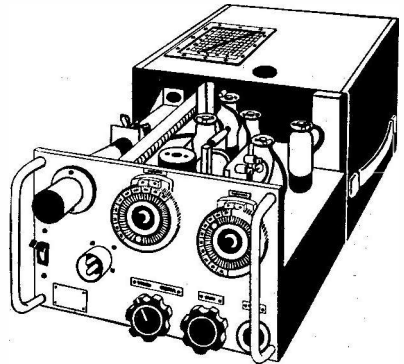
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A growing number of amateurs are using RG1-240A's in their 'modulator' and 'final' power supply units. And there is much to commend this half-wave mercury vapour rectifier. Its life expectation is well above average; it has the advantage of a constant and small voltage drop; the use of zirconium reduces positive ion bombardment of the cathode; every valve is subjected to rigorous back-arc tests; its price is 20/-.

Here are a few notes which will help users to get the best from this very reliable valve. The use of correct filter circuits and the careful observance of the operating rules are essential if maximum life is to be obtained.

Characteristics

	STATIC	
Vf	4.0V	
If	2.7A	
Peak Inverse Voltage	4.7KV	
Peak Ia	1.25A	
Average Ia	250mA	
Valve volts drop	16V	
Ambient temp.	0-50° C.	
Base—British 4-pin.		

DYNAMIC

Circuit	Output	Input	Filters	
			L in H	C in μ F
Single phase full wave	1500V 500mA	1670V rms per valve	4.5	4
	1000V 150mA	1110V rms per valve	10	4

Filter Circuits

The values of L and C quoted in the table are for the specific output currents stated. For operation under alternative conditions these values must be recalculated. L should vary in direct proportion to the effective load resistance:

$$L \propto \frac{R_{eff}}{940} \quad (\text{input at 50 cycles})$$

or, to allow safety factor,

$$L = V_{out} \times 1.5 \quad (L \text{ in henries; } V_{out} = \text{required}$$

$I_{out} \times \text{voltage; } I_{out} = \text{current in mA})$
 provided C remains constant at 4 μ F.

e.g.—For 1000V at 100mA, $L = \frac{1000}{100} \times 1.5 = 15$

If the ripple is too great and C has to be increased, then L must increase in direct proportion. Conversely, L may be reduced in direct proportion to any reduction in C.

If a double filter is used the values in the first section must be the same as those for a single filter.

Condenser filter input circuits must not be used or the peak Ia will be exceeded.

Operating Rules

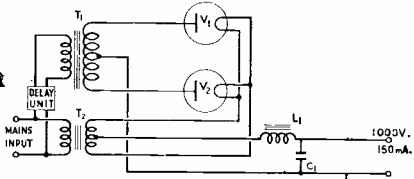
After transportation, all mercury vapour valves must be run-in without H.T. for at least 30 minutes in order to remove mercury from the electrodes. In normal use, the filaments must be run for at least 60 seconds before H.T. is applied, to avoid cathode sputtering.

Recommended Circuits

Final or P.A. Supply (suitable for use with a QY2-100 or 813).

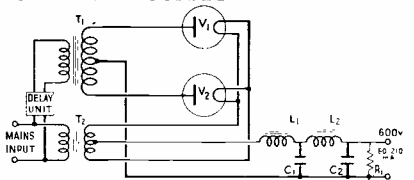
Modulator Supply (approx. 0.25% ripple) (suitable for use with 2 QV05-25's or 807's).

FINAL or P.A. SUPPLY



V₁, V₂, RG1-240A. T₁, 1200-0-1200V/150mA.
 T₂, 2-0-2V/6A. L₁, 5-25H Swinging Choke 250/50mA.
 C₁, 4 μ F.

MODULATOR SUPPLY



V₁, V₂, RG1-240A. T₁, 750-0-750V/250mA.
 T₂, 2-0-2V/6A. R₁, 15000 ohms 25 watt. L₁, 5-25H Swinging Choke 250 50mA. L₂, 20H, 250mA.
 C₁, C₂, 4 μ F.

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SHORT WAVE MAGAZINE

FOR THE RADIO AMATEUR AND AMATEUR RADIO

Vol. V.

JANUARY 1948

No. 54

C O N T E N T S

	<i>Page</i>		<i>Page</i>
Editorial	655	DX Commentary	
		On the Amateur Bands	
High-Power Driver Unit		by <i>L. H. Thomas, M.B.E.</i>	
by <i>L. H. Thomas, M.B.E.</i>		(G6QB)	670
(G6QB)	656	Calls Heard	676
Improving the IF/AF Amplifier		Other Man's Station—G8CD	677
by <i>W. J. Crawley (G2IQ)</i>	660	Five Metres	
100 Watts for Ten and Twenty		by <i>E. J. Williams, B.Sc. (G2XC)</i>	678
Part II, by <i>A. B. Wright</i>		Summary of Six-Metre Activity	682
(G6FW)	662	The Short Wave Magazine	
British Old Timers' Club	666	Five-Metre Contest	684
Twenty-Metre DX Forecast		First-Class Operators' Club	686
by <i>I. D. McDermid, A.R.T.C.</i>		Here and There	687
(GM3ANV)	667	New QTH's	688
The Problem of Interference		Month with the Clubs	
by <i>E. A. Knight (G3BNZ)</i>	668	The 1.7 mc Club Transmitting	
		Contest	689

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EDITORIAL

Resolutions

It is customary at this season to scatter a few words of blessing and good will—and also to offer some sound advice on the importance of making and keeping a good resolution or two.

So far as Amateur Radio is concerned, this is all quite easy. Here are some resolutions which, if they could be kept, would make everyone happier :

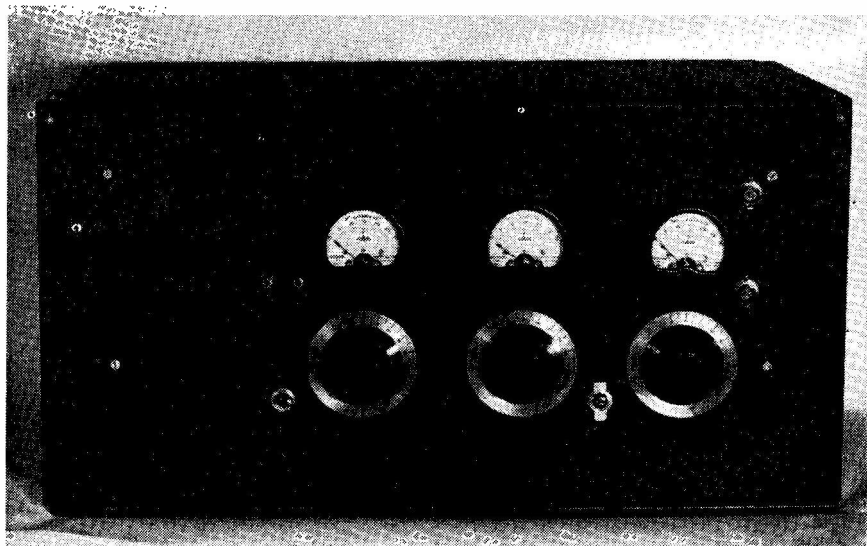
Take your 'phone away from the LF end ; run the lowest possible input when working locals ; check the gear on artificial load and never on open aerial ; cultivate the art of snappy operating ; learn to avoid blather when working 'phone ; do not criticise, over the air, other operators' manners or methods ; if you promise anyone a card, send it ; remember that Amateur Radio is a hobby and that life holds many other interests for intelligent people.

All these are obviously good resolutions, worth making and keeping. If they *were* all kept by everyone active on the air to-day, many of our most urgent problems would solve themselves. It is true that transgressors against these precepts are in the minority, but it is the behaviour and lack of good sense of that minority which make such drastic steps as compulsory band-planning an urgent necessity.

We all in our various ways look forward to a new year for the realisation of plans and the fulfilment of hopes, and most amateurs will make plans or nourish hopes of some kind. Our own hope is that during the coming year there will be a much wider realisation of the importance of using our precious strips of territory to the best possible advantage and with due regard for others on the air.

And so we now take pleasure in wishing you a happy, successful and prosperous 1948, and may your good resolutions survive the strains to which they will inevitably be put !

Austin Foxgill G6FG.



High Power Driver Unit

Design for 14, 21 and 28 mc

By L. H. THOMAS, M.B.E. (G6QB)
Assistant Editor

(This can be regarded as a piece of apparatus which, once put to work, can be left to the job of supplying excitation for any type of PA permitted on the DX bands under the terms of the present licence. Though primarily intended to provide high driving power on 14, 21 and 28 mc, it can be adapted as required for other bands.—Ed.)

NO two amateurs ever have quite the same outlook on their own gear, but it will be found that practically every one of them has some particular weakness where experimenting and rebuilding is concerned. Some, for instance, will continually play about with modulators; others will leave everything static except their VFO or exciter unit. The writer's weakness happens to be the PA stage.

This being the case, it is most desirable that part of the "permanent" gear should comprise a stable, trouble-free and flexible exciter unit, and it was this requirement that brought into being the unit illustrated and described herewith.

Perhaps you always use a tetrode or pentode PA stage, in which case you will

never have bothered to build much of an exciter. As someone was heard to say on the air recently, "I use an 813 to save trouble; just give it the smell of a 6V6 and off it goes!" Well, the writer also uses an 813—at the moment. But, during the last year, various PA stages have been on the bench, including a 35T; a brace of HK24's; a pair of T55's; a couple of PT15's; and a really aged pair of DET1's. None of them, naturally, has had to be driven to powers in excess of 150 watts—in fact, 100 watts has generally been the limit.

But it has been found that a sudden whim to play with a new PA has often meant much pulling to pieces of frequency doublers and buffers. No longer—for the

Driver Unit here described will cope with practically anything offered to it on 28, 21 or 14 mc.

What, no VFO !

Knowing that everyone has his own pet ideas about the ideal VFO, we have not wasted time by including one ; but the input circuit consists of a pair of terminals into which a low-powered VFO on 3.5, or even 1.7 mc, can be fed. Thus, readers are left free to use their particular favourite, or any one of the many excellent designs of VFO which have appeared in our pages during the last eighteen months or so. In any case, a VFO is far better kept independent of the power supply on the main driver/exciter. Used with this unit, the VFO can be a single-stage ECO, Franklin, or what have you, *without* a buffer, because V1 in this unit *is* the buffer for such a purpose.

Circuit Details

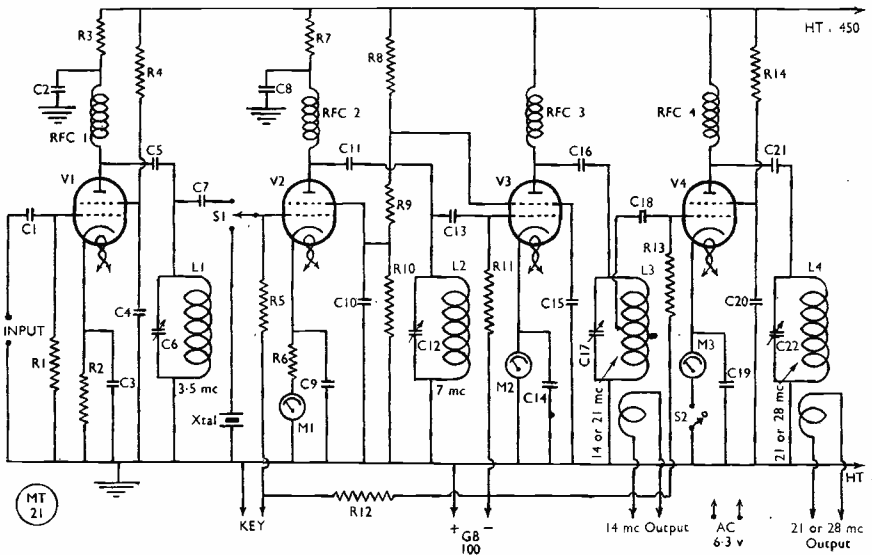
From V2 onwards the whole thing is merely a 7 mc CO and two frequency doublers. The former is a 6L6 and the latter both 807's, operating on about 450 volts HT and therefore capable of giving a high enough output, on 28 mc, to drive a 35T or similar triode to 30 mA of grid current. Grid-block keying is applied

to the CO, and gives a chirpless, clickless note ; when the key is up the CO's grid resistor returns *via* R12 (1 megohm) to the full negative grid bias, which is derived from either a battery or a small power pack. For break-in operation with a VFO the key terminals may be shorted and the VFO keyed by any suitable method.

Table of Values

High Power Driver Unit

- C1, C7, C11, C13, C16, C21 = .0003 μ F mica
- C2, C8 = .1 μ F, 1,000-volt test
- C3, C4, C9, C10, C14, C15, C19, C20 = .01 μ F, 1,000-volt test
- C5 = .001 μ F mica
- C18 = .0001 μ F mica
- C6, C12 = .00016 μ F variable
- C17 = .0001 μ F variable
- C22 = .00005 μ F variable
- R1, R5 = 50,000 ohms, 1 watt
- Rs, R6 = 1,000 ohms, 1 watt
- R3, R7 = 5,000 ohms, 5 watt
- R4 = 30,000 ohms, 2 watt
- R8, R10, R13 = 25,000 ohms, 2 watt
- R9 = 10,000 ohms, 2 watt
- R11 = 50,000 ohms, 2 watt
- R12 = 1 megohm, 1 watt
- R14 = 20,000 ohms, 3 watt
- RFC 1, 2, 3 = Standard 2.5 mH RF Chokes
- RFC 4 = 28 mc (1 mH) RF Choke
- S1 = Toggle switch, SPDT
- S2 = Toggle switch, SPST
- M1, M2 = 0/30 mA meters
- M3 = 0/60 mA meter
- V1 = 6V6G
- V2 = 6L6G
- V3, V4 = 807



Circuit of the Driver, which gives enough RF to put 30 mA into the grid of a 35T on 28 mc. As designed, the unit is suitable for the 14, 21 and 28 mc bands, and can be used with either crystal or VFO control. Parallel feed is employed throughout, with meters in the cathode circuits, thus overcoming panel-bushing difficulties

The switch S1 changes over the input to V2's grid from the crystal to the foregoing buffer stage V1. The plate circuit of V1 (L1 and C6) is normally tuned to the 3.5 mc band, and thus V2, the erstwhile 7 mc CO, operates instead as a doubler from 3.5 to 7 mc. The combination of grid-leak and cathode bias enables it to do this quite efficiently. If your input comes from a 3.5 mc VFO unit, then V1 runs as a buffer; if, however, your VFO is on 1.7 mc, V1 is perfectly satisfactory as a low-power doubler. Its HT and that of V2 are dropped by the use of 5,000-ohm resistors in series with the positive feed (R3 and R7).

Needless to say, V1 may also be operated as a CO with a 3.5 mc crystal if desired; the whole thing is extremely flexible in this way, and this was the main requirement when it was designed and built.

Screen Feeds

V1's screen is fed through a dropping resistor R4. Those of V2 and V3 are derived from the same potential divider, consisting of the chain of three resistors R8, R9 and R10 across the HT supply. As their values are respectively 25,000, 10,000 and 25,000 ohms, it may easily be calculated that V2's screen receives roughly 190 volts and V3's about 260 volts. The last doubler, V4, is driven hardest of all and therefore is given rather more screen voltage, this time through a straight dropping resistor once more.

Mainly to simplify the annoying business of bushing, all tuned circuits have been parallel-fed, and the three meters have been placed in the cathode circuits. This means that the variable condensers can be mounted straight on the metal panel, and that one side of each meter is similarly treated, the positive pin being taken through an insulated bush. It also means that you must not forget the cathode by-pass condensers; the writer did, and

Coil Table

HIGH POWER DRIVER UNIT

L1	3.5 mc	= 27 turns, 20g enamelled on 1½ in. dia. former, close-wound.
L2	7 mc	= 16 turns, 20g enamelled on 1½ in. dia. former, spaced one diameter.
L3	14 and 21 mc	= 10 turns, 18g tinned on 1½ in. dia. former, spaced two diameters, with tap at 7th turn up from earth end.
L4	21 and 28 mc	= 5 turns, 14g bare copper, 2 in. dia., self supporting, and 1½ in. long between plugs.
Links	Coupling to L3 and L4	= Both two turns of flat 72-ohm line, opened out, soldered and taped at joint.

obtained puzzling results for half-an-hour or so!

The 14 mc and 28 mc tank coils each have a two-turn link tightly coupled to them and brought out through flat 72-ohm line to the two concentric sockets at the right-hand side of the panel. The lower of these gives the 28 mc output, the upper gives 14 mc. The switch S2 simply cuts the cathode circuit of V4 when the unit is driving a 14 mc PA; the 14 mc doubler does not have to be retuned at all.

All connections except the two outputs are taken to a terminal strip at the rear, and the whole unit is built on the standard size "Unlimitex" chassis, which can be housed in a steel case or as a unit in a standard-size rack and panel assembly.

Component values are given in full in the appropriate Tables. The coil sizes have been chosen with an eye to future use on 21 mc. Normally the line-up is 7 mc CO, 14 mc doubler, 28 mc doubler; but by merely retuning this can be altered to 7 mc CO, 21 mc trebler, 21 mc buffer-amplifier. The output on 21 mc is of the same order as on 28 mc—*i.e.*, enough to drive a triode to 150 watts.

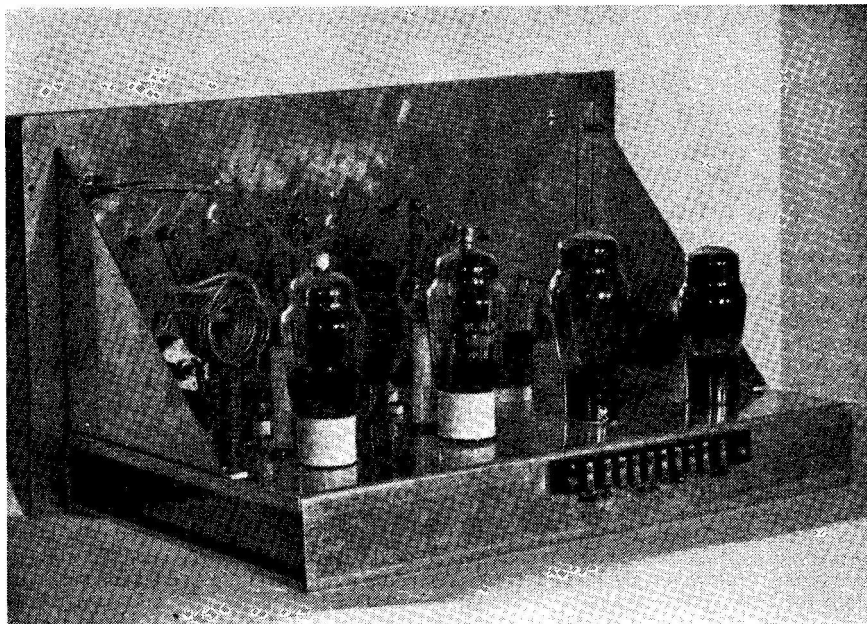
It was thought originally that the use of parallel-feed might cause some difficulties with RF chokes, but in actual fact the first three are all of similar size, and no trouble whatever has been noticed in the way of instability or interaction between stages. The 28 mc doubler uses the standard smaller type of choke—the sort with a single long winding instead of a series of "pies."

As part of the precautions against possible instability, quite a wide-spaced layout was used. It is realised that the unit occupies a big chassis, considering that the power-pack is not integral with the RF portion. This seems to be a good policy, however, judging by the behaviour of the whole thing on test. It is also realised that not everyone will agree with the plan of using three separate milliammeters; this, again, is a foible of ours. But there is no reason why three closed-circuit jacks should not be substituted in the cathode circuits, with a single 60 mA meter and a wandering plug.

