R S G B

APRIL, 1958

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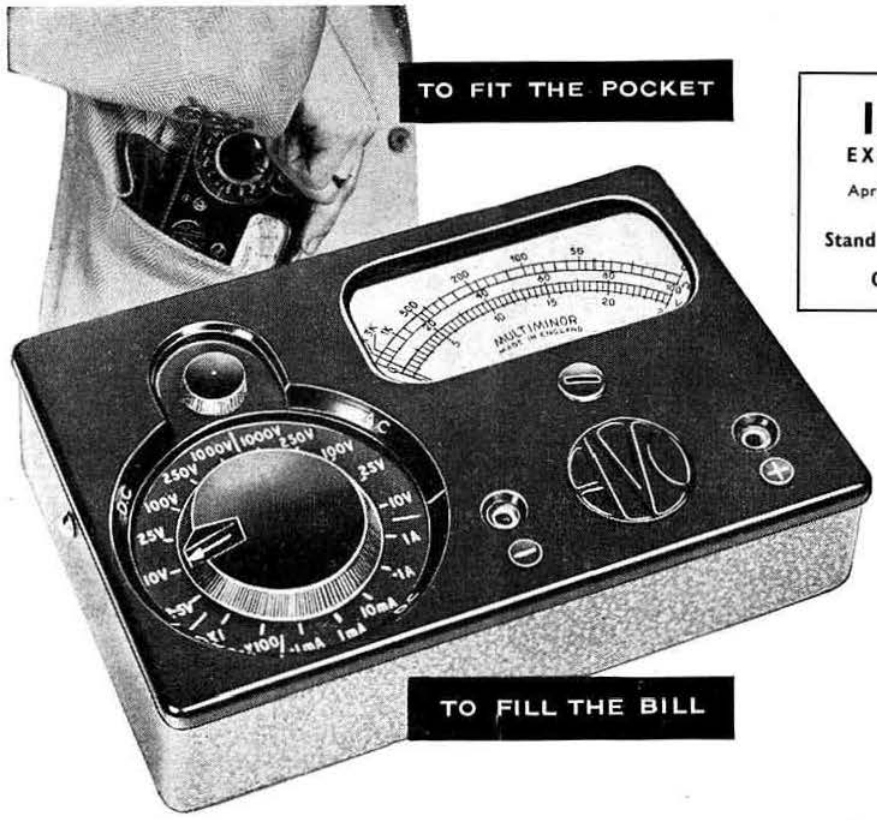

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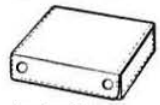

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Volume 33 No. 10
April 1958

R.S.G.B. BULLETIN

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Current Comment

Off-Loading the Frequencies—I

DESULTORY discussion over the last twenty years or more has gone on in these pages upon the importance of using the appropriate bands for particular modes of communication. For example, 14 Mc/s would be an *in*appropriate band to use for cross-town working. On the other hand, 28 Mc/s is a good " local band " when it is not seasonably open for DX, but not when it is. And so on.

If some of the redundant communication that goes on in inappropriate bands could be shifted to more suitable parts of the spectrum, life would without doubt be made pleasanter for the operators who remain.

This is not so easy as it sounds. When is a communication " inappropriate?" And if an operator seeking a random contact should engage with another 30 miles away on a band with an optimum 300 mile range, it would be manifestly unreasonable to expect him not to proceed with the contact. For most contacts *are* random, and there is no knowing whether the reply to the next CQ will come from across the county or across the Continent (assuming the band in use is open to both!).

What may usefully be done, however, is to select net frequencies with rather more care than is often applied at present. Nation-wide nets inevitably compel the use of a fairly long-haul frequency band such as 80 metres; but a fair number of the nets to be heard on that particular assignment happen to be short-haul ones that could very usefully be off-loaded to v.h.f. bands. A case could be made, too, for persuading many of the Top Band phone netters also to take the dive to the metre-wavelengths where their deliberations could be conducted against a better signal-to-noise ratio. Parenthetically, and purely personally, one might register mild surprise that the idea has not been put forward before now that Top Band should be voluntarily declared " c.w.-only "—though, perhaps, the argument should not be deployed further here lest it be regarded as " official " (which it is not). The fact remains that much of its local telephony working could be more comfortably done on 2m.

Looking at band occupancy in the round, there is much to be said for greater use of the v.h.f. assignments for off-loading some of the weight now imposed upon the h.f. bands. Why this has not happened already can only be attributed to the misconception that it is difficult to get started on " the very highs," a misconception which is quickly allayed as soon as the subject is studied in detail.

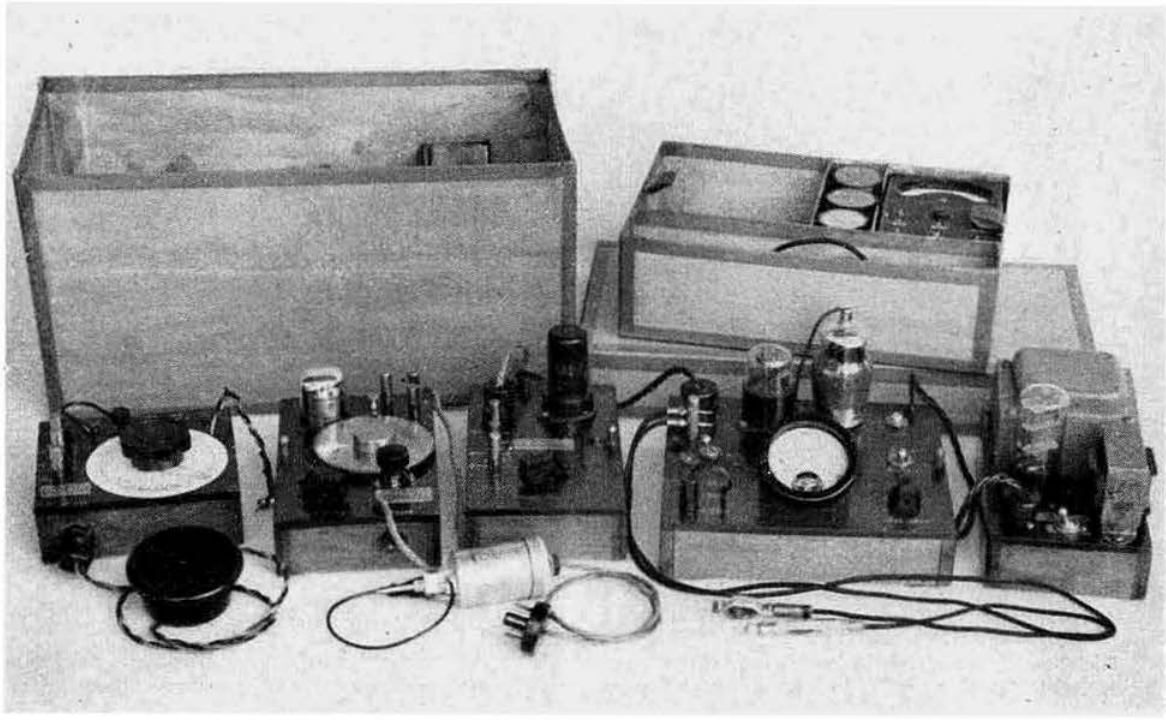
Off-Loading the Frequencies—II

WHAT might be called an animated discussion has been going on in the correspondence columns of this Journal on the subject of single sideband transmission. This discussion is germane to the subject of off-loading the frequencies, dealt with in the previous *Comment;* and if every telephony transmission in the amateur bands occupied only half of the space that it did before, a substantial measure of off-loading would be achieved. Theoretically, this is what would happen if everyone chopped off one of his sidebands and operated henceforth on s.s.b. In practice it would probably not work out quite like that: there always seems to be some more QRM to fill in the space!

Single sideband applied to amateur transmissions is relevant in another context that has been in the news lately, and that is in respect of the forthcoming Telecommunications Conference, one of whose major tasks will be to find enough frequency space for all the services clamouring for kilocyclic elbow room. Any suggestion that the Amateur Service should operate on s.s.b. could hardly be regarded as unreasonable, especially for shared bands, where the need to reduce interference to the very minimum is paramount.

Apart from any official pressure, however, the Amateur Service would do well to consider dispensing altogether with the double sideband mode, especially on the long distance communications bands. After all, it *does* seem rather pointless to put out an exact mirror of your communicated intelligence on the other side of zero beat.

Those who have tried s.s.b. are reluctant ever to go back to a.m. If their enthusiasm could be made more widely known, almost certainly many more telephony operators would take up s.s.b. An invitation to " side band " enthusiasts to report their activities to *Month on the Air* is hereby extended!—J. H.



A Simple Test Set for the Beginner

Part 1—The Power Pack and Valve Voltmeter

By S. J. LLOYD (VK3AST)*

AMATEUR designs for test equipment appear from time to time in technical journals but, while usually simpler and cheaper than their commercial counterparts, they are still mostly beyond the means and capability of the absolute beginner. The very simplest measuring instruments, however, can save a great deal of trial and error in the construction of radio apparatus, as well as giving the tyro a better insight into the working of his equipment. It is intended to describe, in a short series of articles, a complete test set which approaches rock bottom in simplicity, but will nevertheless serve well enough for those who lack experience to build, or money to buy, a more professional equivalent. It is designed to be as simple as possible both in circuit and construction, to be reasonably compact without actual miniaturization, and to employ standard components still easily and cheaply obtainable on the disposals market. These requirements preclude a high degree of accuracy, but the readings obtained are reliable enough for most amateur purposes.

General Description

The complete set shown in the photograph at the head of this article consists of (from left to right) an RC Bridge, Grid Dip Oscillator, Audio Oscillator, Valve Voltmeter, Power Pack and necessary accessories. A d.c. Avominor is included with the set, and the whole outfit is stowed in a fitted carrying case.

Each of the basic units is designed to have more than one function, alone or in combination. The valve voltmeter measures d.c., low frequency a.c. and r.f. voltage, and serves as the indicator for the grid dip oscillator. This combination, besides it primary function of measuring resonant frequency, acts as an absorption wavemeter, field strength meter and modulation meter. The grid dip oscillator can be used alone as a 'phone and c.w. monitor and even as a local station receiver; or as a simple signal generator when modulated by the audio oscillator. The latter provides a fixed audio tone to operate the bridge, for testing a.f. amplifiers, or for Morse practice. The bridge measures resistance and capacitance, and can also be used as a voltage divider or an attenuator.

The d.c. Avominor is included in the set for current measurements, but is also useful for checking voltages in cases where its low input impedance is of no account; if this, or a similar multimeter is not available, a cheap substitute can be made by adding home-made shunts to a small milliammeter; voltage and resistance ranges need not be included as these measurements are already taken care of by the other units in the set. It is not satisfactory to add current ranges to the valve voltmeter, because voltage and current readings are often required simultaneously.

Constructional Principles

Each unit is built on an open chassis, with plywood walls and hardboard deck; these materials are cheap, particularly easy to work with simple tools, and take an excellent finish when carefully sandpapered and varnished. The dimensions of each unit, and of the case, will be given in individual constructional notes, but may require modification to accommodate components of different size or shape to those used in the prototype. The layout as shown in the drawings

* *Surgeon Lt. Cdr., R.A.N., H.M.A.S. Sydney, c/o G.P.O., Australia.*

may need alteration for the same reason. For convenience in fitting the carrying case, the four largest units are made with one dimension identical.

The valves are mounted on or through the chassis and, except that in the grid dip oscillator, are removed for stowage; in this way the carrying case can be made more compact than would otherwise be possible, and the valves can be slipped into cardboard and sponge-rubber sleeves for protection in transit. Octal-based types are used throughout, except for one loctal type in the grid dip oscillator, as they are still more readily and cheaply available than their miniature counterparts.

Spring-loaded terminals are used for the attachment of test leads. If these are not obtainable screw-type terminals should be used instead; plug and socket connections are not convenient for this purpose, as temporary connections have frequently to be made with pushback wire, odd lengths of flex, etc. Miniature 4-pin plugs and sockets are used for the power supply cables; they also provide the necessary interconnections when units are used in combination.

Small components are mounted on group boards as far as possible; these can be made of cardboard impregnated with shellac, and the resistors, etc., fastened by passing the wire ends through holes in the board and bending over. Larger items are mounted on the chassis deck, using small self-tapping screws or 6 B.A. bolts in tapped holes: a few components are mounted on the side walls with short wood screws.

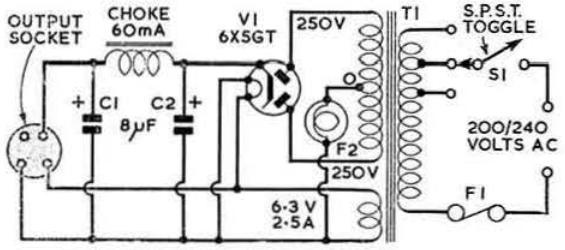


Fig. 1. Circuit of the power pack for the Simple Test Set.

The Power Pack

The power supply unit, although the least interesting item, is described first as it must necessarily be built first. It is quite conventional, and the design can easily be modified to suit available components. The circuit is shown in Fig. 1.

The transformer used in the original is a small one, rated at 250 volts 40 mA, which is enough to supply all the test units at once. It has only one secondary heater winding, 6·3 volts, and so a 6X5 was chosen for the rectifier. Overload protection is provided by a 100 mA " Minitrip " cut-out in the primary circuit, and a 6 volt 40 mA cycle-lamp bulb in the centre tap of the h.t. secondary winding. A simple condenser/input smoothing filter provides nearly 300 volts d.c. output.

The chassis is built up of four strips of 5/16 in. plywood 1¼ in. wide, two 6 in. and two 3 in. lengths. These are arranged to form a rectangle measuring 6 in. by 3⅝ in. externally, which is covered with a deck of 3/16 in. Masonite. The layout is shown in Fig. 2. The transformer is mounted on top of the chassis, with its terminal board dropped through to the underside. The choke, rectifier socket, output socket and switch are also mounted on top; the smoothing condensers, fuses, and all wiring are below. A two-pin mains input connector is inset flush into a side wall of the chassis, and engages a female connector on the mains lead.

The Valve Voltmeter

This unit comprises a double-triode in a bridge circuit, to read d.c. voltage, with a built-in diode rectifier for a.c. readings up to 300 volts: a separate probe rectifier is provided for r.f. measurements. The latter, however, is only really necessary above 7 Mc/s, below which frequency the internal diode does not cause any appreciable error. The voltage ranges are 0-6, 15, 150, and 600 volts; they were chosen to suit the scales already printed on the meter, and for convenience in the work intended. Any desired ranges, within these limits, can be substituted if the meter scales and the voltage multiplier are arranged accordingly. The total input impedance is 9·45 megohms; this is ample for amateur requirements, and yet low enough to avoid insulation problems.

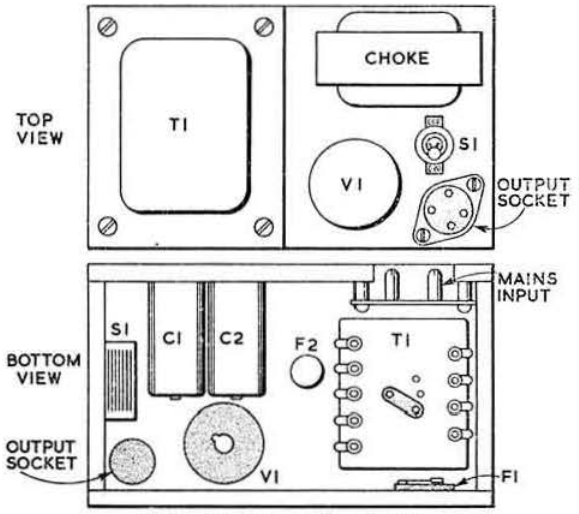


Fig. 2. Layout of the power pack.

Circuit

The two halves of the double-triode, with their respective load resistors, form the arms of a Wheatstone bridge, whose state of balance is indicated by the micro-ammeter (Fig. 3). Application of an external voltage to the grid of one triode unbalances the bridge, and causes a current to flow in the meter: the current is proportional to the applied voltage, and the meter is calibrated directly in volts. The second triode, whose grid is held at earth potential, serves as a compensating device to minimise the effect of changing conditions, e.g., supply voltage variations.

The anode load resistors R11 and R12 form part of the bridge, and must therefore be matched: if close tolerance (5 per cent. or better) components are not available, they should be selected from stock with the aid of a resistance meter or Avometer. The cathode resistors R8 and R9 serve to bias their respective halves of V2 to the correct operating point, and should also be matched. The adjusting potentiometer VR5 allows minor variations to be balanced out, and the meter to be set to zero between readings.

The meter selected for the original unit is smaller than is generally used for an instrument of this type: it was chosen because it was inexpensive, and already calibrated in volts. The scale, although short, can easily be read to the order of accuracy attained by the instrument as a whole. The meter is connected between the anodes, through a d.p.d.t. toggle switch which reverses its polarity for measurement of voltages either positive or negative with respect to earth. The calibration adjustment is made by VR6 connected across the meter: its value is not critical, but should be at least several times the internal resistance of the meter. As it is pre-set, and should require readjustment only at long intervals, the spindle is cut short and slotted for screwdriver operation.

The grid of one triode is returned to earth through R10; that of the other to the voltage multiplier (R2 to VR4) through an r.f. filter, C3 R7. The voltage multiplier is made up of ordinary 20 per cent tolerance fixed resistors, with pre-set potentiometers for the three highest tapping points: if " surplus " potentiometers are used, this arrangement is cheaper than a multiplier made up of special 1 per cent tolerance fixed resistors. R2, R3 and R4 can be replaced by a single resistor if one of correct value is available; the use of separate components, however, allows more scope for subsequent alteration, if this is found to be necessary during the calibration process.

The built-in rectifier, one diode section of a 6H6, is shunt connected, and is switched in or out of circuit by a d.p.d.t. toggle switch, S1. The rectified voltage is actually equal to the peak value of the a.c. input, and R1 and VR1 are introduced into the circuit to reduce the reading to the equivalent r.m.s. value when the input is a sine-wave. When measuring non-sinusoidal waveforms it should be re-

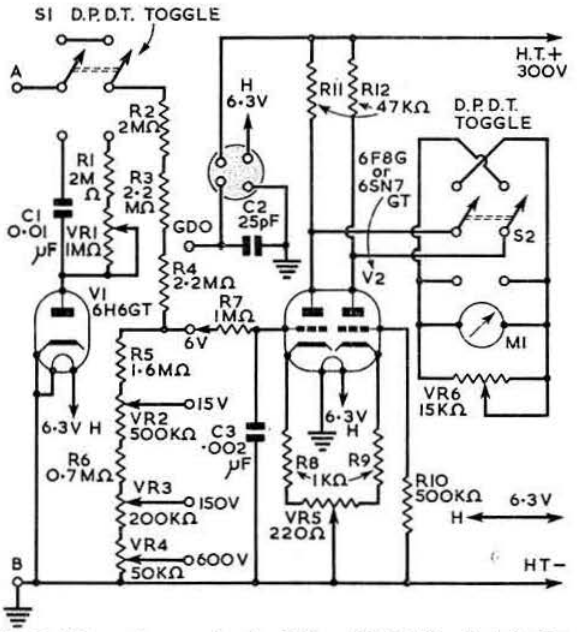


Fig. 3. Valve voltmeter circuit. M1 is a 500μA full scale deflection moving coil meter scaled 0-6, 0-15 volts and 0-600 volts. C1 should be a mica condenser. R8 and R9 should be ½ watt rating and R11 and R12, 1 watt.

converted to the peak value by multiplying the meter reading by 1·4; a conversion table can be constructed for the purpose of avoiding the necessity for mental arithmetic.

