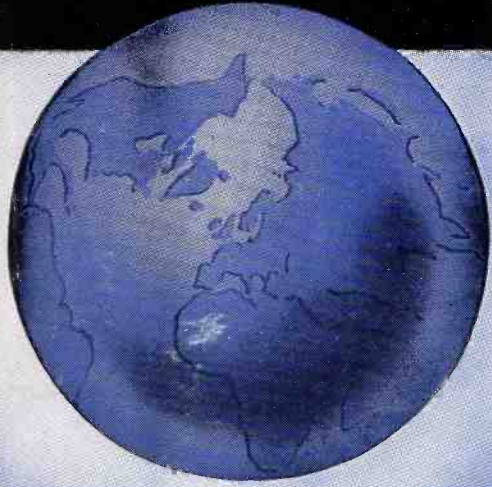


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*The*

# SHORTWAVE

*Magazine*



*Code*

EXCLUSIVELY FOR THE  
RADIO EXPERIMENTER &  
TRANSMITTING AMATEUR

VOL IX. No. 4 JUNE 1951

# H. WHITAKER G3SJ

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Phone 4924

**MICA CONDENSERS.** Sprague, R.C.A., etc. 5 Kv wkg. .006, .0008, .0004, 2/- .2Kv wkg. .0001, .0004, .005, 1/- .TCC, etc., 1000v wkg. .0047, .0095, 3/6 doz. 500v wkg. TCC .002, 2/6 doz., 15/- 100.

**MICRO WAVE FREQ. METER.** Lavoit TS127/U. Range 327/725 Meg. Accurately calibrated throughout the entire range with individual calibration charts. Modulation switch, gain control, fone jack for monitoring, 3in. 200 Microamp meter, Automatic time switch, Micrometer dial with 100 divisions to one division of the main dial. Button base valves, operates entirely all dry, Only battery required for immediate operation. In grey crackle cases 11ins x 8ins. x 8ins. with carrying handle. £7/10/0 Carr. paid. Suitable layer type batteries 90v + 1.5v available at 8/6 each.

**1154 TRANSMITTER.** Brand new and unused in original transit cases, complete with all valves. A grand bargain at £5 Carr. paid. Bire 15/- extra.

**1155 RECEIVER.** Brand new in original transit cases. Complete with all valves £10 carr. paid. A few new but slightly soiled £7/10/0.

**R.C.A. 4336 TRANSMITTER.** Frequency coverage 2 to 20 Mc continuous. 5ft. rack and panel, weight 5 cwt. Input 230v 50 cy. Line up 807 xtal Osc. driving a pair of 813's, modulated by a pair of 805's. Complete with all valves including 4 866 rectifiers, and power supply. A speech amplifier is required giving approx. 8 watts to drive the 805's, the input circuit of which is for 500 ohm line. Carr. paid, crated, in the British Isles, £60.

**SPEECH AMP. TRANSFORMER.** Suitable and specially designed for the speech amp. for the 4336 Tx. P.P. 6L6's to 500 ohm line. Primary 6600 ohm C.T. Manufactured to specification by Woden. Handle up to 20 watts of Audio, 22/6 post free.

**4336 SPARES.** A complete range of spares available for these Tx's, quotations on receipt of details.

**STURDY ELEC.** Plate trans, Input 230/50cy. Output 2200/0/2200v. at 200 mills. plus 4v. for pilot lamp. Note the price, 35/- carr. paid. 6/- extra Bire.

**PARMEKO.** Primary 100 to 250v/50cy. Output 670/0/670 at 200 mills. 5v 3 amp. 6.3v 2 amp. 42/- carr. paid.

**4336 BLEEDERS,** set of 4, 30/- Jones Plugs, 8 way & 6 way, 2/6 doz. 15/- 100.

**THERMADOR.** Plate Trans. Input 230v 50cy. Output 2280/1725/1420/0/1420/1725/2280. at 800 mills. Porcelain stand offs and completely screened. In original transit cases, brand new. Net weight 150lbs. Carr. paid £7/10/0.

**R.C.A. DRIVER TRANS.** P.P. 6L6's to 805 grids. 15/-.

**MET-VIK.** Plate transformers. Input single phase 230/50 cy. Output 19000/0/19000v at 4 1/2 Kv amp. Oil filled. 6in. stand offs. Weight 5cwt. £10 carr. paid.

**THERMADOR FIL. TRANS.** Input 230/50cy, Output 10v ct 10 amp., 10v ct 8 amp. For a pair of 813's plus a pair of 805's, completely screened, 30/- carr. paid.

**R.C.A. FIL. TRANS.** Input 190/250v 50cy. Output 10v ct twice for a pair of 813's, 25/- post free. Ditto with 105/125v primary, 15/- . These are completely screened and potted in copper plated cases.

**THERMADOR.** Driver Trans. 500 ohm line to split. Secondary 805 grids. Completely screened, potted. Ratio 1 to 1.27, 20/-.

**THERMADOR.** Mike or speech input trans. Completely screened, potted, copper cases. Primary 30 or 250 ohms ct. Secondary 50,000 ohms. Plus or minus 1db 400/4000cy. 15/-.

**MIKE OR FONE.** Standard Plug and jack, 2/6 complete.

**MODULATION TRANS.** Thermador. 400 watt. Primary 6700 ohm ct. Secondary 4500, 5000, or 5500 ohms. Plus or minus 1db 400/4000cy. 7ins. x 6ins. x 5ins. Completely screened with porcelain stand offs. 50/- in original transit cases. Woden. UM1 54/-, UM2 72/6, UM3 90/-, UM4 215/-, R.C.A. P.P. 805's to 813's 70/- . Parmeko 360 watt. for plate and screen modulation of a 813, brand new in original crates; 25/- carr. paid. BC456 replacement 1625 to 807, etc. 25 watt, 5/6.

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**XTALS.** I.F.s. A complete range 450 kc to 500 kc any spot freq., 3/4in. Ft 243 holders, by Western Elec. at 12/6 each.

**SPECIAL OFFER OF CRYSTALS.** 388.88 Kc to 416.6 Kc in 1.4 Kc steps, 501.38 kc to 512.5 kc in 1.4 Kc steps, by Weston in Ft 243 holders all at 4/- each.



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Marked tagboard for inputs of 100 - 130V and 200 - 260V., A.C. 50/60 c/s.
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- ★ **ATTENUATOR SYSTEM** ————— 7  
Employs close tolerance, high stability midget carbon resistors, low reactance rotary potentiometer modified for H.F. operation with carefully designed screening.

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Separate stops prevent turning of dial with respect to condenser.
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**RECEPTION SETS AEW.1.** These are 5 valve superhet receivers with a frequency range in 4 switched bands covering the medium wave transmissions, 550Kc-1600Kc (188-545 Metres) and short wave 6-24 Mc. (50-12.5 metres). Valve line-up:— 6U7 R.F. Ampflr., 6K8 Mxr., 6U7 I.F. Ampflr., 6Q7 2nd detec., 6V6 Output (or equiv. type valves). Power pack is incorporated requiring 6v. D.C. input for operation. The loud-speaker, a P.M. Dynamic type, is separate from the receiver housed in its own metal case. This case is 11ins. dia. with metal grille front, carrying handle at top, fitted with a 50ft. lead and weighs only 10lbs. The receiver weighs 34lbs., is 14 x 10 x 9ins. and fitted with a carrying strap. Supplied complete with valves, speaker, instruction manual including circuit diagram. Condition is new and unused and in good working order. Price £11/10/0, carriage 9/6.

**WAVEMETERS TYPE W1239.** Frequency range 39 to 51 Mc/s. Rectifier type employing 4 valves (1 each of VR92, 6J5, VI03, 6X5). The tuning control is fitted with a Muirhead slow-motion drive and all components and construction are of the very highest quality. Built to laboratory standards in copper-lined cases measuring 15½ x 9 x 10ins. For A.C. mains 200-250v. 50cps. operation. In brand new condition supplied in makers transit cases. Price £3/19/6, carriage 5/-.

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**RECEIVERS TYPE R3132.** Easily modified for Television reception. (Details in April Number of Short Wave Listener). This unit is almost identical to the R3084. We supply them fitted with 7-VR91's, 2-VR136's, 1-VU134 and 1-VR92, I.F. Ampflr. strip, etc. In good used condition. Price 49/6, carriage 5/6.

**MODULATOR UNITS TYPE 169.** Contains one each of VR91, 5U4, CV85, CV67 (Klystron) 2-Selenium rectifiers, about 330v. input for 250v. output at 30ma, tuning motor, high voltage condensers, etc. Built on neat metal chassis and housed in case 18 x 9 x 7½ins. Brand new and unused. Price 29/6, carriage 6/6.

**TELESONIC RECEIVERS.** This fitted frequency type YA4915 receiver is supplied with 4-Hivac midget valves (3-XH and 1-XP), 1.5v. heaters. Fitted in metal case 7 x 5½ x 2ins. with hinged flap giving access to battery compartment. Total weight (less batteries) 3½lbs. Seems an ideal job to convert to a midget portable or deaf-aid. Price 45/-, post 1/9.

**POWER UNIT TYPE 229.** Contain rotary converter for 24v. D.C. input with D.C. outputs of 12v. at 2A, and 300v. at 70mA., 2-stabilisers type CV45, carbon pile voltage regulator, fuses, wire-wound pot. and resistors, 8mf. electrolytics etc. Overall size 10½ x 8½ x 7ins. Price 22/6, carriage 3/6.



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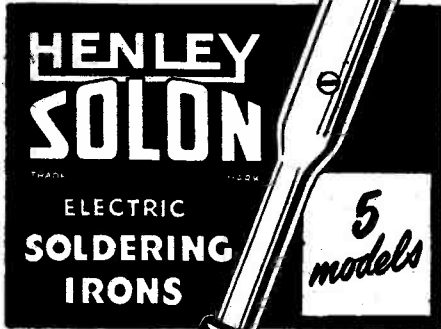
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350-0-350v 150ma., 6.3v 2a., 6.3v 2a., 5v 3a.	47/9
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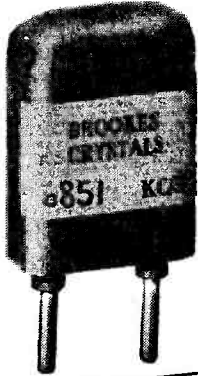
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FOR THE RADIO AMATEUR & AMATEUR RADIO

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AUTHORS' MS

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# *The* SHORT WAVE *Magazine*

FOR THE RADIO  
AMATEUR AND  
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## E D I T O R I A L

### Opinions

*From time to time, we are assailed by correspondents who object to our taking this or that line, or putting forward some view or suggestion with which they (personally) do not happen to be in agreement.*

*Now, let it be said that this is the very stuff of controversy and we are always only too glad to have readers' opinions on any matter within the vast field of Amateur Radio, even if it is not within the immediate orbit of SHORT WAVE MAGAZINE. We do not object in the very least to opinions different from those we may express, nor to attitudes which are contrary to our declared policies. It is this breadth of opinion which is likely in the end to produce the final decision, or action, or policy, most acceptable to the majority.*

*But when seizing a pen to castigate us on this or that matter of opinion, it should be borne in mind that SHORT WAVE MAGAZINE, as an independent periodical with no axe to grind in any preferred direction, has the duty to comment upon those "matters of public interest" affecting Amateur Radio in general and transmitting amateurs in particular. This consideration brings a great many controversial subjects within our range, on which all are by no means agreed. But it is only by publication of the facts and public discussion on them that the truth—or a desirable course of action—can be finally decided.*

*Austin Fobler  
G.F.O.*



---

# Improving and Modernising the 640 Receiver

## DETAILS COVERING DESIRABLE MODIFICATIONS FOR BETTER PERFORMANCE

*The Eddystone S.640 has become by far the best known and most popular of the British series of post-war communication receivers, and many thousands are in use in this country and overseas. The "640" was designed some years ago, and since then various modifications have been suggested by users, many of which have been covered in the pages of SHORT WAVE MAGAZINE. It was accordingly decided to have the receiver examined in detail for all desirable modifications that are reasonably possible—to modernise it and to improve performance and stability. The result appears below, and can be commended to all "640" users as bringing the receiver up to a high standard of efficiency on the amateur bands. It would, however, be advisable to utter the usual warning that the S.640—indeed any modern receiver—should not be interfered with in any way unless the user has the knowledge and confidence to apply the modifications. On the other hand, the information given in this article is set out so clearly that it should present no difficulty to any experienced amateur.—Editor.*

---

A FEW modifications applicable to the Eddystone "640" receiver have already appeared in these pages but, in view of the years which have passed since the set was originally designed, and also remembering that the "640" did not come into the high-priced category of amateur band communications receiver, a number of additional modifications are possible. It is not suggested that each and every one of the alterations or additions discussed here are necessary or even desirable, as much depends on individual circumstances. But what definitely can be said is that a "640" modified as described below and in proper alignment will give an extremely good account of itself on all frequencies within its range.

It is difficult to classify the modifications under headings other than major and minor. The latter will be dealt with

first and can be explained in a few words and usually without recourse to illustrations. The major type often involves the changing of one valve type for another and detailed information is necessary.

### The Simple Additions

Although the mains transformer should have a screened primary, it seems possible for some signal to enter through or be radiated from the mains leads. It has been found beneficial to add two mica condensers across the primary of the transformer, with their junction earthed to the chassis. The points of connection are not important, but the leads should be made reasonably short. The condensers, of .002  $\mu$ F, must be of 500 volt DC working and not the ordinary 250 volt rating which are liable to break down too easily under the stress of AC operation. A slight improvement has also been secured by connecting a .01  $\mu$ F mica condenser (again 500-volt rating) from the HT busbar (under the IF part of the chassis) to earth.

Readers with VHF interests who have used a converter working into a communications receiver will know about the difficulty of eliminating direct pick-up of signals at the frequency to which the receiver is tuned. Adding condensers as above helps, but complete screening of the aerial input terminals is desirable—it is surprising how much signal can be picked up on a small area of exposed metal. In the "640," the small insulating sheet mounting the aerial terminals is removed and a similar sized piece of brass or aluminium fitted in its place. To one side of this piece of metal is bolted a coaxial socket of whichever type suits the user's installation. The bus-bar from the RF (aerial) coils previously connected to the "AE" terminal is taken to chassis and the wire from the switch is connected to the centre contact of the coaxial socket. Of course, if balanced feeders are employed on any band within the range of the receiver, this modification is not possible, unless perhaps the twin

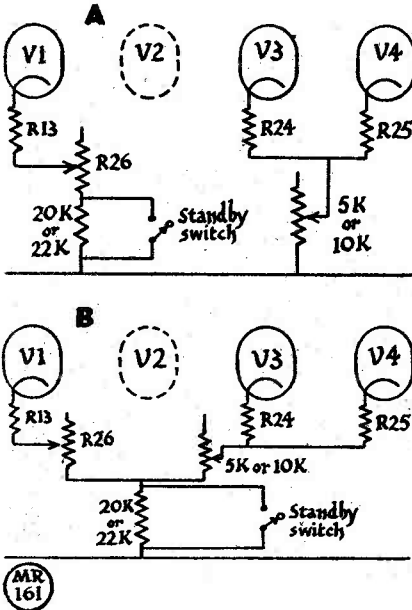


Fig. 1. With but slight modification separate controls can be provided for RF and IF gain (A). At (B) above the circuit is altered to make the standby resistor reduce both IF and RF gain.

shielded socket, recently introduced by Belling-Lee, is substituted.

### Standby Switch

In early models, the stand-by switch broke the HT supply completely as shown in the official circuit diagram. This permitted the oscillator to cool off a little and the frequency was sometimes affected. In later models HT remains on all valves and the stand-by switch is wired across a resistor (20,000 or 22,000 ohms) inserted between the lower end of R26 (the RF gain control) and earth, so reducing the gain enormously. This has a further advantage of enabling the outgoing signal to be monitored, but there is admittedly the difficulty of adjusting the strength of the monitored signal under widely varying conditions of transmitter power, frequency and degree of pick-up. The easiest way of overcoming this trouble is to bring out a pair of leads from the resistor (using the idle pins 2 and 5 on the octal power socket) and connect up externally a potentiometer of 50,000

ohms. It may also be found necessary to increase the value of the internal resistor to 50,000 ohms. In the writer's case, these leads are extended to a pair of contacts on the aerial relay, which open when the transmitter is switched on and automatically place the receiver in the stand-by position. The external potentiometer can be mounted to fit in with the general scheme of the user's own layout.

### Separate RF and IF Gain Controls

When receiving a weak CW signal covered by strong interference, it is often possible to increase readability by reducing IF gain but not necessarily RF gain—reducing the latter may cause the wanted signal to be lost. In the "640" the RF gain control affects both RF and IF lift and the present modification refers to the separation of these functions.

The RF control, being so labelled on the panel, is left to perform as such. The mains on/off switch is removed, the leads to it unsoldered, joined to each other, taped up and tucked away. (It is a simple matter to fit an external AC switch, but not often will this be necessary). In the hole vacated by the switch is fitted a 5,000 or 10,000 ohm wire-wound potentiometer. Space is restricted and the potentiometer must be of the miniature type—the one used by the writer is a Colvern 5,000 ohm with extended spindle. It should be noted also that the fixing bush must be a little longer than standard, else difficulty may be experienced locking the component in position. If necessary, a potentiometer of 2,000 ohms will serve, this value being somewhat easier to obtain.

The circuit now becomes as in Fig. 1 (A). A green wire will be found coming from the junction of R24 and R25

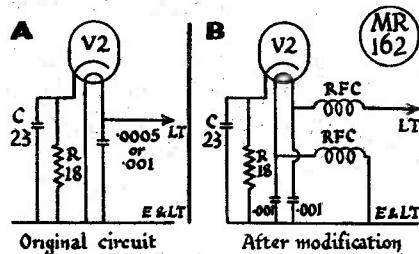
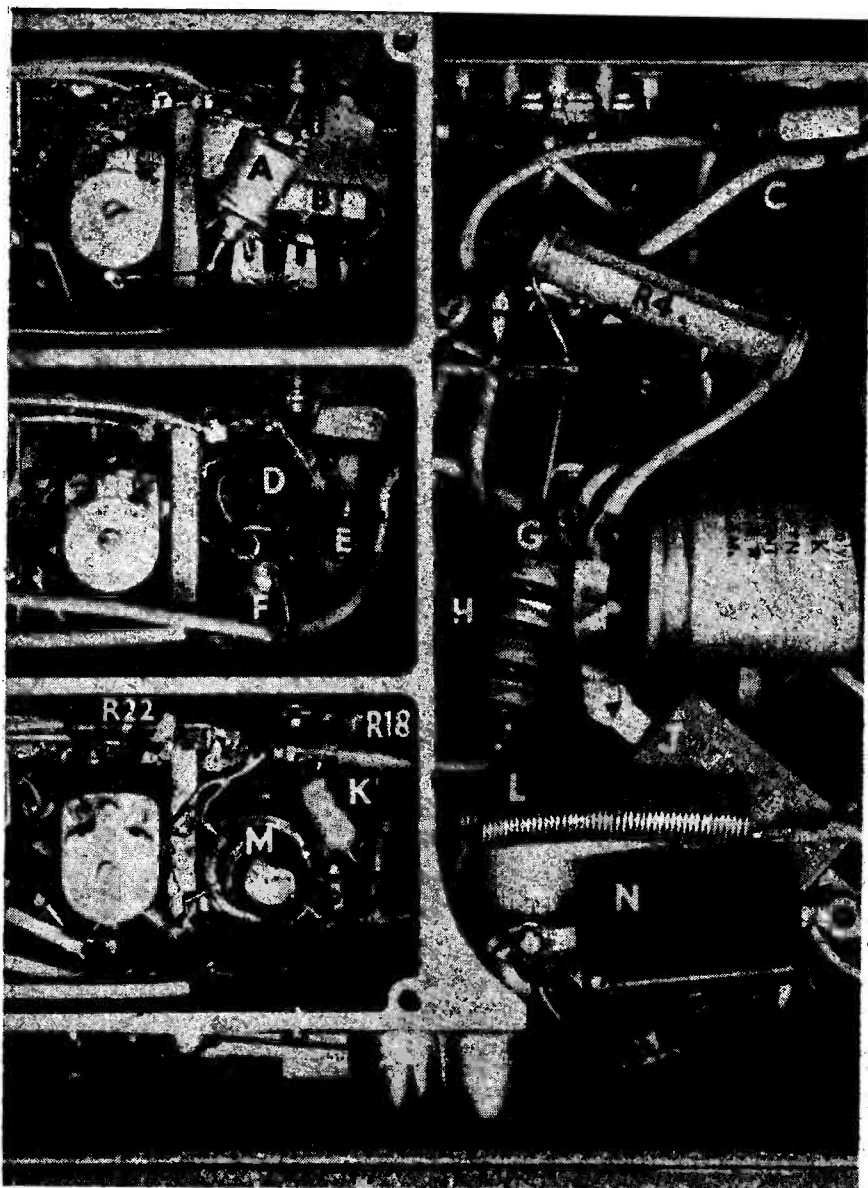


Fig. 2. (A) The original heater circuit for V2. (B) The circuit revised, as described in the text.



The under-chassis modifications for the Eddystone 640, as called for by the Acorn 955 separate oscillator and other suggestions made in the text. Key: A, additional concentric trimmer; B, new position R12; C, condenser from transformer primary to earth; D, screen by-pass condenser V1; E, cathode resistor V1; F, screen resistor V1; G, RF choke, osc. anode; H, heater choke; J, mica condenser, HT to earth; K, ceramic negative temperature coefficient condenser; L, heater choke to earth; M, 955 oscillator valve mounted in wiring; N, condenser from transformer primary to earth.

(held on a multi-way tag strip), passing under the coil-box and coming out the other side. This wire is disconnected from the RF gain potentiometer R26 and taken to the moving arm of the newly-fitted potentiometer, one tag of the latter being of course earthed.

This leaves the 20,000 ohm resistor (used in the stand-by position) in the cathode of V1 only and possibly the monitor signal at standby will be too strong, irrespective of the modification suggested earlier. In this case, the connections should be made as in Fig. 1 (B), which simply places the 20,000 ohm resistor between cathodes and earth of both the RF and IF valves.

### Curing Modulation Hum

In some "640" receivers, modulation hum is in evidence from about 20 mc to 30 mc and makes it difficult to assess the true tone of a CW signal. The hum appears to be due to leakage or induction between cathode and heater of the triode-hexode frequency changer valve. Fitting a new valve will sometimes help matters and a mica condenser (.0005 or .001  $\mu$ F) across the heater pins of V2 will often reduce the effect but may not cure it entirely.

To be certain of freedom from modulation hum, it is necessary to arrange the heater wiring to be balanced as regards earth. In the "640," one side of the heater supply is earthed, but a few alterations to the wiring permit an artificial balance to be obtained, effective at least over the greater portion of Range 1, beyond which it does not matter whether the heaters are balanced or not.

Fig 2 (A) shows the original circuit and Fig. 2 (B) the circuit after the alterations have been made. The earth connection to pin 7 of the V2 valveholder must be removed. The two yellow wires to pin 2 are left connected to each other, but are taken away from the valveholder tag. By-pass condensers (.001  $\mu$ F mica, of small physical dimensions) are soldered to pins 2 and 7, their junction being earthed to a nearby chassis point. Insulated wires are then taken from the two heater tags through holes made in the wall of the coil-box—a tag strip may be used for anchoring purposes if desired, but is not really necessary. Outside the wall, one lead is taken through an RF choke to earth (the negative terminal of a nearby electrolytic condenser is convenient). The second heater lead is taken to a similar choke, the other end

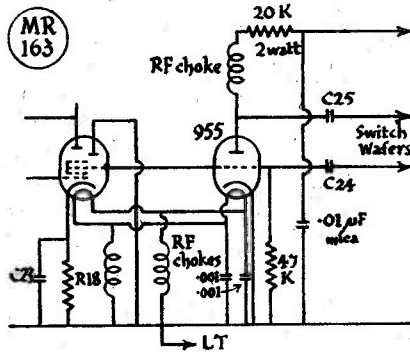


Fig. 3. Connections when using a separate oscillator valve—see also chassis photograph. The advantages of this modification, with an Acorn 955 as oscillator, are discussed in the text.

of which, suitably anchored, is taken to pin 7 on the octal power socket. The chokes, simple but effective, consist of 45 turns of 18 SWG enamelled wire, close wound (on a pencil) to give an outside diameter of  $\frac{1}{4}$  in.