Normally the CO—whether as a CO or as a 7 mc doubler—runs at about 18/20 mA, the 14 mc doubler at 25/30 mA and the 28 mc doubler at about 45 mA. The meters shown are all of the 0/30 mA type, but the third one has a 2.5 ohm shunt which makes it read effectively 60 mA.

Suitable Power-Pack

Power-pack requirements are extremely



Half-rear view, showing general layout of the Driver Unit. It will give ample output to push a 150-watt PA to full power on 14 and 28 mc. All connections are brought out to the single terminal strip, with the exception of the RF outputs

simple, as all required voltages are derived inside the unit from a single HT line. The pack in use consists of a 425-0-425 volt transformer which has also a 6.3 volt heater winding and a 5-volt rectifier winding. The rectifier used is a 5U4G. Smoothing consists of a 2 μF condenser, a 20-henry choke rated at 150 mA, and a further 8 μF condenser. With this equipment nothing has ever been heard to come out of the drive unit but sounds of the very purest T9 character—an obvious requirement if a really nice 28 mc signal is to be radiated.

Actually there is sufficient space in the left-hand end of the chassis to convert V1 into a 3.5 mc ECO if desired; where saving of external space is essential this can of course be done. But it is still recommended that it be given a separate HT supply, even if it is allowed to use the same LT, for the keying makes considerable demands on good regulation. Remember that with the key up, all three milliammeters read zero; when it is depressed there is a drain of some 90 mA. Voltage stabilisation would certainly be required if the common HT were to be used for the VFO.

In the writer's station, a very small and compact VFO consisting of a 6L6 ECO stands close up against the left-hand end

of the drive unit. The grid-cathode circuit is tuned to the 1.7 mc band; the anode circuit consists of nothing but an RF choke; and a short screened lead emerges, in series with a fixed condenser of 25 μF , to be connected across the input terminals of the big unit. This ECO has its own tiny power-pack giving 200 volts, derived from one of the small transformers supplied as replacements for broadcast receivers, *plus* plenty of smoothing.

Several other types of VFO have, however, been tried, and one, in particular, was fed through a considerable length of concentric into the drive unit without the slightest difficulty in persuading it to operate nicely. The usual precautions against feedback of the final RF output into the VFO have to be taken as a matter of course. The VFO must be screened, and its power-pack leads should not be long or unscreened; nor should the VFO stand on the window-sill immediately adjacent to the feeders or aerial lead! Its mains input leads should also be filtered.

Driving a Tetrode

So high is the output from this unit, particularly on 28 mc, that a tetrode

requiring about 5 mA drive, such as the 813, can easily be shot up to 24 or 30 mA, which is impressive but not a Good Thing. The obvious way of reducing the output is to loosen the link coupling; it may also be done, when the crystal is in use, by de-tuning the CO well off the peak. It should be remembered, however, that another trick is to increase the bias on the PA still higher, and thus to squeeze the last drop of Class-C efficiency out of it! The writer's 813 is at present operating with 950 volts on the anode and 200 volts negative grid-bias. Output is perceptibly higher under these conditions than with the more usual condition of about 100 volts bias and less drive.

Incidentally, although no attempt has been made to measure the output from the 28 mc doubler, it must be considerable. (The input is usually about $22\frac{1}{2}$ watts.) In a recent QSO with a W6, using the normal 125 watts or so, the writer said he would like to test on QRP, and transferred the aerial coupling to the tank coil

of the doubler. The only reply to this was "When are you going to start reducing?" after contact had been made again.

So there it is! Nothing particularly clever is claimed for this design, but it may be described factually in the following terms: First, it is flexible; it should work with any VFO on 1.7 or 3.5 mc, and it of course operates with a 7 mc or 3.5 mc crystal. Secondly, its output on 14, 21 or 28 mc is high enough to drive any kind of PA that the 150-watt permit allows one to use. Thirdly, once it has been built and made to operate, it should continue to do so with the utmost stability, barring accidents, for an indefinite period. Lastly, it is quite a nice looking piece of gear, which may either be used in its own box or as a unit in a rack.

It has one disadvantage: it is so useful around the place that the components built into it are tied up for good and cannot be "burgled" for other purposes!

Improving the IF/AF Amplifier

Some Further Suggestions

By W. J. CRAWLEY (G2IQ)

(In our issue for August, 1947, G2IQ discussed the trend of amateur receiver design and suggested the use of converters constructed for each band required, feeding into a common IF/AF amplifier. Full details were given for building a unit of this type; converters for the 28 and 58 mc bands suitable to go with it were described in the November issue. The article below, arising mainly from readers' correspondence on the whole subject, discusses modifications and improvements to the IF/AF amplifier.—Ed.)

THE interest aroused by the description of the IF/AF amplifier published in the August 1947 issue of the *Short Wave Magazine* has been most gratifying. The writer has been pleasantly surprised at the number of amateurs who have not been deluded into believing that home-built receivers are beyond their scope. The keen home-constructor is still very much alive! A number of queries have been raised by correspondents and it is proposed to answer some of them here for the benefit of those who may have hesitated to write.

The IF Transformers

Difficulty has been experienced in obtaining 110 kc IF transformers, but apparently there is an ex-Government

transformer on the surplus market with a nominal IF of 100 kc. This is an iron-cored job, the windings of which are bridged by a $\frac{1}{2}$ -megohm resistor, a fixed 200 $\mu\mu\text{F}$ condenser and a trimmer. There is no objection to the use of 100 kc as the second IF. The $\frac{1}{2}$ -megohm resistors damp the tuned circuit slightly and tend to flatten the selectivity curve. The correct connections for using this transformer are as follows: Tag No. 1, HT; No. 2, plate; No. 3, grid; No. 4, AVC.

Some confusion was caused by the writer's mentioning 465 kc and the crystal band-pass filter. This was suggested as an *alternative* to the 110 kc channel. Those who have 465 kc transformers in stock may

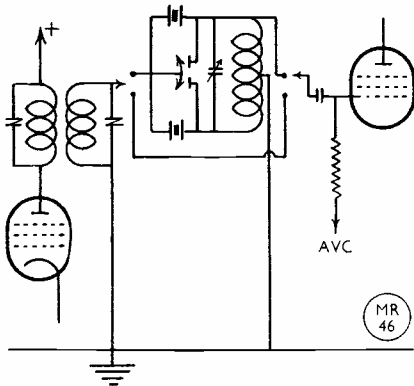


Fig. 1. Circuit of the crystal band-pass filter.

like to construct their receiver with this alternative channel. The selectivity will, however, not approach that of the lower frequency unless a crystal band-pass filter is introduced. The circuit of a switched filter is reproduced herewith. (See Fig. 1.)

Valve Types

Some latitude as to valve specification has been requested. Alternatives to the KTW71 are the EF39, 6K7 and similar. The 6K8 may be used in place of the 6SA7, but a better scheme is to employ an EF50 mixer with suppressor injection and a separate oscillator. The alterations to the original circuit are shown in Fig. 2.

Monitoring

The IF amplifier can be made into quite a useful keying monitor by switching in a variable 25 or 50 $\mu\mu\text{F}$ condenser across the oscillator coil, L2, when transmitting.

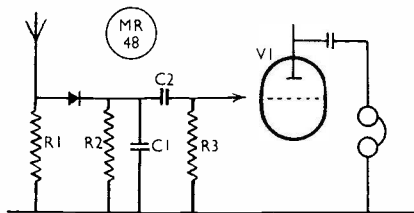


Fig. 3. Circuit of the 'phone monitor.

Table of Values

Fig. 3. The 'Phone Monitor

- C1 = 300 $\mu\mu\text{F}$, mica
- C2 = .05 μF
- R1 = 10,000 ohms
- R2 = 100,000 ohms
- R3 = 250,000 ohms
- V1 = EBC33

A two-pole, two-way switch can combine the operations of send/receive and of switching-in the condenser. The writer also uses the first AF valve as part of a 'phone monitor. A crystal-diode or Westector rectifies the transmitted signal, enough pick-up being provided by a foot or so of wire, and the output is fed into the EBC33 grid. Headphones of course are essential for this operation (see Fig. 3 for circuit).

As a matter of interest, measurements of the sensitivity of the two converters recently described (November, 1947, *Short Wave Magazine*) for use with this IF/AF amplifier, with a noise-generator as the source of signal, show that both the 30 mc and the 58 mc units have a noise-factor of better than 4 dB.

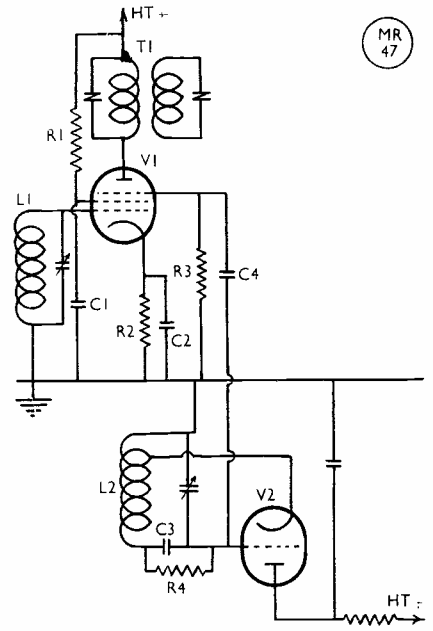


Fig. 2. Modification required for using an EF50 in place of the 6SA7.

Table of Values

Fig. 2. EF50 Modification

- C1, C2 = 0.1 μF
- C3, C4 = 50 $\mu\mu\text{F}$, mica
- R1 = 250,000 ohms, 1/2-watt
- R2 = 3,300 ohms, 1/2-watt
- R3 = 100,000 ohms, 1/2-watt
- R4 = 33,000 ohms, 1/2-watt
- L1, L2, T1 = As in original circuit, p.339 August
- V1 = EF50 or SP41(VR65)
- V2 = 6J5 or L63

100 Watts for Ten and Twenty

A CW/'Phone Transmitter for the DX Bands

By A. B. WRIGHT (G6FW)

PART II

(The first part of this article appeared in our December issue and covered the general design of the transmitter. A suitable modulator unit will be discussed later.—Ed.)

The single turn link visible between the tank coil and the panel is connected to a 6'3-volt bulb mounted on the panel so as to give a visible indication of resonance when the PA tank is correctly tuned. The panel meter will, of course, give the usual indication of resonance, the chief use of the bulb being to indicate to some degree the depth of modulation when telephony is being used. This bulb has been found indispensable, as it is constantly visible when speaking into the microphone and assures the operator that all is well.

A rough and ready indicator perhaps, but nevertheless very effective. The degree of coupling between link and tank coil should be very loose, and adjusted so that the bulb glows moderately brightly without modulation.

Exciter Stages

The PA grid coil is wound with 16-gauge bare or enamelled wire, and mounted on the base of an Eddystone 4-pin plug-in coil. It will be found that in this particular type of coil the base can be readily removed by taking out two screws. A valve base can of course be used, or any other method of mounting, but the coil base method is extremely simple and has the advantage that it is of good insulating material. The ceramic grid coil socket is mounted so as to bring the coil terminals as close as possible to the grid condenser.

Before mounting the grid condenser it is advisable to solder in position the grid resistors, chokes and condensers, the screen by-pass condensers and 807 filament wiring. Note that the screen by-pass condensers are soldered directly to the mounting bolts of each 807 holder.

On no account be tempted to omit the small grid chokes. You may be lucky and have no trouble at all with parasitics, but the writer has tried push-pull 807's in several layouts, but has always come up

against this extremely annoying trouble. On CW the effects of parasitic oscillation may not be very noticeable, unless the parasitic is of the low-frequency variety, when BCL key clicks will be very troublesome and almost impossible to cure by normal methods. On 'phone however, parasitics can be the cause of "downward" modulation, as evidenced by a diminishing in brilliance of the panel indicator lamp when any considerable depth of modulation is attempted.

Installation of the two chokes, which can consist of 12 turns of 20-gauge wire wound on a pencil and spaced to a length of about $\frac{3}{4}$ in., will, in the writer's experience, effect an immediate cure for parasitics, with no loss of grid drive. Be sure to solder each choke right on the appropriate grid pin of the 807.

Keying

Keying of the transmitter is effected in the HT positive lead to the screens of the two doubler stages. No keying filter is used, and perfect, clickless keying has resulted. The key jack is brought out to the front panel and is of the closed circuit type.

High Voltage Insulation

Care should be taken to ensure adequate insulation in all circuits carrying high voltage, particularly with respect to the lead to the PA tank coil centre tap.

The 600-volt HT line is brought in through the chassis rear drop *via* a stand-off insulator, the hole under the insulator being made extra large, the insulated wire to the coil centre tap being passed through the chassis in a similar manner. The anode by-pass condenser C23 should have an adequate voltage rating, especially if 'phone is used, as it must withstand the peaks of modulation. Incidentally, for 'phone working the capacity of C23 and of C21 should not exceed .002 μ F, other-

wise these condensers will by-pass audio as well as RF !

An octal socket on the rear chassis edge serves to bring in 6.3 volts AC for the filaments, 400 volts for the exciter stages and the PA grid bias supply.

Power Supplies

Power supply requirements for an input of 120 to 140 watts to the PA are 700 volts at 200 mA, 400 volts at 150 mA for the exciter stages, 6.3 volts AC at about 4.5 amps for all filaments and pilot light, and 120 volts grid bias, either from a battery or mains supply.

The power pack which has been employed with the prototype of the transmitter consists of a 550-0-550 volt transformer and an 83 rectifier for PA HT supply, using condenser input, which gives an output under a 150 mA load of approximately 700 volts. The AC output of the transformer slightly exceeds the rating for an 83, but thus far no trouble has been experienced, although maybe the writer has been lucky with his choice of 83 !

The supply for the exciter stages may be anything from 350 to 500 volts, but as adequate excitation is forthcoming with a working voltage of 400, quite an inexpensive transformer, high vacuum rectifier and "brute force" filter will do the job.

Circuit diagrams of the power supplies actually used with the original transmitter are given here. It would perhaps be preferable to use choke input to the 83, but this would of course be at the expense of a somewhat lower output voltage. Although the type 83 is a mercury vapour rectifier it will be noted that the makers usually give a set of operating conditions for condenser input; if a bleeder is connected across the output condenser, and a practice made of allowing the filament of the 83 always to remain on a few seconds before switching on the high voltage, no difficulties should be experienced. With this point in mind two DPDT switches are used to switch on the primaries of the power supply, wired in such a manner that whether S4 or S5 is switched first the rectifier filaments will be turned on first and off last. Switch S6 cuts the anode supply to the exciter, putting the Tx off the air (the PA being biased to cut-off in the absence of excitation) and may of course be replaced by a suitable relay.

The 6.3-volt indicator lamp to the left of the Tx panel gives visible indication that heaters are lit, a separate LT transformer being provided for them. Care should be taken to ensure that the AC voltage measured at the filaments is 6.3 volts.

Resistances R21, R22, R23 and R24 are

Table of Values

Fig. 2. 100-watt Transmitter—Power Supply Unit

- T1 = Mains transformer, secondary 5 volts at 3 amps
- T2 = Mains transformer, secondary 550-0-550 volts at 250 mA
- T3 = Mains transformer, secondary 400-0-400 volts at 150 mA, 5 volts at 2 amps
- T4 = Mains transformer, secondary 6.3 volts at 5 amps
- LFC1 = LF choke 13 H, 200 mA
- LFC2 = LF choke 15 H, 150 mA
- C25, C26 = 4μF, 1,500-volt working
- C27 = 4μF, 600-volt working
- C28 = 8μF, 600-volt working
- R21, R22 = 35,000 ohms, 5 watt
- R23, R24 = 20,000 ohms, 5 watt
- F1 = 500 mA fuse
- F2 = 300 mA fuse
- S4, S5 = DPDT toggle switches
- S6 = SPST toggle switch (or suitable relay)
- V1 = 83
- V2 = 80 (or 83, with 3 amp winding on T3)

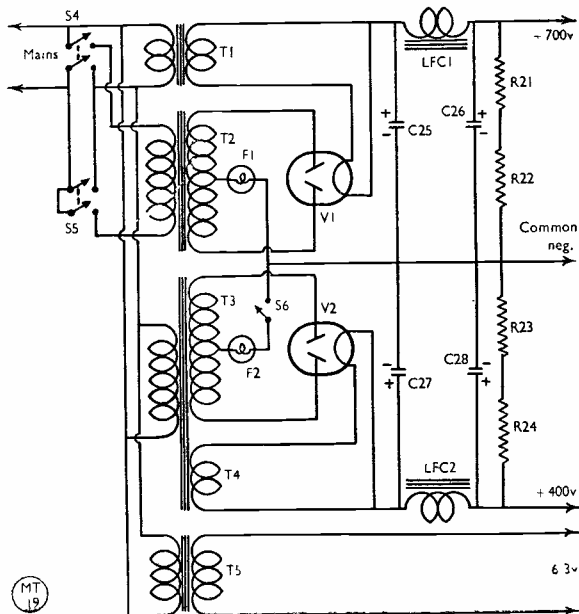


Fig. 2. Power supply unit for the 100-watt 14-28 mc transmitter.



bleeders which serve to discharge the filter condensers when the power is switched off, as a safety measure.

Adjustment and Tuning

The 400-volt exciter HT supply, the 6.3-volt filament supply, and the grid bias for the PA are fed into the transmitter *via* the octal socket in the chassis rear edge. A well-insulated lead carries the 700 volts HT to the stand-off insulator.

To set up the transmitter, connect the power supplies, applying 90 volts negative grid bias to the PA stage. If a VFO is to be used connect its output leads, suitably screened, to the two sockets at the rear. If desired, a coaxial cable connector can be used in this position. As a matter of interest, it has been found that using the VFO mentioned earlier with condenser output, a single unscreened lead about 3 ft. in length with its end connected to the unearthed socket will transfer the VFO output to the first exciter stage quite successfully. For break-in work, of course, this method of feeding in the VFO would not be very satisfactory, owing to radiation from the unscreened wire—unless the VFO itself was keyed.

Typical Meter Readings under Operating Conditions

100 WATT TRANSMITTER FOR 10 AND 20 METRES

Meter Switch Position	
1	Measuring 6V6 CO anode current Reading 20 mA
2	Measuring 6L6 1st Doubler anode current Reading 52 mA
3	Measuring 6L6 2nd Doubler anode current Reading 55 mA
4	Measuring 807 grid current, PA Reading 6.8 mA (two valves)
5	Measuring 807 cathode current, PA Reading 50/60 mA off load } (two valves) 180 mA on load }

Exciter Supply:—400 volts. PA Supply:—700 volts.

For crystal controlled operation a crystal having a suitable frequency in the 7 mc band should be plugged into the holder.