The 6H6 was chosen for its cheapness and ready availability. However, it restricts the use of the instrument on its a.c. and r.f. ranges to the measurement of voltages of 300 or less. As amateurs do not often require to measure higher a.c. voltages, the valve has proved quite satisfactory.

A four-pin socket is provided for connection of the grid dip oscillator; three of these pins carry the supply voltages, and the fourth is wired to an extra socket on the range selector. The voltmeter triode can thus be connected directly to the grid of the grid dip oscillator.

Construction

The chassis is made up of four pieces of $\frac{5}{16}$ in. plywood, each 6in. by $1\frac{1}{4}$ in., forming a rectangle measuring 6 in. by $6\frac{5}{8}$ in. overall; this is covered with a deck of $\frac{3}{16}$ in. Masonite. The layout is shown in Fig. 4. The valveholders are mounted on top of the chassis: the 6F8, used for V2, has one grid brought out to a top cap, and requires a flexible grid lead and connector. If a 6SN7, which is electrically equivalent, is used instead, the grid lead is not needed and the socket connections must be altered to suit.

The meter is mounted at an angle of about 45 degrees for convenience in reading. It is secured to a small metal bracket, and looks best if sunk partly into the chassis top (Fig. 4) through a semi-circular hole.

The range selector consists of four $\frac{1}{8}$ in. sockets, engaged by a wander plug on a flexible lead: a fifth socket is provided for the connection to the grid-dip oscillator. This construction is simpler and cheaper than a rotary switch, which could otherwise be used. The three potentiometers used in the voltage multiplier are soldered by their metal cases to a strip of tin, which is screwed to the front wall of the chassis; their spindles are cut short and slotted. VR1 is mounted on a group board with R1 to 5, and its spindle similarly treated. R7 to 12 are fixed to another group board, with C3 beneath it. The remaining components are mounted as shown in the diagram. The power supply cable is brought out from the terminal strip through a hole in the chassis, and terminated in a miniature four-pin plug; only three pins are used, carrying l.t., h.t. and common negative.

The r.f. probe (Fig. 5) consists of a single shunt-connected diode, with a blocking condenser and isolating resistor. It must be enclosed in an earthed metal case, with the probe point brought out through a ceramic or polystyrene insulator.

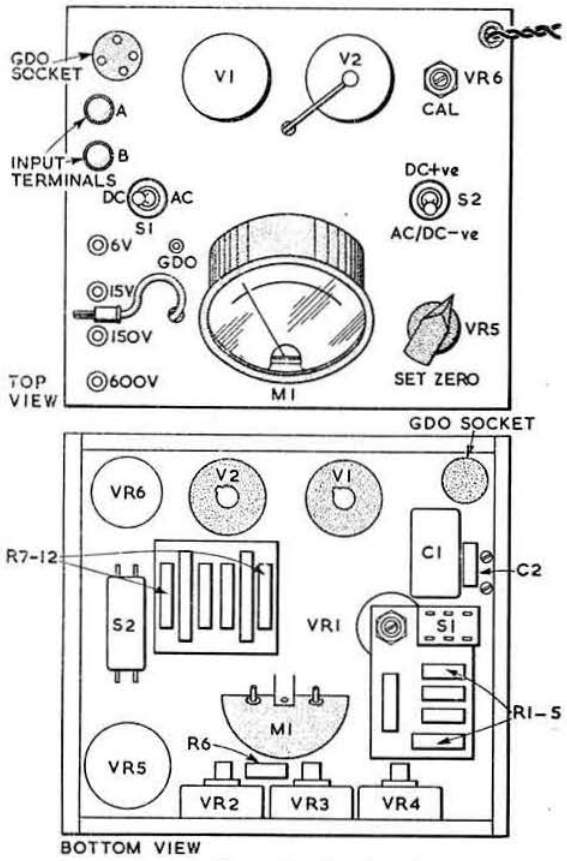


Fig. 4. Suggested layout for the valve voltmeter.

A 6H6 (diode sections connected in parallel) was used in the prototype: with the base removed it was just possible to fit it into an aluminium can of the type used for packing 35 mm. film cassettes. A smaller valve, or a larger can, would make construction much easier. The probe is fitted to a length of three-way flex, terminated in an octal valve base; when required for use it is plugged into the socket of V1, after removing the latter. A short tail of flexible wire, with an alligator clip on the free end, is fixed to the can, so that it can be earthed close to the circuit under test. Ordinary test prods or lengths of flex, terminated in alligator clips, are used for d.c. measurements and for a.c. when the internal rectifier is to be used.

Adjustment and Calibration

The primary range of the instrument is 0-6 volts d.c.; the a.c. and other d.c. ranges are set in correct relation to it by VR1 to 4, and once set are permanently fixed. Calibration of the 6 volt range, by means of VR6, then automatically lines up the other ranges. VR6 need only be readjusted at long intervals, to take up variations due to ageing of the valves, alterations, etc. In setting up the instrument for the first time, it is most convenient to adjust the 6 volt range before setting the voltage multiplier.

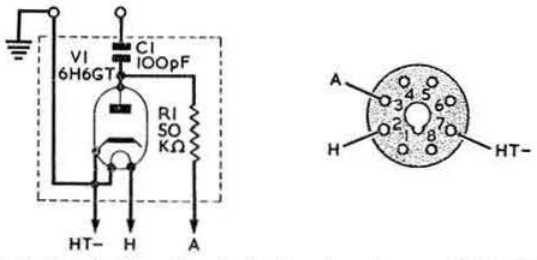


Fig. 5. Circuit of the r.f. probe for the valve voltmeter. C1 should be a silvered mica condenser and R1 should be rated at 1/10 watt. For details of the screening case, see text.

It is necessary to borrow a commercial a.c./d.c. voltmeter, such as an Avometer, to calibrate the unit to the required degree of accuracy (1 to 2 per cent). A source of variable d.c. voltage is also required: a 50,000 ohm potentiometer across the h.t. supply will suffice for the 150 and 600 volt ranges, and one of 50 ohms across a series of dry cells for the lower d.c. ranges: the a.c. adjustment can be made on the 6 volt range by means of the 50 ohm potentiometer across the heater supply.

The valve voltmeter should be allowed to warm up for at least half an hour before calibrating. The least trace of moisture on the components may cause misleading results, because of the high input impedance. In normal use, however, it will only be necessary to warm it up until the zero setting remains steady, providing it is kept in a dry place. Before each reading is taken, the input terminals are short-circuited and the meter balanced exactly to zero by VR5. The Avometer is connected in parallel with the valve voltmeter, and remains so throughout the calibration process.

First set the range selector to 6 volts, S1 to d.c., and S2 to d.c. positive. Apply a few volts across the input terminals, negative to earth, and check the polarity of the meter: if the needle moves in the wrong direction reverse the connections to it, or to S2. Next adjust the applied voltage to read exactly 6 volts on the Avometer, and turn VR6 with a screwdriver until the valve voltmeter also reads exactly 6 volts. Repeat the process on the 15, 150 and 600 volt ranges, applying the appropriate potential to each, and adjust VR2, 3 and 4 respectively to give equal readings on both meters. On the 600 volt range the setting can be made at the 300 volt mark, if a sufficiently high potential source is not available.

To set the a.c. ranges, return the range selector to 6 volts, switch S1 to a.c. and S2 to a.c./d.c. negative: apply 6 volts a.c. as shown on the Avometer, and rotate VR1 to give a corresponding reading as before. The instrument now indicates the r.m.s. value of any sine-wave input: it is not accurate for non-sinusoidal waveforms, but will indicate their peak value accurately, if the meter reading is multiplied by 1·414 as mentioned above.

When all ranges have been set and checked, VR1, 2, 3 and 4 can be locked by sealing with wax, paint, or shellac, and should not need to be touched again: any further changes in calibration that may be required can be carried out by VR6. If at any time, as a result of valve changes or circuit alterations, it proves impossible to restore calibration by VR6, it will be necessary to raise or lower the total resistance of R2, R3 and R4. This will not affect the setting of VR2, 3 or 4, but VR1 may need readjustment if the total resistance of the multiplier chain has been altered by more than 1 per cent.

(PART II WILL APPEAR NEXT MONTH)

WWV Transmissions

FOR the benefit of radio amateurs and other interested groups, the U.S. National Bureau of Standards maintains a service of technical broadcasts from WWV, Beltsville, Maryland, and WWVH, Maui, Territory of Hawaii. WWV is the station usually received in this country.

The services from WWV include (i) standard radio frequencies of 2·5, 5, 10, 15, 20 and 25 Mc/s, (ii) time announcements at five-minute intervals by voice and Morse code, (iii) standard time intervals of one second, and one, three and five minutes, (iv) standard audio frequencies of 440 c/s (the standard musical pitch A above middle C) and 600 c/s, (v) radio propagation disturbance warnings in Morse code consisting of the letters W, U or N together with digits from 1 to 9, indicating present North Atlantic path conditions and conditions to be anticipated. W indicates that an ionospheric disturbance is in progress or expected, U indicates unstable conditions but communication possible with high power, and N that no warning is in force. The number designations apply to expected propagation conditions during the subsequent 12 hours, the meanings being as follows: 1—impossible; 2—very poor; 3—poor; 4—poor to fair; 5—fair; 6—fair to good; 7—good; 8—very good; 9—excellent. The forecasts are broadcast at approximately 19·5 and 49·5 minutes past each hour.

During the I.G.Y., transmissions from WWV include special information for observers at 4½ and 34½ minutes past the hour in accordance with the following code: five A's—alert in progress; five E's—no alert; five S's—Special World Interval begins at 00.01Z the following day; five T's—Special World Interval ends at 23.59Z; three long dashes—Special World Interval in progress.

The audio frequencies are interrupted at precisely two minutes before the hour and are resumed precisely on the hour and each five minutes thereafter. Morse announcements are in Universal Time using the 24 hour system beginning with 0000 at midnight; voice announcements are in E.S.T. The audio frequencies are transmitted alternately: the 600 c/s tone starts precisely on the hour and every 10 minutes thereafter, continuing for three minutes; the 440 c/s tone starts precisely five minutes after the hour and every ten minutes thereafter, continuing for three minutes. The fourth minute of each five-minute period is silent; voice announcements are made during the fifth minute. The one-second intervals are heard as a clock-like tick; the tick at the beginning of the last second of each minute is omitted.

(With acknowledgments to *QST* and the *Radio Amateur's Handbook*.)

A 150 Watt Class B Modulator

THIS article describes a class B modulator using two G.E.C. KT88 valves capable of an output of 150 watts. This output is obtained at an anode voltage of 750, which is low for this order of power.

Circuit

The circuit shown in Fig. 1 uses two KT88s in a zero-biassed class B arrangement. The control and screen grids of these valves are tied together via resistors R16, R17, and each valve draws less than 10 mA during quiet periods. At the full 150 watts output, 140 mA per valve is passed and the efficiency exceeds 70 per cent. The circuit has the advantage of requiring no fixed grid voltage supply and operation is virtually foolproof.

A driving power of 7 watts to the output valves is necessary and this should be provided at a relatively low impedance. The method used here is simple and has the advantage of not requiring a special type of driver transformer. A push-pull driver stage is used, resistance coupled to a centre-tapped grid inductance L1. This inductance can be any small output transformer, with the secondary left open, having a d.c. resistance of about 500 ohms and an inductance of 10 to 20 henrys. The output stage draws a grid current of about 30 mA at full output and it is necessary for a low resistance path to exist between the screen grids and cathodes. The driver stage uses two pentodes, such as KT66s or 807s, resistance coupled via R14, R15, C8 and C9 to the output stage. The resistors R14 and R15 serve the dual purpose of loading the driver stage (and thus swamping the variable load of the class B output grid circuit), and of reducing the 750 volt line to 450 or 500 volts for the driver stage. The advantage of supplying the driver and output stages from the same source is that the driver current acts as a " bleeder " and stabilizes the d.c. supply voltage, which would otherwise fluctuate between 750 and 1000 volts as the class B stage is driven.

The driver stage is preceded by a phase-splitter which can be of any type capable of providing 20 + 20 volts r.m.s. Full modulation is given for 20 volts at the input.

Power Supply

The whole equipment is operated from a single power supply which gives two d.c. voltages. The power transformer T2 (450-0-450 volts) is connected to a bridge-connected rectifier, which could use four U52/5U4G or other suitable valves, with a choke input circuit. The 750 volt supply is provided via a low resistance smoothing choke L2.

A second d.c. supply can be obtained at half this voltage from the centre tap of the transformer via L3, and is used for the driver screen grids and the phase splitter. It could also supply any earlier valves in the speech amplifier. The use of a combined or dual supply prevents the application of voltage to the driver screen grids without the supply being connected to the anodes. The smoothing condensers C12, C13 and C14 are deliberately made of high value to cater for the high peak currents called for by the class B stage. Due to mass production for the television industry, these high capacitance components are readily obtainable at a reasonable price. There are several different types available and those used here are of the double variety, having the two sections (100 and 64μF) connected in parallel; two are connected in series for C12 and C13. As an alternative, single section 100μF condensers could be used with a slight decrease in the smoothing efficiency. The series connection of C12 and C13 provides a working voltage of 900.

* *The M-O Valve Co. Ltd., Brook Green, Hammersmith, London W. 6*

Zero Bias Operation of the G.E.C. KT88

By G. R. WOODVILLE*

Care should be taken to ensure that the anode supply transformer T2 is suitable for the circuit shown where the centre tap is not earthed. No difficulty will be experienced with a component from a reliable manufacturer. This point refers to all transformers used with a bridge-connected rectifier. The current drawn from the 750 volt supply varies from about 120 mA with no modulation to nearly 400 mA at the full 150 watts output, sufficient for 100 per cent modulation of a 300 watt carrier. However with normal speech the average current will be very much less than 400 mA

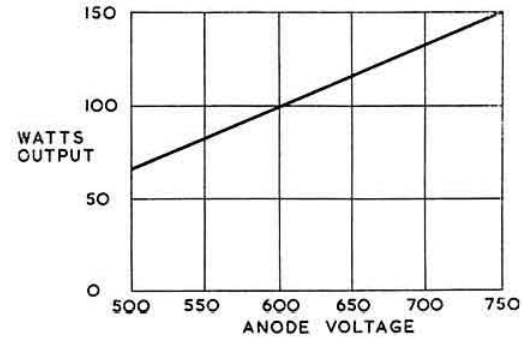


Fig. 2 Approximate output v. anode voltage on V4 and V5.

COMPONENT INFORMATION

C1, 2, 3, 0·01μF 350V wkg., paper.
C4, 8μF 450V wkg., electrolytic.
C5, 6, 25μF 50V wkg., electrolytic.
C7, 0·005μF 600V a.c. wkg., paper buffer type.
C8, 9, 0·5μF 750V wkg., paper.
C10, 11, 0·01μF 800V a.c. wkg., buffer type (T.C.C. type 847).
C12, 13, 14, 100 + 64μF dual section, 450V wkg. (sections in parallel).
L1, 10 to 20H, 500 ohms centre tapped (see text).
L2, 5H 300 to 400 mA, 50 ohms.
L3, 20H 30 mA 500 ohms.
R1, 470 K ohms, $\frac{1}{4}$ watt, 20 per cent tolerance.
R2, 3, 33 K ohms 1 watt (matched to within 5 per cent).
R4, 1 K ohms $\frac{1}{4}$ watt, 20 per cent tolerance.
R5, 6, 600 ohms 3 watt wire wound, 5 per cent tolerance.
R7, 8, 220 K ohms $\frac{1}{4}$ watt, 20 per cent tolerance.
R9, 10, 10 K ohms $\frac{1}{4}$ watt, 20 per cent tolerance.
R11, 22 K ohms 1 watt, 20 per cent tolerance.
R12, 13, 220 ohms $\frac{1}{4}$ watt, 20 per cent tolerance.
R14, 15, 5 K ohms 20 watt wire wound, 5 per cent tolerance.
R16, 17, 22 K-100 K ohms 1 watt, 20 per cent tolerance.
R18, 19, 100 K ohms 1 watt, 10 per cent tolerance.
T1, modulation transformer (Woden UM3).
T2, h.t. transformer (see text).
T3, heater and filament transformer.
V1, L63 or 6J5.
V2, 3, KT66 or 807.
V4, 5, G.E.C. KT88.
V6, 7, 8, 9, see text.

and the transformer T2 could probably be rated for a continuous load of no more than 250/300 mA at 750 volts d.c. The current at 375 volts is small and varies from below 10 to about 20 mA. The filaments and heaters of the valves are supplied from the transformer T3. This should have one winding of 6·3 volts at 7 amps and three or four windings suitable for the rectifiers chosen, i.e. 5 volts for U52/5U4G, 4 volts for GU50 or 2·5 volts for GXU50, 866A, etc. Separate transformers may be used if preferred.

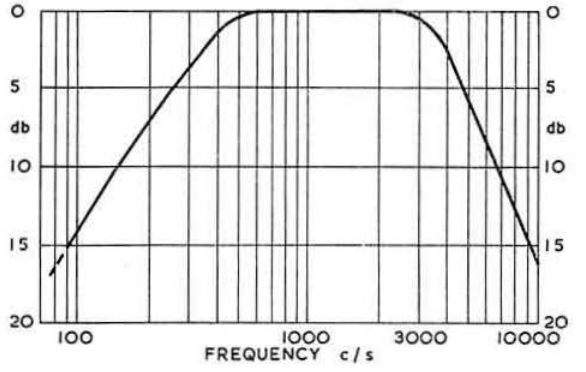


Fig. 3. Frequency response of the modulator using the values of C2, C3, C7, C10 and C11 shown in Fig. 1.