If any hum is noticed after this modification, it is probable that some extra HT smoothing is required. Unless ideas mentioned in a later paragraph on power supplies are adopted, a second smoothing choke (15 or 20 Henry, 60 mA) can be wired in externally. It should come between the rectifier (V7) cathode and the existing choke. An 8  $\mu$ F electrolytic condenser of small physical dimensions, e.g., the Dubilier Drilitic type, can be supported on its own wires and connected inside the receiver between pin 8 of the rectifier valveholder and a convenient chassis point.

### Fitting a Separate Oscillator

The main benefit to be expected from a separate oscillator valve is an increase in frequency stability, long term and short term. Since in any receiver drift is usually more marked at the higher frequencies, the addition of a separate oscillator is recommended when the receiver is used a good deal on 14 and 28 mc, but if the major interest is in the lower frequency bands, it is hardly worth while incorporating the following modification.

It is not possible to go into all the factors which cause frequency drift, but one is the expansion of valve electrodes through heat, the heat also affecting

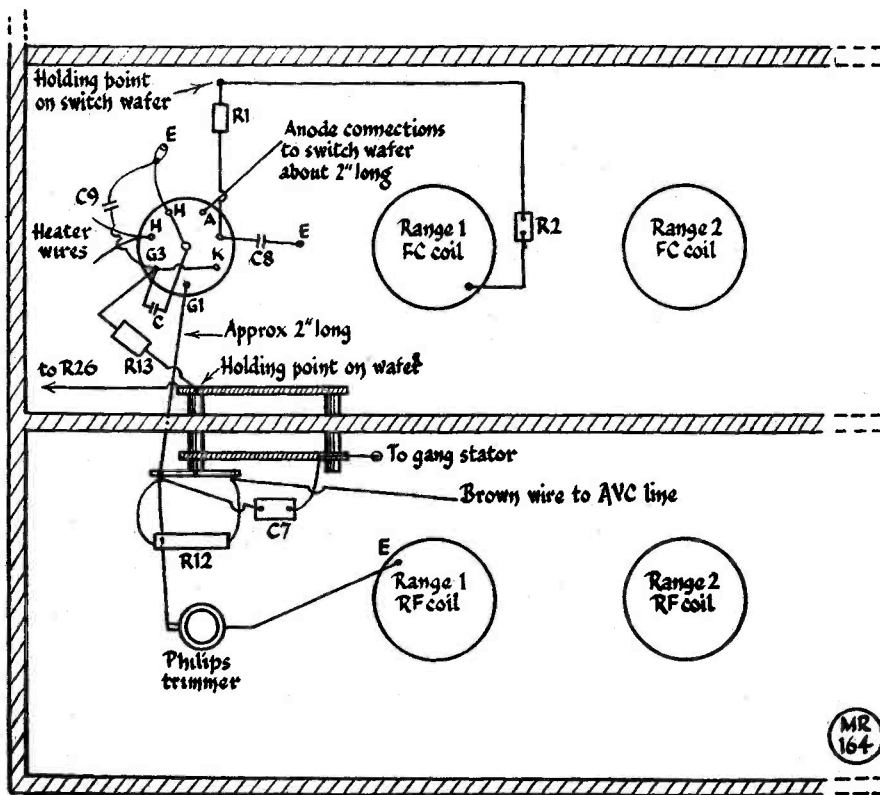


Fig. 4. Physical layout sketch showing the fitting of the replacement RF amplifier. The orientation of the valveholder should be noted as it enables grid and anode leads to be kept short. Most of the by-pass condensers are the original  $.01\mu\text{F}$  tubulars but an additional  $.001\mu\text{F}$  mica condenser, C, is wired between cathode and earth. Other circuit elements bear their original numbers. R13 becomes 100 ohms, R1 33,000 ohms and R2 330 ohms.

other components. Obviously a valve with small electrodes and having low inter-electrode capacities will be most suitable, as any variation is then bound to be small. It happens also that there is only room for a valve of small physical dimensions, for which reason the Acorn 955 was chosen.

The 955 is fitted actually in the oscillator compartment and is wired in directly, there being no room for a conventional valveholder. Admittedly this is in direct contravention of the manufacturers' instructions but, provided the soldering is done *quickly*, no harm results and no trouble has been experienced.

The circuit employed is given in Fig.

3, whilst the close-up photograph illustrates the physical details. Heater leads are brought through the wall of the coil-box and are soldered to the tags of the heater by-pass condensers, the other ends of which have already been soldered to an "earthy" point. It will be noticed that the method described earlier of obtaining balanced heater connections is used. A stiff wire lead is brought up from the earth point formed by the bolt which secures the switch wafer, and all three wires are positioned and cut to a length which permits the three pins (heater and cathode) of the 955 valve to rest on them.

The anode tag (pin 6) of the FC



valveholder is joined to earth and a wire is brought up from the oscillator grid tag (pin 5), made as short as possible and again sited to coincide with the position to be occupied by the grid pin of the 955 valve. The anode connection is taken from the spare contact on the switch wafer already in use as a holding point.

The next operation is to fit the valve. Its pins should be well cleaned with a knife so that the bright metal shows. The ends are tinned with a really hot iron—the quick-heating gun type (Segic or Burgoyne) is ideal. If adequate flux of the correct sort is used, the metal should tin instantly. The valve is then rested in place and the pins soldered to the appropriate leads by a quick touch of the iron.

The HT resistor (R4 in the original circuit) has been located outside the oscillator compartment and is a 20,000 ohm carbon type of two watts rating, held between single insulating tags fixed to the coil-box wall. The heat developed in the resistor is of course the same irrespective of size, but the greater area of the two watt type gives better radiation and the temperature rise is small. Direct connection of the feed resistor to the anode of the 955 damps the circuit appreciably at the higher frequencies and, to maintain adequate injection voltage, an Eddystone 1010 choke is interposed, being held nearly parallel with the coil-box. Partly to reduce RF radiation from the “hot” end of the choke, but more to avoid alteration of frequency when the cabinet

is fitted, an aluminium plate (approx. 3ins. by 1½ins.) is clamped between the coil-box lid and the casting so that the choke is partially screened.

No difficulty will be experienced in restoring the frequency of the oscillator to normal. In the first place, the substitution of the 955 reduces the stray capacities to a degree which cannot be made good by the parallel trimmers. An additional fixed condenser is therefore necessary and the small tubular ceramic type used can be seen in the photograph. Actually this addition is often of benefit since the negative temperature co-efficient characteristic of the condenser (it is of the N750 type) will counteract any slight remaining tendency to drift. The condenser should be 6 or 10  $\mu\text{F}$ .

The trimmer condensers across each oscillator coil are adjusted in turn to bring the calibrations to coincide with the proper scale markings. Preferably a 1,000 kc crystal oscillator should be used, but lacking this, easily identified stations on known frequencies will serve.

### Beat Frequency Oscillator

Normally in the BFO position is an EF39 valve, connected as a triode. There is a long screened lead to the grid top cap and this lead is of a rather “lossy” type—at least at radio frequencies. Also the screening of the EF39 is not as complete as one would wish. A metal 6J5 has therefore been substituted in this position.

The four screws surrounding the BFO valveholder are withdrawn, when the

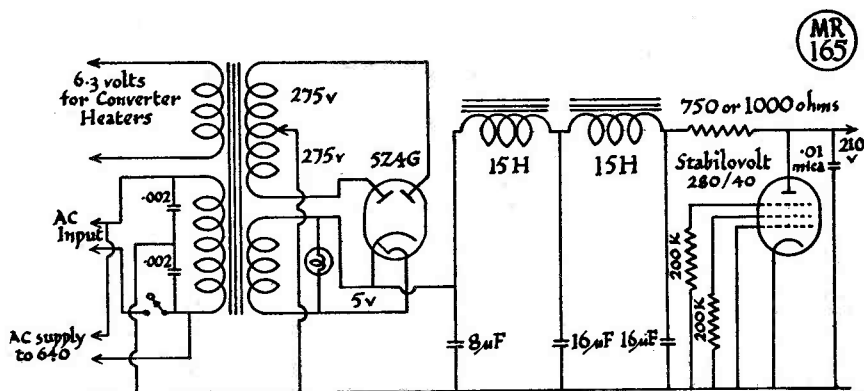


Fig. 5. Circuit of the improved (and stabilised) power unit suggested for the S.640 supply. It can be built externally as a separate unit.

complete BFO unit can be eased out without disturbing the various connecting leads. The can is removed, the long grid lead disconnected, and a wire taken from the junction of C69 and R37 to pin 5. The wire joining the latter to pin 8 (cathode) is of course removed. It is necessary also to make sure pin 1 is connected to earth. All the parts are then replaced and, after allowing the new 6J5 valve to warm up, the core in the BFO unit is adjusted to bring the frequency within its proper limits.

It has also been found beneficial to add a little extra decoupling to the HT supply line. R38 is contained within the BFO can and no alteration there is attempted. The BFO HT lead is a red PVC flexible coming from under the coil-box. It is unsoldered from the switch and a 10,000 ohm ( $\frac{1}{2}$  watt) resistor interposed. To the junction of red wire and resistor is soldered a .01  $\mu$ F moulded mica condenser, the other end of which is anchored to any convenient earth point.

### Power Output Stage

Few users of a communications receiver require anything like so much as three watts output—500 milliwatts is generally ample in the usual amateur operating room. Further, the 6V6 output valve in the "640" consumes some 40 mA, which is as much as all the other valves together. Fitting a smaller valve therefore greatly reduces the load on the mains transformer, which consequently runs at a noticeably lower

temperature. The valve itself produces less heat than does a 6V6 and the receiver as a whole runs cooler. A valve of the L63, 6J5 or 6C5 type in the output stage has been found to give excellent results whether with loud-speaker or telephones. Ideally a different output transformer is required, but as a triode is not critical as regards matching, the original transformer continues to serve well.

The modification is quite simple. The screws holding the output stage sub-chassis at the rear of the coil-box are withdrawn and this chassis eased away. The cathode resistor R33 (270 ohms) will then be seen. It is removed and a 1,000 ohm ( $\frac{1}{2}$  watt) inserted in its place.

It is well to note here that pin 1 of the output valveholder is used as a holding point and is normally at high potential. This prevents a metal type of valve being used—or, at least, the effect of so doing is likely to be unpleasant on occasion. As often it may be desired to put into service a valve of the metal type, be it 6V6 or 6J5, it is suggested the original connections to pin 1 be removed and taped up, an earth connection then being made to this pin.

### Change of RF Valve

The EF39 gives good results, but a definite improvement is possible by the substitution of a modern miniature valve of high slope. The benefit is most marked at the higher frequencies and is due presumably to the reduction of negative feedback brought about by the low inductances of the lead-out wires in the miniature valve. There are several valves which come to mind as being possible choices, but there is only one which combines a really high slope with variable-mu characteristics. This is the Brimar 6BA6, which possesses a slope of 4.4 mA/volt and gives a worthwhile improvement in both gain and signal-to-noise ratio. At the same time, the operation of the R $'$  gain control remains normal, cross-modulation by a strong signal can be prevented (it would at times be difficult to avoid this effect with a non-variable-mu valve) and AGC action is if anything better than with the original valve.

A pre-requisite for carrying out work in the restricted space of the coil-box is a soldering iron with a long narrow bit and the quick-heating type, with a wire bit, is still better. However, the operation of changing the

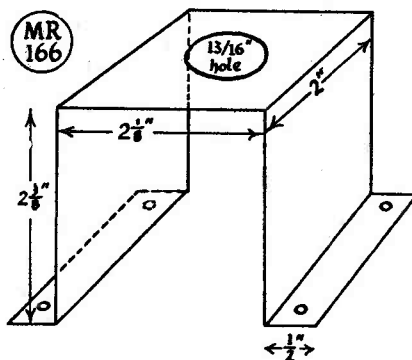


Fig. 6. An additional slow motion drive on the bandspeed condenser assembly is a very desirable modification. Here are details for making up the mounting bracket for the drive mechanism shown in the photograph.

valve is not unduly difficult with an ordinary iron, as many of the connections to the valveholder can be made before it is fixed in position.

The original valve-holder is removed and a small sheet of metal, of a size completely to cover the hole in the chassis, is prepared, the new B7G valveholder being mounted approximately in the centre. The valveholder should be complete with base and screening-can. To avoid a lengthy explanation, the pictorial diagram in Fig. 4 has been prepared and gives most of the necessary information. The orientation of the valveholder should be noted. The lead from the gang condenser to the top-cap of the EF39 is discarded—the grid connection for the new valve is made automatically *via* the switch wafer below the chassis.

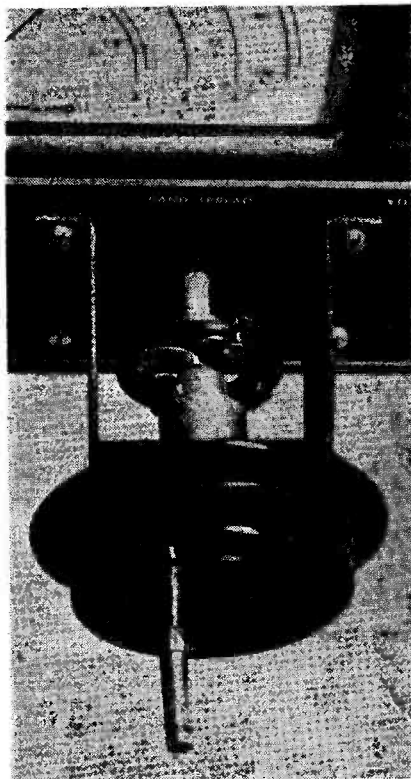
As with the separate oscillator, the much reduced valve input capacity cannot be taken up entirely on the trimmer condensers, and an additional trimmer, effectively across the gang section and thus operative on all ranges, is necessary. It is a Philips concentric type and is indicated in Fig. 4. It is also visible in the photograph of the modified receiver.

If possible, the RF circuits should be re-aligned in the approved manner. Otherwise, a weak steady signal (local or external) should be tuned in towards the high frequency end of Range 1. The capacity of the new trimmer, originally at minimum, should then be slowly increased until maximum output results, as determined by an S-meter or, failing this, by ear. About half capacity (15  $\mu\mu\text{F}$ ) was necessary in the writer's case. The concentric trimmer is not again touched, any adjustments on Ranges 2 and 3 being effected with the normal parallel trimmers, the degree of movement being small in any case.

#### Changing an IF Valve

Associated with the first IF valve is the crystal filter, and any changes in the local circuit capacities, as would inevitably result with a different type of valve, would affect the filter. The correct alignment of a crystal filter is no simple matter and it is not recommended that the first IF valve be changed unless the user is familiar with crystal filter adjustments and possesses adequate instruments.

In any case, the benefit to be expected from a change of IF valve is not so great as with the RF amplifier, since adequate gain, with low inherent noise,



Mounting of the modified bandspread drive on the S.640 front panel. This gives much closer tuning control and helps considerably on the HF bands. (See Fig. 6).

is already obtainable. However, the occasion does arise when one feels a little more gain would be useful, and it is always a good thing to have some gain in hand. For which reasons, and also because the operation can be carried out fairly easily, a valve of a high slope type has been fitted in the second IF position. For those who want to go the whole hog, a 6BA6 would undoubtedly work well, but it is not really warranted.

The substitution of an octal-based type will save some trouble and there are several valves which are suitable. The writer uses a 6AC7 (1852), but as this is a short grid base valve, it would probably be better to use a 6SH7 or a 6AB7 (1853). The 717A valve, of small physical dimensions, is known to

work well, although (according to the *ARRL Handbook*) it is only rated for an anode voltage of 120.

The modification is straightforward and consists chiefly of alterations to the valveholder wiring. The existing components can be retained, except that the screen resistor R8 should be changed to 33,000 ohms. The grid top-cap lead is of course removed, the new grid lead being taken from the previously unused contact wire (cut off but usable) to be seen at the base of the IF transformer. This new lead should take the form of a short piece of coaxial cable, to give some measure of screening. If instability is experienced, a small piece of copper foil should be soldered across the valveholder to act as a shield between the grid pin and the anode pin and associated wiring. It is immaterial whether the foil is supported by the cathode, screening-grid or an earth point (all at zero RF potential), provided no possibility of a short-circuit is allowed.

It will of course be necessary to peak up the appropriate sections of the input and output IF transformers.

#### Noise Limiter

One drawback of the usual type of valve noise limiter, as found in the "640" and other receivers, is that the cathode is at high audio potential and is liable to pick up hum from the heater, due either to induction or leakage, the effect varying between one valve and another. By cutting out the valve and substituting a metal rectifier (a germanium or silicon crystal would probably serve equally well), any possibility of hum pick-up is eliminated. In the "640," one half of V8 forms part of the S-meter circuit, and if a signal strength meter is in use, the valve must remain in position and the noise limiter be wired in separately. Otherwise the EB34 can be removed entirely.

The rectifier used is a Westector WX6 and the noise limiting action is indistinguishable from that given by the valve. It is wired with the negative side connected to V8 anode and the positive side to cathode. A good position for mounting the rectifier is directly across the noise limiter switch.

#### Power Supply Notes

The substitution of a smaller output valve, as suggested earlier (lightening as it does the load on the mains transformer) causes a rise in HT volts, but not to an extent likely to cause any trouble. The regulation also is not so

good, which in practice means that variations of RF and IF gain affect the line voltage. A stabilised HT supply for the oscillator, the screen grid of the frequency-changer and for the BFO valve would therefore be beneficial. An article outlining the procedure to follow appeared in the May 1950 issue of *Short Wave Magazine*. There the VR150/30 valve is mounted externally, but it would not be difficult to find room for the valve inside the receiver, mounting the valveholder on pillars above the chassis in any accessible position.

Because at times a VHF converter is used with the "640" and it was desired also to stabilise the voltage supplied to this unit (the "640" power unit would not in any case supply sufficient HT current), the system adopted by the writer is to use a separate power pack, delivering a completely stabilised 210 volts, and in consequence every valve is running under constant potentials, irrespective of variations of gain or of mains fluctuations (some screen-grids excepted, of course). The mains transformer in the "640" continues to supply the valve heaters. For those interested in adopting this idea, the circuit of the power unit is given in Fig. 5—it will be seen that smoothing is very thorough, which, taken with the earlier noise limiter modification, confers absolute freedom from hum. The stabilising medium is a Stabilovolt 280/40, but if difficulty is found in obtaining this particular valve, an equivalent would be to employ two VR105/30 in series. One section of the Stabilovolt—that nearest the cathode—is shorted out to obtain the necessary 210 volts.

#### Bandsread

In the December 1950 issue of the *Magazine*, G6FB described a method of increasing bandsread by removing some of the rotor vanes from the gang condenser sections, and this idea has been incorporated. A simpler method is to place a 40  $\mu\text{F}$  ceramic or silver mica condenser between the bandset condenser stator and the bandsread condenser stator of each section, in lieu of the original short direct wire. This opens out the scale considerably at the LF (right-hand) end, but the degree of bandsread is not constant, although this very factor can be useful on occasions, e.g., when searching a narrow band of frequencies. Close tolerance condensers are necessary, preferably

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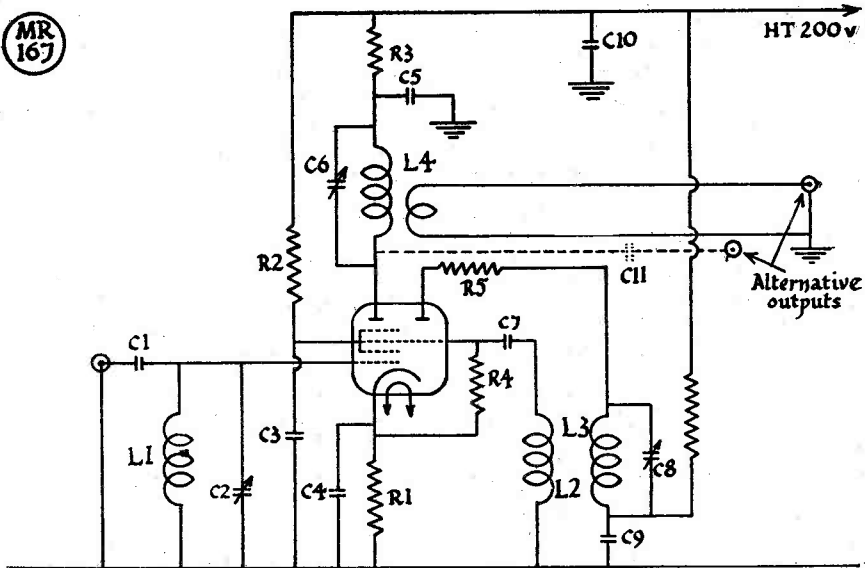


Fig. 7. When applying the Q'Fiver technique using a BC-453, certain circuit changes as above are required to the second FC stage for 1600 to 190 kc conversion. C2, C6, C8 are pre-set trimmers as mentioned in the text.

plus or minus 1% and not more than 2%. The value of  $40 \mu\text{F}$  is arbitrary—any near capacity will serve, but the three condensers must be of equal capacity.

A feature the writer has found most useful, especially for ferreting out weak CW signals, is the addition of an external slow motion device to the bandspread control shaft. As illustrated in the close-up photograph, it consists of a drive mechanism taken from an Eddystone 597 dial, fitted to a metal bracket, the latter being mounted on the front panel. Details of the bracket are given in Fig. 6, but the actual dimensions may be varied, with one important exception. The height of the bracket must be exactly  $2\frac{3}{8}$  in. if everything is to fit together correctly. The positions of the holes in the panel are found by using the bracket as a template after accurately centring it in line with the bandspread shaft. The holes must be tapped 4 BA, as it is not possible to get at the rear of the panel to fix nuts.

The other parts required are a flexible coupler and a large knob (Eddystone type 50 and type 784 respectively). The manipulation is made easier if a sort of handle is fitted to the knob—it consists

### Table of Values

Fig. 7. The 1600/190 kc IF Converter for Q'Fiver operation.

C1	= $3 \mu\text{F}$
C2	= $100 \mu\text{F}$
C3, C4, C5, C9	= $.01 \mu\text{F}$
C6	= $250 \mu\text{F}$
C7	= $100 \mu\text{F}$
C8	= $150 \mu\text{F}$
C10	= $0.1 \mu\text{F}$
C11	= $10 \mu\text{F}$
R1	= 1000 ohm
R2	= 47,000 ohm
R3	= 470 ohm
R4, R6	= 33,000 ohm
R5	= 100 ohm
(All Resistors $\frac{1}{2}$ watt).	
Valve = ECH35, 6K8, or 12 volt equivalents.	
L1, L2, L3, L4 = See text.	

simply of a long 4 BA bolt on which is an easy-fitting sleeve.

### Adding a Q'Fiver

This can hardly be termed a modification, as it involves the use of an external unit. The Q'Fiver is not easy to modify to accept 1,600 kc, the intermediate frequency in the "640" receiver. A small separate unit has therefore been constructed to the circuit given in Fig. 7. The input circuit resonates at 1,600 kc and the oscillator is fix-tuned to 1,410



kc. The output on 190 kc is fed via a short length of coaxial cable to the aerial terminal of the BC453.

The result is a triple conversion superhet possessing really high selectivity. It might be expected that the noise level would be on the high side, but in practice this is not the case. The "640" itself is inherently quiet, the later frequency changers are handling a fairly high signal voltage and do not themselves add much noise, and the overall bandwidth is narrow.

The necessary unit can be quite small and compact since all tuning is pre-set. The valve used is an ECH35, but any equivalent triode-hexode will be suitable. Some may prefer to use a 12K8 or similar valve, energised from the power supply which feeds the Q'Fiver (presuming the original 12 volt valves are retained in the latter)—this has the advantage that the additional frequency-changer only comes to life when the Q'Fiver is switched on.