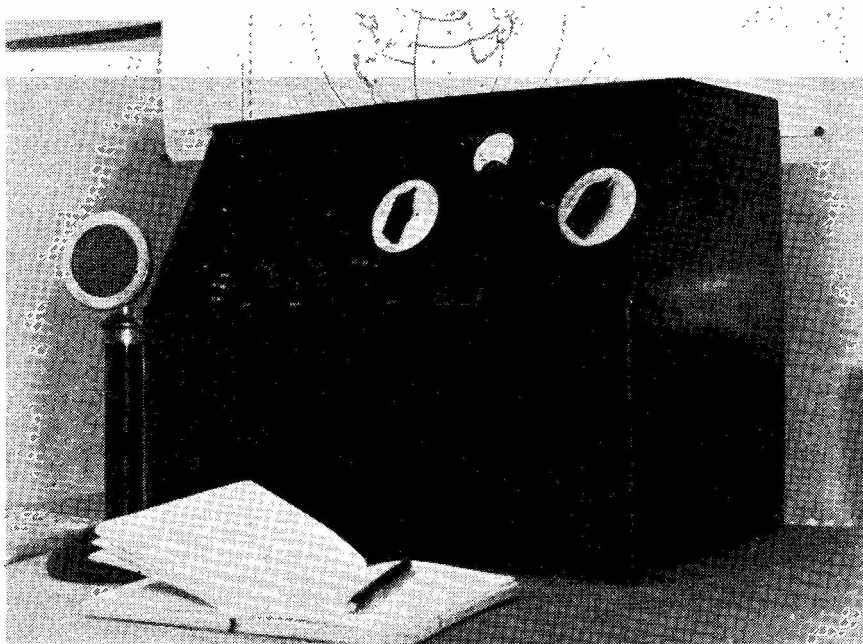
For an initial test, set the band switch on the front panel to "10," and plug in the 10-metre grid and PA coils. For the time being, leave the key plug out of its jack on the panel. Switch on the 400-volt exciter supply. Turn the meter switch to position 1, measuring the CO anode current, and tune for minimum dip with the oscillator plate condenser. Next, turn the meter switch to position 2, measuring the first doubler plate current, and again tune for minimum dip, using the doubler plate condenser.

A slight readjustment of the oscillator plate condenser may then be required to compensate for the loading effect of V2. Turn the meter switch next to position 3, measuring the second 6L6 doubler plate current and repeat the procedure for minimum dip tuning. Switching the meter to position 4 will then record the grid current to the unloaded 807's. Readjust slightly the exciter tuning controls to peak up the grid current to a maximum—probably to 15 or 20 mA for the two valves.

Switch on the 807 anode voltage and rotate the PA tank condenser quickly for minimum dip. During the PA tuning operation remove the panel indicator lamp link from the vicinity of the tank coil, or remove the lamp from its socket, otherwise it will burn out.

Connect a 75- or 100-watt house lamp to the aerial link output as an artificial load (of course removing the plate voltage during this operation) and after switching on the HT again, note the combined anode and screen currents of the 807's, as shown when the meter switch is in position 5. Then adjust the coupling of the aerial link, using a length of insulating material for the purpose, until the anode/screen current loads up to 180 mA; this will represent an input to the 807's, at an anode voltage of 700, of 112 watts, allowing 20 mA for the combined screen currents of the two valves.

The grid current as registered by the meter should now read 6 to 8 mA. If any higher, the bias on the 807's should be increased until the combined grid current is around this figure. If the grid current is too low, a condition which is extremely unlikely if all voltages are correct, all circuit constants and wiring should be carefully checked, and it will probably be found that slight readjustment



G6FW's transmitter complete in its cabinet.

of the exciter tuning condensers will bring up the grid current to the required figure.

At this stage the 100-watt bulb should be glowing brightly, affording a rough indication of power output. The plates of the 807's should show no trace of colour and it will usually be found that the PA anode current can be run up to 200 mA without the valves showing signs of distress.

Now switch off the PA anode voltage and connect the aerial feeders in place of the bulb. Switch on the HT voltage again, when it should be found that the anode current is still about the same figure as with the artificial load. Some slight readjustment of the PA tank condenser may be required when the aerial is connected, but conditions which require much re-tuning indicate wrong matching of feeder to aerial.

Incidentally, it is being assumed that coaxial feeder is being used to the aerial; other feeder arrangements will of course require either adjustment in the size of the coupling link and output connections, or preferably a length of coax can be run from the output socket to a coupling unit

near the point where the aerial enters the operating room.

Plugging a key into the keying jack should reduce the PA plate current to *nil* —we are now ready to put out our first call.

Small Points

When using the VFO it will be found that only slight readjustment of the PA tank condenser will be required when changing frequency over quite a large range.

For 20-metre operation the band-change switch is thrown to "20," thus cutting out V2, and the 20-metre grid and plate coils inserted in the PA stage. Tuning operations are precisely the same as for 10-metre operation, except that one doubling stage is cut out.

It will be found that the output on 20 metres from the doubler stage V3 is more than ample to drive the 807's to full power, even when using telephony. The only further adjustment required is the degree of coupling between aerial coil and PA tank coil. Once the aerial link has been adjusted for maximum loading it

need not be touched again when changing bands.

Housing the Transmitter

Whilst the transmitter can be built into the conventional rack the writer found the outfit compact enough to fit into a table-model wooden cabinet with sloping front panel, as shown in the photograph. The cabinet is of quite simple construction, and after french polishing it can be tucked into a corner of the living-room (if the constructor suffers from lack of space) where it will not be too offensive to the critical eye of the female members of the household!

A compartment beneath the transmitter section is fitted with a hinged lid and ball-catch and can be used for spare coils, log and call books, key and so forth. A removable lid fits over the transmitter control panel when not in use.

Results

It will be appreciated that results obtained on 10 and 20 metres will be decided principally by the aerials used and conditions encountered. It may be of

interest, however, to record that during the month of July, within one week of constructing the Tx, all continents have been worked on 20-metre CW, using an input of 120 watts. The aerial during these tests was a half-wave, co-ax fed dipole, 20 ft. high at its southern end, sloping down to 15 ft. at its northern extremity.

Using a similar dipole, cut to a half-wave on 10 metres, all continents have also been worked on CW, and later on 'phone. To get the best out of 10-metre operation it is recommended that some sort of beam aerial be used, and a two-element system is at present under construction, using two paralleled quarter-wave lengths of 70-ohm co-ax to match the 70-ohm feeder to the aerial.

The transmitter functions very smoothly on both bands, and its compactness, cheapness of construction and ease of operation, make it an ideal rig for beginner and old-timer alike.

A suitable modulator, also using a pair of 807's, for use with PA inputs up to 150 watts and which can be employed to plate/screen modulate this transmitter, will form the subject of a further article later.

British Old-Timers' Club

First Membership List

Last month's brief note in "DX Commentary" asking the Old Timers to come forward and show themselves has resulted in a most gratifying response, no fewer than thirty-four having sent in cards, letters and even birth certificates!

The following is the first list of Members of the British Old Timers' Club, in order of radio age:

G. A. Jeapes (G2XV), 1913; A. W. Knight (G2LP), pre-1914; Lt.-Col. L. N. Stephens, O.B.E. (G2BN), pre-1914, and 2PL in 1919; Lt.-Col. C. C. Millar, T.D. (GM2MG), 1920; R. Mitchell (G5LH, 5KZ in 1921; R. W. Bloxam (GM6LS), 5LS in 1922; A. M. H. Fergus (G2ZC), 1923; L. G. Young (G5GG), 1923; W. J. Butler (G5LJ), 1923; W. D. Keiller (G6HR), 1925; R. Maynard (G6MD), 1923; L. H. Thomas (G6QB), 1923; J. F. Cullen (G2AD), 50L in 1923; F. E. King (G2FK), 5AD in 1924; L. R. Harper (GM5JK), 1924; I. Auchterlonie (G6OM), 1924; A. C. Simons (G5BD), 1925; F. King (G5MF), 1925; B. W. Warren (G6CD), 1925; C. H. Targett (G6PG), 1925; C. R. Waterer (G2HP), 1926; E. A. Dedman (G2NH), 1926; F. Thompson (G3SD) 5LH in 1926; H. Brabrook (G6BB), 1926; J. C. Martin (G6MC), 1926; R. J. Denny (G6NK), 1926; E. T. Pethers (G6QC), 1926; C. B. Cleland (G2CN), 1927; R. C.

Horsnell (G2YD), 1927; P. Bladley (G5BS), 1927; E. W. Rawlings (G5RS), 1927; E. Y. Nepean (G5YN), 1927; F. G. Ingleton (G6FD), 1927; S. Gould (G3ASP), W9AVO in 1927.

Several very interesting letters have been received from Old Timers who, unfortunately, do not now qualify for admission to the ranks of the Club. To do so you must have held a *full radiating licence* for twenty years or more. J. H. Barrance, G3BUJ, built his first receiver (zinc and iron pyrites!) for intercepting Zeppelin signals in 1914; and he held an experimental receiving licence in 1920. H. Elie-Lefebvre, of Sutton Coldfield, had a transmitter in 1912, using a two-inch spark coil with the call-sign OIX, and spent years at sea as a radio operator. It is a pity that under the present rules we cannot admit these gentlemen to the Club—but we salute them as Old Timers.

Please send in your QSL cards, you remaining OT's, with just the year in which you were licensed, and you will duly be enrolled. Thirty-four to date; see if we can't hit the century.—L.H.T.

Twenty-Metre DX Forecast

Predictions for January

By I. D. McDERMID,
A.R.T.C. (GM3ANV)

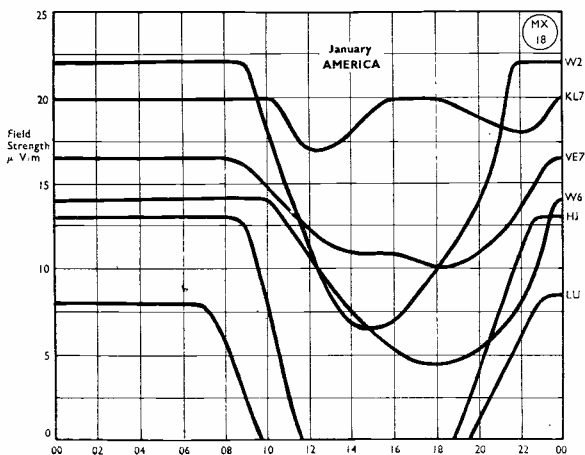
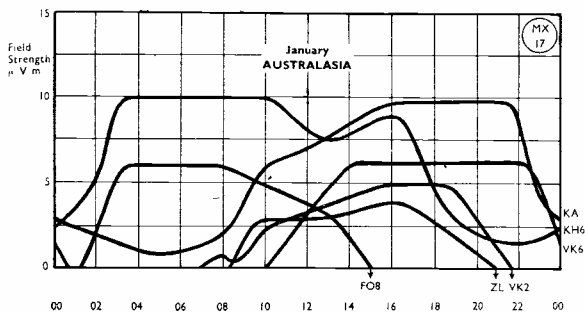
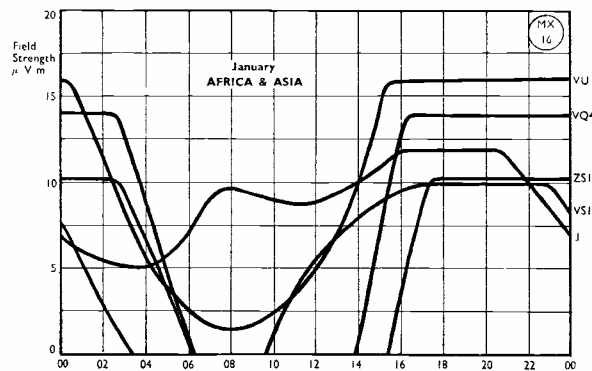
THE American curves show very little change as compared with last month's family of graphs—except for the general levelling out of the two minima on the KL7 predictions.

The morning maximum to be seen on the signals from the J area is now starting to diminish in intensity and a slight decline in signal strength should be noticed from Asiatic sources towards the end of the month. The slope of the African signals has increased somewhat, but apart from this, very little alteration has occurred with respect to transmissions from this area.

As usual, the Australasian signals show the greatest variations. The KH6 irregularities have largely vanished, and signals from that area show a decided improvement around midday; the KA's and VK6's also promise an increase in activity, although to a lesser extent, and this should fall off again towards the month's end.

The morning period of activity for VK2 is again starting to show itself, but as yet, signals from VK and ZL should be later in coming through than they were last month.

Now that the sun is mainly in the Southern Hemisphere, it should be remembered that the static level "down under" will be at its peak, and consideration must be given to this fact.



ALL TIMES G.M.T.

The Problem of Interference

Tackling BCI, and a Suggested Cure for TVI

By E. A. KNIGHT (G3BNZ/G2LP)

(With some 28,000 TV receivers now in use and an increase of nearly 3,000 sets recorded in one month, TVI has become a menacing problem to large numbers of amateurs and may be a serious difficulty in the future development of Amateur Radio. Already, a great many operators within the service area of Alexandra Palace have to close down completely, on all bands, when TV is showing. The problem of effecting a cure is an extremely difficult one, bearing no relation to the allied problem of BCI. This is due mainly to the high sensitivity and wide acceptance of the TV receiver, resulting in a relatively minute electrical disturbance becoming visible on the screen. The idea suggested here, while not new in the technical sense, is well worth a trial. It has given positive results in the instance quoted. There are four factors working together which have to be considered when judging its efficacy in other cases—the transmitter power used, the frequency, the distance between Tx and TV Rx aerials, and the field strength from A.P. Mains leakage interference permitting indirect pick-up on the TV receiver must also be eliminated. We should be particularly grateful to all readers who, having tried the device, would give us a report on it with the fullest possible details.—Ed.)

THE problem of BCI (interference by a transmitter with a broadcast receiver) seems to be as bad on 80 metres as on other bands, and with 150 watts available it can be a serious problem. It was, therefore, not surprising to receive a list of names and addresses, some complete with logs in shorthand, when the power was raised from some 25 watts.

An unexpected report of television interference compelled much thought, because it was suspected that a train of wave-traps would be called for when operating on frequency bands above 3.5 mc. Accordingly, after having found an alternative method, it was decided to pass on this idea and to name it "The Kingston By-Pass"—the complainant in question being situated almost on the said highway.

First, some general remarks on BCI.

Broadcast Band

Broadly speaking, complaints under this heading presented little trouble. The usual trap proved its worth and was very effective. In one or two cases it did, however, involve making good indifferent aerial and earth systems. In others, earth lines had to be run and fitted. (Why do so many people think that aerial and earth terminals are merely ornamental?) It was found that the majority of complainants treated this form of interference very mildly. In fact, several were encountered who looked upon Amateur Radio

transmissions as a fourth programme, even requesting that the trap be switchable, so that they could continue to eavesdrop when so inclined!

The other type of complainants were in the minority. These expressed a strong, or should one say, dim view of the amateur and so had duly to be treated with special tact and diplomacy. One needed some two or three calls for the purpose of establishing an acquaintance and obtaining permission to look at his set and all that went with it. Finally, an obstinate individual was encountered who, being told the object of the call, flatly refused to co-operate in any way at all.

Jamming one's own or neighbouring telephones appears to be fairly general in districts where overhead wires abound. In no circumstances whatsoever should any amateur attempt to deal with problems of this nature. Complaints must be reported direct to the GPO, who have their own methods of eliminating trouble of this kind.

Television Interference

The nearest television receiver is about 150 yds. away, and when the transmitter was switched on, its proud owner had the surprise of his life. The picture was almost wiped off the screen and the loud speaker nearly disintegrated. He had no idea what it was all about or where it came from, but remembering "G2LP," he communicated with the authorities.

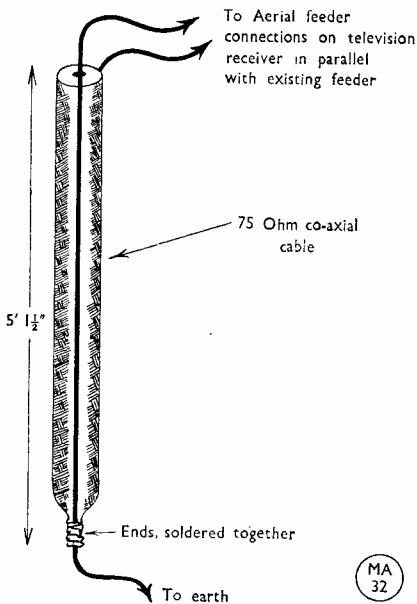
This complaint was given top priority. A preliminary investigation revealed that

the usual type of wave-trap would no doubt serve a useful purpose, but would only be effective on 3.5 mc.

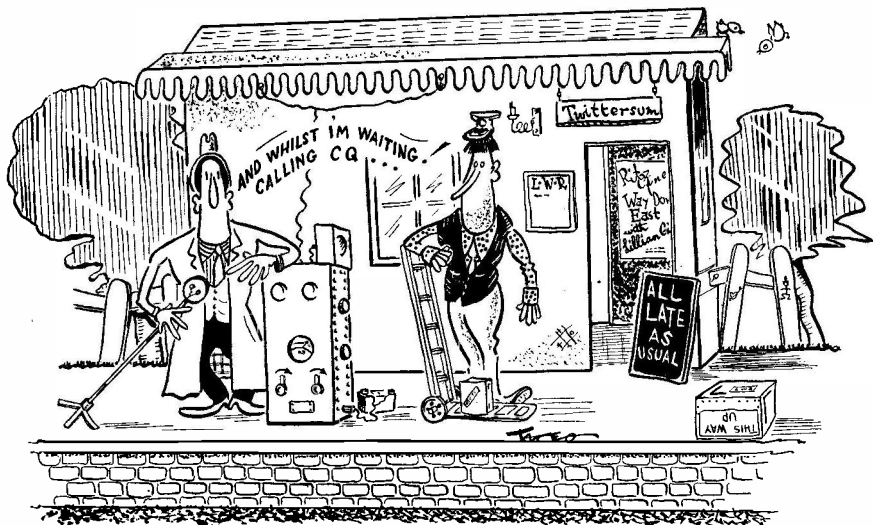
The method shown here was therefore devised. As will be seen from the illustration, it comprises a piece of co-axial cable 5ft. 1½ in. overall to make up a quarter-wave stub at the television video frequency. One end of this stub is connected in parallel with the input terminals of the TV receiver and the other end is short-circuited and connected to a really good earth.

Its beauty is its simplicity and low cost. When fitted, the result is virtually a complete short to ground so far as pick-up to other wavelengths is concerned, but an *acceptor* circuit to television frequencies. One would expect it to reduce signal strength and restrict band-width somewhat, but in this particular case it served actually to increase the signal and improved the picture. This of course may have been due to a mis-alignment in the set or in the aerial system, but at the time this was not tested out. The stub so fitted acts as a tuned circuit, having a high terminating impedance at the Rx end, and should have but little damping effect across the usual 70-ohm input line.

It would be particularly interesting to have information from anyone who should try the "stub" trap, particularly as to its all-band possibilities, as one imagines it should be of more use on 28 and 58 mc.



As a suggestion, should this trap prove successful under more stringent conditions than those encountered by G2LP, would it be worth while forming a group of enthusiastic junior Radio Club folk to assist in trap fitting ?



"The Other Man's Station"

DX COMMENTARY

ON CALLS HEARD, WORKED & QSL'd

By L. H. THOMAS, M.B.E. (G6QB)

A Happy New Year, first of all, to everyone reading this. Many thanks to you all for the messages of Christmas Greetings. We confess to being a little hurt at the thought that Arabackle Oblifork (our demented friend) received just as many as we did ourselves, but thanks all the same.

And thanks, Old Timers, for the splendid rally-round from you. We had intended to publish the first list of names in this column, but as there are already over 30 at the time of writing, the Editor has generously* allocated some extra space for the purpose of initiating the British Old Timers' Club—see page 666.

So let us now start off the New Year well, and also traditionally, with a set of resolutions. (Arabackle says he is making a series of bad resolutions so he'll feel terribly virtuous as he breaks them.) But here are our own:

(1) We will remember that Amateur Radio is not just a matter of playing hide-and-seek with new countries, and will rub that fact in on every possible occasion.

(2) We will try to be polite to the evil-doers when their misdeeds are caused by inexperience or ignorance.

(3) We will be as rude as we possibly can to the evil-doers who are old enough to know better. So watch out, spivs, operators of 'phone at the LF ends of the bands, possessors of dirty signals and spouters of drivel. We're after you—both of us.