Operating Conditions

The operating conditions are as follows:

	No Modulation	*100 per cent Modulation*
Anode voltage	850 V.	750 V.
Anode current	10 + 10 mA	140 + 140 mA
Screen voltage	—	180 + 180V r.m.s.
Screen current	—	30 mA
Power output	—	150 watts
Distortion	—	6-8 per cent
Anode to anode load at primary of T1	—	6000 ohms
Output impedance of modulator (approximately)	—	25,000 ohms
Grid to grid input impedance of modulator (approximately)	—	18,000 ohms
Driving power	—	7 watts

The anode voltage of 750 is higher than the normal rating of 600 and is permissible for intermittent operation, as in a speech amplifier. Should a lower output be required an anode voltage of 600 could be used to provide 100 watts output, by selecting T2 to provide a voltage of about 350-0-350, as shown in Fig. 2.

The approximate frequency response is displayed in Fig. 3. The values of C2, C3 and C7, C10 and C11 have been selected to give an attentuation outside the useful speech frequency range. The low frequency response may be modified, if required, by changing the value of C2 and C3. Similarly the high frequency response may be adjusted by C7. It is recommended that C10 C11 be left at the values given. Components suitable for a.c. working are essential for C7, C10 and C11.

(*Continued on page 463*)

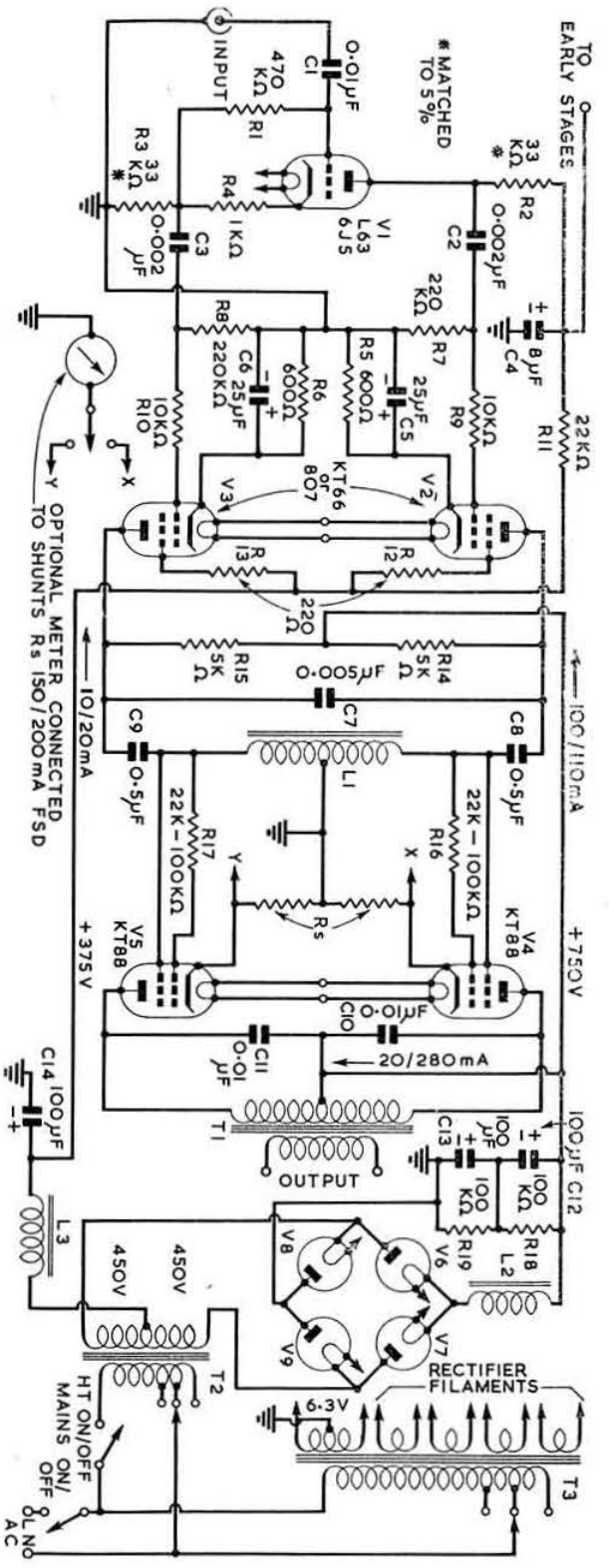


Fig. 1 Circuit diagram of the 150 watt class B modulator using G.E.C. KT88 valves.

Technical Topics

A survey of recent Amateur Radio developments—the first of a new regular series

By PAT HAWKER (G3VA)

TO keep abreast of current technical progress and practice in the Amateur Radio field has never been an easy task. New ideas and circuits are constantly being introduced and old ones revived. Some have a short life, others are absorbed into the main stream of amateur practice. Yet often, unless one has read the original article in a British or overseas magazine, it may be many months before one meets someone able to pass along sufficient details to find out what the latest technical trend may be, and to make it possible to try a new aerial or circuit device which may be just what the station needs.

We cannot promise that this new BULLETIN feature will solve all these difficulties. All we can hope to do is to survey from time to time a few ideas from the Amateur Radio press of the world; a few hints and tips that have come to our notice; with perhaps an occasional comment thrown in for good measure.

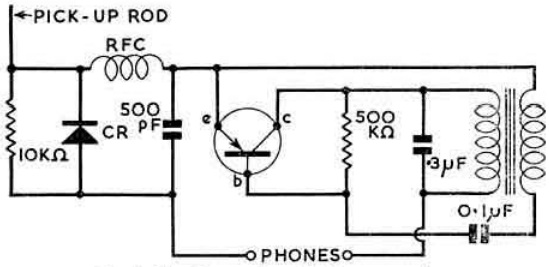


Fig. 1. Simple transistorized c.w. monitor.

Transistors

It is almost impossible to open a magazine these days without finding some new or improved application of transistors. Yet many of us still tend to think of these devices as a rather expensive means of developing a few milliwatts of power on low frequency bands. That may have been true a year or two ago but already the power junction transistor has arrived. A single power transistor mounted on a small chassis as a heat sink can provide an audio output of 3-5 watts from a 12 volt supply. These transistors are suitable for modulators for mobile or low power work and also as oscillators in power supplies which offer many advantages over conventional vibrator supplies. Power transistors are currently available from several British manufacturers, though the prices are above those now ruling in the United States. There has been a spate of interesting articles in recent American and Continental magazines including: " Transistorized Power Supply " (*QST*, February 1958) describing a unit capable of delivering up to 65 watts at about 400 volts from 12 volt car batteries; an article on transistors in mobile work in the German *DL-QTC* (December 1957) providing details of a 10 watt h.t. unit and a 3 watt and a 1 watt modulator; a " Transistorized Meter Sensitizer " (*QST*, November 1957) showing how almost any low power junction transistor can be used in a simple circuit as a d.c. amplifier to convert a 1mA meter into an instrument with a full scale deflection of 50 or 100 μA, and a completely transistorized 10 watt modulator in *QST* (December 1957).

For the complete newcomer to transistors, a practical c.w. monitor was described recently in *DL-QTC* comprising a tone oscillator (almost any available transistor would be suitable) powered by the d.c. voltage output from an untuned crystal diode: see Fig. 1. One word of caution: make sure that the crystal diode is not radiating harmonics.

Neutralising Tetrodes

We were interested to see in *CQ* (Jan.-Feb. 1958) an article by W5OSL on bridge neutralizing tetrodes, as a similar circuit has been used at G3VA for some time. The basic circuit is now fairly well-known (although it has not been used in any BULLETIN equipment): see Fig. 2.

This is a bridge circuit which when balanced will effectively isolate the high impedance grid circuit from positive feedback due to grid-to-anode and stray capacitances. This is true when the ratio of NC : C1 is equal to the ratio of grid-to-anode capacitance : grid-to-cathode capacitance (i.e., NC/C1 = Cg-a/Cg-k). In most designs C1 is fixed but W5OSL makes the point (and this has been confirmed) that it is often much easier and safer to adjust the circuit by making C1 variable (about 500pF maximum).

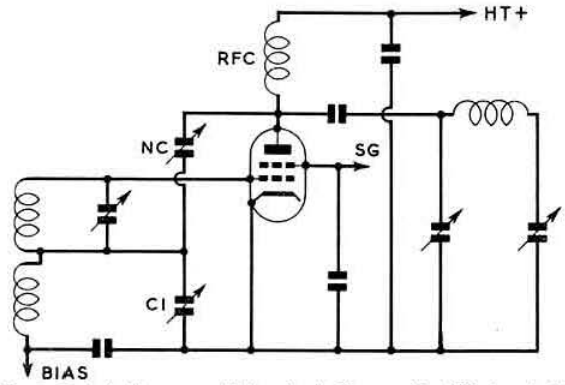


Fig. 2. Basic bridge neutralizing circuit for tetrodes This is suitable for almost any of the popular types.

Receiver Trends

In *QST*, January 1957 W1DX drew attention to the advantage of single conversion receivers with an i.f. above 1·8 Mc/s, provided that sufficient selectivity could be attained in the i.f. amplifier. A year later (*QST*, February 1958) W6YBR has come up with an inexpensive i.f. amplifier for c.w. using three cascaded 1690 kc/s surplus crystals but throwing out all i.f. transformers. This experimental amplifier has a bandwidth of about 1000 c/s at 20db down, and offers plenty of scope for further developments.

For those who want to try their hand at a fairly simple but practical receiver (at least for c.w.) there are many attractions in the " Super-gainer c.w. receiver " described by W6AJF in the bumper November 1957 issue of *CQ*. This is the latest version of an extremely simple design of some 20 years standing. The circuit uses a 6AB4 grounded-grid r.f. amplifier (which also functions as an automatic transmit-receive switch), a low noise 12AT7 mixer/oscillator, crystal filter and 6BJ6 i.f., and a $\frac{1}{2}$ × 12AX7 as a regenerative second detector, the other half being an a.f. amplifier, with

a 6A6 output. Regenerative second detectors are not particularly popular in this country but having used one for many years the writer can testify that when the regeneration control is smooth they can be highly practical for c.w. A small neon bulb is used as a voltage regulator.

The surplus price of FL-8 filters is likely to shoot up again if the " SAF-4 " QRM eliminator of W7OXD catches on (also in *CQ*, November 1957). This uses no less than four of these filters in cascade in an eight-stage audio filter, using four 6SL7 double triodes. This circuit gives a bandwidth of 160 c/s at 6db down and only 400 c/s at 60db down—figures which put normal 470 kc/s crystal filters or even 50 kc/s i.f. strips into the shade. But we suspect that it would lead to some hurried knob twisting between " overs " to try to find where some of those DX signals had drifted to!

New life for war-time receivers is the order of the day. In that connection W6SAI gives information (*CQ*, November 1957) on reducing the noise figure for the popular NC-240D by replacing the 6SK7 r.f. amplifier with a 6SG7 which has the same connections but a noise resistance only about one-third that of the 6SK7. The 6K8 mixer is replaced by a 6SB7Y (the equivalent noise resistance is about one-quarter that of the 6K8 but base connections differ). W6SAI also advocates the fitting of a voltage regulator.

Briefs

One big advantage of the folded dipole over the single wire type is that a quick and easy check for feeder and dipole breakages can be made by checking for continuity at the transmitter end of the feeder.

In a recent *CQ* survey, U.S.A. activity was found to be about 5 per cent c.w. only; 20 per cent phone only; 38 per cent mixed, with c.w. most of the time; 62 per cent mixed with phone most of the time. Ten per cent were using s.s.b. and 2 per cent operating radio teletype.

* * *

Please note that it is impossible for the author to loan or supply copies of the articles referred to in this feature. (Many of them have only been borrowed!)

A Variable "Peaker" for the G5RV Q5'er

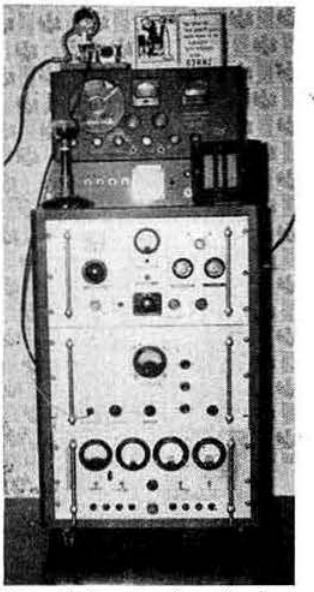
THE writer built the G5RV Q5'er (R.S.G.B. BULLETIN November 1954) about three years ago for use with an HRO, and although the improvement in selectivity was very marked, it was felt that the thread of the Maxi-Q coil slug was a little too coarse for really fine adjustment. By experiment, it was also found that judicious " twiddling " of the slug could be employed to peak a wanted signal. Further, for some reason which the writer is not able to explain, a wide band change, say from 3·5 Mc/s to 14 Mc/s or higher, seemed to require a re-tuning of the slug.

Accordingly, to simplify matters, a " peaker " in the form of a midget ceramic variable capacitor with two fixed and two moving plates (J.B. Type C804 or similar) was fitted and connected across the oscillator coil and in parallel with the 470pF fixed capacitor. As one end of this coil LO is earthed, the trimmer is simply fixed through the side of the chassis, and the knob provides all the facilities of slug " twiddling," with greater ease.—W. J. G.

Tecnetron—A New Transistor

ACCORDING to *British Radio and Television Retailing*, a new type of " solid valve," claimed to be a great advance on the transistor, has been developed at the National Centre of Telecommunications Study in France. Known as the tecnetron, it embodies a piece of uranium measuring only one-twelfth of an inch long by one-fiftieth of an inch in diameter. It is said to be capable of amplifying up to 1000 Mc/s.

The Station behind The Call G3HHZ



THIS neat living-room installation belongs to William S. Smith (G3HHZ) of Kemble, Cirencester, Gloucester. Starting from the top, the equipment comprises an aerial tuning unit, a modified Hallicrafters SX24 receiver and a control panel with the transmitting equipment housed in the rack cabinet below. The top panel carries an Elizabethan, the modulator for which, employing 807s in class AB2, is on the next chassis. The bottom panel is for the 500 volt h.t. supply and relay and bias packs.

The aerials in use are a 132 ft. end fed and a 102 ft. centre fed multiband array.

Constructional work is a major interest at G3HHZ and similar equipment to that illustrated, as well as 2 metre gear, is available in the " No. 2 shack " located in the roof space. G3HHZ says his pet aversions are " sloppy operating and those who do not support the R.S.G.B." Commendable views as well as commendable equipment!

Audio Fair 1958

THE British Sound Recording Association will not be holding an exhibition of its own this year but will have a demonstration room at the Audio Fair at the Waldorf Hotel, Aldwych, London, from April 18 to 22, where members' equipment will be on display.

150 Watt Class B Modulator (Continued from page 461)

Notes on Components and Layout

The value of the grid resistors R16 R17 is not critical and provided that both are equal, no difference in performance will be noticed between 22,000 and 100,000 ohms.

The resistors R18 R19 equalize the leakage currents of the electrolytic condensers.

The choke L3 is essential if the dual voltage circuit is used. Its inductance is not critical.

Two of the rectifier filaments (the upper pair in Fig. 1) may be operated from the same transformer winding if preferred. The filaments and heaters should be switched on 20 seconds before the anode voltage and the sequence of switching shown facilitates this.

The layout of this modulator is not critical. This is no doubt due to the resistive-loading on the driver stage and to the conditions under which the output stage operates. The components should be placed in a logical order and the wiring will then be straightforward.

Please enclose a stamped addressed envelope when writing to Headquarters for information.

Foreign Mobile Operation

By V. A. FRISBEE (G3KVF/M, DJ0AF/M)*

A CAR tour and camping holiday through France, Luxembourg, and Germany was decided on for 1957. As the writer has always had a great interest in reciprocal licensing matters it was also decided to try to obtain permission from the appropriate authority in the countries mentioned to work mobile whilst on holiday.

Conversations with several amateurs brought forth such remarks as " You won't get away with that," " They won't grant a mobile licence, old man," and even one who said, " It would be safer to smuggle the gear through and work as a pirate! " In spite of these pessimistic prophesies it was decided to go ahead on the grounds that if nobody asked for permission it would never be granted.

How It Was Started

The first move consisted of getting the firm dates fixed and the passage over the English Channel confirmed. This was done through the A.A. The date of landing in France having been fixed as July 28, 1957, three copies of a similar letter were prepared for despatch to France, Western Germany and Luxembourg asking whether permission could be granted for mobile operation whilst on holiday. Included in each letter were copies of a certificate from the G.P.O. stating that G3KVF was the holder of Amateur (Sound) and Amateur (Sound Mobile) Licences and the dates on which they were issued. A certificate from the writer's employer stating that the person mentioned was employed on duties concerned with radio and television was also enclosed, as was a copy of a current QSL card. Each authority was informed of the approach to the others to enable all concerned to be aware of all the facts. The letters were all posted on April 24, 1957.

Some Results

The first answer (written in French) was received from Luxembourg on April 28; it read as follows:

Dear Sir,

In answer to your letter of 24th inst. I beg to inform you that our law provides that in principle a licence for the setting up of an amateur wireless station will only be granted to persons of Luxembourg nationality by birth or naturalisation. Such licence can however be granted on a reciprocal basis to foreign subjects domiciled in the Grand Duchy of Luxembourg. I regret therefore that I am unable to meet your request for a two weeks' licence.

Yours etc. . . . (For) Postmaster General.

This was a blow, and meant that work proceeding on the transmitter had to take into account the possibility of having to remove it from the car for transit in a sealed box through Luxembourg.

On May 23 a letter arrived from the Radio Branch of the German P.O. It said:

Dear Sir,

Reference your letter and the proposal to bring your car to Germany and to use your amateur station which is attached to it. We would say that as a special privilege we will grant your request. We assume you have the experience of the various systems and that you can adapt yourself to the German wavelengths and also that you understand our regulations, call-signs, etc. Your permit is from July 28 to August 11, 1957 inclusive. During the time you are using your radio station in Germany you will use the call-sign DJ0AF/M (in Phonetics, Dora Julius Null Anton Fredrich). The G.P.O. London and the persons and authority concerned in Germany are now being notified.

Yours etc. . . .