The input coil L1 has a single winding consisting of 45 turns of 24 SWG enamelled wire on a 1in. former. The oscillator coil L3 is similar, having 40 turns, and L2 is 20 turns wound in the same direction as L3. The two inner ends go to HT and earth, the outers to anode and grid.

The IF transformer in the anode circuit of the FC valve must of course tune to 190 kc and an ordinary long wave broadcast coil serves the purpose. The output to the "640" can be taken through a small coupling condenser or from the coupling winding usually forming part of the coil. Both methods should be tried to see which gives the better results in practice.

The list of components associated with Fig. 7 gives a fair idea of the capacity necessary to bring each circuit to resonance. Either a large compression trimmer may be used or the capacity made up partly with one or more fixed condensers plus a small trimmer for final adjustment. It is wise, if possible, to box in the new unit completely, holes being made so that each of the trimmers is accessible for adjustment. Coaxial type sockets are fitted to take the input and output feeder cables, the small  $\frac{1}{4}$ in. cable being suitable for interconnection purposes.

A coaxial socket should be fitted at the rear of the "640" receiver, along-

side the octal S-meter socket. The centre conductor of the socket is connected via a 3  $\mu$ F ceramic condenser to the anode of V4—that is, to the "hot" side of the second IF transformer primary. The added capacity is so small as to render unnecessary any adjustment of the transformer core. On the BC453 the inner of the cable is clipped under the aerial terminal, the outer screen being secured under a nearby screw.

#### Adjustment

The "640" is adjusted to 2,820 kc as near as possible and the oscillator on the new unit tuned until the second harmonic is heard on the "640." A point will be found on the dial of the BC453 at which the noise increases—the trimmer C6 is adjusted until this point coincides with the calibration marking at 190 kc. A telephony signal is accurately tuned in and made audible through the audio channel of the "640" and slight re-adjustment made to C8 until the same signal is heard simultaneously through the audio channel of the Q'Fiver. The trimmer C2 is peaked for maximum output.

For those who have not previously had experience of a Q'Fiver unit, it is most interesting to note the effect of tuning through a signal and listening to the difference in bandwidth as given by the "640" alone and by the combination of "640" and BC453.

#### XTAL XCHANGE

Following are the latest offers, and all negotiations should be conducted direct.

**G3AAJ, 385 High Street North, London, E.12.**

Has QCC 465 kc band-pass unit, 75 kc crystal unit and 1000 kc bar,  $\frac{3}{4}$ -in. pin spacing. Wants frequencies in 3.5 mc band, similar mounting, or 8 mc crystals suitable for two-metre multiplication.

**G3EAY, 192 Colchester Road, Leyton, London.**

Has QCC P5 1770 kc crystal, certificated. Wants similar type 1830-1899 kc, with or without certificate.

**G3EMU, 7 Monastery Street, Canterbury, Kent.**

Has mounted 1925 kc crystal. Wants frequency near 1760 kc.

**G3HFD, 44 Nether Avenue, Grenoside, Sheffield.**

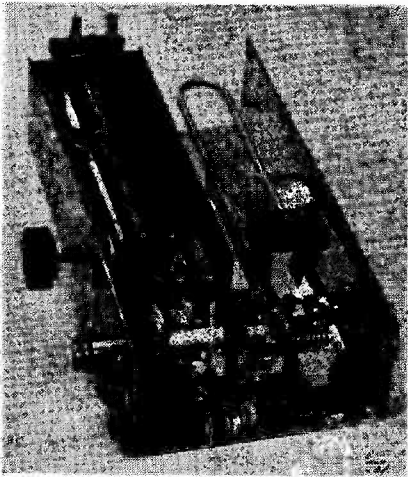
Has 5000 and 5555 kc crystals,  $\frac{1}{4}$ -in. mounting. Wants 1485 kc crystal, any pin spacing.

# Tripler to 435 Mc

USING THE 15E

By M. D. MASON (G6VX)

THERE are not many valves available on the surplus market suitable for generating useful amounts of RF on 435 mc. At present the popular 832A is having a hot run, and very shortly will follow the Kiwi and become extinct. Unfortunately there does not seem to



The G6VX tripler to 435 mc, using a 15E VHF triode. This photograph should be studied with the detail drawings covering the construction.

Here are details for the construction of a 70-centimetre tripler stage, built round the Eimac 15E VHF triode (in fairly good supply in the surplus category), which could be driven by the existing 145 mc transmitter. Though the circuitry is simple and straightforward, a fair amount of mechanical work is involved and it would be advisable to provide cooling for the valve; small blowers are available in several types of surplus equipment.—Editor.

be a comparable pentode or tetrode to carry on the fight. There are, however, several varieties of disc seal triodes that will give a watt or two, and some very much bigger versions that unfortunately would require at least a pair of high power two-metre stations in push-pull to begin to drive them.

But two types that should show some promise are the 8012 and the 15E. The 8012, due to its awkward spikes, is about as easy to handle as the garden hedgehog. This leaves the 15E.

The 15E is an extremely robust little valve with quite useful characteristics. Unfortunately, a good number of the Eimac surplus valves light up like mercury vapour rectifiers when shown a little grid drive. Some recover, but

### Table of Values

Fig. 1. Circuit of the 15E Tripler for 435 mc.

- C1 =  $\frac{1}{2}$ -in. disc, 0.5-1  $\mu$ F
- C2 = Grid mounting (see text and drawings)
- C3 = 3-30  $\mu$ F trimmer
- C4 = 50  $\mu$ F, T.C.C. HVD3
- R1 = 50,000 ohms, 1-watt
- L1 = 3-in. length of 3/8-in. tubing, plus C4, plus cooler D
- L2 = 9 $\frac{1}{4}$ -in. length of 1/8-in. copper tube.

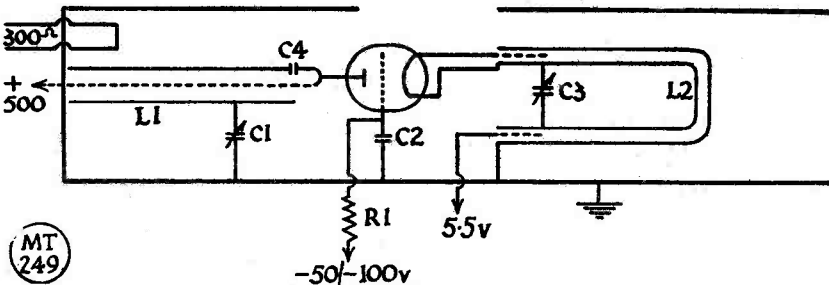


Fig. 1. Circuit of the 15E tripler, after G6VX. As he explains, satisfactory results depend upon accurate construction, to the details given in the accompanying drawings.

when a good one is found it is good, and will stand a vast amount of hard work.

For use as a tripler the following characteristics are listed for the 15E:

15E	Thoriated Filament
Vf	5.5V, 4A
Wa	20
Mu	25
CgP	1.1 $\mu$ F
CgF	1.4 $\mu$ F
CPF	0.3 $\mu$ F

**Typical operation :**

Va	500
Ia	50 mA
Vg	-250 to 350
Ig	5 mA
W out	5

Grid driving power at 145 mc, 6-10 watts.

**General Circuit Description**

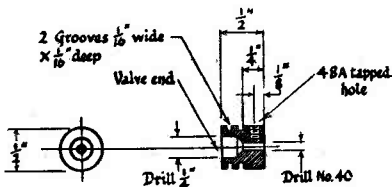
The physical construction fits quite nicely into a little elementary plumbing. The valve is operated as a grounded grid tripler. This approach requires a little more drive, but at the same time it ensures maximum isolation between the input and output circuits, thus minimising the necessary but undesirable 145 mc component appearing at the aerial.

The 15E is a very convenient valve for any one running a 145 mc rig using an 829 PA with a 500-600v. HT supply; 6 to 10 watts drive are required for efficient phone operation. The modulated HT for the 829 can also be used for the tripler. The input to the 829 will probably be reduced by 50 mA or so, which is now available for the 15E.

The tripler runs extremely hot even with the filament only applied, so forced air cooling and the use of adequate metal radiating fins attached to the plate, grid and filament connections are strongly recommended. (One does not try a second time catching molten solder heading straight for the carpet!) Five to ten cubic feet of blower air per minute is ample.

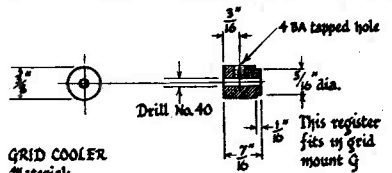
The schematic circuit shown herewith does not help much, but basically it is a quarter-wave plate trough L1 tuned to 435 mc by C1. The input is a folded quarter-wave screened line L2, tuned to 145 mc by C3. The grid is grounded for RF by a metal plate C2. The 435 mc output is taken from the cold end of L1 by a suitable link. A 4in. length of 16 g. en. wire folded to form a 1/2 in. wide hairpin is about right for a 300-ohm line.

The driving power is coupled into L2 at the points marked X-X when a piece of 300-ohm line is used for the link. Coaxial input and output lines should present no difficulty.



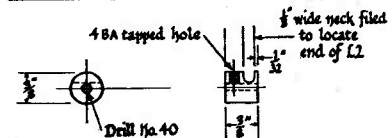
**ANODE COOLER**

Material: 1/2" dia. brass rod. Finish: Tipped if desired.



**GRID COOLER**

Material: 1/2" dia brass rod

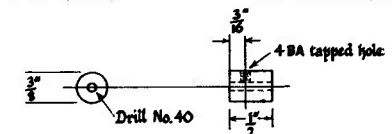
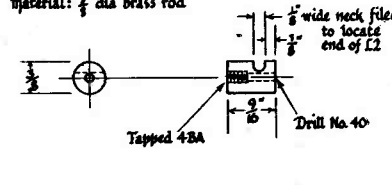


**MOUNTING L1**

Material: 1/2" dia brass rod

**MOUNTING L2**

Material: 1/2" dia brass rod



**FILAMENT CONNECTOR**

Material: 1/2" dia. brass rod



Fig. 2. Detail drawings showing dimensions and construction for coolers and mountings for the 15E 70 mc tripler.

Fixed bias of 50 to 100 volts is a convenient method of cutting the tripler off when CW is being worked. With this method the two-metre transmitter may be keyed in the usual way.

With no load connected to L1, a

reasonable sample of the 15E will produce a dip in plate current from 60 to 40 mA. For CW only the bias and drive may be reduced and the tripler loaded to 60 mA or so with a definite increase in aerial power. However, at the operating conditions suggested, the 15E will be perfectly happy running continuously for hours at a stretch, a handy feature when playing with aerials.

### Mechanical Construction

Due to the bright silver plated finish, the reflections on the photograph mask the detail somewhat. However, the accompanying drawings of the chassis and cooler, together with the plan view of the layout, should be sufficient to get the general idea.

The chassis is made by folding along the dotted lines B and C to form a "U" to measure 6ins. long by 3ins. across the base and 1½ins. high on the sides. The section "E" is folded at right angles on the line "F," then placed in the "U" on the line marked "D," soldered in position all along the

contacting edge. A couple of 1½in. x 1½in. wooden blocks will help to locate section "E" whilst welding the soldering iron.

It will probably help to make the grid condenser and mounting "G," then use it as a jig to drill chassis fixings. The grid cooler is rivetted and soldered to the centre hole in "C."

The insulating bushes can be made from two different sized paxolin washers, or some of the surplus ceramic bushes would do nicely. The plate line L1 is a 3in. length of ⅜in. O/D brass or copper tubing. An ⅛in. thick plug is sweated in one end to carry the 4BA fixing screw. The centre of the plug is drilled and tapped 4BA. A second hole is drilled off centre to clear the HT feed line. The tube is cleaned and silvered before the blocking condenser C4 is soldered on. The total length of L1 plus C4 plus the cooler should be 4ins.

The filament line L2 is made by folding a 9½in. length of ⅜in. O/D copper tubing into a "U." The "U" should measure ½in. between the inside

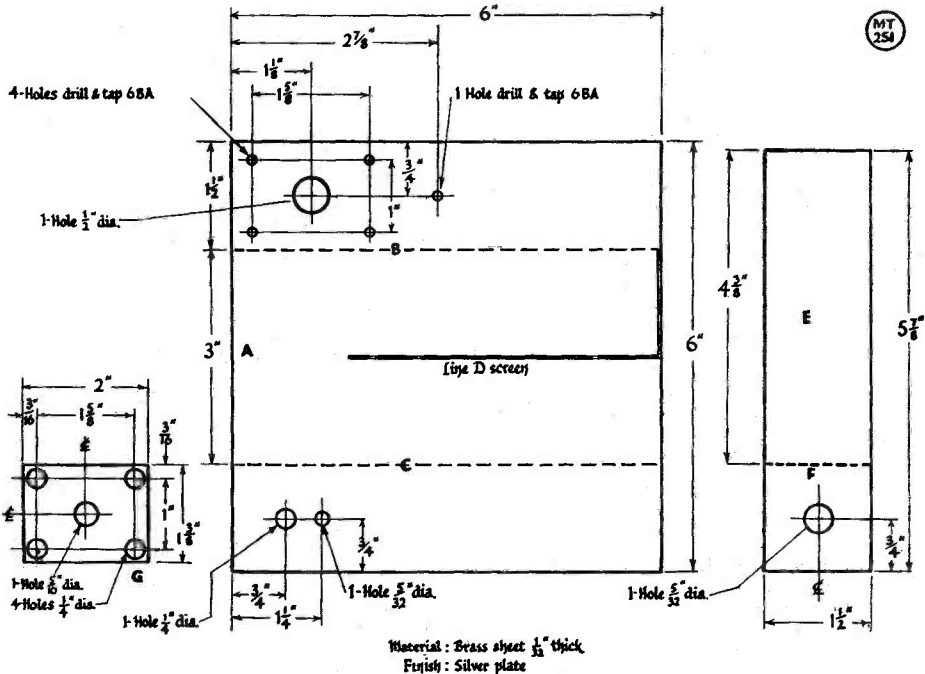


Fig. 3. The chassis construction detail, which should be closely followed.

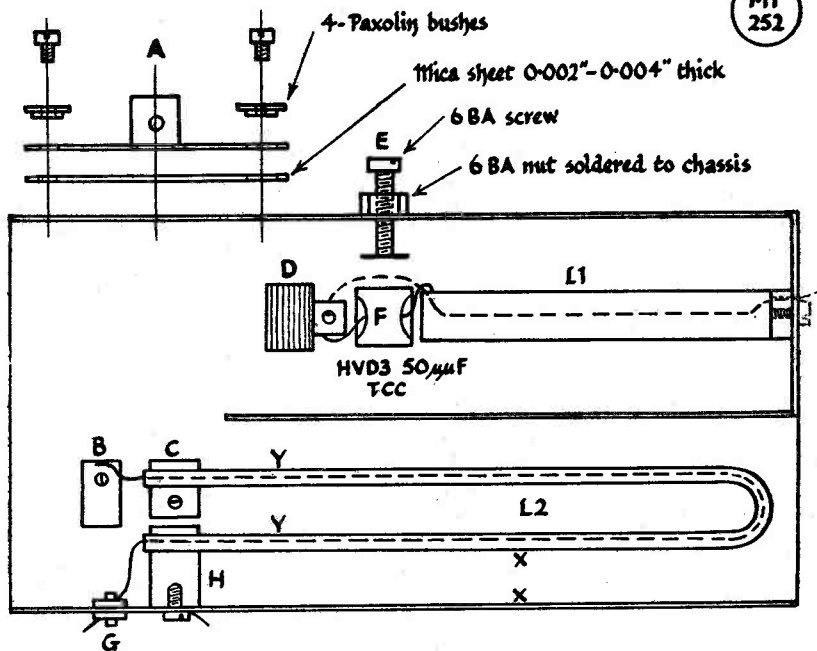


Fig. 4. Layout plan of the 15E tripler, and see photograph.

edges. The tubing must be annealed, cleaned and plated before bending. A 12in. length of Lewbestos 24 gauge wire is fed through the tubing before bending. (Lewbestos wire will not deteriorate with heat.) The two ends of the "U" are soldered to the filament "C," cooler, and mounting "H."

The input line could be replaced by a solid 12 gauge wire and the heater voltage fed to one pin of the filament through a small HF choke. 25 turns of 24 en. on a  $\frac{1}{8}$  diameter paxolin former would do. It is essential that the filament and plate lines are detachable for valve changing. For this reason C3 is soldered to two small clips

that straddle the filament line at points Y-Y.

Before any of the components are assembled, all metal work should be thoroughly cleaned in a strong detergent, then silver plated by the rubbing process suggested in *Short Wave Magazine* for July, 1948, page 333. The brighter the finish on the metal parts the better the silvering.

A grounded grid neutralized amplifier has been built to go with this tripler. The power gain was considerable, but the modulation characteristics so far do not meet the 500 per cent. apparently expected on 70 cm!

#### AMATEUR TV RECEIVER CONSTRUCTION

All readers with an experimental or constructional interest in TV receivers should be seeing our *Short Wave Listener & Television Review*, which for many months past has been carrying a series of practical articles on TV reception and the modification of surplus

equipments for sound and vision on the Alexandra Palace and Sutton Coldfield frequencies. The cover price of *Short Wave Listener & Television Review* is 1s. 6d. (1s. 7d. post free), or 18s. by direct subscription for a year of twelve issues.



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# FIRST CLASS OPERATORS' CLUB

President:

GERALD MARCUSE, G2NM

Hon. Secretary:

Capt. A. M. H. FERGUS, G2ZC

Asst. Hon. Secretary:

J. E. CATT, G5PS

The FOC register now shows close on 350 elected members, in 33 countries. While the U.K. contingent is naturally in the majority, we are glad to have in our ranks a large number of amateurs outside Great Britain. The unknowing may think of the Club as consisting solely of operators who can swing a key at a defined number of words per minute. But that is only one of the requirements, since all members are constantly on the alert to raise the standard of operating. And "standard of operating" means many things, not the least of which are good manners on the air and consideration for the other fellow.

## Becoming a Member

To explain the process of election to the FOC, it should be noted that this is *always* by "invitation" and not by "application." The procedure in all cases is to get a member, who can vouch for the ability and willingness of the candidate, to make a proposal. This is published in the Club Circular Letter, which goes out regularly each month to all members, and it is then open to any member to approve, or otherwise (with reasons), election to the Club. In effect this means that every member has a "say" in management, and the very smooth way in which the FOC runs is a reflection of the type of operator who is attracted to the Club.

## March of Time

Within the last month the first G father-and-son combination has been added to the membership roll, with G8VG and G3HVG, though ZL4BQ and ZL4GA were actually the first to be elected in this category. The question now is whether any *grandfathers* are Club members! The first blind operator is also welcomed as a member this month; his work is attending a switchboard, and his opposite number on the board is also a blind amateur; by a strange coincidence, in the past they were both at the same school.

## Club Activity

Members appear to be busy on all bands, and in the Four Band Marathon

Table appearing in the May issue of *Short Wave Magazine*, the first two places are still held by Club members. While the FOC cannot claim to head the lists in the VHF field, a number of members figure there too; and in the Top Band story in the same issue, the achievements of GW3ZV, KV4AA, ZL1AH and ZL1MP bring honour to the FOC, as they are all members.

Others feature in various DX lists, as indeed they do in the "Births and Marriages" columns of the daily press—all of which can only be to the ultimate good of Amateur Radio!

## Dates to Book

The annual Marathon Contest will start on Sunday, September 30, and the Fourth Annual Club Dinner is fixed for the evening of Saturday, December 1st, in London. Full details will follow in later Circular Letters, but those interested are asked to keep these dates in mind.

## Election Notice

In accordance with the Rules of the First Class Operators' Club, the following are declared elected to the active membership list:

H. E. Sutton, G2AAS (Horncastle, Lincs);  
D. Oswald, GM3COQ (Montrose, Angus);  
F. James, G6NW (Abingdon, Berks);  
D. A. Capp, G3CPT (Bletchley);  
A. P. Windle, G3HVG (Dartford);  
R. C. P. Eatwell, G3AJW (Swindon);  
P. H. H. Jones, G3DRE (Sheffield);  
L. J. Groves, G4GT (St. Albans);  
J. A. Bonser, G3GRL (Hucknall, Notts);  
A. Forsythe, G13FZQ (Belfast);  
A. W. G. Burgoyne, VQ2AB (Lusaka, N. Rhodesia).

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## "CLAMP MODULATION"

The article by G5RZ on this subject in our March issue has aroused considerable interest, and it seems that a good many stations are using, or experimenting with Clamp control. Some further material on this system of modulation is in preparation, and will appear in future issues.



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

**I**T seems by all the reports that conditions have improved somewhat on the HF bands, at the expense of the LF bands. The burden of all the DX has been carried this month by 14 mc, and the forty-metre boys have often been heard disporting themselves around that territory—a fact which speaks for itself.

One or two rare birds of the more ephemeral type have appeared—notably FG7XA, as forecast last month. He seemed surprisingly easy to work (by those who worked him), and was not so deeply buried under the W's as one might have expected.

Nice little spasms of Pacific DX have occurred, too, bringing the lucky ones a few prizes of the VR2, VR5, ZK and ZM type. Strangely enough, most of these countries have been active on phone only; this, of course, has given the microphone experts a hearty laugh at the expense of the key-pushers. Even FG7XA was worked more frequently on phone than on CW; he used four bands, too.

#### Magazine DX Award

The first claim for our new award arrived during the month; and few will be surprised to know that the claimant was G2PL (Wallington), with plenty of cards in hand for each band except 1.7 mc. Actually (purely as a formality) he is held up on that band until he extracts a card

from a GC station! We have no doubt that his claim will then pass the scrutiny of the judging committee and bring him Certificate No. 1. Who aspires to collect No. 2? It is all ready and waiting for the right man.

Now let us pass straight on to the detailed summary of DX, beginning with the Old Faithful.

#### Twenty-Metre News

G5FA (London, N.11) pushed his score up with VP3MCB (Phone) and CT2BO and FG7XA (CW). Other good ones were JA2KW, FP8BX, KH6AEH, KV4AI and HZ1HZ—the latter making his first G contact with his new rig. This uses a 66-volt battery for both Tx and Rx!

#### Calls Heard, Worked & QSL'd

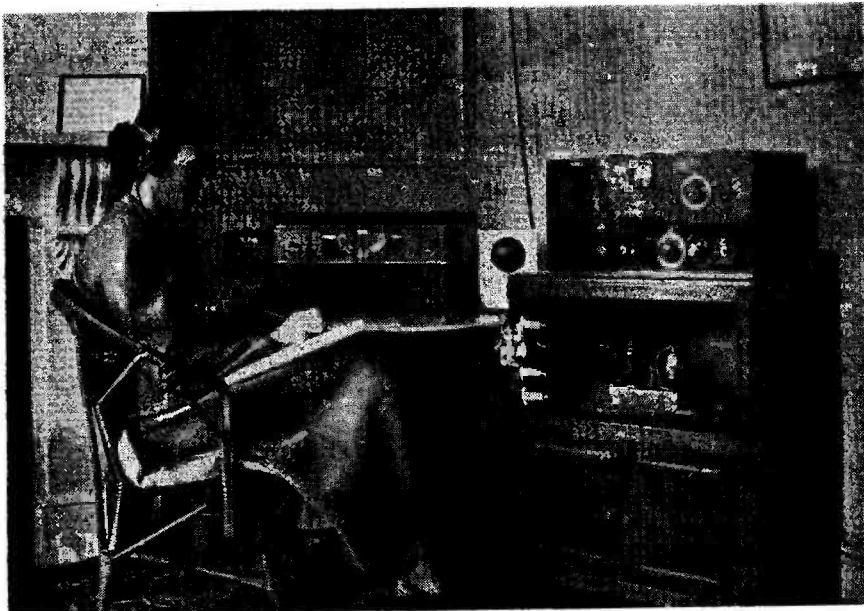
G2FYT (Bristol) collected JA2KW, FP8BX and a CT2 for new ones. He was all poised to call ZK1BC when a power cut put paid to that one! He thinks LZ1KSR might be genuine, and worked M1B again—but whether he was the phoney or the real article he does not know.