(4) We will remember that "DX" is a relative term and therefore show as much interest in the 5-watt man on the top bands as the chromium-plated rack-and-panel specialist with 150 watts on the others.

(5) We will write something each month that will get *somebody* hot under the collar. And so, bearing this last one in mind, we launch boldly forth into . . .

The Great QSL Racket

This month we have had three or four letters suggesting that we should only publish WAZ and countries-worked scores

when they are *verified* (i.e., when we have seen the QSL cards to prove the contacts). While appreciating the sentiments that inspire these letters, we simply could not disagree more. If anyone in Amateur Radio can derive any satisfaction from claiming to have worked 150 countries when he knows he has only worked 135, then we would like to know why.

Those institutions, associations, leagues and societies who issue certificates are probably right in withholding them until actual proof of the contacts claimed is forthcoming. But for our part, publishing a strictly friendly list of scores so that one keen operator can see how another is getting on, we just don't care whether he can produce a QSL or not.

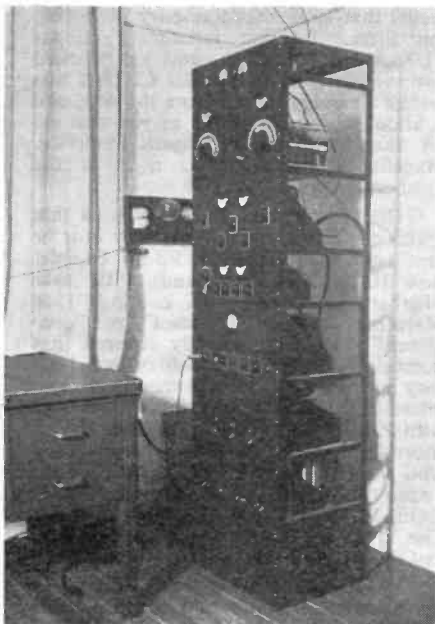
Take our own case—152 countries worked post-war, but only about 110 cards back. Do we worry? We do not. If the fellow at the other end of the contact hasn't enough common courtesy to reply to our card (usually sent direct for a first contact) then we certainly are not going to waste begging letters and air mails on him. Let him stew! And let us fill the vacant space on the wall with a card from a gentleman who *did* QSL. We ourselves don't originate cards for anything but first contacts with new countries; but when cards arrive, we *do* reply—and the same day, whether they are SWL reports or confirmations of a QSO. But as for chasing a card out of some tripe-hound who says he will QSL but obviously has no intention of doing so . . . Not Pygmalion Likely!

So we cannot produce our cards from 40 Zones; and we probably never will. But we know we've worked them, and if the other chap doesn't happen to believe us—well, that's just too bad, but it doesn't hurt us one little bit.

News From Zone 23

Talking of the Zones, a bit of bad news. CQ, after exhaustive enquiries and research, has ruled that C6HH is *not* in Zone 23. So those who are claiming Zone 23 on the strength of C6HH alone

* Under considerable pressure!—Ed.



ON4AD, Ghent, Belgium, runs this nice-looking outfit on 3.5, 7, 14 and 28 mc. The PA is an 813, modulated by four 807's in parallel push-pull. The receiver is an HRO. Everything on the transmitter side—VFO, driver, PA, speech amplifier, modulator and power packs—is carried on the rack assembly.

must amend their scores next time and come down one peg. Several of us, of course, have worked C8YR, who is in Zone 23, but we hear, through C7LK, W2IOP and G2PL that C8YR has packed up Amateur Radio and does not intend to send any QSL's. So Zone 23 is limited in future to C8KY and AC4YN, the only stations known to be at all active in that Zone. Please amend your own claims next month if C6HH was counted as Zone 23—he isn't (in spite of what we may think).

The Month's DX

There has not been very much country-chasing going on this month. Conditions have not been terribly good, especially on 28 mc, and though DX of some sort has been possible all the time, there has been no great excitement. We must, however, admit to being party to a small piece of chase ourselves! On December 4, hearing VQ1HJP calling "CQ G," we pounced, and got him. It was, of course, our friend VQ3HJP, but in Zanzibar with a portable. He was packing up shortly after our QSO, and we have heard since that no other G

made a QSO. (Arabackle says he wonders if he'll QSL; and we've turned him out of the shack for that inane remark.)

G2PL (Wallington) collected UA3BD/UP2 on 7 mc for a nice new one; then he spent one early morning on 3.5 mc, where he worked VE1RF, W1BGW, W2CAY, NY4CM and ZL4GA. An excellent bag for 80 metres, too; but 'PL can't get up a permanent aerial for the band, and the temporary one takes 1½ hours to erect.

A. MacDonald (Kilmarnock) sends in an interesting piece of news about LU1ZA in the South Orkney Islands. He is, apparently, one of the "Met" staff posted on the islands by Argentina, who are said to send in a diplomatic note each year to our Foreign Office reaffirming their claim to the Falkland Islands Dependencies! (VP8AD, you will remember, is on South Georgia—another one of the Dependencies.)

G8IP (Hampton) tells us that ZS6NU is another one in Bechuanaland, and therefore worth looking out for. 'IP has also worked VQ8AZ in Mauritius, so it

seems that some more activity is stirring out there. Another interesting one is CE7AA. G5MR (Felpham) has worked him, and it reminds us that CE7AA was on the air many years before the war, and is about as far from here as you can get on the mainland of South America. Magellanes, his QTH, is right at the southernmost tip of Chile.

G3BI (Seer Green, Bucks) tells us that QSL's for all Guam stations may now be sent to Guam Amateur Radio League, Box 100, Marianas Islands. 'BI asks whether scores in the coming 1948 Marathon will be "claimed" or "confirmed"; we have already covered that question! G3AHX (Oswestry) has been very active on 28 mc, and mentions some interesting QSO's. One was a three-way with ZL3JO and G4QL (Portsmouth) on short-skip. Another was with J9ABK, who wants 6-metre checks as well. Then come KG6AD, KG6AF, KG6BT, KG6AW/VK9, CR9AG and VP6CDI. The latter is, of course, our old friend, ex-G2CDI, and still uses 25 watts.

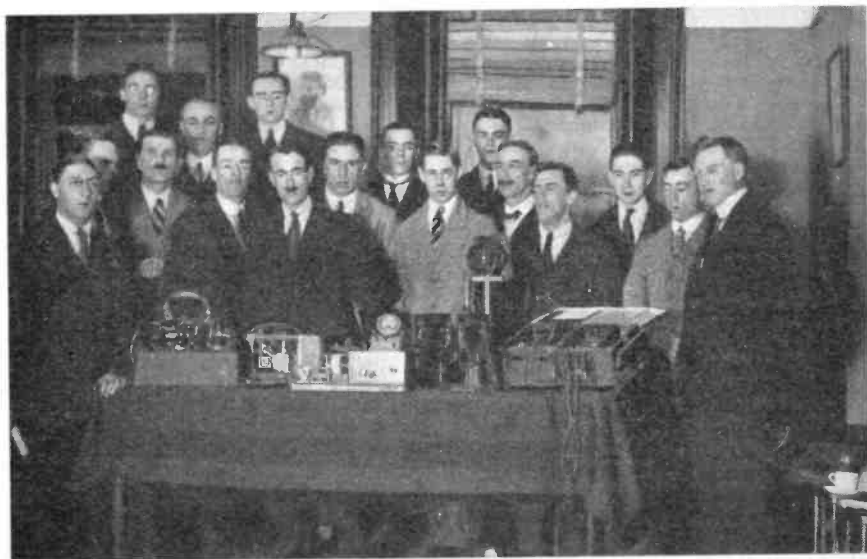
G2AHL (Reading) claims the first G QSO with Pakistan—he worked VU2BJ on 28 mc 'phone on August 18. VU2BJ started at Mhow (where G2AHL operated as VU2AD) but is now at Rawalpindi.

Those Commercials Again

G2SA (Burnham-on-Crouch) complains bitterly of the commercials on the LF end of 14 mc. He says: "Two mornings ago there were six of them chirruping away, and from the stuff they were sending I suspect some of them to be Service stations. With three parts of the band taken up by 'phone and the remainder peppered with these gentry, the poor CW fan has a thin time." 'SA says he still prefers brass-pounding to the inane chatter which passes for amateur QSO's nowadays, and managed to snaffle VR5PL the other morning. He would like the full QTH, by the way.

G6PJ (Sheffield) regrets being off the air for a few days owing to a chill. (We have noticed a surprising number of people who manage to get *on* the air for a few days for the same reason!) 'PJ has worked UAØKQA, G5UB/MM (Tahiti), I6ZJ and VS1CE—the latter three all G's away from home. (Later he adds G2FDF/YI—yet another one!) And can anyone give him a clue about P3AS, T7 on 14 mc and a fist like a jellyfish?

G3ACC (London, S.E.22) proudly stakes a claim to the WAZ List. To appreciate that this is unique you have to know that G3ACC is the only YL to



G2LP, Tolworth, sent us this real old-timer one. Taken at the end of the 1914-18 war, it shows the boys with some of the ex-Govt. surplus of those days! As we should very much like to key this group, would those who appear in it please identify themselves to us, with a short personal story, giving also any information they can about others in the picture.

appear in the list as yet—hearty congratulations to her. She would like an ingenious amateur to solve her problem of how to keep track of the cooking while detained in the shack by a particularly pretty bit of DX. The casualties so far from this cause are two enamel saucepans, two aluminium ones and a number of burnt-offerings. But, as she says, “What would you do, chum, if you heard C6TW calling CQ and you’d put the potatoes on a high gas?” We gladly offer a prize of one small kippered herring for the best solution.

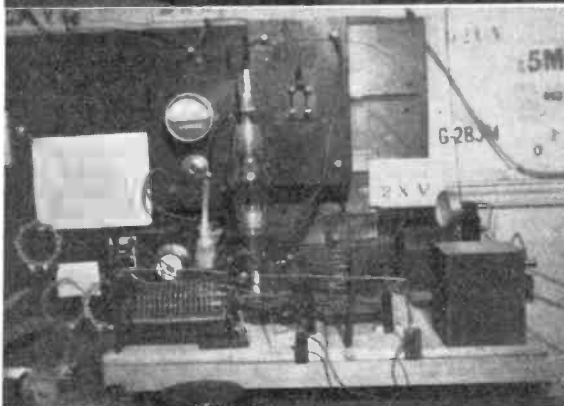
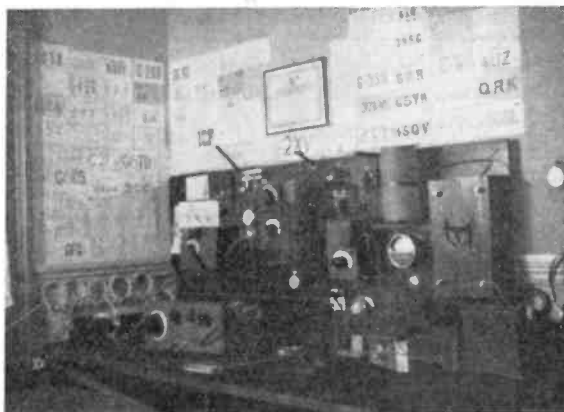
G2ANP (Morecambe), on the subject of band-planning, makes the excellent suggestion that those ‘phone operators who believe in keeping to the HF ends of the bands should refuse to work stations in the LF ends—a sort of FOC for ‘phone operators, he says.

G6BW (Churchill, Som.) is still going strong on 28 mc ‘phone, and has worked, among others, CR9AG, KV4AB, KW6AC, C1CH, ZD4AL and ZD4AB. He had found “scatterback” conditions prevalent, with G’s all over the country audible in the mornings.

G3CNM (Cheadle Hulme) has gone in for a folded dipole and has raised KP4FH, KL7KV, KL7UM, KH6BN, OX3AN, ZS6GL, ZS5FA, VQ3ALT, ZD4AL and a bunch of ZL’s. ‘CNM has only worked 20Z and 34C—but he has been on the air but a few weeks, and did all the above with one crystal on 14,110 kc. He’s still gunning for UAØSG in Zone 18.

G6FU (Surbiton) forwards a QSL from a German National with a D4 call-sign and full address on the card; so presumably *some* of them are being licensed, after all. G8KU (Scarborough) says HZ2BN is definitely a phoney, as his card, sent to the full QTH given, has been returned marked “unknown.”

G8KS (Manchester) raised KM6AA on



An interesting OT photograph—G2XV, Cambridge, in 1925. Still as active as ever to-day, his signal will be well-known to many operators of a younger generation. Some of those old G cards take us back a bit, too!

14,128 kc (2140 GMT). KM6AA will not work stations within 5 kc of his own frequency—sensible fellow.

G2AKQ (Ringwood) has been on a business trip to South Africa, delivering QSL’s to stations worked *en route*! He is running 150 watts to an 813, and finds that stations which used to ignore him now take some notice.

News from Overseas

An unusually large mail from overseas this month includes a number of very interesting letters. MD5AK (Suez Canal Zone) is on CW and ‘phone on 14, 28 and 58 mc, and breaks into the WAZ list again with 36 and 118. He is using 50 watts to P/P 807’s now.

ZONES WORKED LISTING

Station	Zones	Countries
'Phone and CW		
G2PL	40	185
G6ZO	40	180
G5DQ	40	160
G8KP	40	156
G6QB	40	152
G5YV	40	151
G2AJ	40	151
G2WW	40	147
G6BQ	40	144
G3AAM	40	126
G5VU	40	124
D2KW	39	147
G3DO	39	142
G3FJ	39	139
ON4JW	39	136
G5RV	39	132
G2VD	39	132
G2FSR	39	130
G3AAK	39	122
G8RL	39	120
G3QD	39	116
G3TK	39	114
MD1D	39	110
G6PJ	39	76
G8IL	38	131
G6LX	38	126
GW3AX	38	123
G5CI	38	115
G8IP	38	105
G3BI	38	75
G4CP	37	117
G5MR	37	100
G3AAE	37	99
SV1RX	36	119
MD5AK	36	118
G2AKQ	36	116
G2CNN	36	114
G2AO	36	100
GW4CX	36	92
GM2AAT	36	75
G8VR	35	100
G2AVP	35	89
G8RC	35	78
G8KU	34	96
G6XX	34	89
G8VG	33	78
G3BFC	33	77
G3AGN	32	74
G5OQ	31	78
G6BB	31	74
G3ACC	30	83
G2HFC	30	81
GM3AVA	30	80
G5WC	30	77
G2VV	30	76
'Phone only		
G6LX	37	124
G2AJ	37	121
G3DO	37	114
G2PL	36	128
G6BW	36	119
G5YV	36	106
G6WX	36	105
G3FJ	35	115
GM2UU	35	107
G8QX	33	100

D2KW (Hamburg) is still looking for Zone 23, but doing plenty of DX. He tells us that a D2 Hamfest was held in Hanover during December, and that facilities are now available for D2's to qualify for their "G" call-signs while still in Germany.

MD1D (El Adem) has been knocking off some nice DX, including KP6AB, KL7AT and UAØKQA; he is held at 39 Zones for want of a Mexican. KL7's are a rarity down there, he says; probably too hot for them! Nice list of Calls Heard he sends, too.

Dr. F. G. Elvins has been allotted the call ST2GE—full QTH in list. F/L E. J. Regan, also in Khartoum, hopes to be on 28 mc by January, and tells us that ST2JF, 2AM and 2MP are very active. An interesting point from the latter is that he says the G's hold their own with the D4's on a tenth of the power or less!

Peter Keller (ZC6JZ now, instead of ZC6DZ), sends a lot of news from Palestine. He is Vice-President of the 1st Infantry Division Amateur Radio Society, which looks like a most flourishing concern, with its own headquarters and QSL Bureau. ZC6JZ makes it clear that the *only* licensed amateurs in Palestine have calls beginning with ZC6J or ZC6N. For security reasons they are forbidden to give their locations over the air, and all QSL's in both directions must go *via* "X" Branch Signals, HQ Palestine, British Forces in Palestine. 'JZ sends a list of the names of 18 amateurs in ZC6.

Jules Elias (ON4JW) stakes a claim to 39Z and 136C, and wishes all readers a Happy New Year. Thanks, 'JW, and best wishes to you and all the ON4's.

SV1RX (Athens) supplies the best story of the month. He worked UAØKAA and asked him which Zone he was in, to receive the reply "The Frigid Zone"! SV1RX has piled up 36Z and 119C and puts out a beautiful signal on 28 mc, both 'phone and CW.

Another old friend, Alois Weirauch of OK1AW, wishes all readers a Happy New Year and sends a little Calls Heard list for 1-7 mc.

G2FDF/YI (Baghdad) is on the air in the mornings only, now signing YI2AM, and has worked a number of G's. He has put up a Windom and is so getting not rather better. He asks that cards should *not* be sent direct, but only through the Bureaux.

Band-Planning

We have had many, many letters

suggesting that band-planning *must* be put into force, and quickly, and it is significant that most of the writers really want some band-cleaning as well. A few quotations from various letters at random show the sort of thing that is getting under people's skins: "Dozens of burbling 'phone addicts shouting each other down on full power' . . . "Appelle generale on a wobbly T6 carrier" . . . "One 'phone saying 'Well, I can't think of any more to say, so I'd better turn it over to you', on 7 mc with the DX rolling in underneath him" . . . "Heard him CQ 30 times, sign 15 times and start CQ-ing again. I was going to call him and remonstrate, but switched off the rig in disgust for fear of disgracing myself" . . . "Round-robins or so-called 'nets' which go on for hours should be banned. There should be a ten-minute limit, which would make the operators say their piece and get out of it, instead of 'er-ring' and cudgelling their brains for something else to say" . . .

Well, you see the sort of thing; we all know it, and we all (or most of us) writhe when we hear it. In other words, we are still faced with the odd 5 or 10 per cent. of amateurs who need cleaning up. The great majority, we are convinced, are well-behaved, unselfish and considerate on the air. But, as always, they tend to pass unnoticed by virtue of their good operating, and it is the evil-doers who stand out and linger in one's memory.

(No, Arabackle, we will *not* publish a black list; we've told you that before.) But we can all act; and for goodness' sake call some of these types and tell them what you think of them. And send them



The Perfect Operator

DX QTH'S

CP5EP	Walter Lanz, Casilla 647, Cochabamba, Bolivia.
FT4AO	Henri Devaux, La Marsa, Tunis.
HR1CE	c/o US Consulate, Tegucigalpa, Honduras.
J2AAY	APO 704, c/o PM, San Francisco, Calif.
J8ASC	76 Signal Service Bn., APO 235, c/o PM, San Francisco.
J9ANT	APO 239, c/o PM, San Francisco.
KG6AD	Box 100, APO 234, c/o PM, San Francisco.
KX6AF	Via Navy 824, Fleet PO, San Francisco.
MD2B	Tripolitania Signals Squadron, Tripoli, North Africa.
MD2D	c/o BOAC, Tripoli.
MD7RJ	REME, c/o APO, Cyprus.
OX3GC	APO 858, c/o PM, New York City.
OX3MC	
ST2GE	Dr. F. G. Elvins, c/o Sudan Medical Service, Khartoum.
VE8MB	c/o Arctic Section, American Weather Bureau, Washington, D.C. (Station on Cornwallis Island.)
SUIJM	c/o TWA Communications Dept., Farouk Airport, Cairo.
VP9E	C. Holmes, Box 11, Mangrove Bay, Bermuda.
VU2AU	c/o Asst. Supt. Powell, East India Railway, Moradabad, U.P.
VU2EJ	QSL via 25 Knighton Grange Road, Leicester.
VU2GI	QSL via G3BYH, 4 Woodville Avenue, Scarborough. (Station at Karachi, Pakistan.)
XZ2PQ	208 W/T Troop, Burma Command Sigs., Rangoon.

a card—but don't be rude, at least, not too rude.