It was ascertained at this time that Top Band mobile working was not permissible in Germany so it was indeed a lucky chance that it had been decided that the equipment should cover the five bands 10 to 80m. Building and testing gear and other preparations continued until June 6 when a letter from the French P.T.T. was received saying:

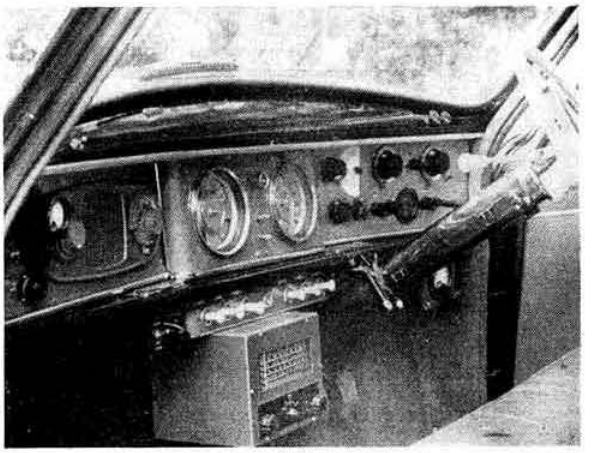
Dear Sir,

Further to your letter of April 24, 1957. I beg to inform you that an Amateur Radio licence can only be granted to an alien in France if his country affords the same facilities to French subjects residing there. According to British law licences of this kind are only granted to British citizens. In these circumstances I regret that I am unable to accede to your request.

Yours etc. . . .

Another blow, but it was decided to have a further try. Further letters were sent to Luxembourg and France to ask if they had reciprocal agreements with Germany and if so could DJ0AF/M be granted a temporary permit, as previously requested by G3KVF. If this was still not possible could permission be granted for the transmitter, fixed in the car, to be taken through the territory under their respective jurisdictions. A solemn undertaking was given that if this permission were granted the equipment would not be used. The reply from Luxembourg stated that the possession of the German licence could not alter the decision already given since Luxembourg licences could only be granted to citizens of that country or to foreigners *domiciled* (their italics) there. Transit permission for equipment was readily given however.

The reply from France stated that the reciprocal agreement between that country and Germany was specifically for *Germans* resident in France, which was much what had been expected. Here again permission was given for transit of equipment but in this case the requirements were quite specific. The transmitter was not under any circumstances to be capable of working whilst on French territory and details had to be supplied of the route and dates of stay in



The neat layout of the equipment used by G3KVF/M-DJ0AF/M. The Minimitter converter mounted under the dash feeds into the car radio at 1·5 Mc/s which has been modified to include a tuning (S) meter and twin noise squelcher (TNS). The transmitter, housed in the off-side glove compartment, comprises a Geloso v.f.o. feeding a miniature 807 (SB/254M) running approximately 25 watts input. Modulation is provided by a 12AX7 driving 6BW6s in class AB1. Two crystal microphones are used, one clipped to the driver's sun visor, the other fitted with a press-to-talk switch for the passenger. Power is supplied by a single rotary converter giving 400 volts at 250 mA. Provision is made to switch out the car's automatic regulator and to manually control the field regulator to vary the battery charging rate. Other equipment includes a field strength meter.

*17 Delacourt Road, Blackheath, London, S.E.3

France. In addition the vehicle number was required. The requirement for disabling the transmitter was quite simply met. A small plastic bag was bound tightly over the end of the disconnected battery supply to the transmitter and liberally coated with sealing wax. This was considered sufficient proof of good intent in the event of a snap check anywhere on the route. A further plastic bag and wax were included in the spares kit to remake the seal on the return journey.

Two days before starting out a further letter from the French P.T.T. was received giving the transit permission requested but also pointing out that it would be considered a serious offence if the equipment were used on French territory (so much for piracy!).

What Happened

No actual checks were made in France although many P.T.T. vans were seen on all roads taken. The transmitter and receiver were entered on the carnet (car customs document) by the A.A. as " a complete transmitting station " under the heading of " Special Equipment " and no trouble was experienced at any Customs Post. The transmitter was not used in Germany to any great extent due to two causes. The first was Continental road conditions of which this trip was the writer's first experience. With 2,000 miles of Continental driving now behind him, he knows what to expect next time! The second cause was an accident to my back (slipped disc). Nevertheless no sorrow is felt at the groundwork that appeared to be practically all wasted since it was always intended to publish these experiences for the information of other interested members.

Further Observations

Two points arise out of the letters received from the Foreign Administrations concerned: first, their willingness to consider reciprocal arrangements, and second, the fact that these arrangements are in some cases already in existence. One is led to hope, in the circumstances, that these arrangements are working satisfactorily and that the authorities in this country may give favourable consideration to further approaches by the R.S.G.B. The writer would be interested to learn views of others (all nationalities).

Planning Information

For the benefit of anyone wishing to make his own arrangements as detailed in this article *for a German licence* the address to write to is Der Bundesminister für das Post und Fernmeldewesen, Koblenzer Strasse 81, (22C) Bonn.

Transit permits for equipment may be obtained from the following:

France: Secretariat d'Etat aux Postes, Telegraphes et Telephones, 20 Avenue de Segur, Paris (7e).

Luxembourg: Grande Duchy de Luxembourg, Administration des Postes, Telegraphes et Telephones, 8A Avenue Monterey, Luxembourg City, Luxembourg.

All Administrations mentioned were helpful and courteous at all times but, quite rightly, firm about any refusals that had to be given. It is hoped that anyone gaining similar privileges in the future will be most careful not to abuse them as to do so would surely be to the detriment of all. Do not forget to write in plenty of time. Government departments are just as busy as private firms (in spite of anything you may have heard to the contrary), and the permits will not do you any good on the mat at home when you are across the Channel.

A final point is the matter of cost. The writer asked for a specific two-week permit and no charge was made. However, G3KZI of Woodford who wrote on the strength of this first one being granted, asked for a licence during July and August. A charge of 6 DM. was requested for the two months (1 DM. is about 1/8).

Acknowledgments

To those interested enough to do something about it, good luck is wished. When, however, those letters come back in French and German don't send them to me because at this point I have to thank a German friend of my wife—Mrs. Joan Hills of Greenwich and the master who teaches French at my son's school, Mr. S. C. Shearman, of the Charlton Secondary School for Boys—without whose help I should not have progressed beyond the point of receiving the letters. Thanks are due also to Mr. G. V. Haylock (G2DHV) who originally supplied the address of the German Authorities. Finally it may be said that any further queries can only be answered on receipt of a stamped addressed envelope. *I'm* saving for " next time."

The World we live in

The 1957/58 I.E.E. Faraday Lecture was delivered recently by Mr. R. Ledger who chose as his subject " Railway Electrification."

In order to enhance interest in the lecture Mr. Ledger applied for permission to import a film about electrified railways in France. The application brought forth the following from the Board of Trade:

" I write about the duty-free importation of a film for use in the 1957/58 Faraday Lecture. I enclose a copy of your original application. This copy must be signed by Mr. Faraday; he should complete a fresh application form."

Faraday died in 1867.

(Acknowledgments to " Peterborough " of The Daily Telegraph *for bringing to light this priceless gem.)*

* * *

" I heard from a friend of mine that I could use somebody else's call-sign with his permission, by putting the letter A on the end of it (e.g., G3ZZZ/A). Can you confirm please?"

B.R.S. . . .

An Audible Tuner

Simple Design covering all bands from 1·8 to 30 Mc/s

THE tuner to be described was devised for a blind amateur so that he could accurately resonate his p.a. tank circuit and, with the p.a. switched off, tune the exciter for maximum drive. It can also be used as a monitor for both c.w. and phone, and is useful wherever a simple wavemeter is needed. No originality is claimed for the design, but it is put forward in the hope that it will be of help to other sightless operators.

It will be seen from Fig. 1 that the unit consists of a tuned circuit, a diode r.f. rectifier (V1), and a triode audio oscillator (V2). The only power supply needed is for the heaters of the two valves. In operation, the tuned circuit is set to the centre of the desired band and a small amount of r.f. picked up by a short length of wire attached to the aerial terminal is rectified by V1 and used as h.t. for V2. V2 then oscillates, and a note is heard in the headphones. As the driver or p.a. tank is tuned to resonance, the amount of r.f. picked up by the tuner increases, thus causing the volume of sound in the phones to increase. By this means the transmitter can be peaked up as accurately as if the operator were watching a meter. The switch S2 prevents oscillation when the tuner is being used as a phone monitor.

Construction is simple and the component values and layout are not critical. The transformer T1 provides the anode-to-grid coupling to make V2 oscillate and couples the output via a low impedance winding to the headphones. The transformer used in the original unit is a surplus item numbered ZA14587, but any transformer with similar windings, such as the modulation transformer from a Wireless Set no. 17 or the output transformer from the " A " set of a W.S.19, should be suitable.

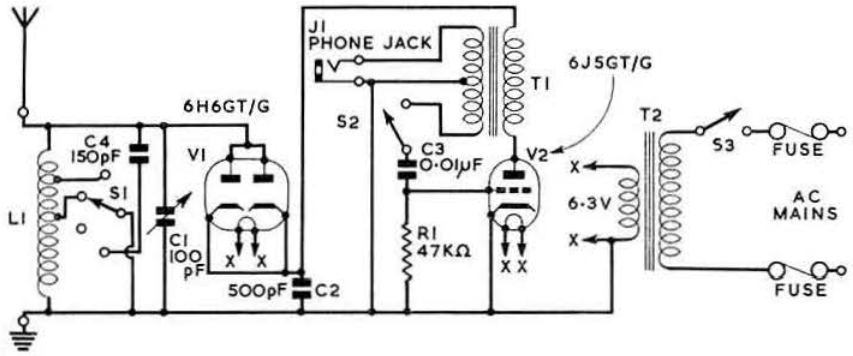


Fig. 1. Circuit diagram of the audible tuner. C1 is the main tuning condenser, C4 being switched in for 1·8 Mc/s by the wavechange switch S1. L1 is 30 turns of 26 s.w.g. wire on a 1 in. diameter former, tapped at five turns for 10, 15 and 20 metres and at 15 turns for 40 metres. Details of the chassis and panel layouts and sizes are given in Figs. 2 and 3 respectively.

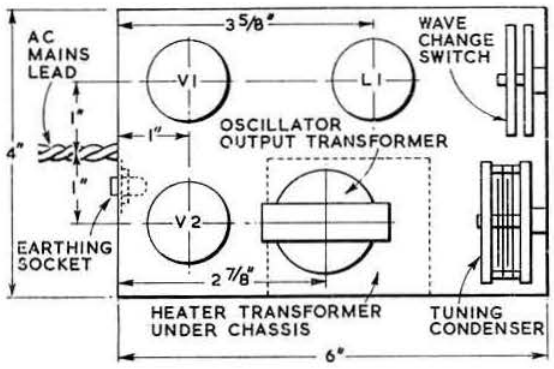


Fig. 2. Suggested chassis layout for the audible tuner.

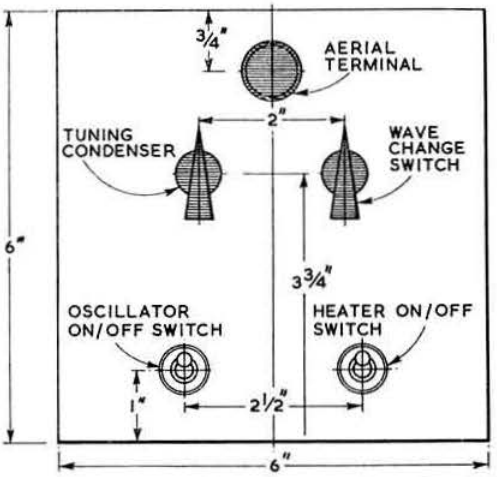


Fig. 3. Arrangement of the various controls on the panel.

Instruments, Electronics and Automation Exhibition

ONE of the lectures to be given in connection with the Instruments, Electronics and Automation Exhibition at Olympia, London, from April 16 to 25 will be " Progress in the International Geophysical Year " by G. E. R. Deacon, C.B.E., D.Sc., F.R.S., Chairman of the Committee for the International Geophysical Year and Director of the National Institute of Oceanography. Admission will be by ticket obtainable from the Information Bureau at the Exhibition.

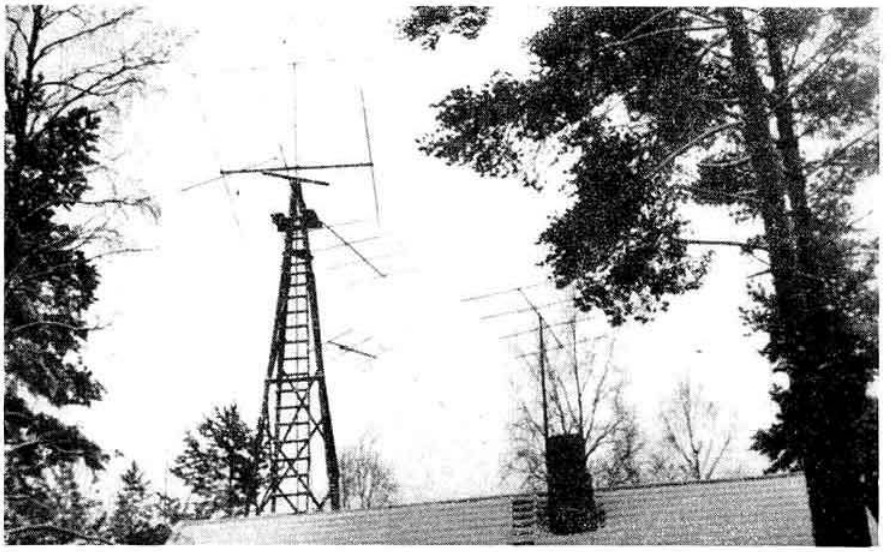
Voice of America Amateur Radio Programme

A NEW series of the popular Amateur Radio programmes, written by W2SKE, is now being broadcast on Tuesdays by Voice of America transmitters between 21.00 and 21.30 G.M.T. on the following frequencies: 7110, 9635, 15130, 15250, 17875, 21485 and 21500 kc/s. The programme is repeated at 22.30 G.M.T. on 173 kc/s on the Munich 1000kW long wave transmitter. The programme includes the latest Amateur Radio technical and DX news, and propagation forecasts.

Finnish Visit

By J. S. BENNETT (G3KLC)*

THE recent spell of cold weather reminded me again of last February. Being in Finland I was fortunate enough to be able to visit two of the best known stations in Scandinavia on the DX bands, OH5NW and OH5NQ, at their estate at Mustila which lies deep in the pine forests among the lakes of Southern Finland, not far from the Russian border. The bus from the nearby seaport of Kotka passes through beautiful country, frozen lakes, stretches of forest and isolated hamlets. As the picture shows, Axel Tigerstedt's house is easily found, the tower with the many arrays being a notable landmark. But it was very reassuring to be met at the little town of Elimaki by Axel and to go on to his house and meet his wife and son, Nils, as well as his brother, Peter, OH5NQ.



The many aerial arrays at OH5NW are a notable sight. Provision is made for operation on all amateur bands up to 144 Mc/s as well as the television bands.

OH5NW runs about 110 watts to a pair of 807s on all bands from 3·5 to 28 Mc/s with a separate transmitter for 2m. Many cross-band contacts with the American stations on 6m have been made. The receiver is a Geloso which has proved entirely satisfactory, its performance being helped by the various beams which have been so well tuned that the front-to-back and front-to-side ratios have to be experienced to be believed. The countries worked now stand at over 200. Mrs. Tigerstedt, who will shortly be on the air with her own call, is in charge of filing.

After a short spell of operating we went on to Peter Tigerstedt's home, a fine timber house built in 1790 and beautifully modernized. All houses in Finland have double windows and doors and well insulated walls and roofs. The warmth all over the houses is most pleasant and unbelievable to anyone used to British standards of heating in much less inclement weather. This house is also distinguished by a beam, in this case a Panda Minibeam. (In case anyone thinks that overseas buyers can get this beam much more cheaply, the customs and excise authorities in the various countries usually take care of that as Peter unfortunately found out.)

The most remarkable feature of the station is the fitting of a 50 watt transmitter complete with power pack and modulator into a cabinet the size of the Hallicrafters S38 receiver without overheating or feedback troubles. Incidentally, OH5NQ was one of the youngest operators to be licensed in Finland.

TVI is not yet a problem although a new station in Helsinki is coming into operation. The Russian programmes can sometimes be received: no attempt is made to make their announcers glamorous and the presentation seems very slow after our own programmes.

A most pleasant feature of operating in this part of the world is the very low noise level and absence of QRN. DX stations seem stronger than in England but the G QRM is certainly as strong between 28·1 and 28·5 Mc/s as the W QRM between 28·5 and 29 Mc/s.

It was with great regret that I left these very fine stations and I am looking forward to seeing them again soon.

*4 Broad Street, Stamford, Lincs.

This picture was taken outside OH5NW's home in Mustila. From left to right, OH5NQ, OH5NW, Mrs. OH5NW, Nils and "Tommy."

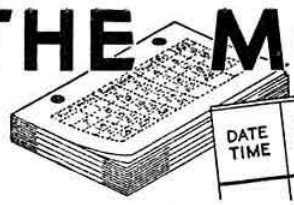
Silent Key

JACK BRADFORD (G3IIB)

It is with great regret that we record the death at the age of 55 of Jack Bradford (G3IIB). Throughout his long illness, he operated on phone from his bedside. By his death, the Liverpool and District Amateur Radio Society has lost one of its most cheerful and willing supporters. His voice will be greatly missed on Top Band.

To his widow, two sons and two daughters we express our sympathy in their sad loss.—A. D. H. L.

THE MONTH ON THE AIR



BY S. A. HERBERT (G3ATU)*

FOR the first time this year, your commentator is obliged to start off with the admission that the bands have not been their usual lively selves. The month of March saw a very marked deterioration in conditions, especially on 10m and 15m, while even " good old 20 " was anything but good for days on end. However, we imagine that things will soon be back to normal—in fact as you read these words the bands may well be bursting with rare DX once more. We can't help thinking, too, that an occasional spell of poor conditions is a good thing. If the bands were always full of rare DX, the time would soon come when nobody would be interested enough to work it. And *that* would put your commentator in a very unfortunate position!

News from Far and Wide

Mauritius. Paul Caboche (VQ8AD) sends some interesting news of call-sign changes which came into effect in February 1958. These changes are detailed in a Circular from the Mauritius Telecommunications Department from which we quote in part. " This administration has decided to add a third letter to the suffix of the call-signs for radio amateurs stationed in the Dependencies, *viz. A* for Agalega; *B* for the St. Brandon Group; *C* for Chagos and *R* for Rodrigues. For instance, the radio amateurs in Rodrigues, VQ8AS and VQ8AQ (VQ8AQ has now left the area.—S. A. H.) will have to add the letter *R* to the suffix of their call-signs, *viz.* VQ8ASR and VQ8AQR respectively." Similarly, VQ8AJ in Diego Garcia (Chagos) will now sign VQ8AJC. Amateurs on Mauritius itself will use the normal two-letter suffix and amateurs returning there from the Dependencies will drop the third letter as long as they operate from Mauritius. The foregoing arrangement was made after lengthy discussions between the administration and prominent local amateurs and it was designed solely with the aim of fixing accurately the location of the various VQ8 stations.