G5BZ (Croydon) has not been on much, but did raise FG7XA, CE7XQ, EA0AC and CP5EK. He says there has been no sign of W6/7 openings in the mornings this spring. G3CDC worked ZK1BC at 0800, and heard such nice ones as FO8AC, KJ6AP, VR2CD and AC4LP. We have heard lots of people calling the latter in the afternoons—has anyone any news about him?

G3DO (Sutton Coldfield) has raised a lot of new ones this year, including PK5AA, ZS2MI, FP8BX, CR4AD, ZM6AA, VR5GA, FG7XA and VT1AG—the last five all on phone. This brings him up to the double-century mark—nice going! G3BNE (London, N.W.3) treated himself to a full-wave aerial running NE/SW, which brought in some nice DX from Asia and the Far North, but ZK1BA and DU1AL both “got away.”

Latest from G2AJ (Biggin Hill) were FR7ZA, FG7XA, ZM6AA (phone), CP5EP, FA8AW and FQ8AF. So he, too, has passed the 200 mark. G8KU (Scarborough) raised C3AB, giving his QTH as Box 22, Tainhung, Formosa. This was on 14070 at 1920 GMT, and sounds rather good to us. (We have since heard this station working others.)

GM2DBX (Methilhill) collected HP1MD and SU1MR for two new ones, and has now made his century on phone.



**G3ACC** of Dulwich, London, and her neat station. Well known on the air, she is DX-minded and a member of our First Class Operators' Club.

G3FXA (Bexhill) rolled in FP8AW, KV4AU, FQ8AF, JA2KW, M1B, VS7NX (all early evening) and C07AH, HP1BR, TI2TG and CX6AD (all round about midnight) after putting up a new aerial.

The best for G2HKU (Sheerness) were ZE3, ZS, UA9, LU (599 at 0620), ZL, VK and KP4; but he heard FG7, CE7, FB8ZZ, KG6AA and a VP4. G3FXB (Hove) lists CE7ZQ, CR7RF, FQ8AF, PJ3XA and ZS3Q as his best, with AC4LP described as "possibly phoney." He gave his QTH as "near Lasa" (*sic*) which probably clinches it. 'FXB and some others also heard a type signing ZK2AB, working G's at 1800 (we heard him just before midnight). No more need be said about this one.

G2BW (Walton-on-Thames) hitched up a N/S dipole and raised VP8AK, VS6BA, FG7XA and VT1AC. G6QX (Hornchurch) kept himself busy with Central and South Americans, coming out of the fray with YS10, FG7XA, VP5BL and 7NM, CP5EK, PJ5RE, TI2PZ and VP8AI. The CP5EK QSO was noteworthy for some very nice co-operation on the part of KV4AA and W2CTO, who had skeds with each other and with the CP. They even put 'QX

through out of turn so that he could get to bed!

G3ABG (Cannock) has been busy getting G3ABG/A going, and has been besieged by the Press; nevertheless he has raised HZ1HZ, F8EX/AR, LZ1RF, CE7ZQ and KV4AU. G5JU (Birmingham) collected FB8ZZ, TI2TG, VP8AP and KG6BQ.

G3GUM (Formby) pushed up his score nicely with VP5BL and 8AI, HZ1JD, LZ1KEP, UI8, UJ8 and the like, but he was "trampled underfoot" in the scramble for FG7XA and was lost by FR7ZA in a similar rumpus.

G3BDQ (St. Leonards) pulled his totals up with FG7XA, FF8JC, FQ8AN, KR6AT, JA2KW, F8EX/AR, ZD2TBS, VT1AC, FB8ZZ, CO7HH, LZ1KAB, KS4AP and ZA1XO to mention only a few.

G3ATU (Roker) has even *increased* his lead in the Marathon table, what with HP1LL, TI2RC, HC1KD, VK9GB MP4BAF, FG7XA, UA0AC and LZ1KSR. After that lot on CW he resorted to phone and raised AR8AB, YV5EC, VP5AR and 9VV, KG4AU, ZC4ND and a W7 in Arizona.

G6ZO (Edgware) heads the other table

and has achieved the formidable figure of 232 by adding FB8ZZ, 9S4AX, FG7XA, EA0AB and FR7ZA. He spent his Easter holidays in Algiers and had some fine personal-QSO'S. Finally Jim says that VK1PG is now back at VK2PG, and will be sending out his QSL's as soon as possible.

### Clots' Corner

Slight interval for refreshment . . . This month sees two worthy contributions. The first is from G3ATU who offers a well-known Italian station. This type sat on top of FR7ZA and called "CQ FR7" for a solid three minutes.

### FOUR BAND MARATHON (STARTING JANUARY 1, 1951)

Station	Total Points	3.5 mc	7 mc	14 mc	28 mc	Countries
G3ATU	225	21	79	122	3	128
G6QB	195	18	55	109	13	122
G5BZ	190	21	44	121	4	126
G5FA	176	15	68	88	5	105
G5JU	176	24	49	86	17	98
G3FXB	164	14	62	87	1	108
G6QX	163	32	58	68	5	92
G2AJ	152	18	41	75	18	95
G3ABG	142	20	63	52	7	85
G8IP	121	12	48	53	8	79
G2BW	116	14	30	66	6	77
W2WC	110	22	32	49	7	59
GM2DBX	103	1	17	43	42	73
G8KU	101	13	26	59	3	73
G6TC	94	12	33	47	2	60
G3EDA	79	12	32	34	1	51
G3COI	73	19	18	35	1	47
G6AT	60	9	33	16	2	38
G3IAR	18	4	10	3	1	18

(Note that new entries to this table must not include QSO's dating back more than two months from the time of entry. Regular reporters should send in their score month by month—three months' failure to do so will be taken to indicate loss of interest and the score will be deleted).

The second is from G3GUM, who found an HA5 calling CQ DX and wiping out most of the CW band with his wobbly raw AC note and transients and parasitics. 'GUM finally called him and told him to go out and buy a rectifier. The HA came back with a terse "R VA," and, half a minute later, came on and called CQ DX again, same note, same fist—but different call-sign!

Perhaps we might be allowed to add, with compliments, the owners (or users) of the calls 6K6AA and 9D3AA, together with all bogus AC4LP's, ZK2AB's and other things that go boomp in the night.

### The DX on Forty

Of course the 7 mc band is tailing off now, and some of the ground-planes have come down for de-carbonising and overhaul. But DX can still be worked. G3ATU raised VP9AK for a new one on the band, and found that it was the VP9's very first QSO (2330 on 7095). G5JU worked ZS5LZ/MP, aboard a warship off the West Coast of Africa. G3ABG wrinkled out VK5FL, RST 579 amongst a pile of G's in the early evening.

G2BW was pleased to find F9QV/FC on the band—a new one. One of the nicest lists comes from G3FXB, and includes CO2WF, KP4UW, KV4AU, KZ5BE, TI2PZ, UR2KAA, VQ4CM (G2AVP's new call) and VT1AC—all round about midnight. A sortie at 0315 brought in VP5BH (Cayman Is.).

G6AT (Hampton Hill) collected VS6, VK, ZL, VO, ZS and a few others, but still suffers from some obscure BCI trouble. He hopes to go portable while on holiday, with a trench set. G3FXA offers F9JD/FC and SP1CM; G3GGN (Worthing) brought in PY, ZL, VE and UF6. G5FA found nothing new but raised EA9, FC and a VQ4.

GM2DBX returned to the band after a long absence, and had a great welcome from the phone gang, so he says he'll not be doing much DX for a while. Finally, G3GUM says "Wotta band . . ." He has sked with a local, and they can just about read each other comfortably through the uproar. And then he had a card from Eric Trebilcock in VK3, giving him 569 while working this local!

### The LF Bands

Hardly anyone even mentions 80 metres this month. The only items of note are that G2YS (Chester) collected I1NU/Trieste a new one, and that G8NF (Huddersfield) had a message from VS1AA saying that

he would be operating on 3505 kc from May 1, with 800 watts.

G3CVO (Gerrards Cross) tried the band as a rest from the VHF's, but was not amused. To quote . . . . "Rarely have I heard a larger amount of tripe talked . . . mostly social chit-chat, with an occasional 'technical' bit casting doubts on the speaker's sanity or knowledge of radio. How do these people get their tickets? . . . . Most of this seems to go on a day and night net, usually on top of some QRP station's crystal channel. To be sure, the net will move after the third successive day on the channel, if the QRP station can make himself known, a tricky business due to the snappy (?) operating procedure."

Perhaps at this stage we might be allowed to quote from the Bird-Fanciers' notes in the recent FOC *Circular Letter*: "The Greater Backchat—a bird usually to be found on 80 metres, uttering shrill meaningless cries and fouling other birds' nests." Sounds to us like another way of saying exactly the same thing!

The Top Band has produced little of note. A Thing, said to be X4XAM, deceived nobody, especially when it proceeded to work a "W" at some unearthly hour of the evening. We don't even consider it worthy of Clots' Corner. We overlooked, last month, a letter from G6AB (Holland-on-Sea), who worked OH5NV on the band at 1950. GW3ZV also worked him a little later. These might well be the first G and GW contacts with OH on the Top Band. G2NJ (Peterborough) reports a station signing DAC, asking everyone to QRT on 1885 kc as he was handling commercial traffic. Sounds a bit cheeky to us. 'NJ heard a large bunch of OK's as well as UR2, HA, UB5 and HB.

G3GGN (Worthing) wonders whether his phone QSO with EK1AO was the first of its kind? This was at 0315 on January 6. Prior claimants, if any, please speak up.

#### Ten-Metre Notes

If you spend a lot of time looking round the ten-metre band you can pick up some nice new ones, either in the short-skip conditions or at the rare moments when DX suddenly comes through. G5JU bolstered up his Marathon score with the short-skippers; G6QX worked ZE3JJ, and heard OQ5DZ working an ON4 and suggesting a move to "20 mc." 'QX also reports that VP7NM says the band has been open for VP7/G contacts between 1700 and 2000 GMT.

G2BW collected a few short-skip countries, and G3FXA worked LJ3B, who



Three personalities who recently visited the home of G6FO. Left to right: G6XJ (Stratton & Co., Ltd.), ZSIA (Capetown) and G5JU (Birmingham).

reported that he sounded like someone next door with a kilowatt!

#### News from Overseas

A big and very interesting overseas mail this month, which is something we always like to see. First, it seems that VP6CDI considers the recent article on "DX Ethics" presented only a garbled version of what he had to say on the subject of QSL-ing. In particular, he thinks it might read as if he has no intention of sending out QSL's. Should this impression be created (and we don't for a minute admit that it might), we are glad to state that 'CDI answers every card received. He has sent out more than 5,000 (yes, five thousand) since settling in VP6, and last April alone he despatched a solid 900. So if anyone has *not* received a card in reply to his own, it was lost in the post or somewhere in the bureaucracy. Send another, and it will be attended to.

VQ4AA, ex-VQ3AA, is returning to East Africa after six months of sick leave in the U.K. He will be going to Tabora, in Central Tanganyika, and thus will assume the old call of VQ3AA once more. He is taking back plenty of gear (including 2-metre equipment) so he asks interested stations in VQ2, VQ4, ZE and ZS to note. QTH will be c/o Station Master, East African Railways, Tabora.

VT1AF (Kuwait) is in a sad quandary. As we predicted, licences have gone through and official calls have been issued. Unfortunately these prove to be MP4's

(VTIAC is MP4KAA and IAF is MP4KAE). Apart from taking a dim view of sounding like "Klub Stations," the chaps are very pained at the MP4 mix-up, since the same prefix now covers Bahrein, Oman, Kuwait and Ken Ellis in Saudi Arabia (on occasions!). One rather imagines that the VT call-signs will still be heard for a considerable time. Of course the most confusing part of the MP4 business is the sorting out of QSL's and their respective Bureaux. Perhaps the authorities will eventually be persuaded to think again.

VS7DB (Negombo) has been very active on 7 mc, working DL's, G's and other Europeans as well as VQ3, MP4 and ZS. On 14 mc rather less turned up. His rig is a 25-watt transmitter (6V6 and 807) and an AR88, and he says that he *always* answers G's that call him. ZE4JE writes from Gatooma to say that he and ZE3JI are the only licensed amateurs in the town. 'JI was back in U.K. last year, and returned with some gear which did its share of heart-gladdening. 'JE says it's not a

question of shortage of cash—just absolute non-availability of gear. He now has a 15-watt rig which "seems to have a preference for W6 territory." ZE4JE is coming home for the Festival—his home QTH is in Leeds.

VS6HR is G3CDR out in Hong Kong. Three years ago he couldn't get a VS6 call because his "permanent" QTH was afloat; this time there is no such trouble. He particularly wants the Hull and Ipswich crowd to listen for him, on 14 mc in the afternoons. 'HR wonders whether any of the former operators passing through VS6AC (and there have been lots of them) have now got calls of their own.

W2WC writes with another entry for the Marathon table and says he much regrets that he was so late in getting on the Top Band. He certainly did well when he *did* come on. For DX, he has added a 7 mc Ground-Plane to his antenna collection, and says reports have been good; best catch on the band, to date, is VP8AP.

VS6AC (Neville) hastens to defend the G operators against such accusations as these made by 3A2AB. He admits that some of them aren't so hot, but says that he has never yet had a G butt in on one of his contacts, which is more than he can say for many of the European stations. Further, he finds the latter's Morse just as unreadable and their Phone just as disgraceful as when he was at home in England! Neville says that even a VS6 suffers from many "pile-ups," but he has never yet known one get out of hand.

MT2E duly arrived in Aden, but was not licensed as VS9E (which we mentioned a month or two ago) but as VS9AO. He hopes to be on very shortly, but is on a site with some forty other aerials (Tx and Rx, mixed!) and no interference will be tolerated. So when you hear Butch signing VS9AO you will know that your TVI problems are minor matters compared with what he has been through . . .

#### General Patter

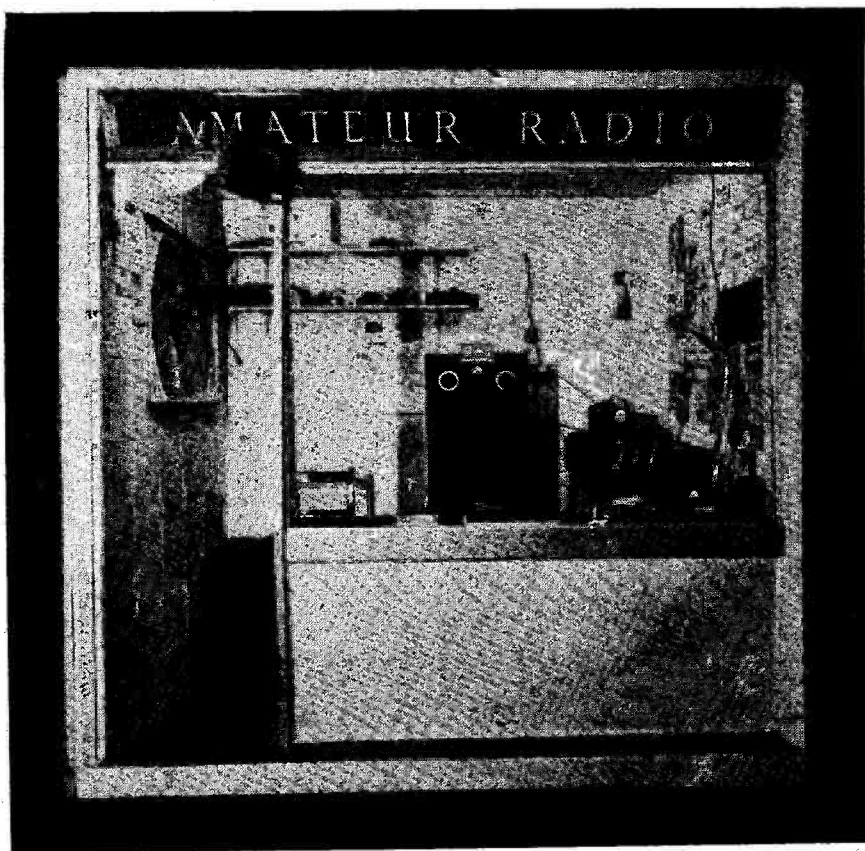
G8IP (Hampton) says "I worked that character calling himself M1B and have even sent a card to Box 77 San Marino, but don't expect anything to come of it." We still don't know whether this active one is the old original M1B or the phoney who used to say "QTH Snt Marino." '8IP was delighted to work ZE3JM, who is ex-G4JF and an old friend of his. They have had an unsuccessful sked for a long time, but ZE3JM moved to Umtali where he was not so screened, and suddenly came through like a ton of bricks.

G2BJY (West Bromwich) has found it

## ZONES WORKED LISTING

### POST WAR

Station	Z	C	Station	Z	C
<b>Phone and CW</b>			<b>cont'd.</b>		
G6ZO	WAZ	232	G2FYT	37	137
G6RH	WAZ	224	G3ABG	37	135
G6OB	WAZ	218	G6QX	37	135
G5YV	WAZ	205			
G3ATU	WAZ	205	G7YS	36	130
G3DO	WAZ	200	G3GUM	36	129
G2RSR	WAZ	196	G3CIZ	36	127
G4CFP	WAZ	195			
G8IG	WAZ	188	G6TC	35	111
G2VD	WAZ	171	G2DHV	35	106
G3BI	WAZ	162			
G3TK	WAZ	157	G3FGT	34	129
G3AAM	WAZ	154	GM3CVZ	34	107
G2IO	WAZ	152	G3HDA	34	103
G3YF	WAZ	152	G6AT	34	100
G8IP	WAZ	144			
G3AZ	WAZ	133	G3FXB	33	129
G5BJ	WAZ	126			
G5VU	WAZ	124	G2BBI	30	101
			<b>Phone only</b>		
G2AJ	40	201	G2AJ	38	161
G2WW	40	183			
G3FNJ	40	150	G3DO	37	160
G6BB	40	136	G6WX	37	135
G3BNE	40	134			
G5MR	40	130	G8OX	36	139
			G3COJ	36	134
G3DCU	39	163	G2WW	36	134
G5FA	39	160			
G8KU	39	158	G2VJ	34	116
G3BDQ	39	155			
			GM2DBX	33	101
G2BJY	38	160			
G3COJ	38	157	G2BBI	30	98
GM3EST	38	133			



During the period May 4-26, GB3FB of the Festival of Britain Land Travel Exhibition was at Manchester with G6OM in charge. Operating 7 and 14 mc CW and phone, a large number of stations were worked through a continuous S9 noise level, making DX very difficult. The next appearance of GB3FB is at Leeds, June 23—July 14, under G6KU. The noise level will probably be no less, so operators are asked to be tolerant if GB3FB appears to be in difficulties.

*(Photo Short Wave Magazine copyright).*

“a pleasant change” to work locals on 80-metre phone and CW. He wants the full rules for the WAE Certificate; as we haven't got them at the moment, can someone please help him? 'BJY reminds us, in connection with G2HKU's statement last month, that he, also, collected a DXCC with 25 watts, and has Certificate No. 918. He has just made an even tougher one—EDXC—also with 25 watts. Nice work, that!

G2CDT (Sheffield) says that he, like many others, is too restricted in his times to hope to work much super-DX; so he uses this Commentary to find out what is

workable. Strings of call-signs don't mean much, and he would like to read more details of each QSO, thus: “G7MUG (150 watts, Rhombic) worked FG7MUG 339 at 0330, May 7, 14050 kc.” Then he knows that such a QSO is not for him, and doesn't pine over it! (But think of the work for your Commentator, sorting all that out of every letter a dozen or more times... he would certainly never work any DX again).

The former exponent of sloping aerials, G2GM, has now moved to Paignton, and misses them sadly. He is in the centre of the town, surrounded by refrigerators and

traffic lights, and with no space for an outside aerial. So he has a bent folded dipole in the roof-space, and has worked 38 countries in 16 zones, but finds this the first aerial he has used, since 1929, on which he cannot work W's!

G6BB (London, S.W.2) has been too busy to do much chasing of late, and won't be very active during the summer. He says he has found an aerial which brings back ZL's to CQ calls on 80, but, in general, the reaction has set in. He longs for the days of 23 and 45 metres, using a de-based LS5 and chemical rectifiers, and says the chief curse of to-day is the VFO. There are many who will agree with him, and many more who would add, in parentheses, "as used by the Spiv-types."

#### Returning Thanks

G3FZG (Wirral) wishes to thank all the amateurs who have helped him during the past eighteen months, which he spent in a sanatorium. He was using 10 watts to a 6L6, CO, as G3FZG/A, on 40-metre CW; this helped him to pass the time agreeably and to make many new friends. Lots of QSL's with messages of cheer, and plenty

of books and other offerings from people he had never met in person, helped 'FZG to recover his health and he now wishes to thank them all and to hope that they may continue to spread the true "Ham-spirit" throughout the world.

#### The Festival Station

G6OM, who has been considerably bound up with the affairs of GB3FB in Manchester, asks us to say that if they don't come back to a call it is *not* snootiness, but failure to hear signals through the terrible noise-level. He says that a lot of DX stations must have branded them as clots, but it takes an S9-plus signal to punch a hole in the local racket.

A new kind of pirate is reported by G2HKU. This one keeps on calling him when he makes a 14 mc CW contact and tries to blot out the distant station. The signal is RST 585, the fist terrible, and the calls are FR1EAK, LI2AR, VK2OPT and other choice assortments. There's only one thing to do with a pest like this; keep him talking while someone else does a bit of D-F.

We have been honoured by similar



G2CKK, Folkestone, was licensed AA in pre-war days, and now operates mainly on 14 mc with 50 watts to an 807, screen modulated with a 6L6 when phone is used. With a 66-ft. NE-SW aerial, centre fed with tuned feeders, 67 countries have been worked. For 1.7 mc a 6L6 ECO is used, and the station receiver is a Sky Champion hotbed up with a regenerative pre-selector.



treatment, not from a pirate, but from a certain UA3. At various odd times of the day we simply can't call any DX station without knowing that this type will be on the frequency, calling us, when we go over and listen. His patience is limitless; we never answer, but he keeps on trying, and *always* when we are calling someone else. He has never once come back to a CQ call.

GM3EST's desire to go DX, on ZD9 or VR6 or somewhere similar, has brought forth a letter from G3EHS (Barnoldswick). He really wants to know what is happening on Pitcairn, as the operator who was there in 1947 was responsible for introducing him to Amateur Radio. 'EHS was serving as a radio officer, and he had some good QSO's with ZPB (Pitcairn's commercial station), the operator of which enlightened him as to conditions on the island. Shortly after leaving the sea, 'EHS read that the N.Z. Government had sold all the radio equipment placed on Pitcairn during the war to the islanders—for the sum of £50.

We do not think there has been any genuine activity out there since Nelson Dyett (probably the N.Z. operator referred to) left the island, although two calls now appear in the *Call Book*—VR6AC and VR6AY (the latter, of course, being Andrew Young, who operated pre-war but has not been heard on the air since).

It's a great pity that *any* nice prefix like this should go begging; let's start a Corps of Volunteers for shining up such things as VQ7, ZD7, ZD8 and VR6.

#### Another Menace

Several people are complaining about the increase in parasitics and key-thumps from commercial stations, in many cases operating on their rightful frequencies outside our bands. A case in point recently was FZR6 (just below the LF end of 14 mc), whose final started behaving like a pair of 807's gone wild. Clicks and bangs and the horrid things we call caterpillars appeared all the way up to 14080 (and doubtless also down to 13900) for at least twelve hours. What is so galling is that for at least six hours of this time he was doing nothing but calling "V V V de FZR6"; sheer waste of juice, nothing useful achieved, but innumerable weak DX signals blotted out over a wide band for several hours. Almost as futile as some of this short-wave broadcast racket!