G8JC (Droitwich) has been working on the 7 mc band with 9 watts or less, and, as he says, "Given a clear channel, with this QRP I have had many pleasant QSO's with average reports of 579x." The point of this is that he urges that we should start a campaign for the use of QRP for local and semi-local work. If all the G's working each other reduced their powers to 10 watts, we doubt whether there would be the slightest loss of readability anywhere; probably an in-

crease as the general QRM level dropped. And even if you're keen on DX, QRP will do it—G8JC worked W4BKS on 7 mc with 7 watts.

Of course, in the USA it is obligatory to use the minimum power necessary to establish contact; but one is inclined to smile a wry smile on thinking that over! There should really be a condition limiting input to a fixed figure for communication over certain distances. If you want to talk 50 miles on 7 mc, look up the chart, find you're allowed 5.45 watts and adjust the PA, Modulator and Drive Unit accordingly. (Yes, you can laugh! But we might well come to that yet, and it might even be a Good Thing for Amateur Radio.)

Deadline for next month is first post on January 15. All news, claims, Calls Heard and things by then, please, at the latest; don't forget the Marathon, as we start with a clean sheet from January 1, with totals shown monthly—see p. 612, December. And, once more, Good Hunting in the New Year. 73 and BCNU.

QLS'S FOR YOU?

If your call appears in the list below, it is because our QSL Bureau wants to clear a card (or cards) held for you, and we are without your full address. Please send a stamped addressed envelope to BCM/QSL, London, W.C.1., and the cards will be forwarded on the next G clearance.

G2ATY, 2AXN, 2AYY, 2BDM, 2BJW, 2BOC, 2CCO, 2CGQ, 2DJP, 2DPP, 2FBD, 2FCS, 2FFX, 2FRL, 2HAV, 2HIL, 2HN, 2IU, 2JT, 2LI, 2LK, 2ND, 2RJ, 2RN, 2TI, 2TZ, 2UB, 2UX, 2WL, 2XK, 3AAF, 3AAP, 3ADD, 3AFC, 3AGV, 3AHH, 3AIE, 3AJL, 3AKL, 3APP, 3AUS, 3AZP, 3BAN, 3BBF, 3BBJ, 3BCF, 3BDC, 3BET, 3BFN, 3BSZ, 3BZ, 3CDS, 3CEH, 3CJY, 3CKQ, 3CNK, 3CNS, 3COO, 3CPA, 3CSU, 5LW, 5MN, 5PZ, 5TU, 6FJ, 8DJ, 8OZ, 8ZZ, GD3AGC, G1SCHX, 6FB, GM3AOR, 3BGA, 3BXL, 3BXX, 3CCY, 3CEJ, 8MA, 8RJ.

G CALLS HEARD OVERSEAS

14 mc

1.7 mc

OK1AW, Mestec Kralove, Czechoslovakia.

D2IQ, G2BYF, 2HW, 3AKZ, 3CHY, 5PX, 6JB, G12DVH.

7 mc

EP3H, Stn. Persia (c/o G3LK, 13a Western Road, Hove, 2, Sussex).

G2BJX, 2DDP, 2YZ, 5DQ, 5GK, 8GC, 8WB. (December 2, 1830-1920 GMT. *Weakest*, 578, all calling CQ : Rx 0-V-1.)

MD1D, F/O D. Lockyer, R.A.F. El Adem, M.E.F.7, Libya.

CW : G2AJ, 2AO, 2CLL, 2CNN, 2DC, 2DKG, 2FXQ, 2HAO, 2HLE, 2KK, 2LC, 2LK, 2PL/A, 3ACC, 3AKF/A, 3AWP, 3BHE, 3BNJ, 3CNO, 3CNW, 3CSP, 3SR, 3TK, 4AR, 4CP, 4IC, 5CV, 5CW, 5DQ, 5JM, 5RZ, 5WI, 5YV, 5ZA, 6PJ, 6RB, 6RC, 6UC, 6UF, 6WI, 6WU, 6XT, 8AC, 8IA, 8IP, 8KG, 8KP, 8OZ, 8RQ, 8SL, GC2AWT, 2CNC, 4LI, GM2LQ, 2OY, 5IR, 5YX, 8CH, GW2CSX, 2DYW, 3ZV, 4CX, 8UH (November 1-30.)

EP3H/P (Portable in Kabir'Kuh Mountains, Central Persian 7,000 ft. a.s.l.).

CW : D2CH, D2DD, 3KWB, G2CLL, 2ABK, 2AHP, 2CNN,

2AJF, 3DT, 3BNE, 3CDK, 3HM, 3HQ, 3SR, 3AMM, 3BUU, 3YC, 3AD, 3CNM, 3BET, 3SJ, 3ADN, 3BFC, 5CI, 5OB, 5SR, 8II 8KV, 8JK, 8RQ, 8GO, G13AXI, 3BK, GM6MD, 2FXN, 2FHH, 3OR, GW3BZ. (December 7, 0730-1120 GMT. *All above RST-468, all calling CQ : Rx 0-V-1.*)

28 mc

EP3H/P (Portable in Kabir'Kuh Mountains, Central Persia, 7,000-ft. a.s.l.).

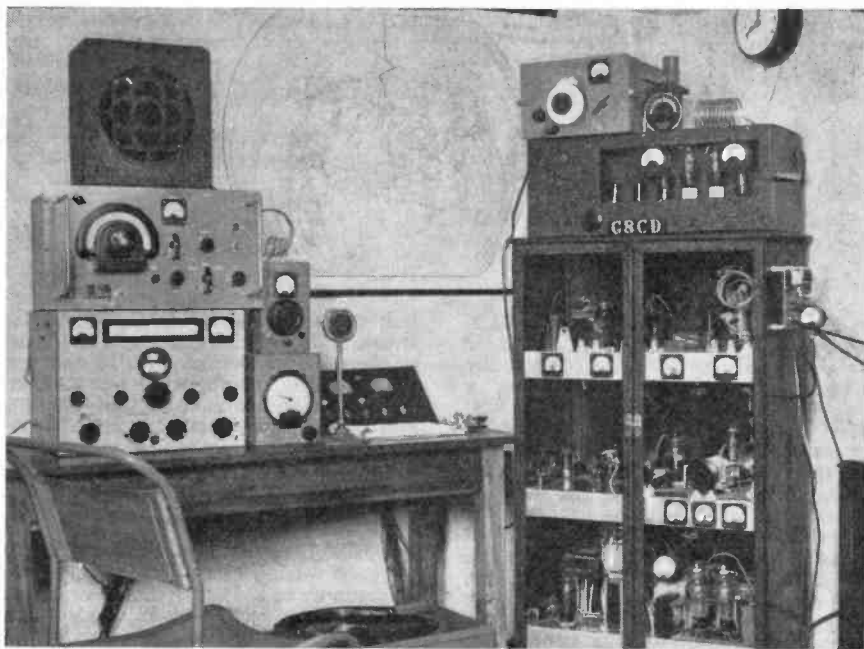
'Phone : G2FYO, 3AFI, 3DH, 5CT, 5JO, 5YU, 6WF, 6WU, 8SB. (All Q5 S8/9.)

CW : D2DY, G2BQC, 4CP, 6HC, 6PR, 6SI, 6YP, 8KP, 8OZ, GM2FHH. (All RST458 to 599. Rx 0-V-1 December 7, 1130-1200-GMT.)

THE D2 QSL BUREAU

The address for D2 QSL's is Capt. J. S. Howe, D2DS, Entries & Exits Branch, 100 HQ CCG(BE), Bad Salzufen, B.A.O.R. Our own QSL Bureau will of course forward cards direct to those D2's whose addresses we hold, an up-to-date list being received periodically from D2 headquarters.

We should like to take this small space just to, thank all those many readers who were kind enough to send us their personal good wishes for Christmas and the New Year, either by card or letter. We had a very large number of such messages and each one was very much appreciated by us all.



The other man's station G8CD

This is the very fine outfit at G8CD, S. Thaw, 6 High Croft Crescent, Almondbury, Yorkshire, who was first licenced in 1937 with the "modest 10 watts," as he puts it. Resumption of activity after the war saw a complete rebuild at G8CD.

The transmitter cabinet is 4-ft. \times 3-ft. wide \times 14-in. deep, with glass doors, finished black crackle, and fitted with polished aluminium chassis. The main transmitter can be operated on either 14 or 28 mc, with CC or VFO drive and with amplitude or frequency modulation. The VFO unit is housed in a separate compartment with the FM exciter.

The FM equipment is 6SN7-6SN7 into a 6SJ7 as reactance modulator coupled to the 6V6 VFO, the output of which is taken to the 6L6-807-813 RF section, the PA running with 1,250 volts on the plate. On 28 mc, G8CD has achieved WAC on FM 'phone, and has had very satisfactory results—the only trouble is that many operators not used to listening to FM report bad quality

because they do not know that FM speech can be resolved on an AM receiver by tuning to one of the side-bands and switching off the AVC.

The remainder of the transmitting equipment comprises a 7 mc rig using 6V6-807-T40, plate modulated with a pair of 807's in Class-B driven from a 6SJ7-6J5-6V6 speech chain.

On the aerial side, G8CD has a motor-driven 3-element 28 mc beam, with low-impedance feed, and a rotatable dipole for 14 mc carried on the same mounting but with the dipole set at right angles to the beam. The feeders are slip-ring connected and a 1/3rd-HP motor with 240:1 reduction ratio turns the whole assembly; for 7 mc operation, an ordinary doublet is used.

Receivers are a modified CR100 and a Type 1481 for the 58 mc band. With the exception of these receivers, all the equipment is home-designed and built, and G8CD is to be congratulated on a very interesting installation in conformity with modern amateur practice.

FIVE METRES

By E. J. Williams, B.Sc. (G2XC)

BEFORE starting this review of VHF conditions during the past month we should like to take the opportunity of wishing all readers of "Five Metres" a happy and prosperous 1948 with high MUF's, auroral reflections, sporadic E, temperature inversions, humidity gradients and shooting stars in abundance. At the same time our thanks for the generous support you are giving us can only be expressed very inadequately. It is of course greatly appreciated. To those whose modesty causes them to refrain from sending in details of what they are doing, we would give a word of encouragement. Were it not for the information received by us month by month from individuals this column could not have achieved the success it has over a long period; if you enjoy reading the story of what others are doing please remember that they, equally, will get something out of hearing about your activities. We are particularly wanting reports from the north to complete the monthly VHF picture.

DX Conditions

As was forecast last month, the MUF rose again around the week-end of November 22-23 and some really fine trans-Atlantic 50 mc contacts were obtained, signals being reported from all W districts except W7. We were able to listen for a short time early in the afternoon of November 22 and conditions were truly remarkable, S9 'phone and CW signals filling the band from 50 to 50.1 mc. More details will be found in the 6-metre Summary. Coincident with the good time had by the VHF amateur, television viewers had every reason to doubt the "goodness" of conditions. On the afternoons of November 20, 22 and 23 to our own knowledge the Alexandra Palace vision transmission suffered very severe interference (amounting to a complete obliteration of the picture) from an American FM station, believed to be WEFM in Chicago, and from U.S. police cars. At our own QTH 71 miles from A.P. occasional troubles are inevitable,

Good GDX Conditions—

*Six-Metre Activity
Summary—*

Five-Metre Contest—

Those 50 mc Permits!

but it is understood that this particular wipe-out was experienced over a large part of the television service area, so much so that the BBC apologised for it and indicated the source as being trans-Atlantic and outside their immediate control. At the same time, it is understood that over in the States, viewers have been enjoying the London pictures!

Some 50 mc Stations

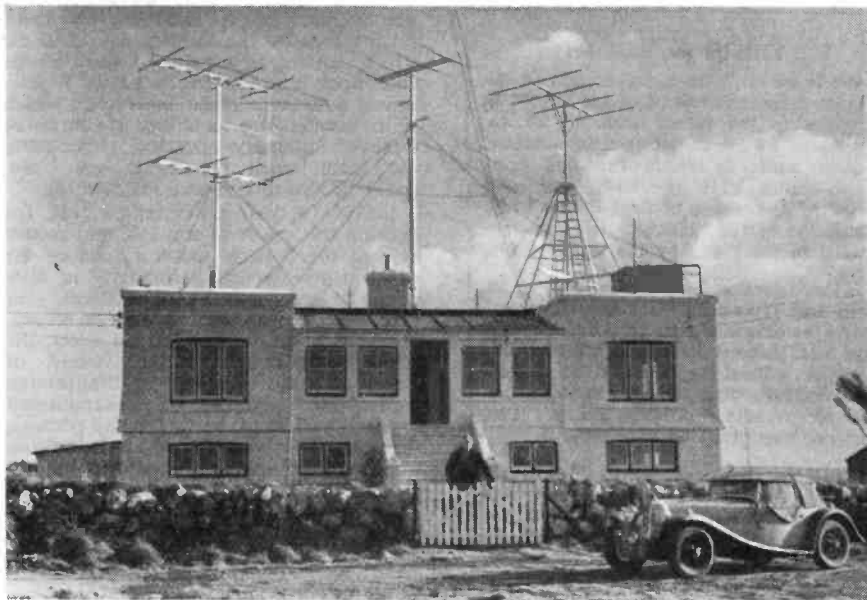
G5BM (Cheltenham) has been continuing his good work, having made contact with 16 states up to December 1. He is using a 3-element c.s. beam of $\frac{1}{2}$ in. copper tube, folded dipole feed from 80 ohm co-ax. The Tx is 6V6 ECO, 807 FD's, T40 PA with 100 watts. Rx is as on 5 m.—954 RF, EF50 mixer, 9002 osc. into HQ120X on 4 mc.

Farther to the south-west, in Devon, three stations have done outstandingly good work. G5ZT (Plymouth) had 106 50 mc QSO's up to December 4. His Tx uses 808's in push-pull, the drive being a 6L6 VFO on 12.5 followed by 807 and 808. Two converters are in use for Rx—(a) EF54 RF, EF54 mixer, EC52 osc. (b) 6AK5 RF, 6AG5 RF, 6AG5 mixer, 9001 osc. Both feed into an AR88. For aerials G5ZT has, for W and VE contacts, a 560-ft. E-W wire, fed at east end which is only 30 ft. high, while W end is 60 ft. up. For working to SU, etc., there is a 3B-element c.s. rotary 40 ft. high. G5BY

50 mc PERMIT EXTENSION

We are officially informed by the G.P.O. that the 50 mc permits already granted are extended to a date to be announced later.

(S. Devon) has, of course, continued to make the most of conditions and when he wrote us on December 18 had had 175 two-way 50 mc contacts with 98 different stations, 167 of them being with W and VE's! G2BMZ (Torquay) has also been in on events and made hay on November 23 when he succeeded in working 22 different stations in W1, 2, 3, 4, 8, 9 and VE1 and 3.



General view of the VHF beam installation at G5BY, Bolt Tail, S. Devon. Two wide-spaced 4-element 58 mc beams on left; the close-spaced 51 mc 4-element rotary at centre; an all-metal wide-spaced 50 mc beam on right; and the OM himself at the gate.

His aerial for 6 metres consisted of the lower section of the five-metre beam adapted by extending the elements with a 10-in. length of dural tubing.

While in the west country we must also mention SWL L. Boedo-Yanez (Banwell), who has sent us a very detailed log, extracts from which are in the Summary.

Up North

Two very welcome reports! GI6VU, using the RF end of an S36 as a convertor, feeding it into an Eddystone 358, reports that the 50 mc W's are audible in Belfast, while GM3OL, bemoaning the lack of a six-metre permit, has been hearing them in Dumfries.

From Europe

While the G's have been enjoying the fun there has also been activity on the Continent. In addition to the PA's, F8ZF has been active and an interesting report comes from HB9BZ, who has been busy with the experimental call HB8VD. On November 22 he called East Coast stations unsuccessfully for over two hours from 1355, but at 1625 was rewarded when WØKYF came back to him. The

following day again he could not raise the East Coast, but worked several W5's. The first HB-W 50 mc QSO was made by HB8VK (operated by HB9CD) with WICGY at 1430 on November 22. The HB8's are officially licensed for 50 mc.

In Germany signals have been heard from MD5KW, VQ2PL, W's and XS. VQ2PL was logged in Hanover on October 14. We are grateful to ex-D3KNN for this information.

On November 22 and 23 W's were also heard by OK1FF and OK1MC while OK-RP391 logged strong Russian television on 5 metres on November 16.

Home Again

G2AJ (Hendon) has W5VY as his choice piece, worked on that day of days, November 22. He also remarks that he could hear European signals from PA, HB and F on this date and a W6 so weak that he couldn't get his full call. He asks if anyone *did* copy him. Time was 1635. The Tx at G2AJ runs an 829B final and a 3-element beam 2 ft. above the ten-metre radiator.

G5MP (Hythe) reports reception of some of the 6-metre DX and raises some

THE 50 mc PERMIT

While we have no desire to add to the evident embarrassment of the RSGB in regard to the recent issue of 50 mc permits, we are constrained to comment on the matter by reason of the number of well-known VHF operators who have written us because of their failure to be included in the "official" list put forward to the GPO by the Society.

The selection was not, of course, in any way influenced by us nor, naturally, were we informed that negotiations were on foot. Indeed, as late as October 26, RSGB official representatives denied emphatically that any action to obtain 50 mc permits was being taken. The release was given on November 5.

The RSGB has chosen to offer as an excuse for the omissions that the operators concerned "had failed to furnish recent reports of their activities." The Society knew itself to be deficient of information essential for any fair allocation of permits: nevertheless, it did not hesitate to assume the responsibility of advising the authorities as to who should be given them.

In the unusual circumstances attaching to the granting of these licences, it was the plain duty of the RSGB, in the interests of all concerned, to consult every possible source time permitted. There is no obligation on the RSGB to consult us about anything. But the fact remains that for years we have devoted a great deal of space to reporting VHF activity in detail, and therefore might reasonably be expected to have up-to-date information as to who is at work on the band. Had we been asked, we could have provided in 24-hours a comprehensive list much more fairly representative of current VHF activity than the one evidently sent in by the RSGB, as all who read "Five Metres" will surely agree.

This unfortunate episode raises points of principle that are of considerable importance. It is clearly a case where a little co-operation—always on offer from our side—could have prevented a great deal of unnecessary disappointment for a number of very competent operators, as well as saving the RSGB itself some bother.

—EDITOR.

points of interest. He finds very few signals on frequencies immediately below 50 mc which can act as a guide to good 50 mc conditions and asks for details of W television and commercial harmonics which other listeners are receiving. He finds the 6-metre Summary of value, particularly the times when the band was open, enabling him to compare his own log.

G6VX (Hayes) takes us to task for making too much of the DX and record side of the 6-metre work instead of the experimental aspect, particularly in view of the limited number of the licences. Our main objective has been to place on record, in as much detail as space will allow, the latest achievements in the world of Amateur Radio. We feel sure that though many VHF operators were disappointed and annoyed at not being granted permits, there can be no ill-feeling towards those who were luckier and who were able so successfully to take advantage of that luck. However, we must agree with G6VX that it is the contribution which these operators have been able to make to the art which is the most important feature of the recent events.

On the South Coast two well-known VHF SWL's, G. Elliott (Gospirt) and P. J. Towgood (Bournemouth) have been listening on 50 mc. The former put up a vertical-J aerial, the half-wave section being a self-supporting copper rod, with a $\frac{1}{4}$ -wave 400-ohm line matching section (20 SWG spaced $\frac{1}{2}$ in.), connected to 80-ohm twin feeder. The Rx is a modified type 27 convertor into an R1155, covering 49 to 61 mc. A VR150/30 has been incorporated in the oscillator circuit. He has heard W's on several occasions. P.J.T. has not been so lucky, his only signal logged so far being G2XC!