G3CHJ (West Hartlepool) who was quoted last month as working VQ8AQ and '8AS, hastens to add that full credit should go to Jack Mann (G3AAM), without whose help no contact would have been made. Jack had a sked with VQ8AS spread over many weeks and his spade-work did the necessary. Derek (ex-VQ8AQ) is now on the **Seychelles** and *not* on Mauritius, as we mistakenly reported last month. He was arranging his VQ9 call-sign and with any luck he should be on the air with it by now.

Kuwait: G3ISX (Welling) brings us up-to-date with the latest news regarding 9A2AQ, whose gear suffered a mishap while en route. Things have now been put to rights and 9A2AQ's c.w. signal should be audible on 7 to 28 Mc/s inclusive. He returns to the U.K. in May and QSLs will be honoured then, if not before.

Poland: From **SP5HS,** who is the Award Manager of the Polish Amateur Radio Union, comes the advice that all applications for the " AC 15 Z " and " W 21 M(H 21 M) " awards *must* be sent direct to P.Z.K. Award Manager, P.O. Box 320, Warsaw 10. Krzysztof, SP5HS, says that Box 122, Warsaw, is no longer connected with P.Z.K. and he fears that QSLs sent to that address will no longer be returned. Take heed, then, or your cards will cease to bounce.

Malaya: A brief note from ex-G3DEW reveals that he is now VS2HC and that he should be active vocally at any time on 14, 21 and 28 Mc/s.

Hong Kong: VS6DS, the newly appointed Secretary of the H.A.R.T.S., says that among the more active VS6 amateurs are VS6BE and '6AZ, both on s.s.b., with '6BJ almost ready to join them, while '6DJ, '6DL and '6DK can be heard on A3. VS6DO, '6DX and '6DP help to keep the R.A.F. Club station VS6DV on the air while VS6CO (R.A.F. Kai Tak) is expected to resume operations shortly. VS6AE is as keen as ever and '6CL, '6EA, '6DZ, '6DT and '6DS are on hand to provide contacts on the h.f. bands, while VS6CJ is now on 50 Mc/s, looking for QSOs with anyone who can hear him. QSLs are on hand for S. Auty (VS6DG) and D. Page (VS6DF), whose present whereabouts are unknown: the cards can be had from the Secretary, H.A.R.T.S., P.O. Box 541, Hong Kong.

U.S.A.: W6YY (La Canada) sends another of his excellent résumés of current DX and his news from ZL1AP is especially hot. ZL1AP passes the news that his friend **VR2AP** left Fiji on March 3 for Singapore, where he will take over a new yacht belonging to H.E. the Governor of Fiji. He will sail the yacht back by way of **CR10, ZC5, VR6** and **FU8** and he will have with him a small a.m. rig and also the s.s.b. set belonging to Ted Henry (W6UOU) of KS6 fame. W6YY reports **VR3A** going great guns from Fanning Is. with his new Vee beams. **VR3N** is also newly active. **VK0TC** (Macquarrie Is.) says that Heard Is. has been abandoned as a weather station, so that there is no

W6YY of La Canada, California, is one of the best known calls in the world. The equipment includes separate exciters, 4-1000A power amplifiers and aerials for each of the h.f. bands, with a common modulator and power supplies. Vertical aerials are used on 1·8 Mc/s and 3·5 Mc/s with beams for the other bands. The two receivers are a Collins 75A2 and a 75A4.

* *Roker House, St. George's Terrace, Roker, Sunderland.*

chance of further radio activity in the foreseeable future. VK9AD (Norfolk Is.) uses phone around 14,140 kc/s; XW8AI also uses phone: FQ8AJ is a new one on c.w. and W6YY was his first QSO. VQ4AQ and VQ4KRL are cooking up an expedition to VQ1 and VQ9. ZK1AK joins ZK1BS and is on 14,041 kc/s, c.w.: HS1A reports that HS1C is on c.w., HS1E will soon be active, while HS1WR will be on phone. VS1HU is being heard in W6 via the long path (over LU) at 24.00 G.M.T.

W2KXL (Newark, N.J.) is active on 7 Mc/s and has worked DL, OK, SP and YU and he hears HA1VP, HR1SP and ZS5BB up there.

In **British Guiana, B.E.R.S. 216** listened on a five-valve set while in the interior where he installed the radio gear for an expedition. On 14 and 21 Mc/s phone, many stations were heard, but the outstanding signal was from G3DO. All stations heard will receive a special QSL card.

Antarctica: The February 1958 issue of *QSO*, the official organ of the Belgian Society U.B.A. contains a wealth of information regarding the exact location of all the amateur stations operating in and around the Antarctic continent. Among those mentioned are **OR4VN,** which is with the Belgian expedition at Leopold III Bay (70.26S—23.19E), FB8YY (Adelie Land, 66.40S—140.01E) and FB8YY/P, located at Charcot, in Wilkes Land, at the South Magnetic Pole (71.00S—137.00E).

(Photo by courtesy of G3AAE).

Florence Kumukahi (KH6BGE) at the operating position of her station in Hilo, Hawaii. Equipment in use includes a Viking II transmitter running 120 watts input, a National NC183 receiver and a Vee beam. Florence is married to KH6AFS.

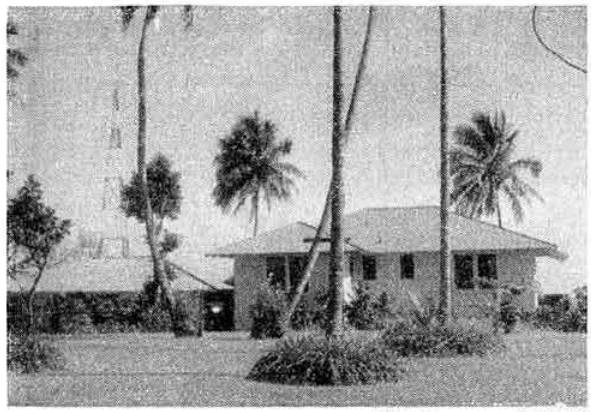
The Twenty Metre Story

There is no doubt at all that 20m has provided most of the DX of note during the past weeks. True, there has been an unusual amount of sporadic E, with its attendant S9 Gs and near Europeans playing havoc with the weaker DX but still there were openings when much of the long-distance stuff was there for the working. Early morning sessions are still sometimes good for Pacific DX and **G8KS** (Petts Wood) emerged with KS6AD, Pago Pago (08.30, '013) and ZK1AK (08.00, '010), with VK0KT (20.30), all worked on c.w. **G3FPK** (London, E.10) found Africans weak but he remarked on the good conditions to VS1 and VS6 on occasion. Norman goes to 106C with four new ones on the band. HE9LAC was one for W.A.E. and 4S7WB appeared 'neath loads of Ws at 02.00. VS7NB was inundated with QRM and he kept calling 'FPK " FGN," which is after all but one *dit* and one *dah* out! Apart from that, the band opened one night to the Far North and UA0KAR and KG1EE were easy meat, but the latter packed up immediately, as his arm was getting frozen! W7AH provided Arizona at last and SV1RX was a c.w. first with Greece. G3FPK called EA6AW, FB8BD, FY, HH, HR, KM6EVK (very weak at 19.00), KR, OA, OD, OY, etc., and he was amused by AC4A, purporting to be " Tien . . . in Lhassa." This one signed . . . " de HA . . . " once!

B.R.S. 21279 (Birmingham) logged VQ8AQ on Rodrigues, then switched to A3 for HV1CN, XE2WF, 9K2AX (a native of Wolverhampton) and VP2KM. On s.s.b. 9K2AM, ET2US, UA3CR, ZS6OY, 9G1BF and VK6FK were heard. **B.R.S. 20104** (South Harrow) dug into the layers of the c.w. band and was rewarded by VK0RO (Mawson, '070, 19.00), YK1AT, VK9AD (Norfolk Is., '085, 19.15 and also on '200 phone at 07.00), FB8CD (Comoro, who returns to France on April 26), ZS2MI ('020, 22.00) and KC6JC (Truk, '035, 20.30). The KC6 was working OE1ER—his first European! Goff knows that AC5PN, ZS8R, UM8KAC, ZK2AD and VK9JF (Cocos) are around and he passes news from " reliable " sources as to ZD7A, who should soon be on and VQ8AF, said to be in Chagos (and now, presumably, signing VQ8AFC). VP0RT is W6ITH operating from Anguilla, B.W.I. OD5AM may operate from 4W1; a Navassa KC4 may be on late in July. The call of JT1AA's XYL is JT1YL. Finally, from **YU1RS** comes an appeal to *all* listeners to send him their QTH, gear, etc., as he is trying to compile a Short Wave Listener's Call Book.

B.R.S. 20106 (Petts Wood) continues to dig down through the QRM and he collected the HV and VK9AD for new ones, though ZC3AC still eludes him. That leaves only Wrangel, Kermadec, Palau, Navassa, PK6, VQ7, VQ9, 4W1, VU4 and one or two odd spots in the Pacific, but Norman makes a point when he says that back in 1923, with three valves he could hear WGY on 365m at loud-speaker strength. The power at WGY was 1·5 kW. These days, with so much powerful stuff on so many bands, 100 kW would not give the same reception. Reverting to 20m, Norman logged FK8AS (18.37), FK8AT (07.45), AC4AA (16.00, working an SM, then QRZ!), KC4USK, '4USA *and* AC5PN (16.00). Then he heard BV1US (19.00) on A3 and UA3CR and VK6MK on A3a. **B.R.S. 19638** (Bristol) is a new reporter. He uses an 0-V-1 and a 66 ft. wire, which picked up VP7NB, VQ4KN, VP9Y, UD6, HH, FF, OQ5, 9K2, UG and ZL. Dave says owners of AR88s could dig up that lot with a screwdriver as an aerial, but surely he is unduly modest!

B.R.S. 20317 (Bromley) this year has heard 39Z and 165C on 14 Mc/s c.w. and has set his sights on 40Z and 200C. A relatively good month gave him KC6CJ and FD8DZ (Lome, '058, 20.00) for new ones. The FD8 is ex-VQ4EO. QSL via W4IYC. Other c.w. DX for Bill was BV1US (15.00), CR4AH, DU7SV, FG7XC, HS1JN ('048, 18.00 to 19.00), KG6FAE, KX6BP ('030, 18.40), PJ2ME, ST2AR ('075), VP3AD, '8BM, VQ6AB, XV5A ('075, 19.00),



(Photo by courtesy of G3AAE).

The home of KH6AFS and KH6BGE in Hilo, Hawaii. The shack is in a separate building near the tower. The house is located on a cliff 200 ft. above the Pacific.

XW8AI and VS4BA ('086, 15/16.00). **B.R.S. 20135** (Newport, I.o.W.) heard VS9AD, ET2NS, VE3BQL/SU and VK2, '3 and '4 through the usual phone QRM and **A.1491** (London, N.13) logged VK9AD, VS9AD, KG4AA, VP4TF, VP5WS and CT2AI on his R107, but he thinks that lack of bandspread made him miss lots more. Edwin heard DJ1BZ refer to KP6AL ('031) and KM6EVK ('005) and say that the Clipperton trip was off because the operators couldn't get a licence . . . or a boat!

G3ATU came across SM8AQT/LA/P (Svalbard)—rather an unexpected one on c.w. He hears from VS9AD that the R.A.F. boys on Masirah Is., though not yet active, are straining at the leash.

Fifteen Metres

Fifteen has been far from the top of its form and has suffered from bouts of severe fading, but **G8KS** raised KW6CM and JT1YL (who also gave him a phone report) and heard OR4VN working ON4 and OQ5 on 21,150 kc/s between 17.00 and 19.00 G.M.T. G8KS has the location as Princess Ragnhild Land and says the power is 250 watts c.w. and phone, with a broad beam directional array. **G3FPK** says JT1AA, who was S8 in February, is now much weaker—a sign of poor conditions, though the band stays open late at times for the W area. Six new ones were VU2JA (16.45), VS6DV (Ted, who is looking for G3AEN), 3A2CD (CN8FQ/W4UFQ), F, GI and the plum—JT1AA. Norman heard his two-minute " CQ " and was biting his nails as the queue collected, but a snappy call, 5 kc/s up did the trick first time.

A.1376 (Winscombe), who is back after a spell in hospital, with 108C heard, lists VP2GC, VP6WR and JA3BB. **B.R.S. 21279** got JT on c.w. and he heard VQ3ES (18.30), HS1E, CR9AK, FE8AH, 4S7, 9G1 and VS6 on phone, but he asks where are the *easy* UA0s? He has yet to find one! **B.R.S. 20317** pulled in FL8AB ('050, 17.50), KH6 and VS1 on c.w., while **B.R.S. 20135** used A3 for KR6RB, YN1CK, TG9AD, VP2DC, VK and ZL. **A.1491** mentions OA4IGY and **G3ATU** worked HV1CN on *c.w.*, but suspects the very worst!

Ten Metres

During scattered openings, **A.1513** (Leeds) logged CE3AGI, which is an official satellite-tracking station. He also heard ZA2JV, but that one sounds a little peculiar (ZE2JV?). **A.1491** came upon VP2GG, CR9AK, VP2LB, HI8RM, HC1AGI (also a satellite-tracker), ZD3E, '3F, KG6, KR6OQ5, FF8, VS6, VU, ZL and 9K2AK/M, so the band did open sometimes!

B.R.S. 20135 logged KL7BJW, FE8AK, VQ6ST, VU2AC, '2EJ and HH2Z and **B.R.S. 20106** had UA9MI, VP8AQ, 4S7EP, VP8BM and FE8AK on phone and VP3AL on the key. Also on c.w., **B.R.S. 20317** heard VQ7AB calling " CQ W/VE " (14.30) and getting no replies! Where would *he* be, if genuine? The only other VQ7 we remember was VQ7UU, who gave out Aldabra Is. QSOs while sitting snugly in his Nairobi shack! Bill also logged UH8KBA, PZ1AQ, CT3AB and XE2FA (18.30) and at least *they* are all right.

Forty Metres and Above

Interest remains specialized on the l.f. bands, but **B.R.S. 20317** again proves the DX *is* there, especially by logging KH6IJ (07.00), CX1LO, XE2FA (07.00), VE7AHB, K6EVR and W7JLF, while on *eighty* he came up with PY7AN (06.00), YN1AA (05.20) and W0LGG (Iowa).

On 40m c.w., **B.R.S. 20106** met with KL7CDF, ZP9AO, '9AY (07.45), W5JP, '6WLY, '7ANN, with EA9AY and W3 on phone, while on *eighty* he heard W5CKY, '4KFC, '8WA and VE1ZZ, with K4AQB (06.30) on phone. Norman turned to Top Band and there heard W1BB/1, W8GDQ, W8NSF and an OK. On 40m, **B.R.S. 21279** heard **G3MGL** who is fourteen years of age, which must make '21279 feel ancient—he is fifteen himself!

G3FPK called SV0WP, CE1BD and SU1AB (who didn't seem inclined to work Gs!), but he did work UD6AI, UN1AH and UO5IT to make the band total 64. Norman also worked W6MOJ who has 1kW and a two-element beam, PY4, PY7 and UA9KOA and he has a report from our old friend Eric Trebilcock of Melbourne, which pleased him. V6T's frequency was measured at 6932 kc/s, but it spreads 100 kc/s up the band and, with other disgusting noises, often makes the band untenable at night.

The date for contributions for the next M.O.T.A. is April 18 and May 18 will apply for material for the June issue. Meanwhile, many thanks to everyone and continued good hunting to boot. 73 till next time.

Frequency Predictions for May 1958

PREPARED BY J. DOUGLAS KAY (G3AAE)

BAND	NORTH AMERICA East Coast	NORTH AMERICA West Coast	CENTRAL AMERICA	SOUTH AMERICA	SOUTH AFRICA	NEAR EAST	MIDDLE EAST	FAR EAST	AUSTRALIA	ANT-ARCTICA
M.U.F.	25 Mc/s 2000	19·5 Mc/s 2100	29 Mc/s 1930	32 Mc/s 1400	35 Mc/s 1400	31 Mc/s 1400	30 Mc/s 1430	28 Mc/s 1530	28 Mc/s 2200 LP	35 Mc/s 1400
28 Mc/s	2000	2100	1700/2200	1100/2200	0800/2200	0800/1900	1400/1500	1530	2200 LP	1100/1700
21 Mc/s	1200/0100	2100	0600/0300	0930/1130 1800/0530	0600/0900 1300/0030	All day	0300/0730 1100/0000	1130/2230	1030/1600 SP 2100/0930 LP	1700/1800
14 Mc/s	2200/1030	0000/1100	2230/1000	0830/0930 2200/0700	1730/0030	1300/1000	1530/0200	1700/2300	0700/0800 LP 1430/2130 SP	0830/0900
7 Mc/s	0300	0300	0300	0300	0000	1900/0400	2000	2000	1800 SP	0300
3·5 Mc/s	0300	0300	0300	0300	0000	2200/0200	2000	2000	1800 SP	0300

These predictions are based on information provided by the Engineer-in-Chief of the Post Office. All times are G.M.T.

FOUR METRES AND DOWN

By F. G. LAMBETH (G2AIW)*

Scottish V.H.F. Convention—144 Mc/s Contest—Overseas V.H.F. News—London Convention on May 17

THE Scottish V.H.F. Convention under the able direction of W. C. Bradford (GM3DIQ), which took place at the Brabloch Hotel, Renfrew Road, Paisley on March 15 was a great success. The proceedings opened with a small luncheon party, the Convention proper commencing after a very pleasant get-together of all those present. The first item on the programme was Ed Tilton's (W1HDQ) recorded lecture on the various types of v.h.f./u.h.f. propagation. Later, Arnold Mynett (G3HBW) described his very neat 23cm transmitter and receiver, the " plumbing " of which was much admired, whilst " Jock " Kyle (GM6WL) demonstrated his 23cm gear vaguely reminiscent of Emett (or was it Heath Robinson?). Anyway, it worked well. More 23cm gear was successfully demonstrated by GM3DDE after which G2UJ and G2AIW talked about v.h.f. beacon stations, Transatlantic Tests (see March BULLETIN) and activity during aurorae (and reports on their characteristics). After tea, there was another very lively " rag-chew " session, followed in due course by an excellent dinner, to which 36 sat down.

Almost all the Scottish v.h.f./u.h.f. operators in the area were present and it was a great pleasure to meet them. They are a very keen lot, and are doing sterling work in experimentation as well as operating. Among well known enthusiasts present were GM3EGW, GM6KH, GM6ZV, GM3GAB, GM3NG and GM3DDE. A telegram was received from GM3BDA and telephoned greetings from EI2W. A contingent of five (G3HBW, G3HZK, G3HWR, with G2UJ and G2AIW as official R.S.G.B. representatives) was present from London with G3DA from Liverpool, G3CCH from Scunthorpe and G5JU from Birmingham.