And on that sad note we will leave you for this month. Next month's deadline is first post on June 13, and the following one even earlier—July 11. So please watch these two dates, and send in all your reports and news to time. Address them to "DX Commentary," *Short Wave Magazine* 53 Victoria Street, London, S.W.1. Until then, Good Hunting, 73 and BCNU.

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## CALL BOOKS

### AN ANNOUNCEMENT

For nearly 30 years, the RADIO AMATEUR CALL BOOK has been the world's only complete directory of amateur stations. Due to its steady growth, to the high cost of production and the effect of devaluation, it now costs 20s. in sterling.

By collaboration between the American publishers of the CALL BOOK and Gage & Pollard, sole agents for the U.K. and Europe, it has been decided to make two additional cheaper versions available with effect from the publication of the next (Summer) edition.

One will be the Foreign Section only—the CALL BOOK as now published but *less* the W portion—at 8s. 6d. post free, and containing some 140 pages of call-sign-addresses covering all parts of the world outside the United States.

The other will be the G section of the CALL BOOK, at 4s. 6d. post free, and containing only the latest U.K. listings, the fullest and most up-to-date extant as they will be made up from the existing lists.

These three publications will meet individual CALL BOOK requirements, and each edition will contain all the latest additions and amendments.

To ensure appearance in these Call Books, it will still be necessary for all G's to send their call-sign-addresses, and changes of address, to QTH Dept., SHORT WAVE MAGAZINE, the only source from which U.K. QTH's are accepted for the RADIO AMATEUR CALL BOOK. Publication in all three versions will then be automatic.

It should be noted by all concerned that (a) British call signs can only be published at the direct request of the holder of the call, and (b) the RADIO AMATEUR CALL BOOK is covered by copyrights retained by the American publishers.

We understand that the new versions of the CALL BOOK, at the three prices of 20s., 8s. 6d. and 4s. 6d. post free, will be available about mid-July, that the initial print orders will be limited, and that copies can be reserved in advance with Gage & Pollard, 49 Victoria Street, London, S.W.1. Remittances can be accepted in any currency officially quoted against sterling.

# VHF BANDS

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

AT last there have been signs of an awakening of 2-metre conditions. The weight of the mail, the long lists of Calls Worked and Heard (so many, in fact, that it will not be possible to print them all), and the general ascent up the Counties Ladders all indicate that the improvement has been general, and note the grand total of stations worked by G3BLP in All-Time Counties. In addition, we are very glad to have some new "firsts" to record. On April 18, EI8G (Foxrock, Co. Dublin) was heard by G3EHY (Banwell) calling him on schedule. As a result of telegrams to him, EI8G called GW2ADZ (Llanymynech) the following evening at 2220 BST and a contact resulted. This is a 2-metre record for EI stations and the first GW/EI contact on the band. Further QSO's followed on April 20, 21 and 22, and on April 23 the first G/EI contact was made with G8SB (Chorlton-cum-Hardy). Our congratulations go to all concerned on another step forward in the VHF story—and our sympathies to G3EHY, who was largely instrumental in arranging the schedules but who was not lucky enough to work EI although he had heard EI8G and his own signals had been received over there.

On the South Coast greatest excitement has been the reception of two-metre signals from the Channel Islands. At the time of writing no contact had been made, but signals from GC2CNC are being heard regularly by a number of G's, including G2DSW, G2VH, G2XC, G3BHS, G3GOP and G8IL. At G8IL the signals have twice been up to S8, when, judging from results in other directions, conditions were far

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*The Season Opens —*

*First EI/GC Contacts Reported —*

*Better Conditions, Higher Activity —*

*The April Contest Tables —*

*Station News and Views*

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from good. Naturally, some suspicion falls on the converter at GC2CNC as no signals have yet been received in the reverse direction. But that is only a matter of time, and there should be another "first" to record very soon.

*Flash:* G8IL worked GC2CNC on May 24 for the G/GC "first."

## The Contest

The April Activity Week-end Contest coincided with a very poor spell of conditions and this undoubtedly restricted the number of entries. Correspondence shows that many who had intended participating found contacts so rare that it was considered a waste of time just turning the receiver dial for hours on end, and so they retired. It was difficult to assess the points scheme at its correct value due to these poor conditions. The only definite conclusion is that under such conditions the county bonus points favour stations in the Midlands and have an adverse effect on the scores of South Coast stations. This is presumably due to the fact that the southerly stations have counties only to the north of them. Under better conditions in previous contests this disadvantage had been compensated by the rather longer distances which it has been possible to work from the southern locations. Midlands stations have usually found a lack of QSO's at more than 150 miles, while from the South Coast ranges up to 200 miles have often been workable. With the increase in Continental activity this effect should in future be less conspicuous. In the present Contest the county bonus served to make the scores look large enough to be respectable and probably resulted in a number of entries which otherwise would not have been sent! Opinion on the merits of the system was fairly equally divided and a decision on whether or not to use the idea in future events will be made later. (Some further

comments on contest scoring appear in the paragraphs devoted to the Five Band Club Dinner).

And now, rather belatedly, congratulations to the joint winners, G3ENS (Loughborough) and G6AG (Bexley). G3ENS reached a high position in last November's Contest while G6AG has only recently come on the band. Under the adverse conditions in which we competed they both achieved a remarkably high score.

### Two-Metre Station News

In the extreme south-east G5MP and G5MR (Hythe) are both active. The former is hoping to do some /P from the roof of an hotel, while the latter, although finding conditions mainly poor, managed to raise a new county, in Bedfordshire; he is in agreement with our recent remarks on contest scores. G3DIV/A (Eastbourne), who is our Continental contact-man in that he is in touch with DL, F, ON and PA more frequently than anyone else, has been experiencing some good conditions in almost every direction, and has once again worked DL4XS/3KE. On April 20 a number of Belgian stations were worked and May 12 brought the first contacts of the year with PAØ. DL3FM has been heard several times but no QSO made yet. An 8-element stack is now in use at G3DIV/A.

G2AOL (Oxford), an early opponent of the 2-metre Zone Plan has, as a result of experience of its actual operation, come to approve it; he suggests, however, that it might be a good idea to allocate a narrow portion of the band for CW operation only, and that this area might be the, at present, unused 145.8 to 146 mc. The idea of course is to dodge QRM from over-modulated telephony transmissions, which he considers the worst type of interference of any, and rather prevalent on two metres. G2AOL makes a number of other points in favour of his suggestion, but space will not allow a detailed discussion of them

TWO-METRE CONTEST			
SCORES	OMITTING	COUNTY	BONUS
1	G3ENS	79	13 G3EYV 26
2	G6AG	67	14 G5LQ 26
3	G2XC	50	15 G2DSW 25
4	G3GSE	49	G6CW 25
5	G3FAN	48	GW5MQ 25
6	G4MR	40	18 G3ENI 17
7	G5DS	39	19 G3CXD 15
8	G2HDZ	34	20 G3BEX/A 14
	G3BA	34	G3CHY 14
10	G2AHP	33	G3HCU 14
11	G6CB	32	23 G2FNW 13
12	G2FTS	29	24 G8LY 10

### TWO-METRE CONTEST

APRIL 7/8, 1951  
(Activity Week-End)

Position	Call	Location	Points
1	G3ENS	Loughborough, Leics.	247
	G6AG	Bexley, Kent	247
3	G3GSE	Kingsbury, Middx.	157
4	G3BA	Daventry, Northants	154
5	G4MR	Slough, Bucks.	148
6	G2XC	Portsmouth, Hants.	146
7	G3FAN	Ryde, I.O.W.	144
8	G2HDZ	Pinner, Middx.	142
9	G5DS	Surbiton, Surrey	135
10	G6CW	Nottingham	133
11	G2AHP	Perivale, Middx.	117
12	G6CB	Wimbledon, Surrey	116
13	G3CXD	Newcastle, Staffs.	111
14	G5LQ	Chiswick, Middx.	110
15	G2FTS	Hailsham, Sussex	99
16	G3HCU	Chiddingfold, Surrey	86
	G3CHY	Coalville, Leics.	86
	G3EYV	S.W. London	86
19	G2DSW	Southampton, Hants.	85
	GW5MQ	Rhosesmor, Flints.	85
21	G2FNW	Melton Mowbray, Leics.	73
22	G3BEX/A	Hove, Sussex	62
23	G3ENI	Kew Gardens, Surrey	53
24	G8LY	Lee-on-Solent, Hants.	34

this month. Doubtless there are many who would have objections to the scheme and we of *Short Wave Magazine* are very open-minded about it at the moment.

G6CB (Wimbledon) has worked G2DLJ/A, G2FNW, G3DIV/A and G6LI for some new and excellent DX; he has been comparing the performance of his converter with one or two others in his neighbourhood and gives full marks to G3EYV. G5MA (Ashted) has raised G3BW (Whitehaven). G5NF (Farnham) is moving and so is temporarily inactive; his new location will be 580 feet up. G3BLP (Selsdon), to whom many correspondents have asked us to pass thanks for the excellent Dinner arrangements on April 14. has been receiving an excellent signal from G3BW. On April 18 G3CFK (Yarmouth) provided a colossal signal and numerous Midland stations have been heard and worked regularly. He hopes to visit GC2CNC sometime during the summer to check up on VHF activity there! G3ENY (Walton-on-Thames) is moving to North Wales and expects to be on from Llandudno in due course; he says he is sorry to leave the London area, but is looking forward to being the real DX about which one is always hearing!

G3EYV (London) is planning to fix a 70 cm Yagi above his two metre beam. He tells of a "hoaxer" active on 2 metres one Saturday pretending to work Europeans, presumably with the idea of seeing how many stations he could persuade to

## TWO-METRE ACTIVITY REPORT

### G3AVO/A, Watlington, Oxon.

**WORKED:** G2AOK/A, 2HCG, 2MQ, 2MV, 2YC, 3BKW, 3BLP, 3DLA/A, 3HCU, 4HT, 4SA, 5LI, 5UF, 5WP, 6KB, 6NB, 8LG.

**HEARD:** G2AHP, 2BUJ, 2IQ, 2XS, 3CCP, 3DAH, 3DJX, 3EHY, 3FZL, 3GHI, 3SM, 4AP, 5DS, 6AG, 6UH, 6XY. (May 6 to 13).

### G3CCP, Shrivvenham, Berks.

**WORKED:** G2AOK/A, 2ATK, 2BUJ, 2DLJ/A, 2HDZ, 2HIF, 3ATZ, 3BLP, 3CXD, 3ENY, 3FSL, 3FRY, 3GHI, 3GHS, 4AP, 4FSL, 4HQ, 4HT, 4SA, 4VH, 5DS, 5TW, 5LI, 5MA, 5NF, 6AG, 6NB, 6KB, 8OU, GW3EJM. (March 12 to May 11).

### G5YV, Leeds, Yorks.

**WORKED:** G2ADR, 2ATZ, 2CPT, 2FNNW, 2FO, 2HQ, 2XS, 2XV, 3BA, 3BKS, 3BXO, 3BPD, 3CGO, 3CXP, 3CHY, 3CYY, 3DA, 3DMU, 3ENS, 3GGX, 3VM, 3WW, 4HT, 5DS, 5MA, 5UD, 6CW, 6LL, 6NB, 6YO, 8GL, 8IC, 8SB, GW5MQ.

**HEARD:** G2BM, 2CPL, 2DCI, 2FKZ, 2FQP, 2FZU, 2HCG, 2HGR, 2IQ, 2OI, 3A0O, 3ABA, 3BK, 3BLP, 3BOC, 3DJX, 3EHY, 3GMX, 3XX, 4MW, 5RW, 5WP, 6AG, 8AX, GW2ADZ, ON4BZ. (April 26 to May 14).

### G3HII, Liverpool, Lancs.

**WORKED:** G2DCI, 2IN, 2JT, 2OI, 3ATZ, 3BOC, 3BPJ, 3BW, 3BY, 3CSC, 3DA, 3FMI, 5VN/A, GW2FVZ, 5MQ.

**HEARD:** G2HGR, 3A0O, 3ELT, 3GMX, 5CP, 8SB. (April 8 to May 13).

### G3FIH, Radstock, Somerset.

**WORKED:** G3EHY, 3FKO, 3GFV, 4AP, 5UF, 6NB, 8IL.

**HEARD:** G2CPL, 2FTS, 2NH, 2XC, 3BLP, 3CGO, 3DAH, 3DJX, 3GAO, 3GHI, 3GOP, 4DC, 4HT, 4MR, 4RO, 5DS, 5LI, 5MR, 5RO, 6AG, 6PR, 6XM, 8DM/A, GW2ADZ, 3EJM. (April 10 to May 14).

### G8SB, Manchester, Lancs.

**WORKED:** E18G, G2ALN, 2AOK/A, 2ASR, 2ATK, 2MCI, 2DLJ, 2FSL, 2FZU, 2HGR, 2DA, 2OI, 2XS, 3AGS, 3A0O, 3ATZ, 3BKS, 3BLP, 3BOC, 3BW, 3CXP, 3DMU, 3EHY, 3WW, 4VH, 5BM, 5KX, 5VN/A, 5YV, 6LI, 6NB, 6QT, 8AX, 8GL, 8IC, GW2ADZ.

**HEARD:** G2FO, 3BK, 3CCP, 3CGO, 3ELT, 3DA, 3FMI, 3GMX, 4HT, 4RO, 5IW, 5MR, 5UD, 5WP, 6XY. (April 14 to May 11).

### G2DTO, Tooting, London.

**WORKED:** G2AXN, 2FTS, 2MQ, 2XC, 3ABH, 3CGO, 3CWW, 3DAH, 3EOH, 3FEF, 3GAV, 3GDR, 3HCU, 4RO, 5UF, 6JP, 6QN, 8IL.

**HEARD:** G2AVR, 3DIV/A, 3EYV, 6CB. (April 1 to May 14).

### G2XS, Mansfield, Notts.

**WORKED:** G2BUJ, 2FNNW, 2FO, 2FZU, 2HQ, 2MA, 2XC, 3A0O, 3AGS, 3BW, 3CHY, 3CYY, 3FUL, 3VM, 3WW, 5DS, 5UD, 5YV, 6CW, 8AX, 8SB, GW5MQ. (April 5 to May 14).

### G2CPL, Lowestoft, Suffolk. (NCR 62/536910).

**WORKED:** DL3FM, G2ATK, 2DLJ/A, 2FNNW, 2HDZ, 2MV, 2XC, 2XV, 3APX, 3CFK, 3CGO, 3CXD, 3EHY, 3FUL, 3GGJ, 3GHI, 3HBW, 3VM, 3WW, 4HQ, 4HT, 4OT, 4PV, 4RO, 5LI, 6AG, 6CW, 6LL, 6NL, 6NB, 6WU, 6YU, 8AX, 8IP, GW2ADZ, 5MQ, ON4BZ, 4HC, 4IW, PA0AJA, 0BAL, 0BP, 0CJP, 0DOK, 0EO, 0FB, 0FC, 0IA, 0LDG, 0OD, 0PR, 0RK, 0WI. (April 15 to May 14).

### G3DIV/A, Eastbourne, Sussex.

**WORKED:** DL4XS/3KE, F3CA, 8EC, 8GH, 8JR, 8KP, 8OB, 8OX, 9DI, 9MX, G3CFK, 3VM, 5UD, 6LI, ON4BZ, 4HC, 4HN, 4IF, 4IW, 4UV, PA0AJA, 0BAL, 0LDG, 0TG.

**HEARD:** DL3FM, G2ATK, 2IQ, 6XY, ON4AP, 4LI, PA0BP, 0DOK, 0ID. (April 16 to May 14).

### G3GBO, Denham, Bucks.

**WORKED:** G2AHP, 2BMI, 2DFO, 2FKZ, 2FME, 2FTS, 2HDZ, 2LW, 2UJ, 2XV, 2YC, 3BLP, 3BVG, 3CO, 3CVO, 3ENY, 3EVV, 3GHI, 3GHS, 3HCU, 3MI, 4DC, 4HQ, 4MR, 4MW, 4RO, 5DS, 5LI, 5LO, 5PY, 6AG, 6CB, 6GR, 6LK, 6PR, 6QN, 6UH, 6YP, 8IP, 8TB.

**HEARD:** G2DVD, 3DAH, 3DBM, 3WW, 3ZI, 8KZ.

### G3FRY, Cheltenham, Glos.

**WORKED:** G2HX, 3CCP, 3FSL, 3GEN, 4VH, 5BM, 6ZQ.

**HEARD:** G2AOK/A, 2XC, 3ATZ, 3BLP, 3BW, 3EHY, 3FMI, 3FNL, 3MA, 4HT, 5IW, 6XM, 6YU, 8SB, GW3EJM.

### GW5MQ, Mold, Flintshire.

**WORKED:** G2CPL, 2DCI, 2DLJ/A, 2FNNW, 2FZU, 2HGR, 2JT, 2OI, 2XS, 3AGS, 3A0O, 3BK, 3BKS, 3BLP, 3BS, 3CHY, 3CXD, 3DA, 3DMU, 3ELT, 3EHY, 3GMX, 3HII, 3WW, 4RO, 5BM, 5RW, 5UD, 5YV, 6QT, 8AX, 8GL, 8IC, 8KL, GM3BDA. (April 9 to May 7).

### G3EHY, Banwell, Somerset.

**WORKED:** G2CPL, 2CYN, 2DCI, 2DLJ/A, 2FNNW, 2OI, 3ABA, 3ATZ, 3BW, 3CGO, 3CHY, 3CUA, 3DA, 3FIH, 3FMI, 3FRY,

3FSL, 3GFV, 3HAZ, 3HBW, 3MA, 3WW, 4AP, 4KD, 4RO, 5BM, 5LI, 5MA, 6AG, 6NB, 6XY, 6WU, 6ZQ, 8DM/A, 8IP, 8KL, 8KZ, 8OU, 8SB, GW2ADZ, 3BAZ, 3EJM, 3HCH, 5MQ.

**HEARD:** E18G, G2FO, 3DJX. (April 14 to May 14).

### G2OI, Eccles, Lancs.

**WORKED:** G2ATK, 2ALN, 2BUJ, 2FCV, 2FZU, 2HGR, 2IN, 2XC, 3ABA, 3AGS, 3A0O, 3ATZ, 3AYT, 3BKS, 3BLP, 3BOC, 3BPJ, 3BW, 3BY, 3CSC, 3CXD, 3DA, 3DMU, 3EHY, 3ELT, 3EMJ, 3ENS, 3FMI, 3GUD, 3GMX, 3HII, 4HT, 4RO, 4VH, 5BM, 5CP, 5DF, 5IW, 5UD, 6DP, 6LK, 6NB, 6XM, 6YU, 8SB, 8WV, GI2FHN, GW2ADZ, 5MQ.

**HEARD:** G2FKZ, 2FNNW, 2MA, 2RI, 2XS, 2XV, 3AKU, 3BA, 3BK, 3CCP, 3CGO, 3FAY, 3FSL, 3GUD, 5LI, 5MA, 5RW, 5YV, 6XY, 8AX, 8QY. (April 1 to May 10).

### G5BM, Cheltenham, Glos.

**WORKED:** G2ATK, 2DLJ/A, 2OI, 2XC, 3ATZ, 3BOC, 3BW, 3CGO, 3FMI, 3FRY, 3FSL, 3GEN, 3GUD, 3MA, 4VH, 5IW, 5SK, 6CW, 6NB, 6NB/A, 6XY, 6YU, 6ZQ, 8KL, 8SB, GW2ADZ, 3EJM, 5MQ.

**HEARD:** G2AK, 2BUJ, 3ABA, 3BEX/A, 3WW, 6XM, 8QC. (April 1 to May 14).

### G2FNNW, Melton Mowbray, Leics.

**WORKED:** G2ATK, 2BUJ, 2BVW, 2CPT, 2DLJ, 2FQP, 2FZU, 2HCG, 2HOP, 2IQ, 2MV, 2RI, 2XS, 3BA, 3BK, 3CGO, 3CHY, 3DMU, 3DUP, 3ENS, 3FFC, 3FUL, 3GHI, 3GUD, 3VM, 3WW, 4HT, 4RO, 4SA, 5BD, 5DS, 5IW, 5MA, 5PY, 5UM, 5YV, 6AG, 6CW, 6NB, 6SN, 6XM, 6XY, 6YU, 8AX, 8IC, 8IP, 8QY, 8TB, GW5MQ.

**HEARD:** G2AJ, 2FTS, 2HQ, 2UO, 2XV, 3ABA, 3BLP, 3BEX/A, 3CXD, 3EHY, 3FAN, 3HAZ, 4RK, 5LI, 5SK, 5UD, 6VX, 8WV, GW2ADZ. (April 1 to May 11).

### G3WW, March, Cambs.

**WORKED:** G2AVR, 2BMZ, 2CNT, 2CPL, 2DLJ/A, 2DSW, 2DFO, 2DUS, 2FNNW, 2FO, 2FQP, 2HGR, 2HOP, 2HCG, 2HDZ, 2XC, 2XS, 2XV, 3AKU, 3BA, 3BK, 3BLP, 3BNC, 3CFK, 3CGO, 3CJY, 3CXD, 3DIV/A, 3DJX, 3DMK, 3ELT, 3ENY, 3FEF, 3FSL, 3FUL, 3FXG, 3GGJ, 3GHI, 3GSE, 3HAZ, 3HBW, 2SM, 3VM, 4HQ, 4HT, 4MR, 4MW, 4RO, 4SA, 4VH, 5BD, 5DF, 5DS, 5IW, 5LI, 5UF, 5YV, 6AG, 6CB, 6CI, 6CW, 6LK, 6NB, 6XM, 8AX, 8GL, 8IP, 8OU, 8QC, 8SB, GW2ADZ, 5MQ.

**HEARD:** G3DUP, 5UD, 8KZ, 8SY. (April 5 to May 13).

call "CQ Europe." Yes, some people have a queer sense of humour! G8LN (Plumstead) comments that in spite of his complete removal from last month's Activity List he was, in fact, more successfully active than ever before! In fact, he worked G2XC! He is now after some contacts with Sussex. G8LN is investigating some aerial designs and in addition has been at work on a pre-amplifier with grounded grid stages. G3FSD (Wandsworth) has a new 3-element Yagi and finds it a notable improvement on the previous dipole. G2HDZ (Pinner) found April his most interesting month so far. In addition to the Dinner and the Contests, he erected a new aerial, worked 3 new counties and 43 new stations. G2AHP (Perivale) suggests that many stations still fail to search all the band after calling CQ and in contests not a few operators drop points in that way.

G3GBO (Denham) has worked many new stations recently and asks for the addresses of G3ZI and G2FNQ. He hears the former at S9 plus but so far has failed to raise him. (G2XC has also called in vain!). G3GBO discovered that his aerial system had developed at least three complete breaks and in another place was hanging on by one thread! The damage has now been repaired and signals appear to be better than before. A new miniature 2-metre transmitter has been built in an RF27 case. He disapproves of "CW only" contests, feeling it will tend to produce a rabble. G3CVO (Gerrards Cross) took the opportunity provided by the Dinner to tackle the "hard-core of non-QLS'ers."

#### The South-West

G8IL (Salisbury) makes some comments on converters. He feels that it is still not generally realised that it is the first RF stage alone which is the limiting factor and there is much confusion between gain and signal-noise ratio. He is highly suspicious of "nice silent converters." If silence is to be the criterion of performance then why not turn off the local oscillator! G3EHY (Banwell) has found the month "patchy" and says that sort of thing makes two-metres interesting. His reception of EI8G has already been mentioned, and G3BW has been worked consistently. The other highlight of the month was working three Leicester stations in a row one night. (The fourth active Leicester station, who was not at home, called at G3EHY's shack the following afternoon!). G3FIH (Radstock) is active on 145.3 mc and wants to work G2XC!