Six-Metre Quick Ones

VK5NO has heard a weak W6, while W7BQX held J9AAO for about two minutes. W7QLZ heard DX signals up to 57.5 mc on November 4. XE1KE will be touring U.S. and may be working mobile on 50.024. W7QLZ heard G6LK on November 23 at 1005 MST working W1AEP. On November 16, MD5KW had ten QSO's (nine of them with G) in twenty-four minutes from 0905 to 0929 GMT. He worked VQ2PL as late as 2345 local time on November 12. QSO ended only when MD5KW's power was cut off!

Tropospheric Conditions—58 mc

The period under review produced a spell of good GDX conditions during the

second week of December extending into the third week. Sunday, December 14, was outstandingly good in Southern England, all signals being at an exceptionally high level. This condition persisted all day and some very good contacts were made, over the area from East Anglia to Devonshire, but little was heard from the North. Was this due to inactivity? The cause of this unusual December phenomenon was almost certainly the winter-type anti-cyclone which dominated the weather of the period. Similar weather conditions existed in October 1946, when some outstanding GDX was worked. Such an anti-cyclone produces a "gloomy" type of weather due to an extensive layer of cloud at a few thousand feet up. Above this layer is a large temperature inversion and a rapid drop in humidity, providing a reflecting layer. The condition is stable due to the temperature inversion producing a layer of low-density air which prevents the rise of the cooler moist air from below. Hence the permanent pall. However, gloomy as the weather may be, the condition is a bright one for 5-metre operators. So we must hope for similar weather in January!

Five-Metre Activity

It is a pleasure to be able to record an improvement in activity. At the time of writing this, lists of Calls Heard and reports received show upwards of 90 stations active on the band during December. On the evening of December 14 one CQ from G2XC at 1650 started a run of 17 contacts without a further call! Most of them were S9 'phone and distances up to 130 miles. For once, everyone seemed to be on to enjoy the good conditions—and there was *no* contest in progress. We've often wondered what it must feel like to be on a remote island and have all the world queue up for a contact. Well, now we know! Others who have written claiming December 14 as a super-night included SWL's Towgood and Elliott, G2AJ, G2CIW, G5IG and G5MR. Good contacts were also made on December 13 and 15.

Station Tour

In Essex G2KG (Chelmsford) and G3BTL (Southend) have made a welcome appearance. The former has abandoned all the QRM-DX and LF bands in favour of 5 metres. His Tx is VFO/Crystal on 1.8 mc, usual doublers and a 35T in the PA with 400 volts. He has two receiving line-ups—(a) 2RF—EF54 into HRO, (b) EF54, EF50 and 955 osc. into an AR88. His DX includes ON5G, F8ZF, G5BD and others, while on December 9 he thinks he heard GC2RS calling CQ! We also have a report that G3BXE was calling GC2RS this same night. Latest information is that GC2RS is preparing for 5-metre and his Tx is ready, but we are awaiting further news from him. G2KG suggests we devise a scheme whereby stations calling CQ indicate their county. The idea is good, but we doubt whether adding code letters for counties after an oblique stroke following the call sign, e.g., G9ZZ/LR for Lincolnshire, would meet with GPO approval, so can only suggest that the county be spelt out at intervals in a CQ call.

G5MA (Ashted) has had a good run on both 5 and 6 metres, and remarks on the excellent GDX signals from Oswestry and, in particular, G4JO (Torquay). Counties worked still stand at 27, with a few more yet to bring in.

G3CUA (Cambridge) is a welcome newcomer to the band. He is ex-VK2NW who has done plenty of 50 mc work, and



HB9BZ, Uster, Zurich, has a 5- and 6-metre converter into his SX-17. On the right of the receiver is the all-band transmitter, using an 815 in the final and running up to 35-40 watts on CW and 'phone

is over here for a year. His Tx runs 23 watts to an 832 and a rotary dipole. Other Cambridge signals reported include G2PU, G2XY, G3BXE and G5IG with G3BK (March) active a little farther north. G5IG is using 22 watts to a pair of QVO4/7's.

Active once again, G6LX (Croydon) has been using his portable equipment from his home QTH. The line-up is Tx : EF50 7 mc CO and quadrupler to 28 mc, QVO4-7 FD, QVO5-25 PA (12 watts) ; Rx : GGT RF, EF54 RF and ECC91 (mixer-osc.), into SX28 on 10 mc. Aerial

is 4-element c.s. beam above the 10-metre beam.

G3ABA (Rugby) has got going again from a new QTH and is looking for contacts. G2KF (Eden Bridge) has broken the long run of contacts with F8ZF, as the latter is now busy on 50 mc. G2KF has topped the 100 stations worked mark, and will be on during the Contest to add a few more !

G2AJ (Hendon), hoping to have a new Rx almost any day, says he will be putting Middlesex on the 5-metre map forthwith, and, apologising to any northern

SUMMARY OF SIX-METRE ACTIVITY

Extracts from Station Logs, overlapping November 12-16

November 12

MD5KW QSO ZS6DO, 6HS, 6JB (1550-1950), QSO VQ2PL (1955-2145).

November 13

MD5KW heard by ZS6JB (1630). G2AJ heard ZSIP.

November 14

MD5KW heard by G5BY (0955).

November 15

MD5KW heard ZS6DT (1450).

November 16

MD5KW QSO G6XM, G5WP, G5ZT, G6LK, G3MY, G5BM, G5BY and SUIHF (0905-0929). QSO VQ2PL (1925-2050). SWL Elliott heard WAHVV (1510). OK-RP391 heard Russian Television on 58 mc.

November 17

MD5KW QSO VQ2PL and ZS6JB.

November 18

MD5KW QSO VQ2PL (1850-1940).

November 20

MD5KW QSO G5BY and G5ZT (0925-1005). G5ZT and G5BM QSO W8MVG (1612). G5BY worked MD5KW, VE2KH, W1CGY, W1EYM, W8MVG, VE1QZ, VE3ANY, W1AEP and heard W1HDQ, W2AMJ (0930-1540).

November 21

G5BM QSO W1ATP, W1HDQ, W2AMJ and VE1QZ. G5BY worked VE1QZ, W1ATP, W1HDQ (1245-1620) and heard W1CGY, W2AMJ, W4HVV.

November 22

MD5KW QSO ZS6DO, 6JB (1800-1840). HB8VK QSO W2CGY, HB8VD QSO WØKYF. HB9BZ heard W1CLS, W2AMJ, W2BQK, W2BYM, W5VY, W8KQC, W9ALO, W9ZHH, W9ZHL, VE1QZ (1355-1640). OK1FF heard W5JRB, W5LV. OK1MC heard W1HDQ, W8KQC, W8ZVY. G5MA worked W1BJW. G2AJ heard all W districts except W7, also PA, F, HB and VE1: QSO W5VY. SWL Boedo-Yanez heard stations in W1, 2 and 3 and VE1 (1345-1545). G3YH heard stations in W1 and 2 and W5VY. G5ZT QSO stations in VE1, W1, 2, 3, 8 and W5ANJ, W5JLY (1326-1700). GI6VU heard W1CLS, W1GJZ, W2AMJ, W2BQK, W2BYM, W5VY (1517-1650). G5BY worked 26 W/VE stations (1252-1720) and heard five W's.

November 23

HB9BZ heard VE1QZ, W1EIO, W1GJZ, W1KHL, W2AMJ, W5AJG, W5FRD, W5LSV, W5VY, HB8VD QSO W5VY, W5JLY (1320-1635). W5VY, W5LIV, W1CLS and W2AMJ heard in Germany. GM3QL heard W1CLS, W1HDQ, W2BQK (1635 on). G5BM QSO W1, 2, 3 and 8 and W9ALU, W9HGE, W9ZHB, W9ZHL, WØIFB. G5ZT QSO stations in W1, 2, 8 and VE1 and W9HGE, WØIFB. G5MA worked VE1QZ, W1ATP, W1IN, W2IDZ. G5MP heard W1HDQ, W8KQC, W8MVG and W5VY (1540-1645). G6VX heard W's up to 1800 GMT. SWL Boedo-Yanez heard W6LVK (1718). G5BY worked 31 W/VE's (1230-1750) and heard four W's.

November 24

G5BM QSO VE1QZ, W2AMJ, W3CGV. G5ZT QSO VE1QZ, W1CGY, W1HDQ, W2AMJ. SWL Boedo-Yanez heard W1AF, W1CNB, W1HDQ, W2AMJ, VE1QZ (1348-1452). G5BY worked 21 W/VE's (1327-1745) and heard 7 W's including W6UXN.

November 26

G5BM QSO W2AMJ, heard W1HDQ and VE1QZ. G5BY worked 9 W's and heard four more (1305-1745)

November 27

G5BM QSO VE1QZ. G5ZT QSO W1HDQ, W2GYV, W9HGE and WØNFM (1610-1700). G5BY worked 22 W's and heard 10 W/VE's (1314-1725).

November 28

G5BM QSO VE1QZ. G5BY worked W1HDQ, W1LL, W1NF (1313-1625).

November 29

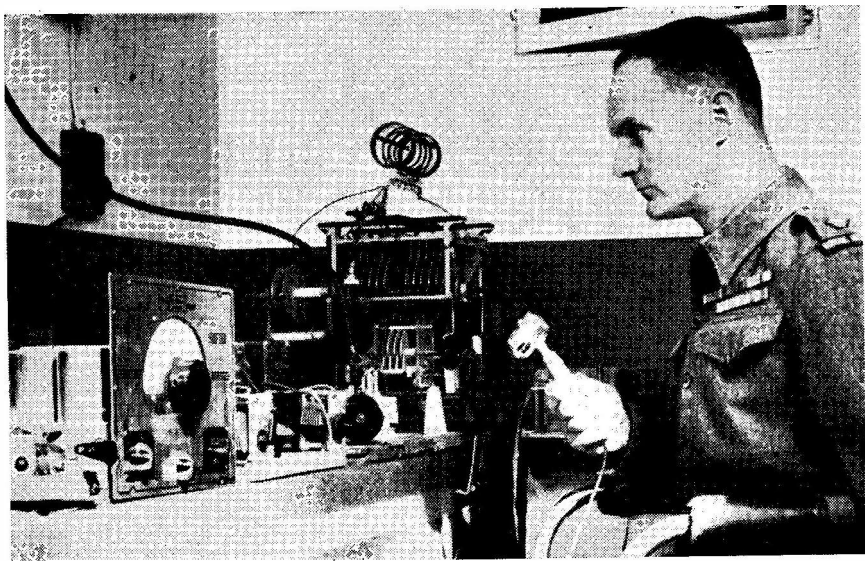
G5BM QSO W2BYM, heard W1CLS, W1HDQ. G5BY worked 10 W's (W1MUX using 3 watts input !) and heard 3 W's (1315-1445). G5ZT QSO W1CLS (1350).

November 30

G5BM QSO VE1QZ, heard W1HDQ, W3OR. G5MA worked W1HDQ. G5ZT QSO W1HDQ, W2AMJ (1330-1400). SWL Elliott heard W1HDQ (1348). G5BY worked 10 W/VE's and heard four W's (1315-1620).

December 1

G5BM QSO VE1QZ. G5BY worked VE1QZ, W2AMJ (1334-1600).



This is MD5KW, Suez Canal Zone, of 50 mc fame. To his right is the output stage of the 6/10-metre Tx, running 35 watts on 50 mc. He is on auto on 6 metres, beamed on G, during the period 0900-1100 GMT daily.

DX that has called him unsuccessfully in the past, says please call again! He has recently worked G3ZK (Halifax).

GM30L (Dumfries) is still active and asks G's to look north for him. He is there nightly and uses CW only from 2100 to 2200 GMT. This is, of course, not the best time for the far-southern stations. His Rx is an acorn RF stage coupled to the DB36 convertor and an Eddystone 504 on 10 mc. Tx uses 832 final and aerial is 4-element rotary. Only stations heard regularly are GM3BDA (Airdrie) and G3BW (Whitehaven), but he has worked Bradford and Morecambe and had an SWL report from Birmingham. He logged G4MH (QTH?) on December 6/7. G16VU (Belfast) is also active on five and asks for G's to look out for him! Won't they just!

G2ADZ (Oswestry) puts in a very useful report and had a good share of the W/VE DX on 50 mc (reception only); he also logged an unidentifiable PY!

G4LU (Oswestry) found GDX conditions excellent on November 20, with a number of new stations worked or heard.

The two Haslemere stations, G2CWL and G3VB continue busy, the latter having worked F8NW. He is using a Type 27 convertor (EF54, EF54, RL16) and finds it an improvement on his own set. G2CWL having built a new convertor, found the activity of December 13/14 very

welcome in helping him to find the band again! The convertor is similar to G2IQ's, recently described in the *Magazine*.

Amongst those working some real GDX has been G3BLP (Selsdon), who has added G5BD, G4DS/A (Derbyshire) and G3ZK (Halifax) during recent weeks. He asks where the Coventry and Birmingham stations are.

G2NM, G5PY and G6KB all request us to draw attention to the failure of many stations to search the HF portion of the band. Several London area stations are finding it increasingly difficult to work any DX operating lower than 58.6 mc due to the strong local signals now in this part of the band. The position is growing worse as more stations are driven to the LF end, because DX stations will not look for them elsewhere. Cannot we scotch this LF-end-only bogey at least on our 58 mc band? And what about using QHM, QHL when calling CQ and then searching from 60 mc downwards?

Five-metre Listeners

New correspondents include R. F. Nyddon (Taunton), who is using a modified RAF R.1481 for reception. He gives the following coil sizes for 5 metres:

RF grid	5T $\frac{1}{2}$ -in. diameter
RF anode	5T $\frac{1}{2}$ -in. diameter
Mixer grid	5T $\frac{1}{2}$ -in. diameter
Oscillator	3T $\frac{1}{2}$ -in. diameter
Aerial	2 $\frac{1}{2}$ T $\frac{1}{2}$ -in. diameter

THE SHORT WAVE MAGAZINE

Five-Metre Contest

RULES

- (1) The period of the Contest will be from 1800 hrs., Saturday, January 17, to 2330 hrs., Sunday, January 25, 1948, and from 0630 to 2330 hrs. daily.
- (2) Points will be claimed for inter-British Isles working only from the home location, using the 58.5-60 mc band.
- (3) Exchange of RST, reference number and QTH will constitute a contact. No contacts made between the hours of 2330 and 0630 the next morning will be counted into the Contest score.
- (4) Contacts may be made on either 'phone or CW, but no extra points will be allowed for 'phone QSO's as distinct from CW contacts. Under scoring Rule 6(b) a contact counts as such irrespective of whether it is made on CW or 'phone.
- (5) Each contestant will allot himself or herself a 3-figure reference number which will remain unchanged during the whole period of the Contest. This will be sent before the RST or QS report, in the following manner: 342RST569, or 342Q5S7 in the case of a 'phone contact. The reference number *must* be given with the report outwards in every counting QSO.
- (6) Scoring will be on the following basis:
 - (a) For contacts with stations up to 25 miles distant (Zone A), one point.
 - 25-50 miles (Zone B), two points.
 - 50-75 miles (Zone C), three points.
 - 75-100 miles (Zone D), five points.
 - 100-150 miles (Zone E), eight points.
 - 150-200 miles (Zone F), twelve points.
 - 200 miles (Zone G), twenty points,
plus five points for each additional ten miles.
 - (b) Zone A stations may be worked twice to count during the Contest; Zone B stations may be worked three times; Zone C stations, four times; Zone D stations, five times; Zones E, F and G may be worked once per day, 0630-2330 hrs.
 - (c) No station, in any zone, may be worked more than once in any one day.
 - (d) Each County worked in the British Isles will rank as a multiplier (own excluded). The County of London is to be regarded as a separate County.
- (7)
 - (a) Point-to-point distances may be taken off any standard map, which should be scaled at not more than twelve miles to the inch. Zone areas can then be drawn in with the contestant's station as centre.
 - (b) The check map used will be Ordnance Survey sheets in the quarter-inch series for distances up to 250 miles. Distances over 250 miles will be checked by great-circle calculation.
- (8) Receiving station operators, for whom there will be a separate listing, should determine their scores under Rules 6 (a-d) above, claiming full points for callsign, RST and QTH given in all QSO's logged. Half-points may be claimed for all CQ calls logged, but *once only* each day, 0630-2330 hrs., for a particular station. Holders of callsigns should not enter as "receiving only" stations, but check logs will be appreciated and credited.
- (9) Results should reach us, addressed E. J. Williams, c/o *The Short Wave Magazine*, 49 Victoria Street, London, S.W.1, by February 4, 1948, latest, set out as follows:
 - (a) A running log covering the period of the Contest, showing only contacts claimed to count, with time of working, reference number in, RST in, RST out, and QTH of station worked. The contestant's own reference number should be clearly marked at the top of each log sheet.
 - (b) A straight list (callsigns only) of stations worked in each Zone, with total points claimed for that Zone.
 - (c) A list of Counties worked, own excluded.
 - (d) The final total of points claimed.
 - (e) A short description of the equipment used, and notes on impressions and experiences of the Contest. Equipment photographs would be appreciated, but are not essential.

All coils 16g. tinned copper and close-spaced except osc., which is spaced to occupy 1 in. The method of RF osc. injection has been changed. In the unmodified Rx cathode injection is used, from a VR66 osc to VR65 mixer. The lead joining the two cathodes should be removed and the VR66's cathode earthed. The mixer cathode resistor must be by-passed with a suitable condenser (.0068 μ F mica is suggested). Injection is obtained by wrapping two turns of plastic covered wire round the mixer grid lead and connecting osc. grid. R.F.N. has also added a simple noise limiter in the second detector circuit. His location is far from ideal, being in a hollow with hills up to 1,000 feet around him.

SWL P. J. Towgood commends the four cathode by-pass condensers for the EF54 which G2IQ mentioned in the November *Short Wave Magazine*.

Ex-SUIVL hopes to be active soon with a G3 call in Pembrokeshire.

Farther Afield

A QSL from EP3H (U/C in Persia if you don't know!) says he is trying hard for the first EP/G 5-metre contact. He has 15 watts to a 3-element beam, looking at G, and Rx is a 3-stage (EF50) converter. The whole set-up is home-made, including IF coils and QSL's! A very noble effort, we feel, and hope that some DX contacts may soon come as a fitting reward. EP3H has heard G5BY, G8TS, HB9BZ, HB9CD and a number of I's, also ZB2A.

The Contest

The rules and other details of the second *Short Wave Magazine* 5-metre Contest appear herewith. We would like to draw attention to one or two points about the Contest. First, please note that the dates are one week later than those given in these columns last month. This is necessary in order to ensure that all interested see the rules in good time for the start of the Contest. Secondly, there is a receiving angle this time, and we do hope that the growing band of SWL's who have been sending us reports each month will support their section of the event.

We also very much hope that all participants will send in their results, irrespective of scores made, as a Contest on 58 mc is of the greatest value from the statistical and analytical point of view.

The devising of a points scoring system that is completely fair under any conditions that may prevail is an impossibility.

So we have endeavoured to produce a system which should add to the excitement by making large scores possible if conditions are good for GDX, and at the same time avoid the slowness which occurs after the first few days if conditions are bad.

G6FO and G2XC will be on to give you points for Bucks. and Hants., and we both wish you all the best of luck!