London V.H.F./U.H.F. Convention

The Fourth International V.H.F./U.H.F. Convention will be held at the Prince of Wales Hotel, De Vere Gardens, South Kensington on Saturday, May 17, 1958. This event will broadly follow the lines of previous years. The programme is shown in detail in the display announcement elsewhere in this issue. Tickets for the Convention including the Dinner will be 22/6 whilst those who cannot stay for the whole day can attend the rest of the Convention and meet all their friends for 3/6. Many valuable prizes have already been donated by the radio trade and press, so that, to put the whole thing on a very materialistic basis, the day is likely to be a profitable as well as enjoyable one! Early application for tickets is suggested: all you need to do is to make out a cheque for the appropriate amount and send it to F. G. Lambeth (G2AIW), 21 Bridge Way, Whitton, Twickenham, Middlesex, *now*.

144 Mc/s Open Contest

Although there was a fair amount of activity during the Contest on March 1 and 2 there still seems to be no real sign of the 2m " awakening " which can usually be expected at this period of the year. However, as the weather becomes warmer, more shacks will be usable again, and things should improve. Some correspondents consider that conditions are nearly always better than they seem, with 100 mile working almost always possible. Certainly there appears to be a great deal of evidence to support such views.

Individual reports on happenings during the last month will be found later in this article. But first, some comments on the first contest of the season, the 144 Mc/s Open event on March 1 and 2.

GW3FKO/P, writing from Cardiganshire, sent a list of stations worked and heard, as seen from a West Wales aspect. The portable station was operated jointly by G3FKO and G2SC from 17.00 till 22.00 G.M.T. on the Saturday and from 10.00 till 18.00 on the Sunday by G3FKO alone. As a result, the following opinions are expressed:

(1) There is far too little c.w. working or listening for DX stations by this means—most stations were heard and identified on phone.

(2) The band did not really " open " but the best time for better than average signals was between midday and tea time on the Sunday.

(3) If stations wished to work Cardiganshire it was always possible. Those who turned their beams west, called and *listened* were worked without trouble.

(4) The points system operated completely in favour of stations in the main North West—Midlands—South East corridor. There was no incentive to search for the weaker distant station unless you were outside this area.

(5) The following stations were outstanding, as they were audible on phone throughout (although for most of the time they were working anything but westerly)—G5DW, G3FIH, G5MA and G3KEQ.

GW3FKO/P will be operational in Cardiganshire for the First 144 Mc/s Field Day on May 4, and, in spite of the disappointments of March 1-2, will operate from the same fine site, on a frequency of 145·32 Mc/s, using 12 watts to a QV04/7.

G4DC (Upminster), commenting on the Contest, said that during the Saturday band conditions were below average and not very stable. From Upminster to the West long haul contacts with Somerset and the Bristol area were subject to deep fading. To the North signals were down but subject to much longer fades and peaks than to the West. By late evening (23.00 onwards) conditions to the West were improving. Activity was high in London, the Home Counties and the South generally and by close down at 00.45 50 stations had been worked.

The previous day's score set the pace for Sunday, and conditions were much improved when the band was checked between 07.00 and 08.00. Good reports were obtained from the West. Conditions gradually improved during the day so that by tea time the band was in good shape to the West and right round to the North. Between 17.00 and 19.00 an even greater improvement occurred and CQ calls were being answered by stations near *and* far.

Local disadvantages with terrain may explain a number

**21 Bridge Way, Whitton, Twickenham, Middlesex.*

of " missed " counties. Nothing was heard of GW3FKO or G3KKL/P, both of whom would have provided a welcome bonus for new counties. G3ENY was heard at a fixed location on Saturday but not raised—thus Shropshire was lost! Otherwise most of the stations heard were worked.

Frequent " looks " to the East and occasional calls in that direction failed to produce any replies from the Continent. The good conditions had not reached eastwards (or so it would appear). By Monday they had, as a number of French calls were heard and F8AA (Boulogne) was worked at S9+ both ways!

G5MR (Hythe, Kent) was unable to spend much time on the band during the Contest but conditions seemed fair, with deep fading on most stations. French stations were strong on the Sunday morning and a good QSO was had with G3JWQ.

G5DW (Ashcott, Bridgwater) found activity stimulated by the Contest—the fact that people were trying so hard for contacts made G5DW think that conditions were fairly good; they are probably so on many occasions when insufficient activity makes them appear poor.

In spite of only being able to operate two hours, **G8VZ** worked 19 stations in 14 counties, signals being quite good except for fading on all 50 miles or more away. They were exceptionally good around 09.00 G.M.T. on the Sunday morning, G5YV being outstanding.

B.R.S. 19162 (Dewsbury) had a very flat month apart from the Contest weekend. Conditions then did not seem very much better than usual, but the sudden rise in activity made the band seem wide open. Nothing outstanding was logged, G5DW being the best from the West and G3FAN from the South.

B.R.S. 20133 (Melton Mowbray) thinks things are gradually re-awakening, and that 80 stations active during the Contest is a happy augury for the coming season.

G4LX (Newcastle-on-Tyne) listened during the Contest and heard no signals at all until it was over, when several unidentifiable phone signals appeared.

News from France

F3SK (Asnieres) has sent us a picture of some new gear he has been constructing since last September, some of which will be exhibited at the Convention in London on May 17.

The gear comprises a high-power 24cm transmitter, a new 24cm/4m converter, a 24 to 30 Mc/s tuner, an i.f./a.f. assembly, a 1·75 to 2 Mc/s v.f.o., a 2m cascode converter and F3SK's original 24cm/4m converter and a 70cm converter. The QSL in the picture from F8OL confirms their first 24cm QSO three years ago. Various transmitter items including p.a.'s for 4m, 2m and 70cm are shown. With a liberal use of relays, band changing is very easy, and as it is independent between transmission and reception, it is possible to switch from 2m to 24cm reception and from 70cm to 4m transmission. The whole assembly contains about 130 valves. Apart from the aerial rotator and the microphones everything was home built.

Incidentally, F3SK states that the usual French " invaders " will be with us on May 17 and they hope to have a larger party than last year.

Auroral Opening in U.S.A.

On February 10 (a Regular World Day), there was a magnificent visual display of aurora in New England, coinciding with one of the best 2m auroral openings so far experienced. According to *PRP News*, W5LPG (Missouri), W5JWL (Arkansas) and W5PLZ (Oklahoma) were heard and worked by stations in New England and W8 and 9. Some operators worked until 3 a.m. on the 11th and checks made as late as 6 a.m. that day showed auroral propagation was still taking place.

Automatic Transmissions from Kenya

With a 4-over-4 slot beam directed at England, **VQ4EV** sends automatic c.w. on 2m most evenings from 17.00 to 17.30 G.M.T. On Sundays at 17.30, similar transmissions are made on 50·25 Mc/s.

There is now a V.H.F. Group in the Radio Society of East Africa. There is a 2m Activity Night on Wednesdays at 17.30 G.M.T.

German I.G.Y. Station

DL0IGY, operated by D.A.R.C. on 145·88 Mc/s, is located 65km s.s.w. of Hanover. Transmissions consists of the call DL0IGY, three seconds pause, then DL0IGY repeated. The aerial is a 5-over-5 Yagi beaming continuously north and the power intput 80 watts. The site is 500m a.s.l.

I.G.Y. Forms

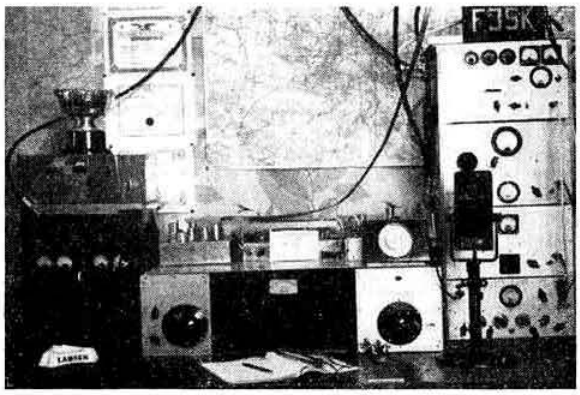
From the remarks heard over the air **B.R.S. 20133** opines there is still some confusion about the red I.G.Y. report forms. Please note that these are for *casual* reports to this feature only. Do not use them if you are already filling in the standard black forms. The red forms are passed on in due course to the I.G.Y. Co-ordinators.

Station Reports

G5DW has been running a daily sked with G2NY for some weeks. This is over 200 miles and would have been 100 per cent but for a fault at G5DW on one occasion. This seems to prove the point about conditions made earlier. It also shows that it is not necessary to live on top of a mountain to work 2m successfully (Ashcott is in the middle of the Somerset plain and only 200 ft. a.s.l.). G5DW says that a 2000 ft. location would make his call " familiar as a household word."

On Monday, March 3 signals were very good with S9 to S9+ both ways. After this improvement signals returned to normal, as expected for this time of the year, quite good peak strengths but with very deep fading sometimes. All this, however, seems to prove the " poor conditions " position to be highly untenable.

G2HDR (Bristol 9) reports that during the Contest on March 2, G5YV was heard on two occasions several hours apart with deep, slow fading, but very few signals were heard from the Midlands; G3JGY/P and G3JZG were exceptions. A sked is now being run with G3KPT (West Bromwich) over a distinctly poor path. The only contact so far has been on c.w.! The time is from 19.30 to 19.45 each evening and listener reports would be greatly appreciated.



A recent picture of F3SK's shack showing the new equipment.

G3KHU (Plymouth) has three types of converter from G2IQ to cascodes with differing i.f.s. The transmitter uses a QQV03/20 in the p.a. feeding a four-element Yagi at 20 ft. The operating frequency is 145·8 Mc/s. The working times of G3GDC/A and G3KHU/A are from 7 to 9 p.m. nightly. G3GRA is also on every evening.

G8VZ (Princes Risborough) confirms the general idea of conditions. February 16 was fair to north, north-west and west, falling off again for the rest of the month. On March 1-2 conditions improved and activity was very good. G8VZ wonders why some stations only show themselves during contests and good conditions. He thinks 100 miles is workable at any time if only stations would try, even on c.w.

PE1PL is reported to have worked an SM station by aurora on March 13.

GC2CNC (Jersey) wants to get back on 2m but is held up for gear. Would any keen constructor like to get in touch with him. We hope so, as it would be nice to get Jersey on 2m again!

Four Metres

G5MR (Hythe, Kent) was informed by F8MW (Vire, Calvados) that the French continue to look out for Gs on Wednesdays from 21.00 to 22.30 G.M.T. The French operators are very keen, and would appreciate more activity on our side of the Channel. Remember they are on 72 to 72·8 Mc/s.

From *PRP News* we learn that W2ZKE is fairly certain that signals he heard at 15.54 G.M.T. on January 19 were from G3EHY (Banwell), who was transmitting on 70 Mc/s with the beam on U.S.A. at the time. The m.u.f. is believed to have been particularly high on January 19.

Six Metres

G4LX (Newcastle-on-Tyne) has been informed that South African and Rhodesian stations were well received in Cyprus during the first week in March, but there was no sign of them in Newcastle! He has had a letter from W7RT, who reports that on March 2, W7RT had a QSO with ZL1MQ on 50 Mc/s, and also worked an LU the same day. W7RT is seeking listener reports from anyone who heard his 50 Mc/s signals in Europe towards the end of 1957 or the beginning of 1958. How about it B.R.S. members generally? Reports should be sent to J. P. Gruble (W7RT), 1921 Atlantic Street, Seattle 44, Washington.

From **VQ4FB** (G3CAT) at present on leave in the U.K., comes news that the following stations are active on the band in Kenya: VQ4EV (50·25 Mc/s with 70 watts to a 829B and two-element beam), VQ4WCP (52·3 Mc/s) and VQ4FO (51·9 Mc/s). VQ4FB himself will have about 70 watts to a QQV06/40 on 51·5 Mc/s after he returns from leave.

These stations are eager to carry out 50 Mc/s tests with U.K. stations and have been hearing B.B.C.-TV sound. VQ4EV sends auto c.w. every Sunday at 17.30 G.M.T. beaming on the British Isles.

Some interesting QSOs have been reported by *Radio ZS*. VQ2PL worked ZS2LM and ZS5HV on November 23, 1957 and on the 27th real DX was available with ZS3G working 4X4IX and F9BG. Whilst VQ2PL was working W2, 3, 4 and 8, ZE2JE worked W8CMS, W2RTO, W8LPD and VE3AIU as well as other Ws and Ks. The contact with VE3AIU was the first VE/ZE on the band. There have been many more such openings since.

Bad Godesberg Meeting

There has been only one reaction so far to the request for talking points for the V.H.F. Managers' Meeting at Bad Godesberg in July. This is from G5MR who expresses agreement with the proposed new scoring arrangements.

You are urgently requested to make your desires known promptly—otherwise it will be a case of holding your peace for another year or so.

Contest Scoring

From **DL3FM** (Chairman, Region I, I.A.R.U. Permanent V.H.F. Committee) comes the following suggestion for scoring in official I.A.R.U. v.h.f. contests:

Distance Covered	Points 2m	70 cm	Higher Bands
0—20 km	—	—	—
20—100 km	1	3	6
100—250 km	4	12	24
250—500 km	16	48	96
500—700 km	64	192	384
Over 700 km	256	768	1,536

With increasing distance, points are quadrupled for each zone on 2m. The 70cm figures are three times those for 2m while on the higher bands the points for each zone are double those for 70cm.

Members' views on this suggestion, favourable or adverse, are invited. It is on your opinions only that changes can be made in this rather tricky subject.

* * *

Deadline for the May issue is April 18—please keep to it! Good Hunting.

Worked and Heard on V.H.F.

Two Metres

B.R.S. 20133 (Melton Mowbray) January 19—February 17.
Heard: G2FMO, 2FNW, 3ALC, 3APY/M, 3JSQ, 3JXN, 3KQF, 4MK, 5YV, 6NB, 6XM, 8CZ, 8VZ, GB2RS.

G2HDR (Bristol) January 23—February 17.
Worked: G3HAZ, 3JZG, 3KPT, 6XM. *Heard:* G3BA, 5YV.

G3GRA (Plymouth) February 3-4.
Worked: G3FIH, GC2FZC, GW3MFY.

G8VZ (Princes Risborough) January 18—February 15.
Worked: G2ATK, 3DJJ, 3ENY 3FAN, 3IOO, 3JWQ, 3JZG, 3KHA, 3LGJ, 5DW, 6YU, 6XM.

B.R.S.20133 (Melton Mowbray), February 19-March 16, 1958.
Heard: G2BVW, 2CDB, 2CIW, 2DSF, 2FMO, 2FNW, 3ALC, 3APY/M, 3BU, 3EEO, 3FAN, 3FUW, 3GGR/P, 3GSO, 3JWQ, 3JZN, 3KQF, 4DC, 4MK, 5CP, 5MA, 5YV, 6NB, 6YU, 8VZ, GB2RS.

G8VZ (Princes Risborough), February 16-March 16, 1958.
Worked: G2FNW, 3AYJ, 3EJO, 3ENY, 3FIH, 3GSO, 3GZM, 3IRS, 3JWQ, 3JGY/P (Worcs.), 3JGY/P (Hereford), 3JZG, 3KHA, 3KKL/P, 3KMT, 4GZ, 5DW, 5YV, 6XM, GW3FKO/P (Cardigan).

GW3FKO/P (Cardiganshire), March 1-2, 1958.
Worked: G2APY/M, 3CCH, 3EEO, 3FIH, 3HXN, 3IWJ, 3JGY/P, 3KEQ, 3KKL/P, 5DW, 5MA, 8VZ, GW8UH. *Heard:* G2MV, 2XV, 2ANT, 2AUD, 2BVW, 3JZ, 3BJF, 3FAN, 3JGZ, 3JWQ, 3KGY/P, 3KHA, 4DC, 5YV.

Six Metres

B.R.S. 21476 (Penarth, Glam.) January 17—February 16.
Heard: KBHY, KIAGO, IBFK, 2ITQ, 2JLR, 2LTW, 2VQR, WIBOM, ICLS, IDKG, IGKE, IHOY, ILLN, IPWW, IPX, IZAW, 2UTH, 2ZK, 3HRU, 3OJU, 4UCH, 8CMS, 8SSD, VE1OD, VE1STA.

G3FXB (Southwick).
Worked: W4IKK (Tennessee) 5SFW, 5YV (Texas), 7RUX (Arizona), 8ESZ (Michigan), 9DSP, 9HGE (Wisconsin), W0CNM, 0IC (Colorado), 0ONW (Nebraska), 0ZJP (Kansas), 0IBL, 0YZZ (Missouri), K0KAO, 0GRG, W0OGW, 0TJF (Minnesota).

I.E.E. to hold International Convention on Microwave Valves

AMONGST the many postwar developments in the field of engineering science, those in radar, communications and navigational aids have been outstanding. They have all been made possible by the evolution of valves working at microwave frequencies, a field which is expanding so rapidly, and with so many new departures in concept and technique, that regular international conferences must be held to enable scientists in every part of the world to get together and exchange ideas. The latest of these conferences has been arranged by The Institution of Electrical Engineers, which is organizing an International Convention on Microwave Valves to be held at The Institution in London from May 19-23, 1958. The Convention will survey present knowledge and discuss future trends, with particular attention to work in progress or recently completed.

Fourth International V.H.F.-U.H.F. Convention

Saturday, May 17, 1958

Prince of Wales Hotel, De Vere Gardens, Kensington, London W.8.

Programme

Convention and Exhibition of V.h.f./U.h.f. Equipment opens ..... 10 a.m.

(During the morning there will be conducted visits to various radio stores.)

Lectures and Technical Discussions commence ..... 2 p.m.

Convention Dinner ..... 7 p.m.

Presentation of Exhibition Prizes and Grand Free Draw for many valuable prizes .... 9 p.m.

Convention ends ..... 10.45 p.m.

Tickets may be obtained by post from F. G. Lambeth (G2AIW), 21 Bridge Way, Whitton, Twickenham, Middlesex, at the following prices: Convention only—3/6; Convention and Dinner—22/6. Tickets will also be on sale at the London U.H.F. Group meeting on May 1, 1958.

Organized jointly by the R.S.G.B. V.H.F. Committee and the London U.H.F. Group.