G3FRY (Cheltenham) now has his beam

### TWO-METRE CONTEST

#### STATION DETAILS

Call	Input	Aerial	Rx RF Stage
G2DSW	25	4-Yagi	12P2000
G2FTS	35	6-Stack	—
G2HDZ	20	4-Yagi	Cascade
G2XC	25	4-over-4	6AK5
G3BA	60	16-Stack	6J6
G3BEX/A	25/90	4-Yagi	6J6
G3CXD	18	3-over-3	6J6
G3ENI	20	2-over-2	nil
G3GSE	40	4-over-4	—
G3HCU	15	5-Yagi	—
G6AG	140	16-Stack	—
G8EY	25	4-Yagi	—
GW5MQ	—	3-Yagi	—

No details available for other stations.

rotatable from the shack and is hearing London stations over the Cleeve Hills. G5BM (Cheltenham) has found conditions fair recently and sends a list of calls worked. G3AVO/A (Watlington) has moved to a better site from a VHF point of view, being 350 feet a.s.l., just to the north of the Chilterns. A new aerial, a 12-element stack, has been erected and London can be worked over the 850 feet Chilterns. G2BKW (Leafield) has 5 watts to a long wire.

#### Midlands

G2XS (Mansfield) has his 6-element stack in operation again; he thinks the Yagi was slightly better when dead-on but finds its narrow lobe makes operation difficult. Durham, Northumberland and Surrey have been worked on the stack. G5SK (Coventry) feels he has reached the limit of his 4-element Yagi by working South Coast stations and hopes for better things when he has his 8-element stack up. G6XY (Coventry) has a new cascade converter in use and finds it a great improvement on his original G2IQ type. G5JU expects to be operating /P in Carmarthen-shire on July 8. Frequencies will be either 144.65 or 145.21 mc. G8HK (Bletchley) hopes to be active again soon. G3HAZ (Birmingham) has worked a little DX on his indoor 6-element Yagi. His best night so far has been April 5.

#### East Anglia

G2CPL (Lowestoft), who has also had many European QSO's, found the band open to the Continent on May 12 when he worked 14 PA's, 3 ON's and DL3FM between 2100 and 0145 BST. G3VM (Norwich) also worked a number of Continentals the same evening, and the previous evening raised G2FO (Durham). G3WW (Wimblington) has been on 3.5

## TWO-METRE ACTIVITY BY ZONES AND COUNTIES

*Based on reports for current issue only*

### Zone A (144.0 to 144.2 mc)

Ayr : GM3DDE, GM3DIQ  
Dumfries : GM3OL  
Lanark : GM3BDA

### Zone C (144.2 to 144.4 mc)

Cumberland : G3BW  
Durham : G2FO  
Northumberland : G3CYY  
Lancashire : G2ALN, G2DCI, G2FCV, G2HGR,  
G2IN, G2OL, G3AGS, G3A00, G3BKS,  
G3BPJ, G3BY, G3CSC, G3DA, G3ELT,  
G3GMX, G3HII, G5KX, G5VN/A, G6QT,  
G8SB  
Yorkshire : G2ADR, G2CPT, G2HQ, G2IQ,  
G2MA, G3BXO, G3CXP, G3DMK, G5YV,  
G6YO, G8GL

### Zone D (145.8 to 146 mc)

Co. Down : G12FHN

### Zone E (144.4 to 144.65 mc)

Cheshire : G2CYN, G3ATZ, G3AYT, G3BOC,  
G3FMI, G5CP, G6DP  
Derbyshire : G2DLJ/A, G2FZU, G3EMJ,  
G3GUD, G5RW  
Leicestershire : G2FNW, G2RI, G3CHY,  
G3ENS, G3FFC  
Lincolnshire : G3DMU, G5BD, G6LI  
Nottinghamshire : G2XS, G6CW  
Staffordshire : G3CXD, G8KL  
Warwickshire : G2AK, G2ATK, G3ABA,  
G3HAZ, G4RK, G5SK, G6CI, G6SN, G6XY,  
G6YU, G8QY

### Zone F (145.65 to 145.8 mc)

Caernarvon : GW3ENY  
Flintshire : GW2FVZ, GW5MQ  
Glamorgan : GW3BAZ, GW3EJM  
Herefordshire : G6NB/A  
Monmouthshire : GW3HCH  
Montgomeryshire : GW2ADZ  
Worcestershire : G4VH, G5IW

### Zone G (144.65 to 144.85 mc)

Bedfordshire : G3CGO, G3FUL  
Buckinghamshire : G2MQ, G3CVO, G3GBO,  
G3MI, G4MR, G6NB, G6PR, G8QC, G8WV

Cambridgeshire : G2CNT, G2UQ, G2XV,  
G3AEP, G3BK, G3CJY, G3GGJ, G3WW,  
G4MW, G8SY

Hertfordshire : G3DJX, G3FD, G3GDR,  
G3GRA, G4RO, G5UM, G6GR, G6LL

Huntingdonshire : G2FQP, G3AKU  
Norfolk : G3VM, G5UD, G8AX  
Northants : G2HCG, G2HOP, G3BA, G3DUP  
Suffolk : G2CPL, G3CFK

### Zone H (145.25 to 145.5 mc)

Berkshire : G3CCP, G4SA, G5DF, G5HN,  
G8DM/A

Dorset : G3ABH, G5UF

Gloucestershire : G2AOK/A, G2HX, G3FSL,  
G3FRY, G3GEN, G3MA, G5BM, G6ZQ

Hampshire : G2DSW, G2VH, G2XC, G3ARL,  
G3BHS, G3BNC, G3DEP, G3FAN, G3GAV,  
G3GOP, G6XM, G8LY

Oxfordshire : G3AVO/A, G3BKW, G5TP,  
G6KB

Wiltshire : G2BUJ, G4AP, G8IL

### Zone I (145.5 to 145.65 mc)

Channel Islands : GC2CNC, GC3FSN

Cornwall : G3AGA

Devonshire : G2BMZ, G3GAO, G5BY

### Zone J (144.85 to 145.25 mc)

Essex : G2WJ, G3CQ, G3ECA, G4HQ, G4OT

Kent : G2AJ, G2AOL, G2KF, G2UJ, G3DAH,  
G4IG, G5MP, G5MR, G6AG

London : G2DTO, G2FKZ, G3EYV, G3FSD,  
G3FXG, G3FZL, G4DC, G5LI, G5LN, G5PY,  
G6LR, G6WU, G6YP, G8LN

Middlesex : G2AHP, G2BMI, G2FMF, G2HDZ,  
G2YC, G3BVG, G3BWC, G3EOH, G3GSE,  
G3GXO, G3HBW, G3SM, G4HT, G4KD,  
G5LQ, G6JP, G6UH, G8IP, G8KZ

Surrey : G2BN, G2FNO, G2MV, G3BLP,  
G3DLA/A, G3DVQ, G3ENI, G3GHI, G3GHS,  
G3GSK/A, G3HCU, G3ZI, G5DS, G5LC,  
G5MA, G5WP, G6CB, G6LK, G6QN, G8OU

Sussex : G2AVR, G2DVD, G2FTS, G2JCU,  
G2MC, G3BEX, G3DIV/A, G3FEX, G3HCU,  
G8OS

*Note : The frequency areas given above are in accordance with the Two-Metre Zone Plan, as accepted by the majority of VHF operators. A few stations are not conforming.*

mc between whites to get some CW practice ! He has been working northern DX on Two. G3WW sends news that G2AIQ is at a new QTH and has some aerial problems to solve. G4MW has been to Ireland and visited EI8G.

G3AKU (St. Ives) having been dropped from the Activity List in May decided to write this month ! He would like to see more operation during TV hours. New contacts for G3AKU include GW2ADZ to give him a new country ; he would like to work G3EHY whom he often hears—and G5BY whom he never hears !

### The North

G2DLJ/A started on Two last November.

He has a 16-element stack fed from much-modified SCR522. The converter has a 6J6 RF stage ; he feels activity has subsided somewhat in the Midlands recently, and wishes the South Coast stations would beam on the Midlands more frequently ! He says it appears that stations in the south feel it is a waste of time beaming that way ! (May we interpose here as one of the South Coast stations concerned ? First, G2DLJ/A and others in his part of the country can be assured that the southern beams are pointed due north quite frequently. Secondly, according to our log we called G2DLJ/A nine times before the first G2XC-G2DLJ/A contact resulted. Thirdly, there appear to

be a few Midland stations who only search from 145 to 145.1 mc after a CQ call, under the impression that all southern activity is in that portion of the band. All the Hampshire stations, with one exception, are on the HF side of 145.25 mc). In reply to G3ENS's remarks last month (pp. 178-9), G2DLJ comments that he listened for the *whole* of the contest but being in a less advantageous location did not achieve such good results. He suggests a handicap system for future contests based on the results of previous efforts.

G2IQ (Sheffield) has replaced his 5-element beam with a 12-element stack, with the reflectors only 14 inches behind the radiators. This produces a feed impedance that is almost exactly 300-ohms. The new array is notably better from the point of view of steadiness of signals. G5YV (Leeds) has made his first appearance on VHF since the five-metre days. He is using a 4-element Yagi 65 feet high, an Rx with 6J6 RF stage, and 20 watts to an 832 for the transmitter.

GW5MQ (Rhosesmor) increased his county score by 6 during the good spells. G3HII (Liverpool) only heard one station during the last activity period. He has 20 watts to a DET-19 and is on 144.168 mc. G8SB (Manchester) whom we got in the wrong county last month, in addition to making the first EI/G contact has raised his county score and is endeavouring to overtake G2OI. G2OI reports that GI2FHN is active again. Now it only wants some activity in GD! He suggests that GI and GM stations would have a much better chance of working into northern G if they used the HF end of the band as there is much QRM at the LF end.

#### Scotland

GM3DIQ (Saltcoats) reports working GM3OL (Dumfries) *via* the aurora on April 20. Signals were up to S9 plus for an hour from 2215, after which the aurora faded. GM3OL could not be heard over the direct path. Other signals which are normally S8 to 9 were much weaker than usual. On May 11 another QSO was made with GM3OL and this time contact was possible over both direct path and with the beam north. G3BW was also heard and called, but in vain, the same night.

#### Overseas News

PAØLU (Hilversum) has moved from Voorburg and thinks his new location a little better. He informs us that there will be a Dutch 2-metre contest in September. If details reach us in time it may be possible to organise a supporting activity week-end,

<b>TWO METRES</b>	
<b>ALL-TIME COUNTIES WORKED LIST</b>	
Starting Figure, 14	
From Fixed QTH only	
Worked	Station
49	G2OI (232)
46	G3BLP (410)
45	G3EHY (213)
43	G2AJ (304), G3COJ (123), G5WP, G6NB
42	G5MA, G3ABA (193)
41	G2NH (283)
40	G8SB
39	G2IQ, G3WW, G4HT (344), G6XM (208)
38	G3APY, G5BM, G5BY
36	G2XC (301), G3CGQ, G3CXD
35	G6LK
34	G2CPL (288), G3VM (143), G4AU, G4DC
33	G2FNW, G2XS (147), G5JU
32	G3BK, G5DS (207), G6CW, G8WW, G8IP (236)
31	G2CIW (231), G5RP, G8IL
30	G3BOB, G4CI (181), G5NF (201), G8SM (172)
28	G2DLJ/A, G3BW
27	G3AKU, G3DAH, G6UH, G6YU, G8QY
26	G3BHS, G4NB, G5SK
25	G3FAN (123), G3GSE (201)
24	G2AIQ, G3FXG, G6CI, G8KL, GW5MQ
23	G2NM, G2XS, G4RO, G5PY, G6CB (189)
22	G3GBO (189), G4RK
21	G3FMF
20	G2ANT, G3AEP, G3EYV (142), G8KZ
18	G2HDZ (135), GM3OL
17	G3BHW, G4MR, G5MR, G6XY
16	G2AOL, G2AHP, G5LI (121), G5LQ, G5YV
15	G2AVR

NOTE: Figures in brackets after call are number of different stations worked. Starting Figure 100.

perhaps on a contest basis, to synchronise with the Dutch event.

Although too late to be of much use, news was received from Switzerland that HB1LV was to have been active on May 20 on the Pilatus Kulm at 6300 feet. If anyone heard or worked him we would be very glad to have details. VQ3AA is starting up on Two at Tabora in Central Tanganyika from an excellent location, and hopes he may be able to contact VHF stations in the Mediterranean area.

### Seventycems

As many readers will know, G2DD (Stanmore) heard signals from G3EHY (Banwell) on April 18 between 1845 and 1850 BST. The distance is about 120 miles and G2DD is on 436.16 mc—a fine piece of work with all the makings of a new record. G3CVO (Gerrards Cross) has rebuilt his 832 tripler, but the converter is held up pending consideration of requirements for eventual use for television reception. G3ENY (Walton-on-Thames) writes appealing for any 70 cm band plan to choose a frequency out of harmonic relationship with two metres as he is fed up with listening to uncommunicative carriers from Two. And G2AOL says much the same.

G3EHY has worked G4AP (Swindon) consistently on 435 mc and GW3HCH (Monmouth) at 30 miles is S8; he has been brought up from S5 simply by beam adjustments. G3HAZ (Birmingham) is still active on 70 cm with his indoor aerial, and the CV82 as PA/tripler gives 2 to 3 watts out for 9 watts in. GW5MQ (Rhodesmor) made an unsuccessful attempt to work G5RW (Derby), and reports G3VX active in Preston. The 70 cm converter at GW5MQ now uses crystal controlled injection, and enables CW to be copied more easily.

G5SK (Coventry) reports a visit from G2DD, who brought his 70 cm gear and

## TWO METRES COUNTIES WORKED SINCE SEPTEMBER 1, 1950 Starting Figure, 14

Worked	Station
38	G3EHY
36	G3WW, G5MA
33	G3ABA, G4HT
31	G2FNW, G2OI, G5DS
30	G6CW
28	G2DLJ/A, G8IL
27	G6YU
26	G2CPL, G3VM
25	G3AKU, G3GSE
24	G2AIQ, G2AJ, G5RP, GW5MQ
23	G2XS, G8IP
22	G2XC, G3FAN
21	G3BOB, G3COJ, G6CB
20	G3FD, G3GBO
18	G2CIW, G3EYV, G5PY
17	G2ANT, G3HBW, G2HDZ, G6XY
16	G5YV
15	G2AHP, G3ENY

*Note: This Table will run for one year to August 31, 1951.*

tried it out on G5SK's site. In the Netherlands PAØPAX has been using PAØLU's gear with good success; he worked PAØIK at 25 miles. PAØZQ has logged signals from PAØIK at 65 miles.

### Five Band Club Dinner

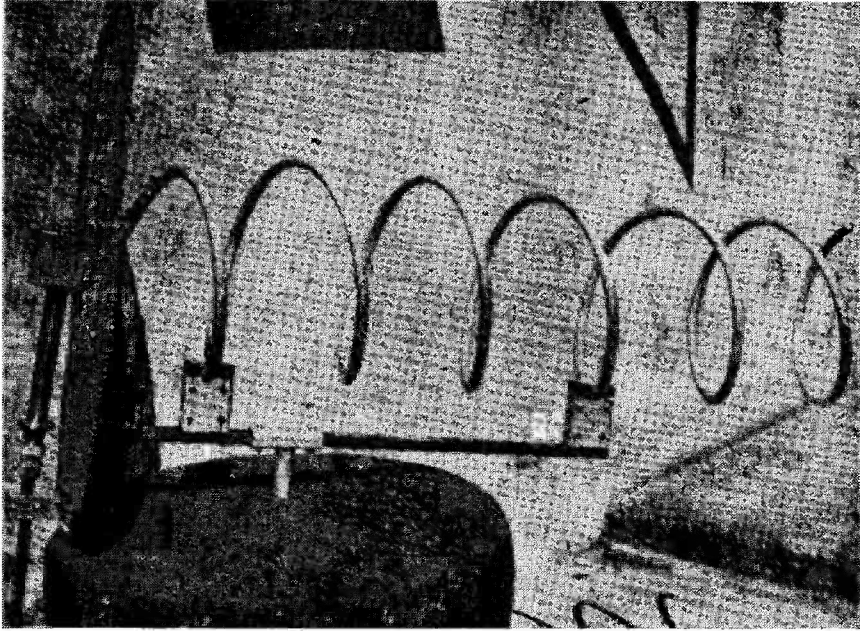
A lively and interesting discussion on a number of VHF topics formed part of the programme of the Club Dinner in London on April 14. It is thought likely that many of those who were unable to be present at this gathering would like a brief resume of the main contentions.

Your conductor suggested that the purposes of Contests were (a) To promote a high level of activity, (b) To enable contestants to test out equipment, and (c) To provide some good fun for us all. The scoring should be such that the most efficient station, both from the equipment and operating aspects, would be winner.

### SOME TWO-METRE FIRSTS

G/DL	G3DIV/A-DL4XS/3KE	June 5, 1950
G/F	G6DH-F8OL	Nov. 10, 1948
G/GM	G3BW-GM3OL	Feb. 13, 1949
G/GW	G5MQ-GW5UO	Oct. 22, 1948
G/ON	G6DH-ON4FG	Sept. 25, 1948
G/PA	G6DH-PAØPN	Sept. 14, 1948
GI/GM	G12FHN-GM3OL	July 1, 1949
GI/GW	G12FHN-GW3ELM	July 8, 1949
GW/EI	GW2ADZ-EI8G	April 19, 1951
G/EI	G8SB-EI8G	April 23, 1951
DL/OZ	DL6SW-OZ2FR	Mar. 4, 1951
DL/SM	DL2DV-SM7BE	Mar. 10, 1951





Circularly polarised beam suggested by G6VX for 435 mc operation. The length of the helix is 40-ins., its diameter  $8\frac{1}{2}$ -ins. and the gain is 12 dB. A 72-ohm quarter-wave matching section behind the screen is used with 50-ohm line coupling to Tx and Rx.

Such a system would be extremely difficult to evolve and would mean complicated handicaps. The only reasonable alternative seemed to be to allocate most points for DX contacts. The county bonus points usually made little difference to the final positions and were there to add general interest to the event. G6XM contended that points should be more closely related to the mileage and suggested one point for every 10 miles. G3BLP wondered whether one point per mile would be an improvement on this idea. G6VX advocated a rule to permit working of DX stations more than once. G2ATK asked for a multiplier for low-power stations and G8SM suggested a handicap for the London area, while G2AHP stressed the importance of contest operation during the early hours of the morning when conditions are often very good. Diverse opinions were expressed on the county bonus points.

On the subject of the Zone Plan for Two Metres your conductor again opened the discussion. The reasons for its coming into existence were outlined and its advantages and disadvantages considered. Among the advantages claimed were (a) The previous

congesting of all stations in all parts of the country around 145 mc had now ceased and activity was spread over at least 144 to 145.6 mc; (b) Interference between local and DX signals had been noticeably reduced; (c) It was relatively easy to find a DX station without having to search the whole 2 mc of the band. Most serious disadvantage was the congestion still existing in certain areas of the country, especially in and around London. The current Activity List suggested that a fair frequency allocation to the London Zone would be twice that at present allotted. It was suggested that as the zone from 145.6 to 146 mc was almost entirely unoccupied some London stations might care to use this part of the spectrum. G2ATK supported your conductor in pointing out that, viewed from 60 to 100 miles away, there appeared to be ample gaps in the London zone for still more stations. G3BLP added that stations seemed to be in groups with large gaps unoccupied in between. G6XM objected to the whole scheme as savouring of regimentation. DL4XS drew attention to the habit of the DL stations to cluster

around 144 mc, a condition which the Zone Plan had prevented in this country. He suggested European stations be asked to work between 144.1 and 144.8 mc G3GHI asked for a list of the frequencies of London stations to be prepared. G2WJ remarked that he found it possible to shift as much as 60 kc by varying the capacity across his crystal and so avoided QRM. G6QN pleaded against the introduction of VFO technique and received much support.

A discussion on the best operating frequencies for crystal controlled stations in the 70 cm band showed a diversity of opinion, but it appeared to be generally agreed that most activity was at present between 434 and 436 mc and stations both in this country and on the Continent should concentrate on that part of the band if they wanted contacts. Among those who took part in this discussion were DL4XS, G2DD, 2QY, 2FKZ, 3CVO, 3DIV, 4CG and 8SM.

Those present at the Dinner were DL4XS, G2AHP, G2AIM, G2AJ, G2AOL, G2ATK, G2BZ, G2CIW, G2DD, G2FKZ, G2FTS, G2HDY, G2HDZ, G2QY, G2UJ, G2WJ, G2XC, G3ABA, G3APY, G3BLP, G3CGQ, G3CVO, G3COJ, G3DIV/A, G3EHY, G3ENI, G3ENY, G3EYV, G3FAN, G3FD, G3FSD, G3FSO, G3FWR, G3FZL, G3GBO, G3GHI, G3GHS, G3GSE, G4CG, G4CI, G4KD, G5DS, G5DT, G5KH, G5LC, G5LQ, G5MA, G5PY, G5RP, G5RW, G5TP, G6CB, G6FO, G6JK, G6KB, G6LR, G6LX, G6NB, G6OH, G6PJ, G6QN, G6SC, G6VX, G6XM, G6YP, G8FF, G8KZ, G8OU, G8SM and G8TB.

It is probably fair to say that this gathering, organised somewhat on the lines of the VHF meeting in Nottingham (now as far back as July 9, 1949 !), was the most successful we have yet had and sets the pattern for future FBC meetings. Once again the question arises—How about something on the same lines in the North Midlands area? Suggestions for place and date would be welcome when next you write.

#### Your NGR ?

We are still anxious that all active VHF stations, and particularly those on Seventy-cems, should calculate their NGR ("National Grid Reference") and quote it on their reports. The NGR enables exact distance measurements to be made between stations, and for all practical purposes accuracy is limited only by the exactitude with which one's own site can be located on the Ordnance Survey sheet in terms of NGR.

A useful practical article on the subject of NGR determination appeared in *Short Wave Magazine* for July 1948, and One-inch Ordnance Survey maps are now freely available at most good booksellers. These maps are scaled for NGR, and the method of plotting is clearly explained in the margins. The point is that all you need is a map of your locality to calculate your own NGR. Then, knowing only anyone else's NGR (and *not* requiring a map of his locality) the actual distance between his station and yours can be worked out by simple arithmetic. This has obvious advantages in VHF working and is really essential for the proper checking of inter-station distances.

#### Sayings of the Month

"Am seeing how few stations I must work to get the 100 cards for VHFCC. 75% of the blacklist are two letter calls!" (G3CVO) . . . "Just received a letter from a friend saying he has heard two metre "fans" (?) on 3.5 mc moaning about lack of activity on Two!" (G6CB) . . . "It would be of assistance if stations signing off mentioned the county of the station with which they have been in contact" (G2AHP) . . . "I would like to send a bouquet to the organisers of the 5 Band Dinner" (G3GBO) . . . "I missed the really FB openings and had the pleasure of hearing about them afterwards" (G3VM) . . . "When the chimney and bonfire smoke lies flat (and flat it can be in the fens) streak home, my lad, the band will be open" (G3CGQ via G3WW) . . . "After much hard thought and a little Pythagoras, it has just dawned on me how to calculate distances between stations (exactly) from their NGR's" (G3AKU) . . . "Please excuse my uneven English, I am amateur too on this language" (HE9RXS, the meteorological co-operator of HB1IV) . . . "We (GC2CNC and GC3FSN) promise to QSL all receipts, either by bureau or direct depending upon method of forwarding to us. Listeners' reports will be answered by bureau unless SAE is enclosed" (GC2CNC) . . . "More CW and more QRZ? and less CQ calls" (G3AKU).

#### In Conclusion

As mentioned at the beginning of this month's "VHF Bands" the improved conditions have brought in a much larger number of letters this month and in consequence various topics which it was intended to discuss have had to be held over. In addition, it has not been possible to include all the lists of calls which were sent

in. However, be assured that they have *all* been of the greatest assistance in compiling the Activity List and it is hoped no one will have been discouraged from sending in further lists. We want all the information we can get to keep the monthly story as complete and as reliable as all your help

has made it in the past. The address for next month's letters is, as usual, E. J. Williams, G2XC, *Short Wave Magazine*, 53 Victoria Street, London, S.W.1, and the latest date will be **June 13**. The following month letters will be wanted by **July 11**. With you again on July 6.