Five-Metre Party

At the suggestion of G2NM (Bosham, Sussex) a number of stations in Southern England hold a 5-metre QSO party on Sundays from 1200 to 1300; 1900 to 2000 and after 2230. It is hoped to extend this to two mid-week nights and for a start we suggest 1900 to 2000 on Tuesdays and after 2200 on Thursdays. By this means it is hoped to ensure a high degree of activity on at least a few occasions each week. It is also hoped that others farther north will join in, and we should like to commend the scheme to you. But of course we don't want to discourage activity at other times!

A further suggestion has been the possibility of running a 5-metre Marathon to stimulate and maintain activity. We have discussed this with several of our more regular contacts, and as a result, feel we would like the opinion of others before making a decision. We do not want to over-organise the band or to have just "hit and run" contacts. If those who have views one way or the other would let us have them by mid-January, we should be very grateful.

Panels and Calls Heard

The quantity of material this month has squeezed the Country, County and First Claims panels and the 14 Calls Heard lists out of this issue, but the data will be held for next time. As Calls Heard will be out of date by then we hope correspondents will not mind sending in their later results—we want to keep up Calls Heard, as these lists serve a very useful purpose on the VHF bands.

Conclusion

It had been hoped to start a general discussion on gear for 144 mc this month, but having exceeded our quota of pages for the past two issues, we have had strict orders to keep "Five Metres" to six pages this time—so the 2-metre story must wait until February. Closing date for reports for that issue will be January 19. Write to E. J. Williams (G2XC), c/o *Short Wave Magazine*, 49 Victoria Street, London, S.W.1.

FIRST CLASS OPERATORS' CLUB

PRESIDENT : GERALD MARCUSE, G2NM

HON. SECRETARY : CAPT. A. M. H. FERGUS, G2ZC

With the close of the Club's first year of post-war activity, the current membership list stands at over 100 operators, all regularly active on the various bands and all pledged to uphold the best standards of Amateur Radio. As a matter of interest, we give below the Club Register, in callsign order for ease of reference :

G2CIW, 2FIX, 2FTU, 2IO, 2NM, 2PL, 2SA, 2SO, 2VV, 2YY, 2ZC, G3AAE, 3ABG, 3ACC, 3ACK, 3AIL, 3AJO, 3AMG, 3ARM, 3ATU, 3BA, 3BLN, 3BQ, 3BQB, 3BUE, 3CAF, 3DQ, 3HS, 3JZ, 3SB, 3WP, 3VA, 3VB, 3VM, G4AU, 4DR, 4FN, 4GF, 4IF, G5IH, 5JM, 5JP, 5LC, 5LH, 5NB, 5PS, 5RV, 5SK, 5US, 5VB, 5XY, G6AX, 6FO, 6GB, 6HB, 6HD, 6JJ, 6NA, 6NM, 6PJ, 6PZ, 6QB, 6SS, 6VC, 6YR, 6ZN, G8AX, 8DV, 8JI, 8ML, 8PG, 8PX, 8QZ, 8SM, 8TP, 8UK, 8UT, 8VG, GC8NO, G15HU, 5UR, GM3AWF, 3AXR, 3NH, 6JH, 6RV, 6XI, GWSOD, 6AA, 6OK, 6SK, 6WJ, HB9AG, LA2UA, 3VA, OZ1W, 4FT, 7BO, 7T, PAØJQ, ØLU·SM7HZ, 7XV, VK3KX, 4EL, W1BUX, ZL1MR.

Committee Election

Following a ballot of all members, a Committee to serve for one year has been elected : G3JZ, G5PS, G5RV, G6JJ and G8VG. Under Rule 2, the Editor of the *Short Wave Magazine* is also a member of this Committee, *ex-officio*.

A number of by-rules have been agreed and adopted and will be circulated to the membership when obtained from the printers. In regard to Circular Letters, members are particularly asked to notify absence and to observe the new rules for sending them on. Logs for the Open Contest should be sent in to G2ZC without delay.

New Members Elected

In accordance with the Rules, the following have been elected to active membership of the First Class Operators' Club :

D. T. Boffin, G3HS (Faringdon) ; R. Askew, G8TP (Sedberg) ; T. L. Herdman, G6HD (Beckenham) ; J. F. Gomer, G3BUE (Colchester) ; R. E. Barnes, ZL1MR (Auckland, N.Z.) ; T-G Gyllenhock, SM7HZ (Bjornstorp) ; G. G. Jessup, G3AMG (Sevenoaks) ; A. F. E. Bott, G5VB (West Ewell) ; J. Wilson, GM6XI (Edinburgh) ; H. R. Twist, G3AIL (Liverpool) ; R. Barr, G15UR (Belfast) ; P. Pennell, G2PL (Wallington) ; O. Hope, LA2UA (Stavanger) ; R. Tandy, VK3KX (Colac, Victoria) ; A. H. Rawie, PAØJQ (Rotterdam) ; and G. H. Hardie, GM6JH (Linlithgow).

All correspondence regarding the F.O.C. should be addressed to the Honorary Secretary, Capt. A. M. H. Fergus, G2ZC, 89 West Street, Farnham, Surrey. (Tel. : Farnham Surrey 6067.)

THE POLISH APPEAL

During the last two months, we have been sent the originals or copies of a number of letters emanating from Poland and appealing for assistance on a "ham" to "ham" basis. All these letters are couched in similar terms, though they come from different addresses. So far as we have been able to trace, in every case they have been sent to readers of either the *Short Wave Magazine* or the *Short Wave Listener* whose addresses have appeared in print in our publications, both of which circulate in Poland.

With the best possible intentions, the English recipients of these letters have sent them to us with various suggestions that we print them in order to help Polish amateurs, that we organise a gift scheme for the benefit of the SP's, or some

similar well-meaning and entirely praiseworthy idea.

While we have no direct evidence to cast doubt on the authenticity or good faith of the Polish originators of these appeals, the fact remains that Poland is under Russian domination and is subject to rigid control. It is more than questionable, in our view, whether anything in the nature of gifts sent to Poland would ever reach the intended recipients—the SP's who suffer as a result of the spoliation of their country.

In the circumstances, we do not feel justified in organising a gift scheme or giving these appeals any further publicity. Rather, we consider it is a matter for individuals to exercise their own judgment and respond to the appeal in whatever way they think right.

Here and There

OKIRO Memorial Contest

During the period November 6-7, the OK's held their memorial event for OKIRO, on CW in the 1.7 and 3.5 mc bands. OKIRO died in German hands during the war, and his wife soon followed him. The "OKIRO Contest" is a charity for his orphaned children; the OK's pay an entry fee for the contest, the money so subscribed being given to his two little boys under the Christmas tree. It is planned to hold the contest every November till they grow up.

G District System

A summary of the correspondence received on the subject of the article by G2YS in our October, 1947, issue suggests that there is a large body of opinion generally supporting his proposals. Several Clubs have debated the idea, resulting in the holders of old-timer call signs being voted down! From one particular quarter, this is stigmatised as another triumph for the "have-nots" over the "haves". . . .

The fact is, of course, that no matter how desirable a change in our call sign system may be, the practical obstacles to putting it into effect—as a pure administrative problem for the GPO—are considerable. It is more than doubtful whether the Post Office would be able to give the extra man-hours necessary for what is, after all, not a matter of vital importance even in the Amateur Radio sense.

Eddystone 640—Overseas Competition

With further reference to the announcement on p. 615 of our last issue, will overseas readers please note that the manufacturers of the Eddystone 640 have instituted a separate essay contest, also with a "640" as prize, for those resident outside the United Kingdom?

The closing date for the *overseas* competition is April 30. Write Stratton & Co., Ltd., Eddystone Works, Alvechurch Road, West Heath, Birmingham, 31, for full particulars and an entry form.

Crystal Exchange

Those wishing to *exchange* crystals are invited to let us have details in the form as given here, headed "Crystal Exchange

—Free Insertion". Buy or Sell notices can *not* be accepted for this space, and all negotiations should be conducted direct.

G2ACK, 22 Arundel Road, Eastbourne, Sussex.
Has 7020, 7133, 7142 and 7234 kc crystals mounted. Wants frequencies between 7080-7120 kc.

G3CEM, 49 Warkworth Street, Lemington, nr. Newcastle, Northumberland.
Has experimental 500 kc crystal. Wants 100/1000 kc bar for Class D, Mk. II, Wavemeter.

G3CNU, 66 High Street, Broadstairs, Kent.
Has 7034.5 kc crystal. Wants frequency between 7340-7400 kc.

GW3CVC, Fairmount, Grosvenor Road, Llandrindod Wells, Rads.
Has 1000 kc crystal. Wants frequency in 1.7 mc band.

G6BB, 35 Criffell Avenue, Streatham Hill, London, S.W.2.
Has 9355 kc crystal (trebler to 28065 kc). Wants frequency 7045 kc or near.

G6QC, 24 Brand Hill, Woodhouse Eaves, Loughborough, Leics.
Has Biley HF2 14542 kc crystal in holder
Wants good 1800-1900 kc crystal in holder.

Price Correction

We are asked to say that the price which has been quoted in recent advertisements for Brown's Type "K" moving-coil headsets is not correct. The figure should be £5 5s.

The "Hambander"

This is the latest addition to the Radiovision line of amateur-band equipment. On its specification and at its price, it will be a very attractive proposition to the amateur requiring a receiver designed for our communication frequencies. We are informed by Messrs. Radiovision that this receiver is *not* subject to purchase tax.

A production model has recently been sent us for review, and the first full Test Report on the "Hambander" will be appearing in the next issue of the *Short Wave Magazine*.

Amateur Radio Exhibition

This show, sponsored by the RSGB and organised by Parrs Advertising, Ltd., was a great success, and much credit is due to all those responsible for an event of great importance in the Amateur Radio world. The trade exhibits were very impressive and ample proof of the high quality of the equipment now offered to the British amateur.

NEW QTH's

This space is available for the publication of the addresses of all holders of new call signs, or changes of address of transmitters already licensed. All addresses published here are automatically included in the quarterly issue of the Call Book in preparation. QTH's are inserted as they are received, up to the limit of the space allowance. Please write clearly and address on a separate slip to QTH Section.

D2IA	Sgmn. J. S. McCaig (GM3BQA), "F" Troop Signals, Attd. 5th R.H.A., BAOR 10.	G3CIW	J. W. Underwood, 67 Brixham Crescent, Ruislip, Middx.
D2JQ	L/Cpl. C. J. Baker, 2392287, No. 1 Wireless Regt., R. Sigs., BAOR 3.	G3CMP	C. M. White, 154 Vale Road, Windsor, Berks.
G2AD	J. F. Cullen, 12 Grant Road, Liverpool 14?	G3CNF	J. H. Hurd, 32 Eagle Lane, Snaresbrook, London, E.11.
G2ANP	W. Faulkner, 227 Marine Road, Morecambe, Lancs.	G3CPJ	L. Rivett, 115 Church Road, Stotford, Beds.
G2ANX	R. S. Robinson, The Gables, 16 River Bank, East Molesey, Surrey.	G3CQE	W. M. Brennan, 15 Arthurs Terrace, Courtney Street, Hull, E. Yorks.
G2AUZ	O. H. Owen, Fernleigh, Llyncllys, near Oswestry, Salop.	G3CQL	P. F. Clarke, 29 Station Road, Leigh-on-Sea, Essex.
G2BN	Lt.-Col. L. N. Stephens, O.B.E., 28 Lingfield Avenue, Kingston-on-Thames, Surrey.	G3CQU	K. G. Raffield, 19 Tollers Lane, Old Coulsdon, Surrey.
G2CBC	W. E. G. Smith, Broden, Whittlesey Road, Farcot, Peterborough, Northants.	G3CTP	J. W. Swift, 36 Sycamore Grove, New Malden, Surrey.
G2CKQ	Maj. R. S. Trevelyan, Fairfield, Winscombe, Somerset.	G3CUX	Lt. P. Davie, R.N. (<i>ex-J44AS</i>), Falkeners, Liphook, Hants.
G2CWL	C. K. Haswell, 22 Rack Field, Woolmer Hill, Haslemere, Surrey.	GW3CVC	R. Jarvis, Fairmount, Grosvenor Road, Llandrindod Wells, Radnor.
GW2FKW	98 Wern Road, Clydach Vale, Rhondda, Glam.	G13CVH	W. G. Snodgrass, Esky P.E.S., near Lurgan, Co. Armagh.
GW2FOF	G. Williams, Somerset House, Brook Street, Williamstown, Rhondda, Glam.	G3CVO	M. Barlow, Cheyne Cottage, Dukes Wood Drive, Gerrards Cross, Bucks.
G2NJ	W. Carter, 34 West Parade, Peterborough, Northants.	G3CVP	W. A. Griffith, 138 Withington Road, Whalley Range, Manchester.
G3ABA	L. J. Kennard, 84 Dudley Street, Bell Green, Coventry.	G3CWC	E. C. Lark, Queens Head, Thurilton, near Haddiscoe, Norwich.
G3AJD/A	T. Moore, B.Sc.(Eng.), The Gables, Ridgebourne Road, Radbrook, Shrewsbury, Salop.	G3CWE	F. A. Horridge, Langley Farm, Leafield, Oxford.
G3AXF	E. C. Brown, 48 Matcham Road, Leytonstone, London, E.11.	G3CXC	A. Burke, 14a St. Johns Park Mansions, Pemberton Gardens, London, N.19.
G3BAC	R. A. Bastow, 51 Chaworth Road, West Bridgford, Notts.	G3CXJ	R. Davies, 2 Winterhill Road, Cosham, Portsmouth, Hants.
G3BHD	R. H. Whitley, 136 Lincoln Road, Peterborough, Northants.	G5UP	J. W. Robinson, Mayfield, High West-house, Carnforth, Lancs.
G3BPE	R. G. Holland, 35 Bladinton Drive, Blendon, Bexley, Kent.	CHANGES OF ADDRESS	
G3BPO	C. Humberstone, Hainton House, Brans-ton, Lincoln.	G2BYK	J. C. Payne, Hillcrest Cottage, Welton, Daventry, Northants.
G3BPP	C. R. Hampton, 10 West Terrace, North Ormesby, Middlesbrough, Yorks.	GM2DBX	J. Taylor, The Pharmacy, Methilhill, Leven, Fife.
G3BRN	T. H. Shuffebotham, B.E.M., 122 North Street, Stoke-on-Trent, Staffs.	G2MN	M. P. Nicholson, Kingswear, 30 Mayland Road, Bedhampton, Hants.
G3BXZ	J. T. Parker, 9 Cheltenham Road, Broadway, Worcs.	G2UA	D. J. George, 18 Brinsley Road, Wealdstone, Middx.
G3CBT	H. D. Smith, 3 Temple Terrace, Catherine Street, Whitehaven, Cumberland.	G3AMK	B. Littleproud, 32 Gloucester Avenue, Gorleston-on-Sea, Norfolk.
G3CBU	P. J. Sterry, 40 Westfield Road, Barnehurst, Bexleyheath, Kent.	G3BOC	H. M. Synge, Ardwyn, Border Road, Heswall, Cheshire.
G3CCJ	B. A. Willis, 34 High Park Avenue, Hove, Sussex.	G3CEM	N. F. J. Schembri, 49 Warkworth Street, Lemington, Newcastle, Northumberland.
G3CCO	D. A. V. Williams (<i>ex-J2VW</i>), Old Swinford Rectory, Stourbridge, Worcs.	GW6AA	D. Mitchell, P.O. Box 4, Colwyn Bay, North Wales. (<i>Station at Rhos-on-Sea.</i>)
GM3CFS	J. M. Robson, 41 Ormonde Avenue, Muirend, Glasgow, S.4.	G6BS	B. M. Scudamore, 96 Hinton Way, Great Shelford, Cambridge.
G3CGZ	D. C. Evans, B.Sc., 42 Valley Hill, Loughton, Essex.	GW8BW	F. Hamer, 7 Neath Road Bungalows, Rhigos, Aberdare, S. Wales.
		G8RH	F/L J. A. Jagger, Basking Ridge, Chapel-en-le-Frith, via Stockport, Cheshire.

THE MONTH WITH THE CLUBS

THE MAGAZINE 1.7 mc CLUB CONTEST

Once more during November, 1947, the 1.7 mc band resounded to the call of "CQ MCC", and most of the twenty-three Clubs who entered for the Contest took the air. This time, however, not all of them stayed the course, and entries received by the last qualifying date totalled only 14, plus a check log from GM3AR, where a "technical hitch" had occurred!

Here are the three top scorers:

- 1st: West Cornwall Radio Club, G2JL (1253).
- 2nd: Warrington Radio Society, G3CKR/A (1168).
- 3rd: Coventry Amateur Radio Society, G2YS (1120).

These were the only three clubs to top the thousand, and all three will be congratulated on what is a very fine effort indeed. It is rather remarkable that the winner's score is within *one point* of last year's winning total, when G2YS came in first with 1254!

"Zones" Worked

A total of ten "zones" were on the air and, so to speak, available during the Contest. These were G, GC, GD, GI, GM, GW, OK, OZ, LA and D. No station worked more than eight out of these ten. The winner, G2JL, worked all except GD, LA and D; Warrington, G2CKR/A, worked all except GC and LA, whereas Coventry, G2YS, worked all except GC and GD. The new scoring system, whereby a given station could be worked once only, met with the approval of all clubs except two, and, curiously enough, it does not appear to have reduced the general level of scores, which bear a surprising resemblance to those of last year.

The Leading Stations

The winning station at Penzance was operated mainly by Bob Allbright (G2JL), with assistance from D. J. Beattie (G2WW). The petrol situation was responsible for this, as other possible operators were unable to get out to the station to take their turn! The operators who did so well under difficulties attribute their success to a 270-foot centre-fed aerial, V-shaped, with the legs separated by about 140 degrees, situated on sloping ground within 100 yards of the sea. This same aerial was used for reception, and

brought in signals quite inaudible on the same receiver with an untuned aerial.

Warrington, the runners-up, used two aerials with switching for directivity; G3CKR/A was operated throughout the entire Contest by G3AAB, to whom lots of credit is due for a fine show. Warrington remark on the high standard of operating on the band, and on the considerate behaviour of 'phone stations, some of whom take a poor view of such a long contest.

Coventry report that they found the event a gruelling test, especially during the early days, when conditions were poor. They worked all contestants but two, and also comment on the slick operation and the intelligent use of VFO's. They make the comment, however, that it was necessary to work many stations in the early hours, and that this tends to favour a "home-operated" station as against one in a Club Room. It is even suggested that future contests should not run after 2200 hours, for this reason. G2YS's aerial system, in contrast with the other two, was a 65-foot (7 mc) Windom, tuned against ground; it put the signals out surprisingly well.

Comments in Brief

Here are some remarks from the other contestants: Beaumanor say "Thor-

THE SHORT WAVE MAGAZINE CLUB CONTEST

November 15-23, 1947

ANALYSIS TABLE

Club	Call-Sign	No. of QSO's	Multi-plier	Total
1. West Cornwall	G2JL	179	7	1253
2. Warrington	G3CKR/A	146	8	1168
3. Coventry	G2YS	140	8	1120
4. Beaumanor	G3BMR	150	6	900
5. Grafton	G3AFT	165	5	825
6. Burton	G2DAN	137	6	822
7. Edgware	G3ASR/A	119	5	595
8. Midland	G2CNW	101	4	404
9. Wirral	G8BM	92	4	368
10. Stroud	G2FRG	82	3	246
11. Carlisle	G3ART	58	3	174
12. Ashton-under-Lyne	G3BND	57	2	114
13. Wanstead	G3BRX	90	1	90
14. Nottingham	G3CKV	36	2	72

oughly enjoyed every minute... Rules were a great improvement and made the contest less of a task... Signals in all parts of the U.K. were extremely good... Grafton say "What a dull event! The entire contest was lifeless and generally tame. The reason? The change of rules..." Edgware say "If the time is to be limited to 30 hours it is felt that it would be better spread over a long week-end instead of 9 days... The operators wish to record their enjoyment of the contest and thanks to the organisers".