Fourth International V.H.F./U.H.F. Convention London, May 17, 1958

AMONG the gifts kindly donated for the Fourth International V.H.F./U.H.F. Convention, up to the time of going to press, are the following:

Multiminor Test Instrument (Avo Ltd.).
Crystal (Brookes Crystals Ltd.).
Pair of type " F " Headphones (S. G. Brown Ltd.).
" *Frequency Modulation Engineering* " (Chapman & Hall Ltd.).
GP20 Pick-up (Cosmocord Ltd.).
Ball Point Pen (Enthoven Solders Ltd.).
Resistor Kits (Erie Resistor Ltd.).
Relay Series 100 (Magnetic Devices Ltd.).
Plugs and Sockets (McMurdo Instrument Co. Ltd.).
Miniature Test Set Series 90 (Measuring Instruments (Pullin) Ltd.).
QQV06-40 Valve (Mullard Ltd.).
Two Transformers (Parmeko Ltd.).
" *Electronics* " (Sir Isaac Pitman & Sons Ltd.).
Vouchers for Books (Short Wave Magazine Ltd.).
Brimar Valves (Standard Telephones & Cables Ltd.).
Smoker's Ash Bin (Stratton & Co. Ltd.).
Montrose Multimeter (Taylor Electrical Instruments Ltd.).
" Micromite " Electrolytic Condensers (Telegraph Condenser Co. Ltd.).
Individual Pillar Lampholder and Midget Indicating Lampholder (Thorn Electrical Industries Ltd.).
Two Meters (Ernest Turner Electrical Instruments Ltd.).
Driver Transformer (Woden Transformer Co. Ltd.).
Two copies of " *Short-Wave Radio and the Ionosphere* " (*Wireless World*, Iliffe & Sons Ltd.).
Transistors (Siemens-Edison-Swan Ltd.).
Soldering Iron and Shield (Adcola Ltd.).

Can You Help?

● R. Baines (B.R.S. 21457), 89 Nelson Road, Gillingham, Kent, who requires the manual or any other information on the P.104 receiver covering 100 to 150 Mc/s?

● J. N. Carter (B.R.S. 6174), 12 Ferry Path, Cambridge, who wishes to obtain information on the conversion of the Loran AN/APN4 Indicator Unit to an oscilloscope?

R.A.E.N. Notes and News

By E. ARNOLD MATTHEWS (G3FZW)*

Around the Groups

REPORTS received indicate that activity and interest are running high throughout the country. R.A.E.N. officers are well occupied with B.R.C.S. and S.J.A.B. liaison. New enquiries for information have been received by controllers in **Cornwall** and **Hampshire**.

In Somerset, the **Weston-super-Mare** group runs regular Top Band schedules every Sunday night. A meeting was held with North Somerset S.J.A.B. at the end of February. **Worcester** group held a meeting on March 26 to plan an exercise to be presented to the B.R.C.S. Annual General Meeting. On March 8 G3FZW attended a meeting of **Shropshire** R.A.E.N. and B.R.C.S. personnel at Shrewsbury and talked about organization and methods. An exercise is to be held on May 18 using a station sited in a B.R.C.S. exhibition. **Cheshire** and **Staffordshire** groups will probably be providing inter-county contacts for this scheme. G3ERB plans to give a demonstration to Cheshire B.R.C.S. before the locals get too deeply involved in preparations for N.F.D. With the appointment of G3CGD as C.C., and R. Smith, of 8 Quarry Lane, Tupsley, Hereford as A.C., the formation of a group in **Herefordshire** can now commence. Some portable equipment is already available for emergency use.

In **Nottinghamshire**, the C.C., G8ON, is arranging an exercise for May 11. A county R.A.E.N. meeting is to be held at Sutton-in-Ashfield on April 13 when it is hoped to make contact with the Sheffield A.C., G4JW. They are planning the formation of a group in Doncaster.

During recent blizzards the **Norfolk** group were ready for any calls. The C.C., G3HRK, used emergency supplies during a 56-hour mains failure. This group recently held an exercise in which B.R.C.S. officers originated all messages. G4KO, G3GIT, G3IJU, G3JNR, G3JYG, G3LFU, and G3HRK took part. It was felt that much time could have been saved had B.R.C.S. members received training in message writing. **Lincolnshire** were fully active during the blizzards, and used their battery powered equipment.

Shortly after the Winter Hill 'plane crash the **Lancashire** C C., G3DWQ, made arrangements with the county S.J.A.B. to cover call-out procedure, groups being unevenly distributed.

In Yorkshire, the newly formed **Bingley** group is expanding rapidly. **Middlesbrough** gave a demonstration exercise to S.J.A.B. on February 23, using nets for local and county coverage. Good use was made of the 19 set " flick " tuning mechanism for rapid QSY. G3FMZ acted as " technical adviser " to S.J.A.B. G3ISV, G3HAE, G3LBR, G3LGX/M, G3NT, G3KJX, G3JSB/M, G3AWL/M, G3IXB/M, G3CKC, G3KQN, G3IV and G3GUV participated. Another exercise is to take place at a S.J.A.B. county officers' meeting.

A report from the **North Scotland** C.C., GM3KHH, states that after settling down following removal to a new QTH he is well on the way to doubling the membership in his area, and some tests with mobile gear have been completed. GM3KHH uses a modified W.S. No. 62.

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* *1 Shorthutts Lane, Lichfield, Staffordshire.*

Society News and Proceedings

I.A.R.U. Region I Conference

REPRESENTATIVES of Societies in Region 1 (Europe and parts of Africa) will attend a Regional Conference in Bad Godesburg, Germany, from July 21 to 26, 1958.

The R.S.G.B. will be represented at the Conference by the President (Mr. L. E. Newnham, B.Sc., G6NZ), the Executive Vice-President (Mr. W. R. Metcalfe, G3DQ) and the General Secretary (Mr. John Clarricoats, O.B.E., G6CL). The Deputy General Secretary (Mr. John A. Rouse, G2AHL) will attend as an observer.

The chief business of the Conference will be to draw up plans for I.A.R.U. Region I representation at the Ordinary Administrative Radio (I.T.U.) Conference which is due to open on July 1, 1959, in Geneva.

A meeting of Region I V.H.F. Managers will take place at Bad Godesburg during the period of the main Conference. The Society's V.H.F. Manager (Mr. F. G. Lambeth, G2AIW) will represent the Society at this meeting.

The host Society (D.A.R.C.) extend a cordial invitation to amateurs generally to attend the main Conference as observers. Further details of conference arrangements will appear in an early issue of the BULLETIN.

Administrative Radio Conference, Geneva 1959

IN view of the magnitude of the task, the General Secretariat of the International Telecommunication Union has already started to make preliminary plans for the organization of the Ordinary Administrative Radio Conference to be held in Geneva next year and in particular for the preparation of the Volume of Proposals.

Administrations are being asked to submit their proposals to Geneva not later than July 1, 1958.

The latest date for the despatch of the Volume of Proposals to administrations has been fixed as March 31, 1959.

In preparation for the Conference an Inter-departmental Steering Committee has been set up by the P.M.G. to draw up the U.K. proposals. This Committee is at present studying frequency proposals submitted by the various users of the spectrum.

It is anticipated that representatives of the R.S.G.B. will shortly be invited to attend a meeting of the Committee to discuss the Society's proposals which were submitted to the G.P.O. last November.

The Council has notified the Honorary Secretary, I.A.R.U. Region I Division, that the R.S.G.B. proposes to nominate a representative to serve on the I.A.R.U. Delegation at the Geneva Conference.

London Lecture Meeting

THE President (Mr. L. E. Newnham, B.Sc., G6NZ) was in the chair at the meeting of the Society held at the Institution of Electrical Engineers on Friday, March 21, 1958, when Mr. E. Wolfendale, B.Sc., A.M.I.E.E. and Mr. L. E. Jansson, Assoc.I.E.E. of The Mullard Radio Valve Co. Ltd. (Southampton), lectured on "The Junction Transistor and its Application to Short Wave Radio." The lecture was illustrated by a display of films and slides, after which a transistor-type Top Band transmitter and receiver were demonstrated.

Mr. S. C. Chapple, G6SC, thanked the lecturers on behalf of the 50 members present.

(It is hoped to publish a précis of the lecture in a future issue of the BULLETIN.—EDITOR.)

Amateur Licences—
New arrangements for those whose Licences are Revoked or Renewal Fees not paid

THE Post Office has notified the Society that, as from May 8, 1958, new arrangements will operate in the case of those who have previously held an Amateur Licence and wish to apply for it to be re-issued. The people concerned are those who have asked the G.P.O. to revoke their licences or have failed to pay the renewal fee when it became due.

The new arrangements are as follows:

(A) Amateur (Sound) Licence

Pre-war Licences

(i) An applicant will be required to pass both the Radio Amateurs' Examination and the Post Office Morse Test.

Post-war Licences

(ii) An applicant who has not previously passed the Radio Amateurs' Examination and the Post Office Morse Test will be required to pass both.

(iii) An applicant who has passed the Radio Amateurs' Examination but not the Post Office Morse Test will be required to pass the latter.

(iv) An applicant who has not previously passed the Radio Amateurs' Examination but has passed the Post Office Morse Test will be required to pass the Radio Amateurs' Examination. If his licence was cancelled more than 12 months before his new application he will be required to pass the Post Office Morse test again.

(v) An applicant who has passed the Radio Amateurs' Examination and the Post Office Morse Test will be required to pass the Morse Test again if his licence was cancelled more than 12 months before his new application.

(B) Amateur (Television) Licence

An applicant who has not previously passed the Radio Amateurs' Examination will be required to do so.

(C) Amateur (Sound Mobile) Licence

The licence will be issued if the applicant is the holder of a current Amateur (Sound) Licence.

Issue of Amateur Licences to British Personnel in Germany

IN future, Amateur Radio transmitting licences for use in the Federal Republic of Germany by British service personnel and British entitled civilians will be issued only by the German authorities.

The Bundespost is prepared to issue German licences to qualified British personnel on the same conditions as to German nationals. To obtain the licence personnel must hold a valid G.P.O. Amateur Radio Licence or show proof of ownership. It will not be necessary to pass the German Amateur Radio Examination, but it will be necessary to make a written declaration that the German Amateur Radio regulations will be observed.

There are two types of German licences, namely: Class "A" employing valves up to 20 watts anode dissipation; Class "B" employing valves up to 50 watts anode dissipation.

For British personnel in Germany who do not possess a G.P.O. licence, and are therefore barred from obtaining the German licence, special arrangements have been made with the G.P.O. whereby the Amateur (Sound) Licence examination can be taken in Germany.

Further information can be obtained from the Secretary, Joint Communications-Electronics Board, c/o Headquarters, British Army of the Rhine, British Forces Post Office, 40.

R.S.G.B. News Bulletin Service

SINCE GB2RS came into operation on September 27, 1955, reports have been received at R.S.G.B. Headquarters from listeners in all parts of the United Kingdom. It is clear from these reports that members and non-members alike much enjoy listening to the latest Amateur Radio news on Sunday mornings. However, the success of the service depends on the best possible use being made of the facilities which it provides. Special news items collected by Headquarters staff will always be an important part of the bulletin but GB2RS can perform an equally important service to local R.S.G.B. Groups and affiliated societies. The service offers an opportunity for local and regional activities to receive nation-wide publicity among radio amateurs, while at the same time reaching most of those directly concerned.

Up-to-the-minute news about DX conditions, v.h.f. openings, I.G.Y. and the many other different facets of the hobby are also required in order to obtain the necessary balance. The criterion is:

IF IT'S OF INTEREST TO RADIO AMATEURS
IT'S OF INTEREST TO GB2RS.

Headquarters therefore invites the co-operation of all members in supplying information for the bulletins. News items should reach R.S.G.B. Headquarters, New Ruskin House, Little Russell Street, London, W.C.1, not later than first post on the Thursday preceding the transmissions.

The current GB2RS schedule is as follows:

Nominal Frequency	*GMT or BST*	*Location of Station*
3600 kc/s	1000	London
	1200	Yorkshire
7100 kc/s	1030	London
	1230	Yorkshire
145·55 Mc/s	1115	Beaming South-East from Leeds
	1130	Beaming South-West from Leeds
	1145	Beaming North from Leeds
145·5 Mc/s	1200	Beaming North from Well Hill, Kent
	1215	Beaming West from Well Hill, Kent

Radio Amateurs' Examination—City and Guilds results will be known earlier

THOSE who intend to take the May 1958 Radio Amateurs' Examination set by the City and Guilds of London Institute will be glad to know that the Advisory Committee, in an effort to speed up the marking of the papers, have appointed an additional examiner for the current year.

It is anticipated that the new appointment will enable the examining body to dispatch the results to the various colleges before they close in July for the summer vacation. Previously the results were dispatched during the vacation, consequently many candidates did not know whether they had passed or failed until the colleges resumed in the autumn. The suggestion to appoint an additional examiner was put forward by the R.S.G.B. representatives on the Advisory Committee, Messrs. W. A. Scarr, M.A., G2WS, H. A. M. Clark, B.Sc.(Hons.), G6OT, and John Clarricoats, O.B.E., G6CL. Mr. Scarr is Chairman of the Committee.

Bridlington National Convention Cancelled

DUE to the difficulty of obtaining suitable accommodation for a large-scale dinner on a Saturday evening in September, the Council has decided to cancel the arrangements for holding a National Convention in Bridlington. Instead the Region 2 Representative has been invited to organize an O.R.M. in that town on Sunday, September 21, 1958.

New Honorary Certificates' Manager Appointed George Verrill takes over from Ron Perks

DUE to pressure of private business Mr. Ron Perks (G4CP) has found it necessary to resign from the office of Honorary Certificates' Manager. The Council has recorded its thanks to Mr. Perks for his past services and has accepted the kind offer of Mr. George Verrill (G3IEC) of 64 Forton Road, Gosport, Hampshire, to take over the duties appertaining to that office.

Those who forward claims for R.S.G.B. operating certificates and awards should enclose sufficient stamps or a remittance to cover the cost of the return of the cards. Cards will not be returned by registered post unless a special request has been made and sufficient stamps enclosed. All claims should be sent direct to Mr. Verrill at the above address and *not* to Headquarters.

Cards from overseas will be returned, after checking, as commerical papers and will be registered only if sufficient postage has been sent with the claim.

David Macadie (GM6MD) re-appointed Region 14 Representative

THE Council has been pleased to re-appoint Mr. D. R. Macadie (GM6MD) of Glasgow, to the office of Region 14 Representative.

Mr. Macadie was invited by the 1957 Council to continue in that office but at the time he was unable to do so. He has now been re-nominated by 25 members in his Region.

London Members' Luncheon Club

AT the Annual General Meeting of the Club held at the Bedford Corner Hotel, on Friday, March 21, 1958, Stanley Vanstone, G2AYC, Clem Jardine, G5DJ, and Frank Fletcher, G2FUX, were re-elected Chairman, Hon. Treasurer and Hon. Secretary respectively for the ensuing year.

The success of the monthly raffles was reflected in the balance sheet which showed that although £11. 9s. had been expended on the entertainment of overseas guests the excess of income over expenditure was £14. 4s. 3d. The proceeds of raffles amounted to £25. 1s. 6d.

Mr. Fletcher in reporting on the activities of the Club during the previous year mentioned that 29 overseas guests from 13 different countries had been entertained. An innovation during the year was the introduction of a distinctive lapel badge for members and visitors.

Overseas guests at the March meeting included VQ2AT, VQ5GF, ZD3BFC and W4KSU.

Arthur Milne, G2MI, presided in the unavoidable absence of Stanley Vanstone.

The Club will next meet at the Bedford Corner Hotel on Friday, April 18, and again on Friday, May 16, 1958 (12.30 p.m. for lunch at 1 p.m.).

Intruder Watch—More Reports Wanted

THE organizer of the Intruder Watch, Major D. W. J. Haylock (G3ADZ), 3 Norris Gardens, Grange Estate, Havant, Hants, will appreciate receiving reports from members who hear intruders in exclusive amateur bands. Reports, which should be brief, must contain the following essential information: date; time; frequency; type of receiver in use and its i.f.; a traffic sample and identity of the intruder if known.

It will not be possible for Major Haylock to enter into individual correspondence with members but reports are always appreciated.

The Society continues to draw the attention of the Post Office to the presence of intruders in exclusively amateur bands and some measure of success has already been achieved. Given proper detail it is possible to identify about nine out of every ten intruders.

Old Timers' Dinner Planned for the Autumn

ARRANGEMENTS are being made to hold another Old Timers' Dinner in London on a Friday evening during the autumn of 1958. The cost of the dinner, including service, will not exceed 25s. and lounge suits will be worn.

The Dinner will be open to any radio amateur who has held *a full radiating licence issued by the United Kingdom Postmaster General continuously, including the war years, since January 1st, 1933.*

Those who wish to attend the Dinner should send a stamped and addressed envelope to Mr. John Clarricoats, O.B.E., G6CL, 16 Ashridge Gardens, Palmers Green, London, N.13, for further details. Mr. Clarricoats is organising the Dinner in his private capacity but with the knowledge and approval of the President of the R.S.G.B. (Mr. L. E. Newnham, G6NZ), who is himself on Old Timer of 32 years standing.

Mr. Newnham and at least seven Past Presidents of the Society will be present at the Dinner together with most of those who attended the first Old Timers' Dinner in 1938, and who are still licensed.

GB3IGY

THE Society's I.G.Y. beacon station GB3IGY, operated by G5KW from Well Hill, Kent, is now equipped to run at times other than only during alerts and Special World Intervals. A transistorized light-disc automatic keyer constructed by G2FKZ is in use and should eliminate the problems encountered in the past with the punched tape system.

The frequency is 145·5 Mc/s and the power 70, 120 or 300 watts during no alert, alert, and S.W.I. periods respectively. It is hoped to add a code to the transmissions to indicate the power being used, as follows: P1=70 watts, P2=120 watts and P3=300 watts. The use of varying powers will be helpful in preventing unnecessary wear on the high power transmitter, the p.a. valves for which cost over £15 per pair.

Regular reports on the reception of GB3IGY will be of great value in providing data for the analysis of tropospheric propagation. Observers, whatever their distance from Well Hill, are asked to use separate I.G.Y. log sheets clearly marked " GB3IGY " in the top right-hand corner.

U.S. Publications

THE Society cannot accept responsibility for any delays that may occur after orders have been passed on to the American Radio Relay League, Cowan Publishing Corporation and other U.S. book publishers. In recent weeks many United Kingdom members have been considerably inconvenienced as the result of delays by U.S. publishers in executing orders.

Subscribers to *QST* and *CQ* receive their copies direct from the publishers and *not* via the R.S.G.B.

Supplies of the 1958 edition of the A.R.R.L. *Radio Amateur's Handbook* have now reached Headquarters. The post free price remains unchanged at 34/-.