## GIBF Here

### BASHING THE 813

By extraordinary coincidence long letter from well-known Russian scientist—photo on all SWL cards from Box 88—claiming copyright priority patent and all that on my RF amplifier design using pair 813's in bash-bash. Claiming all new ideas originate Zone 16, says *he* first thought of bashing an 813—but I first thought of bashing two.

Station G1BF, operated under many exotic c/s's, now gaining world-wide kudos by quality of note and distinctive phone xmission. Sure-fire way of attracting attention on any band (beginners should specially note this) is by modulating T1 carrier with carbon microphone in series screen feed to 813, connected to modulate pair 813's on screens. Difficult to obtain T1 carrier by any usual power pack circuitry, so at G1BF have gone back to well-known self-rectifying system of early days. Only requirement is 2½ kW 1500-0-1500 xformer connected across anodes of push-pull 813's through RF chokes. (These very important or you will lose RF down mains). Depending which side resonance

grid and tank circuits tuned, quality of note can be varied from 10% DC component to 1%, with AC characteristic ranging from 25 to 100-cycle tone at 200% mod. Setting at which nearly DC note can sometimes almost be obtained must be carefully avoided of course. No DX operator with real interest fast scoring can afford ignore this system, giving real zissy CW signal and phone carrier specially suitable any foreign language.

Beginners should note old simple systems like this always best in long run. Do not be misled by guff about running valves cool and proper smoothing of power pack and careful attention modulation circuits and well-designed VFO for stable drive and clean keying. All bunk. Get yourself big valve and bash it, like me. That'll bring stuff back and keep all local competition off air. Beginners should note this is essential objective any successful DX station—keep local competition *down*. Never mind rude cracks, inspired by jealousy—that only shows you doing FB. Beginners *must* cultivate proper tactical approach when going for serious DX.

So, till next month, Bash It.

*(We are very sorry about this.—Editor).*

### MOON REFLECTION

The March issue of *Proceedings of the Institute of Radio Engineers* (Amer.) carries a very interesting article on some experiments to investigate the structure of the upper ionosphere by means of signals reflected from the moon. Since the object was not moon reflection as such (already proven) but the influence of the ionosphere on communication frequencies, the Radio Australia BC station at Shepperton, Victoria, on 17.84 and 21.54 mc, was used during its normal free-time periods, radiating short duration pulses at these frequencies. Echoes from the moon were duly received, even at these relatively low frequencies, in 24 out of a total of 30 test transmissions made in just over a year.

### CARDS IN THE BOX

Operators listed below are asked to forward, to BCM/QLS, London, W.C.1, a large S.A.E. with name and callsign, for the delivery of QSL cards held for them in our Bureau. Publication of the callsign/address can also be given in "New QTH's," and in the *Radio Amateur Call Book*, if this is desired.

G2AFF, 3BHP, 3CAM, 3EVP, 3FGD, 3FGP, 3FHG, 3GAF, 3GPA, 3GSW, 3HFO, 3IFK, 4TN, 8BI, 8PU, 8ZL, G13HCG, GM3FNO, 3HGM, 3JBW, GW3GYY, 3HDR.

**Power On — Don't Touch**

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# A Garden Forty-Five Footer

DESIGN AND ERECTION

By D. I. THOMPSON (G3IDT)

**H**OW about a nice forty-five foot mast to hold up one end of that new aerial? All very well, you may say, but lattice towers are expensive, and where can one get poles as big as that? In any case, if it could be obtained, it would be very difficult getting it home, and harder still to erect it. Nevertheless, there's no need to give up the idea of a taller mast—you can very easily build one that is cheap, very easy to put up, and still capable of holding up quite heavy aerial systems. Here's how to go about it.

## Materials

First, you need two average-sized scaffold poles, one about 26 feet long and on the stout side, the other about 34 feet long, which can be much more slender. These can be hunted down fairly easily, as many builders are now preferring the metal scaffolding and are ready to dispose of their old wooden poles. The only other necessary items are three carriage bolts, with washers and nuts, from nine to fifteen inches long, according to the size of your poles; a coil of galvanised iron wire of a fairly stout gauge for guys; three four-foot 1½-inch angle-iron pickets; a handful of small egg insulators to break up the guys into non-resonant lengths; and finally the usual bronze or galvanised pulleys, depending on what you are going to hoist, and some staples for fixing pulleys and guys.

The poles will be the expensive item, of course, but at the most everything required ought not to cost more than £3-£4.

The method of erection described here will be found very suitable for cramped locations, and worth a try even when plenty of garden space is available. First, lay the two poles down with the slender (upper) pole overlapping the other by about ten feet. Then drill holes through both poles for the carriage bolts, which should be ½-inch in

*This is an ingenious approach to the problem of providing oneself with a mast which is something better than the usual back-garden stick. The ingenuity lies mainly in the method of erection, as such a mast could be raised even if the available ground space is insufficient to accommodate the full length of 45 feet in any direction.—Editor.*

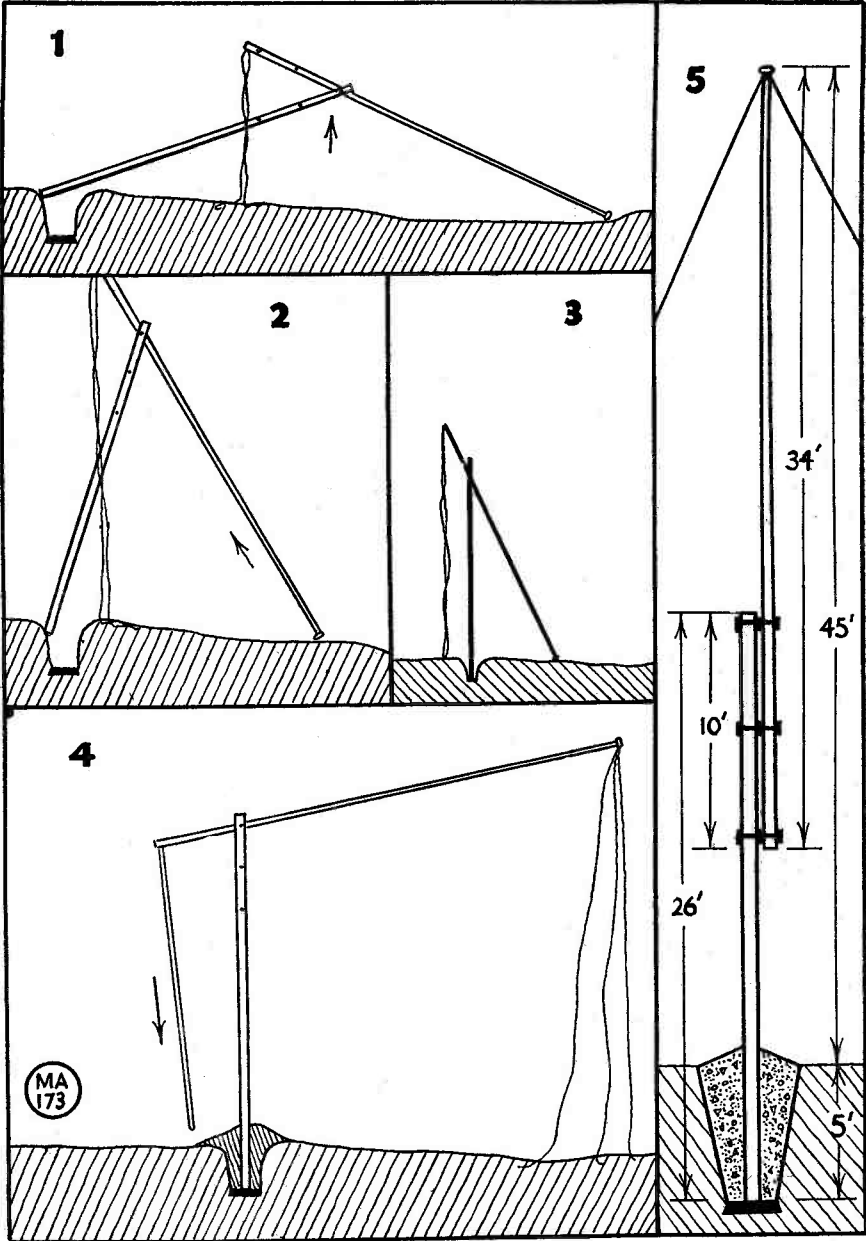
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diameter. This is rather tricky, for it is only too easy to drill holes which do not match up—try putting in the bolts as the pairs of holes are finished; you are then much more likely to end up with all the holes in the right places, and no unwanted ones which could easily weaken the poles.

## Swinging Up

When this is finished, all the bolts except the upper one should be taken out and the pair of poles moved along so that the butt of the lower pole is against the hole in the ground. This latter should be at least four feet deep, more if possible. Then attach the guys to the mast-head. The next stage can be carried out by two people at a pinch, but the help of a third makes it easier still. The poles are lifted at the pivot formed by the carriage bolt, bit by bit, by one or two of the erection staff, and can be allowed to rest on the butt of the lower pole and the tip of the upper one whilst breath is recovered. Meanwhile, man No. 2 (or 3) is steadying the contraption against sideways motion. As the lifting proceeds it will be necessary to raise the apex (joint) by pushing on the upper pole in the direction of the hole-in-the-ground. When the thing is far enough up, the butt of the lower pole will fall into its hole, and once it is vertical, this can be filled in round the base, and very solidly packed.

All that remains, from a civil-engineering point of view, is to swing down the butt of the upper pole and let the tip go up. One helper hauls down the butt with a makeshift halyard (previously attached, of course), the other pays out guy wire attached to the tip of the pole. The critical stage is reached when the upper pole is horizontal, for quite a strain is imposed on the pivoting bolt. It should, however, be able to stand up to it if it is a half-



These sketches give details of the construction and erection sequence for the mast described by G31DT; it has a finished height of 45-ft. and can actually be raised in a relatively restricted space.

inch bolt. As the butt comes down, the third man (if there is one) bangs home the lower bolt as it arrives opposite its hole. If there are only two erectors, then the one hauling down the butt can often manage to do this by himself standing on a pair of steps, since no great effort is needed to bring the butt down. (See sketch.)

### Guying

The other guys can now be made off to their pickets, and the third bolt pushed home to make a safe job of it. So much for the erection of the mast. If space is too cramped to allow the poles to be laid out flat at the start, they can be bent into the V-shape on the ground and pushed up to the vertical position, but this would require more helpers. The final stage is the same as above.

Since the upper pole is pivoted at a point not very far from its point of balance, the effort required to swing it up is not great. In the writer's case,

it was carried out with one hand whilst standing on a pair of steps, the other hand being ready with a mallet to bang home the lower bolt.

It should be mentioned that all the pole-head gear should be attached *before* the thing is erected. This may seem obvious, but it is remarkable how often little things get forgotten in the bustle of activity.

When using the three guys, don't forget to have one guy at the front and two at the rear, so as to steady the mast when the front guy slackens as a result of hauling up the aerial system and straining it. And remember to grease the pulleys; and the bolts too, so that the mast can be lowered easily if necessary. The accompanying drawings show the process of erection stage-by-stage, and should assist in making it clear.

That's all there is to it! Quite simple really, and if it lifts your dipole out into the clear, who knows what DX you may be able to catch!

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### ESSENTIAL AIDS

Everyone interested in the practice of DX—whether in working it, trying to work it, or just listening to it in the hope of working it—should have a copy of our now well-known *DX Operating Manual* (price 2s. 8d. post free). It is written for the information and guidance of all who aspire to DX success, whether beginner or experienced operator, and is a standard work of reference on the subject.

Another essential buy for those who still may not possess one is our five-colour wall-mounting *DX Zone Map*: it is a great circle map of the world centred on London, and besides showing the zone boundaries as seen from the United Kingdom, it lists prefixes and countries by zones, gives actual beam alignment and approximate distance to any part of the world from the U.K., and includes a world time scale based on GMT. The size is 20-ins. by 35-ins., on thick linen backed paper, and the price is but 6s. post free.



### MORE ULTRASONIC WIZARDRY

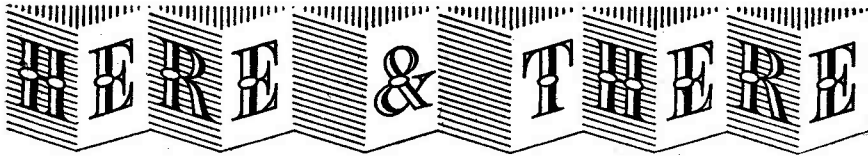
One of the difficulties in the use of aluminium and its alloys is that which, with other metals, is overcome by the

simple process of soldering. In the quest for new applications in the field of ultrasonics, Mullards have succeeded in producing the Ultrasonic Soldering Iron, the first of its kind in the world, with which it is possible to solder aluminium. This new development will be of immense importance in a wide range of manufacturing industries where the successful soldering of aluminium has for long been a pressing production problem. Another push to the Great Wheel of Progress.



### PYROBIT FUME EXTRACTOR

A new appliance designed to prevent the inhalation of fumes by the operator when engaged on such work as soldering and brazing is offered by Acru Electric Tool Manufacturing Co., Ltd., 123 Hyde Road, Ardwick, Manchester, 12. During a long spell of soldering, fumes are rising from the work all the time, and are inhaled while hot and relatively concentrated. The Pyrobit Fume Extractor is a small combined ventilation and work-illuminating device which draws off the fumes by creating a chimney effect, produced by the heat of the electric lamp used to light the work-bench.



#### **Please Note — New QTH**

Another move to even larger and more convenient office accommodation, with front rooms at street level, mean that with effect from June 25 our address will be 55 Victoria Street, London, S.W.1. This is next door to No. 53 and in the same block. We would particularly ask that until June 22, all correspondence should continue to be addressed to "53." Our telephone number will remain ABBey 2384.

#### **An Apology**

More than 500 direct-subscriber copies of the May issue were posted one week late due to an oversight at our printers, who are actually responsible for all the regular monthly despatches, individually and in bulk. They have asked us to say that they accept the blame for this and offer their profound apologies, with a promise that it will not happen again. Direct subscribers (in the U.K.) should receive their copies by the "Friday after the first Wednesday" each month, by which date trade deliveries are also completed. If the *Magazine* does not arrive on the due date, please inform us by card addressed to the Circulation Manager, and necessary action will immediately be taken.

#### **Amateur TV Convention**

The British Amateur Television Club has planned a TV Convention for Saturday, June 23 at 164 Shaftesbury Avenue, London W.C.2. (Cinematograph Exhibitors' Association building, opposite the Saville Theatre) from 10.0 a.m. to 6.0 p.m., admission 2s. 6d. at the door. The morning will be taken up by technical discussions and explanation of the various pieces of TV gear which will be on show. The afternoon will be devoted to informal talks and demonstrations of the equipment. All who are interested in Amateur TV, whether actively or otherwise, are invited to the convention, which is *not* confined to B.A.T.C. members. Further information can be obtained from M. Barlow, G3CVO, Hon. Secretary, British Amateur Television Club, 8 Primrose Street, Cambridge. B.A.T.C. activities are regularly covered in

our *Short Wave Listener and Television Review*, which also carries much material of general TV interest.

#### **GB3FB at Manchester**

The first appearance of GB3FB—at the Festival of Britain Land Travel Exhibition—was attended by some not unexpected teething troubles before the station got on the air. The transmitter originally provided had to be discarded as unsatisfactory and was replaced by equipment loaned at short notice by Webbs of Soho Street. The VFO supplied by the contractor was incomplete, so Salford Electrical Instruments were approached for the loan of a flock of crystals for spot-frequency working. For the aerial installation, the last-minute assistance of Belling & Lee, Ltd. is gratefully acknowledged, while similarly Cosmocord, Ltd. provided a crystal microphone. G6OM also wishes to say how much he appreciated the ready help of City Display, Ltd. (the stand fitters) and the Exhibition manager.

#### **Another Blind Operator**

G3HAO, Wembley, Middlesex has just been licensed and joins the others on the air who are sightless. He is active with a few watts of CW on 1.7 and 3.5 mc, having built the 6V6-807 Tx himself; his test gear and check meters are modified for Braille reading. G3HAO is now busy on equipment for the other bands, and all readers will wish him luck.

#### **The Old Timers' Club**

It may well have been thought that our British Old Timers' Club was moribund, if not completely dead. But its main activities can only be the enlisting of new members (membership costs nothing) and the holding of an occasional Dinner. As an excuse for the latter is now approaching, let us say again that all British amateurs first licensed not less than 20 years ago, and still holding a call (not necessarily the same one) are eligible for membership. Write Hon. Secretary, B.O.T.C., c/o *Short Wave Magazine*.

## NEW QTH's

This space is available for the publication of the addresses of all holders of new U.K. call signs, as issued, or changes of address of transmitters already licensed. All addresses published here are reprinted in the quarterly issue of the "RADIO AMATEUR CALL BOOK" in preparation. QTH's are inserted as they are received, up to the limit of the space allowance each month. Please write clearly and address on a separate slip to QTH Section.

- |                |  |                   |   |
|----------------|--|-------------------|---|
| <b>G2CZS</b>   | R. B. Sachs, 104 Centre Drive, Newmarket, Suffolk.   | <b>G3BRQ</b>      | K. B. Tackley, (ex-SVØAC), Longview, Church Grove, Little Chalfont, Bucks.                          |
| <b>G3AUF</b>   | P. F. Dunford, 10 Heath Way, Rugby, Warks.   | <b>G3CBS</b>      | F. T. Lee, 2 Wellington Gardens, Hastings, Sussex.  |
| <b>GM3BBI</b>  | J. Mitchell, 207 Muir drum Avenue, Glasgow, S.W.2. (Tel.: Halfway 3746).                         | <b>G3CCW</b>      | C. C. Wilson, 34 Grosvenor Street, Wallasey, Cheshire. (Tel.: Wallasey 5027).                       |
| <b>G3DCO</b>   | B. D. Coyne, 28 Rowsley Avenue, Hendon, London, N.W.4.   | <b>G3CEN</b>      | R. S. Craig (ex-GW3CEN/VU2AP), St. Rona, Laleham Reach, Chertsey, Surrey.                           |
| <b>G3DKI/A</b> | S. J. Lloyd, Weston-super-Mare General Hospital, Weston-super-Mare, Somerset.                    | <b>G3CPC</b>      | R. D. Charlton, 74 Court Way, Twickenham, Middlesex.  |
| <b>G3EBL</b>   | H. G. Baker, 17 Trafalgar Avenue, Worcester Park, Surrey.  | <b>G3CUC</b>      | W. H. Moore, Sunny Bank House, Prince's Road, Windermere, Westmoreland.                             |
| <b>G3FZG/A</b> | A. Treanor, c/o 19 Saxon Road, Moreton, Wirral, Cheshire.  | <b>GW3CVY</b>     | Lt.-Col. J. J. Davis, T.D., A.M.I.Mech.E., A.M.I.E.E. (ex-G3CVY), Llanina, New Quay, Cardiganshire. |
| <b>G3GHK</b>   | R. Gerrard, 59 Joseph Street, Sutton, St. Helens, Lancs.   | <b>G3DDQ</b>      | V. I. Bowden, 2 Petersfield, Cambridge.   |
| <b>G3GQS</b>   | L. J. Billing, Monument Road, Helston, Cornwall.   | <b>G3DKI</b>      | S. J. Lloyd, Tree Tops, Great Elm, nr. Frome, Somerset.   |
| <b>G3GUB</b>   | R. W. A. MacKichan (ex-VS6BC), The White Cottage, Hertford Heath, Hertford, Herts.               | <b>G3DLO</b>      | J. Wightman, St. Norber, The Broadway, Sandhurst, Berks.  |
| <b>G3GVP</b>   | A. W. Blakeman, 13 Moorlands Road, Darlington, Co. Durham.                                       | <b>G3DRY</b>      | R. J. Waddington, 47 Queensberry Road, Burnley, Lancs.  |
| <b>GM3GWF</b>  | A. Gale, 153 Restalrig Road South, Edinburgh.  | <b>GW3ENY</b>     | G. N. Roberts, Montclare Hotel, North Parade, Llandudno, Caerns. Tel.: Llandudno 7061).             |
| <b>G3GZH</b>   | R. E. Brown, 210 Edward Street, New Cross, London, S.E.14.                                       | <b>GM3EQD</b>     | J. K. Weir, 186 Landside Road, Glasgow, S.2.  |
| <b>G3GZN</b>   | C.P.O. Tel. E. Buckingham, C.P.O.'s Mess, H.M.S. "Dolphin," Gosport, Hants.                      | <b>G3EQM</b>      | J. A. Theobald, The Flat, Standard Motor Co., Ltd., Standard Road, Park Royal Road, London, N.W.10. |
| <b>G3GZX</b>   | A. E. Bladon, 62 Gainsborough Road, Wallasey, Cheshire.  | <b>G3ESP</b>      | W. Farrar, B.Sc., Stanton, Hemsworth Road, Ackworth, nr. Pontefract, Yorkshire.                     |
| <b>GW3HCH</b>  | F. J. Church, 90 Albert Avenue, Newport, Mon.  | <b>G3FDG</b>      | R. G. Morris, 8 Watling Street, Wellington, Shropshire.   |
| <b>GM3HLQ</b>  | C. P. Callanan, M.I.E.S., A.M.I.Mar.E., 50 Greenloan Avenue, Glasgow, S.W.1. (Tel.: Govan 1916). | <b>G3FW</b>       | F./Lt. G. W. Riseley, Hillcrest, Dingley, Market Harborough, Leics.                                 |
| <b>G3IDM</b>   | D. P. J. Mead, 139 Thorold Road, Ilford, Essex.  | <b>G3FZG</b>      | A. Treanor, Liverpool. QSL via Bureau.  |
| <b>G3IFM</b>   | F. C. Mellon, 133 Ellerdine Road, Hounslow, Middlesex.   | <b>G3GKA</b>      | G. Mather, 62 Eastern Way, Letchworth, Herts.   |
| <b>G3IFT</b>   | F. H. Tobin, 81 Wrekin Drive, New Donnington, Wellington, Shropshire.                            | <b>G3GQZ</b>      | W. H. A. Burnet, Ashtonville, Chalton, nr. Luton, Beds.   |
| <b>G3IJB</b>   | W. J. Barker, St. Margarets, Maldon Road, Burnham-on-Crouch, Essex.                              | <b>G3WS</b>       | F. S. A. Jenkins, 31 Pentland Avenue, Chelmsford, Essex.  |
| <b>G3IWI</b>   | J. C. Froggatt, Deacons, Burnham-on-Crouch, Essex.   | <b>G4JH</b>       | W. V. Williams, 33 Wheathill Road, Anerley, London, S.E.20.   |
| <b>G6MT</b>    | D. L. Martin, 4 Uplands Crescent, Fareham, Hants.  | <b>G4VZ</b>       | C. C. Redshaw, M.I.E.E., Assoc.I.Mech.E., Post Office Radio Station, Dorchester, Dorset.            |
| <b>G2AHC</b>   | <b>CHANGE OF ADDRESS</b><br>R. W. Bishop, 10 Herlwyn Avenue, Ruislip, Middlesex.                 | <b>G5JM</b>       | H. E. James, Clint House, Queens Road, Buckhurst Hill, Essex.                                       |
| <b>G2AIQ</b>   | H. C. L. Barnett, 42 Garden Walk, Cambridge.   | <b>G5NF</b>       | C. L. Ward, Halcyon, Lawday Link, Upper Hale, Farnham, Surrey.                                      |
| <b>G2AOW</b>   | P. Whittle, 32 Endell Street, London, W.C.2.   | <b>G5QG</b>       | M. Hollinshead, 45 Irwin Avenue, Rednal, Birmingham.  |
| <b>GM2CHN</b>  | D. Niven, 6 Addison Place, Arbroath, Angus.  | <b>G5UU</b>       | R. J. Carter, 56 Drayton Park Avenue, West Drayton, Middlesex.                                      |
| <b>G1ZDVH</b>  | J. Stewart, Ballykeel-Ednagonnell, Hillsborough, Co. Down.                                       | <b>G5VA</b>       | J. Wright, 13 Cowen Street, Ball Green, Norton-in-the-Moors, Stoke-on-Trent, Staffs.                |
| <b>G2GM</b>    | F. D. Cawley, 1 Littlegate Road, Paignton, S. Devon.   | <b>G5VS</b>       | V. A. Sims, Redlands Lodge, Maidenhead Court, Maidenhead, Berks.                                    |
| <b>G2HHV</b>   | J. Spivey, Heoley Cottage, Batley, Yorkshire.  | <b>G6CH</b>       | H. W. Evens, BM/155, London, W.C.1.   |
| <b>G3AKX</b>   | R. G. Lascelles, 45 Wardle Road, Sale, Cheshire.   | <b>G6MI</b>       | R. Maynard, 32 Saville Road, Blackpool, Lancs.  |
| <b>G3AXS</b>   | R. A. Hutcheson-Collins, 7 Seaton Grove, Grimsby, Lincs.   | <b>CORRECTION</b> |   |
| <b>G3AZM</b>   | C. E. Stebbings, 60 Oakland Road, Monkseaton, Northumberland.                                    | <b>G2CQB</b>      | R. J. Gilbert, Home View, St. Erth, Hayle, Cornwall.  |
| <b>G3BEQ</b>   | D. J. Rickard, 114 Dalmeny Avenue, Norbury, London, S.W.16. (Tel.: POL 5940).                    | <b>G2DWO</b>      | K. R. Acton, St. Leonards, Exeter Road, Honiton, Devon.   |
| <b>G3BOC</b>   | H. M. Syngé, Gipsy Corner, Willaston-in-Wirral, Cheshire.  |                   |   |

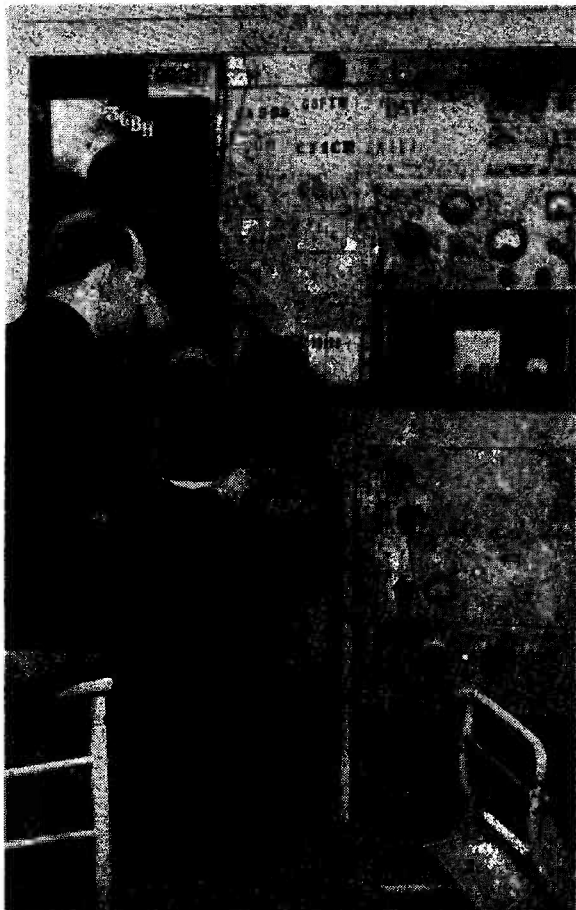


# The other man's station G3GBH

**T**HIS time it is G3GBH—owned and operated by J. H. Jones, 32 Willow Garth, Newby, Scarborough, Yorks.—a station entirely contained in a built-in wardrobe to satisfy conditions imposed by the XYL. This has resulted in a neat lay-out which leaves only the aerial connection visible when the doors are shut on the gear.