Wirral remark "Allowing only one contact with each station was a good rule and should tend to keep scores down". (But it didn't!) Stroud thought nine days too long; Carlisle had trouble with the Loran stations above 1880 kc; Wanstead consider that with a really good receiver they might have done better; Nottingham found most signals very weak, but

And so to work again. With this are the month's reports from the Clubs. The closing date for February is January 15, first post. Address, as usual, Club Secretary, *The Short Wave Magazine*, 48 Victoria Street, London, S.W.1. And now, all good wishes for a Happy and Successful season in 1948.

London Short Wave Club.—This club, which meets in Battersea, has a steadily increasing membership; recent meetings have been devoted to progress on the Club transmitter and to "fireside talks." It is hoped that the Club licence will be forthcoming shortly.

York & District Short Wave Club.—Recent meetings, which have been well attended, have included Morse classes, Junk Sales and progressive lectures by the Chairman, G5WZ. In January the club transmitter goes on the air. New members are cordially invited.

promise to have a real ether-buster ready for the next one.

The Hi-Q Club (Giffnock), having only made five QSO's altogether, sent in a check log but not an entry. They have not yet solved the mystery, but simply found that from GM3AR they could not get out, and called hundreds of fruitless CQ's. They could hear everything that was going on, but were quite unable to join in the fun!

From our own point of view the Contest was a great success; the clubs co-operated to the full, and the logs were very well set out and gave absolutely no trouble in checking. Those clubs who did not send in their scores, in spite of having entered officially, are assumed to have met with bad luck in the same way as GM3AR. So, from your Club Secretary, many thanks for all the support, and you shall certainly have another one—probably with a novel twist to it next time.

Worthing & District Group.—

The December meeting was devoted to a Quiz and a Junk Sale, and the proceeds from the latter have substantially augmented club funds. It is hoped that a Club Room will be found shortly, and, of course, the goal is a Club Station: gear towards this is steadily increasing in quantity. Meetings, for the present, continue at Olivers Cafe, Southfarm Road, Worthing.

Grimsby Amateur Radio Society.—

Membership is growing nicely, and larger premises are being sought. Meetings are held every Thursday at 7.30 p.m., at 115 Garden Street; visitors are welcome, and the Secretary will assist in arranging visits to the shacks of local amateurs.

Birmingham and District Short Wave Society.—

The A.G.M. was held on December 1, and officers were elected: the chairman is G2BON, and the Secretary Mr. N. Shirley. From January 5 onwards, meetings will be held on alternate Mondays at 220 Moseley Road, Birmingham, 12. Items planned include talks on oscilloscopes, tips for the newly licensed amateur, and demonstrations of an all-dry portable O-V-1 and a five-metre transmitter.



Warrington, G3CKR/A, were second in the Club Contest with 1,168 points.



West Cornwall won the Club 1-7 mc Contest, leading Warrington by 85 points. The work was done by the secretary, Bob Allbright (G2JL), on left, and D. J. Beattie (G2WW), West Cornwall's president, shown on the key in this picture.

Aberdeen Amateur Radio Society.—At the A.G.M., Mr. Hugh Crawford was elected president, with Mr. D. W. Garvie as vice-president and GM3BQU re-elected as secretary. Morse classes have been started on Thursday evenings, and when the beginners have reached 8-10 w.p.m., it is proposed to hold slow practice over the air.

Coventry Amateur Radio Society.—The first meeting in the new premises featured a film on the CRT, and Mr. Brown again broke all attendance records with a talk on "Future Developments in Radio Technique." The pre-Christmas meeting gave all comers a dip in the bran tub.

An unique International Club meeting was held over the air on November 28, with the Frankford Radio Club of Philadelphia, at "the other end." Thirty members of C.A.R.S. assembled at G5PP,

G6TD and G3DJO and established contact on 28 mc with W2SAI and W2QKE, and the president, G6WX, made a speech of welcome to the Frankford members assembled at these two stations. W2SAI relayed a number of 6-metre transmissions from his side, and G5PP relayed G2YS and G5SK from the 3-5 mc band over here. C.A.R.S.'s youngest member, aged 13½, nearly stole the whole show with a neat speech, and contact was maintained for two and a half hours.

Other enterprising clubs, please note.

Oswestry & District Radio Society.—Recent meetings, in the Oswestry Technical Institute, included talks on DF and Lecher Wires. A dinner and "Get Together" is being held early in January at the Wynstey Hotel, Oswestry; YL's and XYL's will be present.

Reading & District Amateur Radio Society.—The Annual Hamfest was held in November, and a good turn-out of members, visitors and friends entertained. Technical talks were given for the men; and, for the ladies, a demonstration of "Cooking by Radio" was put on by the indefatigable Dr. Lemon, G2GL. Other recent meetings took the form of a lecture on FM, and a display of a large selection of ex-Government equipment with a discussion on the possibility of converting each exhibit to amateur use. Starting in January, meetings will be held on the second and last Saturdays of each month.

Stourbridge & District Amateur Radio Society.—On December 2 this club met in the Science Block of King Edward VI School, and a general discussion on Aerials was held. The petrol situation diminished the attendance somewhat, but the meeting was very successful,

with members giving interesting, and sometimes amusing, accounts of their own experiences.

Slade Radio Society.—At the recent A.G.M. the Chairman presented the awards for the year's series of DF Contests, and after a re-draft of the Rules had been laid before the members, Dr. W. Wilson, D.Sc., was proposed and unanimously accepted as President. The Secretary's report revealed that the membership stands at 61; during 1947 there were 22 lectures and demonstrations, two outside visits and six DF Contests. The club has now entered its 21st year, which makes it officially an Old-Timer among Clubs.

Barnet Radio Group.—The next meeting here will be held on January 17, at 7.30 p.m., at the Millicent Cafe, Lytton Road, New Barnet. It will include a Junk Sale and interested non-members will be welcomed.

Burnham & Highbridge Amateur Radio Society.—This club is now in course of formation, and it is hoped to hold an

opening meeting early in January. Interested amateurs in the Burnham area of Somerset are requested to get into touch with the Acting Hon. Secretary—name and address in panel.

Dorking & District Radio Society.—This Club started in Spring, 1947, and has now obtained a permanent HQ at 5 London Road, Dorking, where it meets every Tuesday at 7.30 p.m. A licence has been granted (call sign awaited) and the necessary gear is being built. Prospective members will be welcomed by the Secretary—QTH in panel.

Hull Group.—This club has had to give up its headquarters and has consequently had to ask the GPO to suspend its call-sign G3AMW. Monthly meetings are still being held, however, and recent subjects have been The Ionosphere and Telephone Exchange Equipment. A VHF Group is being formed, as several members are interested in the new bands. Meetings, last Wednesday of the month, at Imperial Hotel, Paragon Street, 7.30 p.m.

A radio club is about to be formed on the Bovington Airfield, Herts—open to anyone interested in radio from either the staff or the surrounding countryside. All interested are asked to get into touch with Mr. K. Turfrey, Hilltop, Bovington, Hemel Hempstead, Herts, pending the appointment of a Secretary.

Surrey Radio Contact Club.—At the December meeting G3BLP gave a talk and demonstration on Television Interference and Some Cures. Many London amateurs are finding themselves deeply involved in this subject! After the talk those present were entertained by a television programme—without interference, it is hoped. Next meeting—Blacksmiths Arms on January 13.

Bradford Amateur Radio Society.—On January 6 this club is due to visit the Bradford telephone exchange to inspect the recently installed automatic equipment. Meetings are still well supported, and three more members have recently acquired their transmitting licences.

Following are the names and addresses of the Secretaries of the Clubs whose reports appear in this issue. They will be pleased to welcome new members and to give every assistance to anyone interested.

ABERDEEN (GM3BSQ). A. D. J. Westland, GM3BQU, 17 Beaconsfield Place, Aberdeen.

BARNET. R. Walker, G6QI, 7 Potters Lane, New Barnet, Herts.

BASINGSTOKE. L. S. Adams, 16 Bramblys Drive, Basingstoke, Hants.

BIRMINGHAM. N. Shirley, 14 Manor Road, Stechford, Birmingham 9.

BRADFORD. W. S. Sykes, G2DJS, 287 Poplar Grove, Great Horton, Bradford.

BURNHAM, SOMERSET. A. D. Taylor, G8PG, PO Radio Station, Highbridge, Somerset.

COVENTRY. J. W. Swinnerton, G2YS, 118 Moor Street, Coventry.

DORKING. J. Greenwell, G3AEZ, 5 London Road, Dorking.

FARNBOROUGH. R. T. Corps, 8 Church Road, Farnborough, Hants.

GRIMSBY (G3CNX). R. F. Borrill, G3TZ, 115 Garden Street, Grimsby.

HULL. A. G. Dunn, G3PL, 79 Hayton Grove, Hull.

LONDON, S.W. R. Lisney, 4 Ongar Road, London, S.W.6.

NEATH. S. Roberts, GW4NZ, 29 Chestnut Road, Cimla, Neath, Glam.

NORTH-WEST MIDDLESEX. R. W. Ward, G3CYV, 16 School Lane, Pinner, Middx.

OSWESTRY. G. H. Banner, G3AHX, 6 Coppice Drive, Oswestry, Salop.

READING. L. A. Hensford, B.E.M., G2BHS, 30 Boston Avenue, Reading, Berks.

SLADE. C. N. Smart, 110 Woolmore Road, Erdington, Birmingham 23.

STOURBRIDGE. W. A. Higgins, G8GF, 35 John Street, Brierley Hill, Staffs.

SURREY. L. C. Blanchard, 122 St. Andrew's Road, Coulsdon, Surrey.

THAMES VALLEY. D. R. Spearing, G3JG, Thurston, Orchard Way, Esher.

WIRRAL. B. O'Brien, G2AMV, 26 Coombe Road, Irby, Heswell, Cheshire.

WORTHING. G. W. Morton, 42 Southfarm Road, Worthing, Sussex.

WOLVERHAMPTON. H. Porter, G2YM, 221 Park Road, Fallings Park, Wolverhampton.

YORK. G. W. Kelley, G5KC, 123 Kingsway West, Acomb, York.

Rae & Farnborough District Amateur Radio Society.—A new Chairman and Secretary were elected at the A.G.M. in December, together with a new committee. The club hopes to include more practical lectures and demonstrations during the coming year. The January meeting, on the 5th, is unfortunately before publication date.

Neath, Port Talbot & District Amateur Radio Club.—GW8NP and GW3ALE, both of Cardiff, came down recently to give them talks, and it is hoped to arrange joint events between the two clubs in future. Meetings are still held every other Wednesday—Dock Hotel, Briton Ferry at 7 p.m.

Wirral Amateur Radio Society.—This club's constructional contest entries were recently judged by G3BNO and G8AZ of the Merseyside Radio Society; but we are not told who won them, or with what! A successful Junk Sale was also held during December; January meetings are booked for the 7th and 21st, both 7.30 p.m. at the Y.M.C.A., Whetstone Lane, Birkenhead.

North West Middlesex Radio Club.—The A.G.M. is to be held on the last Tuesday in January; the past season has been a successful one, and a full programme is being arranged for the New Year. Meetings are held at the Oddfellows Hall, Waxwell Lane, Pinner.



G2YS (Coventry) won the Club 1-7 Contest in 1946 and came up third this time with 1,120 points. Here is the crew (left to right): F. Bowman, receiving operator; G6WH swinging the VFO; and G2YS keeping the log.

Basingstoke & District Amateur Radio Society.—This club has just been formed, with a membership of 28, including seven transmitting members. At the first meeting Dr. Lemon, of Reading, gave a demonstration of Micro-Waves. All future meetings will be held in the Assembly Rooms, Polters Lane; new members will be welcomed—see Acting Secretary's QTH in panel.

Wolverhampton Amateur Radio Society.—December activities included a lecture on Valves and CRT's by Mr. Norman, of G.E.C., and the demonstration of a relay-controlled

reproducer amplifier by G2JZ, the President. A Christmas Social was also held, and a full series of lectures has been arranged for 1948. An eight-page bulletin is produced every month.

Thames Valley Amateur Radio Transmitters' Society.—Some 50 members, wives and friends sat down to the first post-war Annual Dinner, presided over by G5LC and Mrs. Cooper. The first post-war A.G.M. is booked for January 7, Headquarters at 8 p.m., and the last technical meeting introduced a talk on Aerials by G6CJ, with demonstrations by means of a 10 cm. transmitter and receivers.

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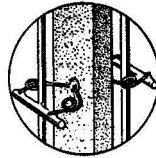
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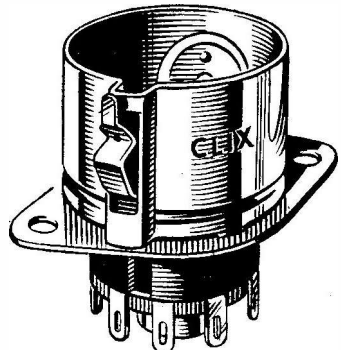
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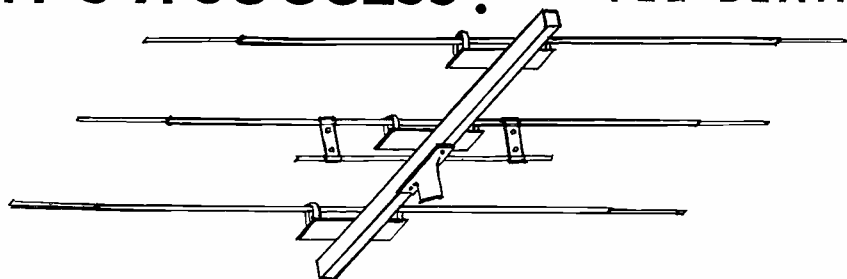
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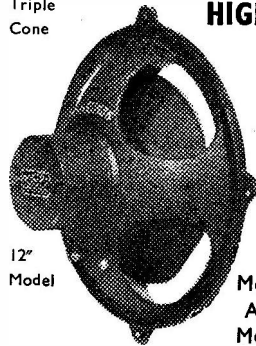
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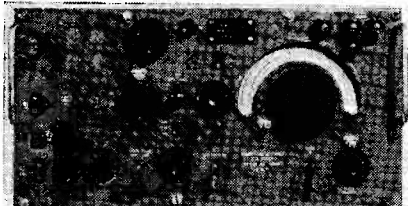
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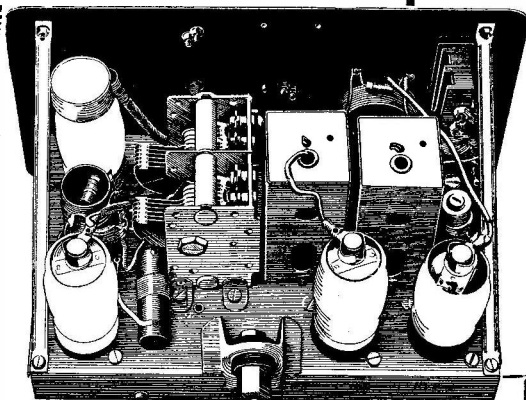
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1155 Pack, output stage, black crackle £5/5/-, 1155, £9/9/-; 1154, 40/80, £5; 20/40/80, £7; Plugs 1154/55, 3/6. Two, 5/-; Filters screened cable 1154/55, 3/6. Valves 1155, 7/-; CRC.1616, 10/-; 803, 30/-; 843, 15/-; EF50's, with ceramic holders, 5/-; R.1132, £7/7/-. Oscilloscope, 6 in Tube, 230 v., ready switch on, £20. S.A.E. List.—Box 199.

WANTED, Bug Key, state price and condition.—Gardner, G3CGE, Coniston, Parkside Avenue, Millbrook, Southampton.

CONVERTERS. A number of complete converters for Five and Ten, S.A.E. for particulars. Valves: Three 805; four ACT/6, new, offers.—G2IQ, 44 Tipton Hill Road, Sheff, 10.

TAYLOR Model 400 Microammeter 0-20, new, cost £10; Offers. Wanted, Medium-Wave Coils (size 10½ × 2½ × 44), for National HRO-M 9-Tube Receiver RCE-2.—Box No. 201.

FOR quick sale, 1155 Model A-M, Power Pack and Speaker, £19, carr. paid British Isles.—Box No. 200.

NEW Ultra Small Spy Transmitter Type 51/1. Everything listed below contained in case size 5½ in. × 4½ in. × 1½ in. Crystal oscillator, output 4 watts, two rectifiers, key, power transformer Standard Mains, Valves, 3 CV-136; Frequency 3-10-5 mc. Complete instruction manual, Aerial, Earth Wire, Less Crystal at £9/10/-. Post free or C.O.D.—Box No. 202.

WANTED—panoramic adaptor suitable for AR.88, preferably commercial job, AC mains 240.—BRS.13,583, 141 All Souls Avenue, N.W.10. (Ladbroke 3081.)

URGENTLY wanted, AR88-LF handbook, can offer AR88-D handbook or cash, please help. 50 valves for sale (mostly new) cheap, stamp for list, also other components.—Richardson, 75 Westgate, Peterborough, Northants.

CR.100 Communication Receiver, re-aligned ten days ago, the complete unit is in mint condition complete with matched speaker. An opportunity to obtain the newest CR.100 possible, £55; Buyer collects.—82 Framingham Road, Sale, Manchester.

AR Ministry Oscillator Type 37, 20-80 mc, 6 Valves, 807 Output, £15. Ultra Oscilloscope, 3 in. Tube, perfect order, £15. New Avo 7, £16/10/-. New 12 in. Goodmans PM Speaker, £5.—Welsh, 382 Brockley Road, S.E.4.

SETS Nos. 8, 70/-; 1132, £6/10/-; 1147B, 30/-; 19, vario. control unit, cables etc, £6. Valves, 808, 25/-; American Rx, 5/-. Generator 24v. in, 540 v. × 450 mA out, 35/-.—G5RO, 8 Pevensey Road, St. Leonards, Sussex.

HIGHLY successful DX Transmitter, CO-FD-PA, with valves, coils, two meters. Well made and finished. 25-40 watts. Bargain at £15. High-fidelity modulator also available. S.A.E. for details.—G2YN, The Croft, Wilton, Salisbury, Wilts.

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HALLICRAFTER SX25, excellent condition, had £8/13/- overhaul, 2 RF, 3 IF, 42 mc-500 kc, Xtal, Electrical BS, ANL, BFO, 40, or near. Eddystone 504, New, £49.—Taylor, Shoemaker, Main Road, Lake, I.o.W.

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HALLICRAFTERS Sky Champion, Perfect, 550 kc-44 mc, £27. Indicator, containing 2½ in. CRT Type 23D (2); VR56's (6); EF50's (2). £4.—G3BJQ, 45 Pychell Road, Rugby.

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TEST Equipment. For sale, Model 7 Avometer, brand new, £16/10/-. MacLachlan Probe Valve Voltmeter, assembled in case, less 0-1 mA meter, ranges AC: 1-10-50-200; DC: 5-50-250 & 1000 volts, plus instructions, £6/10/-. Weston, American Model, 772 Analyser, case modified, meter perfect, DC, 20,000 O.P.V.; AC, 1,000 O.P.V., £16/10/-.—Box No. 203.

BC-342 as new, £19. BC-312 new, £19. BC-603, new, £6. Wanted SX28 or similar.—75 Edgell Road, Winton, Bournemouth.

URGENTLY required—Senior HRO, less coils, must be in good condition.—G2CBC, Broden, Whittlesey Road, Farcet, Peterborough, Northants.

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