The transmitter is Clapp 6AC7-6C5-6L6 in a TU5B case into a pair of 807's in the final, run at 75 watts on CW and 55 watts on phone. Modulation is obtained by Clamp control on the screens of the 807's, the speech unit running 6SN7-6Q7-6Y6 with a carbon microphone. The whole station is relay controlled, and the receiver is an R.1155 which has been refined in several ways, including the provision of bandspread. Ancillary equipment includes a frequency meter and phone monitor and with the exception of the receiver itself everything has been home-brewed.

G3GBH was first licensed in November 1949, and as at February last nearly 1,500 contacts had been made in 45 countries, almost entirely on 7 mc be it noted,



appearances on 3.5 and 14 mc—for which bands the station is also equipped—being comparatively rare. This has simplified the aerial problem, it having been necessary to provide only dipoles for 40 and 20 metres. Telephony operation on Forty was commenced in November last, several hundred contacts having been made with very encouraging reports on the Clamp modulating system.

Main interest at G3GBH is clean CW operating and phone working with all comers, rather than DX, and so no sleep has at any time been lost chasing the rare stuff. The design and layout of this station, taken with the results he has achieved, reflect credit on its owner—and fully justify the strong line taken by his XYL!

# The Month with the Clubs

## FROM REPORTS RECEIVED

This month we publish reports from 38 Clubs—a fine total considering the time of year and the number of members who are usually interested in counter-attractions of the open-air variety. We also wish to acknowledge News-Letters and Circulars as follows: *G 3 Experimental Radio Derby* (Derby), *Newsletter* (Chestel), *Bulletin* (Dorking), *CQ CF* (Cardiff) and *Brighton Link*.

Next month's deadline for reports is first post on **June 13**, and for the following month it will be **July 11**. Please note these somewhat early dates and be sure of having the copy in on time. And, as usual, we would like to see photographs of all kinds of Club events and meetings, with which we are always pleased to be able to illustrate this feature.

The address for all material for this section is Club Secretary, *Short Wave Magazine*, 53, Victoria Street, London, S.W.1.

And so to this month's reports

### **Baldock & District Radio Club.**

—Four more members entered for the recent RAE and hope for good news in due course. Lectures, visits and quizzes have been arranged for the coming year, although the Club is still without a permanent HQ. Nearly all members meet regularly on the Top Band.

### **Barnet & District Radio Club.**

—Successful activities continue at Hopedene. The Avenue, Barnet—the Club Shack from which G3FFA is frequently active on the 1.7 and 3.5 mc bands. Members recently saw a Film Show by the Eastern Electricity Board, and a demonstration of Telesonic Amplifiers. Field Day preparations continue, in conjunction with the Barnet Amateur Radio Society. Meetings are held every Wednesday, 7.45 p.m.

### **British Amateur Television Club.**

—Membership now stands at 63, including 22 licensed amateurs. Information and circuits are being exchanged with amateurs in ten countries, but shortage of suitable literature—together with the high cost of camera tubes—is still retarding progress. It is hoped to hold a TV Conference on Saturday, June 23, by which time a full-scale TV Unit with three cameras should be ready, together with a prototype 13 cm. transmitter and receiver.

### **Leek & District Amateur Radio Society.**

—The third AGM was held in April, and officers for the forthcoming year elected. Meetings continue every Monday,

with lectures, ragchews and refreshments, Morse instruction being given on Wednesdays. Two more members (G3HIB and G3HLC) hold licences. New members, particularly juniors, will be welcomed at any meeting.

### **Malta Amateur Radio Society.**

—At the AGM of this Society a new committee was elected. ZB1E is now President, and ZB1BZ Secretary. The address for all correspondence is that of the former—see panel. All ex-members of the society may become overseas members on payment of 5s. per annum, and such members will receive copies of the minutes and the magazine. The outgoing President and Founder of the Society is Mr. F. Hague, ZB1AH, who expects to be leaving Malta shortly.

### **Medway Amateur Receiving and Transmitting Society.**

—Meetings are held alternately at the Co-operative Employees' Social Club, Luton Road, Chatham, and at the Transmitting Headquarters, 17 Five Bells Lane, Rochester. All Meetings are on Mondays at 8 p.m., future events being as follows:—*Luton Road*: June 4 (Frequency Standards), June 18 (Television) and July 2 (to be announced). *Rochester*: June 11 (How to Listen for DX) and June 25 (Workshop Practice). This society was represented at the recent Hamfests at Southend and Lincoln.

### **Mid-Kent Amateur Radio Society.**

—The first AGM has

taken place and a committee elected. Lectures are now being held, with an encouraging attendance. The Club Tx is under way and holds the call-sign G3HKI. The Clubroom at 79 Union Street, Maidstone, is open on Friday evenings at 7.30 p.m., and new members will be welcomed.

### **Ravensbourne Amateur Radio Club.**

—Two Field Days have been held during the past month, using G3HEV/P on 1.7 and 3.5 mc. A two-metre receiving event has also taken place. Normal meetings will not be held during July and August owing to school holidays; outdoor activities will, it is hoped, be arranged instead.

### **Reading Radio Society.**

—The new committee was elected at the AGM in March, and it has been decided to run two meetings a month instead of three. The first will be on the second Saturday, and will be run as an Instructional Section meeting. The main meeting will be on the last Saturday. Lectures and demonstrations for the future are now being planned, and will be notified in due course.

### **Shefford & District Radio Society.**

—Several members have "gone QRP," using single-valve transmitters and less than one watt. G2FFG expects to be "Portable-Mobile" from a bicycle before long! Recent talks have covered the alignment of superhets, and Radar; future events include a Junk Sale and a demonstration of a 13-cm. rig. The Club QTH is Wharf Buildings, Shefford; meetings are on Fridays at 7.30 p.m., and new members are always welcomed.

### **Southend & District Radio Society.**

—This Club recently held their Annual Hamfest, enjoyed by over 100 members and friends. Games, competitions and dancing were followed by the inevitable "swindle" at which all kinds of prizes were distributed. Participants in the 1.7 mc group known as the "Shaving Club" met in person for the first time many of the listeners who for years had known them only by their voices on the air at breakfast time.

### **Surrey Radio Contact Club (Croydon).**

—New officers were elected at the AGM (the tenth). G2DN, G8TB and G3FWR continue as President, Chairman and Secretary, and G3BLP is now Vice-Chairman. Attention was called to the valuable publicity resulting from participation in outside events such as Hobbies Exhibitions. A recent undertaking of this type saw G8TB/A in action



At the Lincolnshire Hamfest on April 29 last, when 73 amateurs gathered from neighbouring counties over a wide area.

with 3 watts, contacting stations all over the country and giving many visitors their first glimpse of Amateur Radio.

**Watford & District Radio and Television Society.**—Forthcoming events: June 19, Junk Sale; July 3, Film Show; July 17, Talk on Radio Fundamentals. Meetings are at 7.30 p.m. at Cookery Nook, Monmouth House, The Parade, Watford.

**Torbay Amateur Radio Society.**—At the AGM many officers were re-elected and a few new ones appointed (note new Secretary's QTH, in panel). The financial position of the Club permits a reduction in the subscription; full members will in future pay 5s. An award was made to G2BMZ, who holds the European record for two-metre work, and G3AUS explained his VHF converter. Two visitors were welcomed, and the Chairman accorded thanks to the officers and members for their year's work. Meetings are on the third Saturday, 7.30 p.m. at the Y.M.C.A., Castle Road, Torbay.

**Walsall & District Amateur Radio Society.**—A very successful venture was the participation of this Society in the Rotary Club's Hobbies Exhibition. A 150-watt Tx and a 10-watt Top Band Tx were in action, other gear was on show, QSL cards were displayed and great public interest was aroused. On the final day the Minister of Education spoke from

the station to G3FUI in Wolverhampton. The Walsall Club wishes to thank its opposite numbers in Wolverhampton for their co-operation in this effort.

**Warrington & District Radio Society.**—The AGM was held recently, and the former Secretary resigned owing to pressure of business (note new Secretary's QTH). Meetings are held on the first and third Mondays, 7.30 p.m. at 30, Queen's Avenue, Warrington, and a full summer programme, including a Field Day, has been arranged. The Club Tx is active on the Top Band, and there is a Sunday morning net in operation.

**W.F.S.R.A. ("Bedfast Club").**

—The object of this Club is to help those who are in hospital, or at home, suffering from ill-health or disability, and, in particular, to provide equipment for receiving or transmitting in cases where the invalid cannot manage this himself. A complete record is being prepared of all those who have offered gear or practical help, and a fund has been opened by G3GYR the Hon. Sec. A Correspondence section is also open, and Mr. H. G. Swan is making a record of those who would appreciate an exchange of letters with others in similar circumstances. If readers know of anyone who would benefit from the Club's activities, they are asked to contact the Hon. Sec. immediately.

**Wirral Amateur Radio Society.**—The last meeting took the form of a Gadgets Contest, at which members brought along their pet inventions and gave a five-minute talk on their purpose and use. Members then voted for the best exhibit. A D-F contest has been arranged, and participation in field day working has caused the usual amount of interest. The next meeting is on June 20, when there will be another Junk Sale.

**Worthing & District Amateur Radio Club.**—This Club meets on the second Monday of the month, 7.30 p.m. at the Adult Education Centre. Transmissions of slow Morse are radiated every Wednesday, 9.30 to 10.30 p.m.

**South Manchester Radio Club.**

—Forthcoming meetings are as follows: June 8, Lecture on Interference Suppression; June 9 D-F Contest, followed by Social Evening.

**Dartmouth & District Amateur Radio Society.**—This newly-formed Club meets on alternate Mondays in the Old Toc H Room, Flavel Street, Dartmouth. New members and visiting amateurs will be heartily welcomed. Lectures and Morse classes are being arranged, as well as outdoor events for the summer months. Secretary's QTH in panel.

**Neath, Port Talbot & District Amateur Radio Club.**—The winter session being over, atten-

## NAMES AND ADDRESSES OF CLUB SECRETARIES REPORTING IN THIS ISSUE :

**BALDOCK :** A. Fussell, 6 Clare Crescent, Baldock.  
**BARNET :** C. J. Spencer, G3GRA, 31 Byng Road, Barnet.  
**BARROW :** J. G. Jackson, 40 James Street, Barrow-in-Furness.  
**BIRMINGHAM :** W. V. Shepard, 174 Gristhorpe Road, Selly Oak, Birmingham 29.  
**BRIGHTON :** R. T. Parsons, 14 Carlyle Avenue, Brighton 7.  
**BRITISH AMATEUR TELEVISION CLUB :** M. W. S. Barlow, G3CVO, Cheyne Cottage, Dukes Wood Drive, Gerrards Cross, Bucks.  
**CLIFTON :** W. A. Martin, G3FVG, 21 Brixton Hill, London, S.W.  
**COVENTRY :** K. Lines, G3FOH, 142 Shorncliffe Road, Coventry.  
**DARTMOUTH :** A. A. Williams, 51 Southford, Dartmouth.  
**GRAFTON :** W. H. C. Jennings, G2AHB, Grafton LCC School, Eburne Road, London, N.7.  
**GRAVESEND :** R. Appleton, 23 Laurel Avenue, Gravesend.  
**HARROW :** S. C. J. Phillips, 131 Belmont Road, Harrow Weald.  
**ISLE OF MAN :** H. Grist, GD3FBS, Broadway House, Douglas, I.O.M.  
**LEEK :** J. Nicholas, G3HIB, 76 Haig Road, Leek.  
**LINCOLN :** G. C. Newby, G3EBH, 10 Addison Drive, St. Giles, Lincoln.  
**MALTA :** R. Galea, ZB1E, 26 Collegiate Street, Birkirkara, Malta.  
**MEDWAY :** C. R. Hawkins, 9 Sanctuary Road, Gillingham.  
**MID-KENT :** D. A. Mullen, G3ABF, 44 Sussex Road, Maidstone.  
**NEATH AND PORT TALBOT :** W. R. Petheram, GW3CIJ, 7 Tynyrheol Avenue, Tonna, nr. Neath, Glam.  
**NEWBURY :** A. W. Grimsdale, G3CJU, 164 London Road Newbury, Berks.  
**PORTSMOUTH :** M. W. Pearce, G3BSR, 58 Hollam Road, Milton, Portsmouth.  
**RAVENSBORNE :** J. H. F. Wilshaw, 4 Station Road, Bromley.  
**READING :** L. Hensford, G2BHS, 30 Boston Avenue, Reading.  
**SHEFFORD :** N. A. Eaton, 25 Stanford Road, Shefford, Beds.  
**SOUTHEND :** J. H. Barrance, M.B.E., G3BUJ, 49 Swanage Road, Southend.  
**SOUTH MANCHESTER :** E. Taylor, G3BVP, 12 Marton Avenue, Didsbury Park, Manchester 20.  
**STOURBRIDGE :** W. A. Higgins, G8GF, 28 Kingsley Road, Kingswinford, nr. Brierley Hill, Staffs.  
**SURREY (CROYDON) :** S. A. Morley, G3FWR, 22 Old Farleigh Road, Selsdon, South Croydon.  
**THANET :** J. Barnes, G3BKT, 18 Grange Road, Ramsgate.  
**TORBAY :** W. A. Launder, B.Sc., G3FHI, 15 Cambridge Road, St. Marychurch, Torquay.  
**WALSALL :** F. J. Merriman, G2FPR, 123 Wolverhampton Road, Walsall.  
**WARRINGTON :** S. Wood, G3EZK, 12 Thelwall Lane, Latchford, Warrington.  
**WATFORD :** R. W. Bailey, G2QB, 32 Cassiobury Drive, Watford.  
**W.F.S.R.A. (Bedfast Club) :** J. Woodward, G3GYR, 6 Council Houses, Rode Heath, Stoke-on-Trent.  
**WIRRAL :** A. H. Watts, G3FXC, 38 Sandymount Drive, Wallasey.  
**WORTHING :** F. H. Bettelley, 42 Annweir Avenue, Lancing.  
**YEovil :** D. L. McLean, 9 Cedar Grove, Yeovil.  
**YORK :** G. R. Foggin, G3GRF, 10 Maclagan Road, Bishopthorpe, York.

tion has now been turned to NFD and similar events. Future projects include a Club Contest, the annual Junk Sale, and a Film Lecture on Valve Curves and their Meaning. Meetings are held fortnightly at the Royal Dock Hotel, Briton Ferry.

**Barrow Amateur Radio & Television Society.**—This Club is now firmly established and progressing well. Meetings are held every Monday, 7 p.m., at Castle, House, Walney Island. Lectures and Morse classes are under way, and some film shows are being arranged for the future. A Tx licence is awaited, and a wide variety of gear is already installed on the Club premises.

**Birmingham & District Short Wave Society.**—The Field Day on June 17 (see separate note in box) is regarded as the Big Event, and the meeting on June 11 will deal with details, followed by Part II of the talk on an Amateur Band Superhet. On July 9 there will be a talk and demonstration on Tape and Wire Recorders. A Club Shack is being opened at 174 Gristhorpe Road, and the transmitter will be installed there. Morse and technical instruction will be held on alternate Mondays.

**Brighton and District Radio Club.**—A full programme of talks and demonstrations is under way. On June 19 there is to be another demonstration, by Mr. Atkinson, of Radioaesthesia; on June 26 Mr. Harrop will show and describe his Universal Testmeter. Holiday visitors will be most welcome during the season—the Club HQ is the Eagle Inn, Gloucester Road, and Club Night is Tuesday.

**Clifton Amateur Radio Society.**—Recent meetings were devoted to a demonstration of long-playing records and a demonstration of a self-contained Top-Band transmitter. Morse and Technical classes have started again, and forthcoming events include a demonstration of home-built testmeters, a talk on Tape Recording, and a D-F Contest on June 17, ending with a tea and Hamfest.

**Coventry Amateur Radio Society.**—The last meeting in the old HQ took place during May, and future meetings will be held at the Y.W.C.A. Hostel, Queen's Road, Coventry—Monday nights at 7.30 p.m., June 11, June 25 and fortnightly thereafter. Visitors are welcome at all events.

**Grafton Radio Society.**—A recent lecture on Radio Control of Model Aircraft was attended by 126 members and visitors. Nearly 40 models were on view at this most successful show. All sections of Grafton are busy with preparations for Field Day.

**Gravesend Amateur Radio Society.**—This Club meets on Wednesday evenings at 7.30 p.m., and the future programme includes a talk on Panoramic Adaptors by G3EJK and one in the "My Station" series by G3DCV, a newcomer to the club. Another Auction Sale has been held recently.

**Radio Society of Harrow.**—Meetings are held on Fridays in the Science Lab., Eastcote Lane Secondary School. June 8 is a Practical Evening, June 15, a talk by one of the Old Timers, June 22 an Auction Sale and June 29, a VHF Demonstration by G2DD. Visitors will be welcomed at any meeting.

**Isle of Man Amateur Radio Society.**—At the recent AGM all the principal officers were re-elected, and the Treasurer announced that the financial position was sound. Some eight new

members have joined, and 14 of the island's 17 active amateurs are members. Activities will be curtailed somewhat during the summer months, but full pressure will be resumed in September.

**Lincoln Short Wave Club.**—A very successful Hamfest, with an attendance of 73, was held recently. Talks were delivered on Centimetre Technique and TVI Suppression. A raffle, a tea and a Junk Sale rounded off the proceedings. A Film Night has also been held, and, for the future, a trip to Rugby Radio is scheduled for June 24.

**Portsmouth & District Radio Society.**—Recent lectures have been on Hints and Kinks, and on Two-Metre Operation. The Kinchen Trophy was awarded to G3CLX, for the work he has done in making local exhibitions a success. The Club Tx, G3DIT, will be in operation during the Portsmouth Trades Exhibition. G3BSR, a recent winner of the Club's DX Contest, is going to Malta and hopes to operate from there.

**Thanet Amateur Radio Society.**—At the recent Annual Dinner some 50 members and friends were given a demonstration of High-Quality Record Reproduction, after which they danced to music from the same equipment! It is hoped to arrange more social events for the future. Meanwhile, meetings continue every Friday evening.

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**Yeovil Amateur Radio Club.**—The usual Wednesday meetings continue the last few having been devoted to sorting out a large amount of equipment given to the Club by an emigrating amateur. Work has begun on a 150-watt transmitter for four bands. G3CMH, the existing Club Tx, is very active on the air.

**York Short Wave Radio Society.**—All future meetings will be held at the new HQ, Fetter Lane, York, on Wednesdays at 7.30 p.m. One room is being equipped as a workshop, and efforts will be made to put the Club Tx on the air shortly. A local Hamfest, D-F Contest, lectures, competitions and sales have all been arranged for the future. Visitors welcomed at all events.

**Newbury & District Amateur Radio Society.**—The next big event on their calendar is the

Arts and Handicrafts Exhibition in connection with the local Festival activities. Preparations are going forward for putting on a first-class stand and it is hoped that G3CJU/A will be on the air for most of the time that the Exhibition is open—June 12-16, 10.0 a.m. to 6.0 p.m.

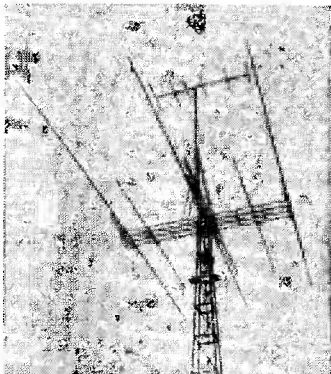
**Stourbridge & District Amateur Radio Society.**—At the AGM held on March 6, G6OI was elected president, G4M1 chairman, G6WF Vice-Chairman, G2CLS Treasurer and to G8GF once again fell the onerous post of Secretary. A discussion on future policy brought out the fact that members generally are interested in outside activities. The informal meetings continue to be well supported, and anyone in the neighbourhood interested in Amateur Radio will be very welcome at these gatherings.



Annual dinner of the Isle of Man Amateur Radio Society, to which 14 of the 17 licensed GD's belong.

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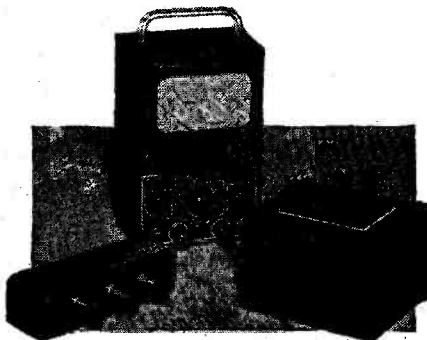
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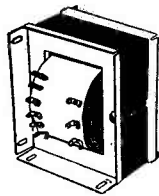
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