R.S.G.B. Amateur Radio Call Book Correction List No. 4

THE following are corrections or amendments to the 1957-58 Edition of the *R.S.G.B. Amateur Radio Call Book:*

G2TP *Major* C. W. Andrews, *M.C.*
G4BO Dr. J. S. W. Nuttall, *Park* Cottage, Eleanor Road, Bidston, Birkenhead, Cheshire.
G5GN C. Bowtell, 26 Cowper Road, Hinckley, *Leicestershire.*
G6YL Miss B. M. *Dunn* (not Bunn).
G8LY *Miss Constance* R. Hall (not C. R. Hall).
G8MM *Dr.* W. D. Martin.

N.F.D. Films

THE General Secretary will be pleased to hear from members willing to loan 16mm. films taken during the forthcoming National Field Day. Prints of suitable sequencies will be made with the idea of eventually producing a new N.F.D. film. All films loaned will be returned to the members concerned.

Boy Scout International Jamboree-on-the-Air

APROPOS the paragraph regarding the Jamboree-on-the-Air in the March issue of the BULLETIN, the organizers of the camp at Gilwell Park wish to make it clear that only Scouts may visit the station which will be operating under the call-sign GB3BP.

The B.B.C. Film Unit will be in attendance to make a short film of the camp's activities.

This event is not a contest and there will be no prize for operators making the most contacts. The intention is to promote phone communication between amateurs throughout the world interested in the Scout Movement. The Jamboree will take place on Saturday and Sunday, May 10-11, 1958. Further information may be obtained from the Honorary Organizer, 965 Oxford Road, Tilehurst-on-Thames, Reading, Berkshire.

Radio Amateurs' Examination Revision Notes

COMPREHENSIVE revision notes for the use of members who are preparing for the City and Guilds of London Institute examination on Friday, May 9, are available from Headquarters price 1s. per set, post paid.

Regional Meeting planned for Exeter

A REGIONAL Meeting will be held at Colson's Restaurant, High Street, Exeter, on Sunday, June 29, 1958. The Devon County Representative, B. Munro (G3FLK) of 43 Prospect Park, Exeter, will be pleased to answer enquiries from members.

Danish Summer Camp

INFORMATION regarding the E.D.R. Summer Camp to be held in Zealand from July 20 to 27, 1958, may be obtained from M. W. Hammerich (OZ7WH), Egevansalle 19, Sorø, Denmark.

OZ-CCA Contest, May 3-4, 1958

DETAILS of the annual OZ-CCA Contest organized by the Danish National Society E.D.R. may be obtained from Børge Petersen (OZ2NU), Traffic Manager, E.D.R., Box 335, Aalborg, Denmark.

Résumé of the Minutes of the Proceedings at a Meeting of the Council of the Radio Society of Great Britain, held at New Ruskin House, Little Russell Street, London, W.C.1, on Monday, February 24, 1958, at 6 p.m.

Present: The President (Mr. L. E. Newnham in the Chair). Messrs. W. H. Allen, H. A. Bartlett, N. Caws, C. H. L. Edwards, D. A. Findlay, W. J. Green, J. H. Hum, W. R. Metcalfe, A. O. Milne, W. A. Scarr, A. C. Williams, E. W. Yeomanson, John Clarricoats (General Secretary) and John A. Rouse (Deputy General Secretary).

Apologies for Absence

Apologies for absence were submitted on behalf of Messrs. F. Hicks-Arnold and E. G. Ingram.

Absent: Messrs. R. H. Hammans and H. W. Mitchell.

* * *

Finance

Resolved to receive and adopt the Cash Account for January 1958, prepared by the Secretary, and a Financial Statement, prepared by the Honorary Treasurer, covering the period from July 1, 1957 to January 31, 1958, and a budget for the remaining five months of the current financial year.

Reports of the Committees

The unconfirmed Minutes of Meetings of the Handbook Sub-Committee, the Publications Committee, and the Contests Committee were submitted as Reports.

Resolved to receive the Reports and adopt the various recommendations contained therein.

The recommendations dealt with the preparation of a new edition of the R.S.G.B. *Amateur Radio Call Book*, the European V.H.F. Contest and other contest matters.

Membership

Resolved (i) to elect 103 Corporate members and 10 Associates; (ii) to grant Corporate membership to three Associates who had applied for transfer.

The Secretary reported that 85 of the 682 members whose subscriptions became due on November 1, 1957, became three months overdue on January 31, 1958, and that 14 of the members concerned had written to resign.

Region I I.A.R.U. Conference

Resolved (i) that the R.S.G.B. delegation to the Region I I.A.R.U. Conference to be held in Bad Godesberg during the period July 21-25, 1958, shall consist of the President (Mr. L. E. Newnham), the Executive Vice-President (Mr. W. R. Metcalfe), the General Secretary (Mr. John Clarricoats) and the Society's V.H.F. Manager at the time of the Conference.

(ii) that the Deputy General Secretary (Mr. John A. Rouse) shall be authorized to attend the Conference as an observer.

O.A.R.C. Geneva, 1959

Resolved (i) to notify the Honorary Secretary, Region I Division, I.A.R.U. that it is the intention of the Council to nominate a delegate to serve on the I.A.R.U. Delegation to the Ordinary Administrative Radio Conference due to open in Geneva on July 1, 1959.

(ii) to name the delegate at the May 1958 Meeting of the Council.

Convention

Resolved (i) to make plans for the holding of a National Convention in Bridlington on Friday, September 19, Saturday, September 20 and Sunday, September 21, 1958, providing arrangements can be made for the Convention dinner to take place in the Royal Hall during the evening of September 20.

(ii) to terminate the Convention at lunch-time on September 21, 1958.

(iii) that in the event of the Royal Hall not being available for the Dinner to rescind an earlier resolution to hold a Convention in Bridlington during 1958.

O.R.M.s 1958-1959

(a) *Resolved* to invite the Representatives for Regions 1, 2, 5, 6, 7, 12, 13, 15 and 16, to put forward proposals for O.R.M.s during 1958 or 1959.

(b) *Resolved* (i) to authorize Messrs. Edwards, Newnham and the General Secretary to attend the Region 3 O.R.M. in Birmingham on May 11, 1958, as representatives of the Council.

(ii) to authorize Messrs. Metcalfe, Milne and the Deputy General Secretary to attend the Region 4 O.R.M. in Nottingham on April 20, 1958, as representatives of the Council.

(iii) to appoint Messrs. Scarr, Yeomanson, the General Secretary and the Deputy General Secretary to attend the Region 9 O.R.M. in Exeter on June 29, 1958, as representatives of the Council.

Regional Representation

Resolved to confirm the appointment of Mr. J. W. Douglas (GI3IWD) as Representative for Region 15, and that of Mr. H. H. Lowe (G2HPF) as Representative for Region 16.

Foreign Amateur Radio Stations in British Antarctica

Resolved to adhere to the earlier decision not to handle cards received from foreign amateur stations operating from British Antarctica.

TVI—BCI Committee

Resolved (i) to constitute a TVI-BCI Committee.

(ii) to invite Messrs. D. Deacon (G3BCM), and G. C. Fox (G3AEX), to serve on the Committee with Mr. E. W. Yeomanson.

Undertaking

Resolved that all candidates for election shall sign an agreement in the form contained in the Schedule below, which shall be regarded as having superseded the agreement set out in the Schedule appended to the Society's Articles of Association.

Schedule

I agree that in the event of my election to membership of the Society, I will abide by and observe the Rules, Regulations and Articles of Association of the Society, and that in the event of my resignation from the Society given under my hand in writing, I shall after the payment of all arrears which may be due by me at that period, be free from this obligation. I further agree to observe strictly the terms of any licence issued to me by the responsible authorities to operate transmitting or receiving apparatus.

Teenager Contest

The Secretary suggested that the Society should organize a short period all-band transmitting contest for members who had not passed their twentieth birthday on the day of the Contest.

Resolved to refer the suggestion to the Contests Committee.

The view was expressed that the term " Under Twenties " would be preferred to " Teenager " as the title for the Contest.

Radio Hobbies Exhibition

Resolved (i) to authorize Mr. P. A. Thorogood to book the Old Hall of the Royal Horticultural Society from November 24 to 30, 1958, for the Second Annual Radio Hobbies Exhibition.

(ii) to invite Mr. Thorogood to submit his proposals to the Council as soon as possible.

Recorded Lecture Library

It was reported that because of pressure of business the Honorary Librarian, Mr. E. S. G. Fish (G2HCZ) was anxious to be relieved of his duties as soon as possible.

Resolved (i) to place on record the thanks of the Council to Mr. Fish for his services to the Society in connection with the Recorded Lecture Library.

(ii) to invite Mr. F. H. Lawrence (G2LW) to take over the duties of Honorary Librarian.

Honorary Certificates Manager

It was reported that because of pressure of business Mr. Ron Perks (G4CP) had been compelled to relinquish his duties as Honorary Certificates Manager. Mr. George Verrill (G3IEC), had offered to take over from Mr. Perks and was in the process of so doing at the present time.

Resolved (i) to place on record the thanks of the Council to Mr. Perks for his services to the Society in connection with Certificate claims.

(ii) to confirm the appointment of Mr. Verrill as Honorary Certificates Manager to the Society.

The meeting terminated at 9.35 p.m.

Southern Radio Competition

THE winner of the recent competition advertised in the BULLETIN by Southern Radio and Electrical Supplies was K. T. Gordon (I.S.W.L./G6854) of Fishponds, Bristol, who received a Taylor 120A Multirange Test Meter. Second was J. Guttridge (G3JQS) of Southampton whose prize was an Acos Mic 39-1 microphone, with N. H. Ray (B.R.S. 21137) of Hartford, Cheshire, in third place. Mr. Ray's prize was a pair of Brown's type F headphones. So many entries were received that the total number of prizes was increased from 13 to 40. A large number of suggestions for equipment suitable for amateur requirements were made and the firm wishes to thank all BULLETIN readers for their co-operation.

New Mullard Transistor Films

MULLARD Ltd. have recently introduced several new instructional 16mm. sound films which illustrate the basic principles of transistors and their application in radio circuits. The titles are as follows:—

" The Transistor—Its Principles and Equivalent Circuit."

" The Junction Transistor in Radio Receivers," Parts I and II (" Design of an i.f. amplifier " and " The Complete Receiver.")

" The Manufacture of Junction Transistors."

Application for the loan of these films (total running time about 50 minutes) should be made to the Publicity Division, Mullard Ltd., Torrington Place, London, W.C.1.

The World of Radio

Royal Signals Exhibition

EARLY in March, No. 1 Special Communications Regiment (City of London) Royal Signals T.A. held an Exhibition of vintage radio equipment at its headquarters at 79/85, Worship Street, London, E.C.4. The Unit's amateur station G3LUN made many phone contacts on 7 Mc/s during the Exhibition.

The exhibits included " A " and " C " sets loaned by the School of Signals, Catterick. Also on display was one of the receivers built by " Shack " (G8SN) during his P.o.W. days, and kindly loaned by the Imperial War Museum. On the modern side the Unit displayed a portable 20 watt transmitter covering from 1·5 to 20 Mc/s, together with a high powered radio teleprinter circuit which is extremely compact.

The Unit is under the benevolent wing of the Worshipful Company of Skinners, whose Arms are displayed in the entrance to the Drill Hall.

High Quality Sound Reproduction Lectures

FOR the past two years the Department of Telecommunications of the Northern Polytechnic has held very successful courses on high quality sound reproduction. This year another series of 10 lecture-demonstrations has been arranged for Tuesday evenings commencing on April 29 at 6.30 p.m. until 8.30 p.m.

Ten outstanding specialists in various aspects of high quality reproduction have accepted invitations to give the lectures.

Full details of the course are available from: J. C. G. Gilbert, Assoc.I.E.E., M.Brit.I.R.E., Department of Telecommunications, Northern Polytechnic, Holloway, N.7. Early application is advised.

International Convention on Transistors

THE Institution of Electrical Engineers, Savoy Place, London, W.C.2, is organizing an International Convention on transistors and associated semiconductor devices, to be held in London on May 25 to May 29, 1959.

(Photo by Holloway Studio, Birmingham).

At the meeting of the Midland Amateur Radio Society in Birmingham on March 18, 1958, the Region 3 Representative, Alec Higgins (G8GF), presented the Calcutta Key to Alan Dennis (G3CNV) on behalf of the Council. In this picture (left to right) are G3BA, G3HMG, G3CNV, G8GF, G3HBE (President, M.A.R.S.) and G6AS (Birmingham D.R.).

Israel Marathon

TO celebrate the tenth anniversary of the independence of Israel, the Israel Amateur Radio Club is organising a " contest marathon " which will commence at 00.01 G.M.T. on April 24 and end at 23.59 G.M.T. on October 31, 1958. Licensed amateurs throughout the world are invited to take part, the object being to contact as many Israeli stations as possible during the period.

Full details may be obtained from the Israel Amateur Radio Club, P.O. Box 4099, Tel Aviv, Israel.

Helvetia 22 Contest

THE annual contest organized by the Swiss Union of Shortwave Amateurs (U.S.K.A.) will take place this year between 15.00 G.M.T. on May 17 and 17.00 G.M.T. on May 18. Full details may be obtained from Acklin Frank (HB9NL), U.S.K.A. QSL Manager, Knutwil. Lucerne, Switzerland, to whom entries should be sent.

PACC Contest, 1958

RADIO amateurs throughout the world are invited to take part in the 1958 PACC Contest organized by the Dutch national society, V.E.R.O.N. The contest will take place on April 26 and 27 (C.w. Section), and May 3 and 4 (Phone Section), starting at 12.00 G.M.T. on the Saturday and ending at 23.59 G.M.T. on the Sunday in each case.

Entries must be posted not later than June 15, 1958, to P.v.d. Berg, Contest Manager, V.E.R.O.N., Keizerstraat 54, Gouda, Holland, from whom a copy of the rules may be obtained.

Yugoslav Convention

DETAILS of the Fourth Convention organized by the Yugoslav national society to be held in Ilidza, near Sarajevo, from July 12 to 15, 1958, may be obtained from Savez Radioamatera, Bosne i Hercegovine, Sarajevo, Obala 1, Yugoslavia, or from the society's station YU0D on 14 Mc/s on Sundays.

Casablanca International Fair Contest

IN connection with the International Fair to be held in Casablanca, the Association des Amateurs Emetteurs du Maroc, P.O. Box 2060, Casablanca, is organizing a contest open to radio amateurs all over the world from April 25 to May 11. A cup, the " Coupe de la FIC", will be awarded to the operator making the greatest number of contacts with the Association's Fair station CN8MC on 10, 15, 20 and 40m during the period. One contact per day per band will be allowed. Full details are available from the Association.

I.R.T.S.

MR. T. O. O'CONNOR (EI9U), 29 St. Columba's Road, Drumcondra, Dublin, has succeeded Mr. S. G. Farrelly (EI9Y) as Honorary Secretary, I.R.T.S. Mr. Farrelly resigned for health reasons.

The address of the I.R.T.S. QSL Bureau is now 39 Booterstown Avenue, Blackrock, Co. Dublin.

A Two-Meter Portable/Mobile Transmitter-Receiver

IN Fig. 3 of the above article on page 364 R.S.G.B. BULLETIN February 1958, pin 1 of V4 should have been shown connected to the terminal of S2 marked " OFF."

It is regretted that the correction published last month was itself at fault.

Tests and Contests

Affiliated Societies' Contest, 1958

THE Edgware Trophy and the title "Ace of Clubs" has been won this year by Dorking & District Radio Society, runners-up last year, with a score of 799 points. Bailleul Radio Society, who were third last year, move up to second place and Stourbridge & District Amateur Radio Society take third place with scores of 786 and 781 points respectively.

Only three clubs succeeded in working all other competing stations and so contacts with non-club stations, to whom thanks are due for coming on, assumed great importance.

There were two more entries than last year but the Contests Committee were sorry to note that there were eight absentees from the 1957 entrants. Comments were not very numerous but where they were made nearly all expressed the view that the contestants had enjoyed themselves. Other suggestions and comments will be considered by the Contests Committee in due course.

As regards equipment, the 807 was by far the most popular p.a. valve. On the receiving side, the HRO was used in nearly half the stations with the AR88 a rather poor second. Once again half-wave aerials had a majority over long-wires.

Check logs are gratefully acknowledged from G3JKY and G3KYU.

Posn.	Society	Call-sign	Points
1.	Dorking & District Radio Society	G3JEQ	799
2.	Bailleul Radio Society	G3IHH	786
3.	Stourbridge & District Amateur Radio Society	G3BMY	781
4.	Crystal Palace & District Radio Club	G8GP	770
5.	Ariel Radio Group (Langham)	G3AYC	764
6.	Sheffield Amateur Radio Club	G4JW	755
7.	Medway Amateur Receiving & Transmitting Society	G2FJA/P	752
8.	Grafton Radio Society	G3AFT/A	751
	Harlow & District Radio Society	G3ERN	751
10.	Wirral Amateur Radio Society	G2AMV	750
11.	Oxford & District Amateur Radio Society	G3KLH	748
12.	Coventry Amateur Radio Society	G2ASF	746
13.	R.A.F. Amateur Radio Society (Locking)	G8FC	743
14.	Slade Radio Society	G3JBN	739
15.	Thanet Radio Society	G3DOE	724
16.	Radio Society of Harrow	G3EFX/A	717
17.	Bournville Radio Society	G6BV	716
18.	Sutton & Cheam Radio Society	G2AYC	711
19.	Torbay Amateur Radio Society	G3LHJ	710
20.	Courtaulds Amateur Radio Group	G3CQD	690
21.	Admiralty Electronics Society	G3BPU	688
22.	Ariel Radio Group (Bush House)	G3GDT	677
23.	Liverpool & District Amateur Radio Society	G3AHD/A	672
24.	Catterick Amateur Radio Club	G3CIO	669
25.	Amateur Radio Club, 21st (N.M.) Corps Signal Regiment (T.A.)	G3LTL	665
	Thames Valley Amateur Radio Transmitting Society	G6MB/A	665
27.	Cheltenham Amateur Radio Society	G3GPW	656
28.	Acton, Brentford & Chiswick Radio Club	G3IIU	635
29.	Surrey Radio Contact Club	G3EUE	626
30.	Mitcham & District Radio Society	G3LCH	609
31.	Portsmouth & District Radio Society	G3DIT	583
32.	B.T.H. (Rugby) Recreation Club	G3BXF	582
33.	Edgware & District Radio Society	G3ASR	580
34.	Scarborough Amateur Radio Society	G4BP	471
35.	Southend & District Radio Society	G5QK	417
36.	Aberdeen Amateur Radio Society	GM3BSQ	393
37.	York Amateur Radio Society	G3HWW/A	340
38.	Ravensbourne Amateur Radio Club	G3HEV/A	253

420 Mc/s Open Contest, May 18, 1958

When: 09.00 G.M.T. to 23.00 G.M.T. on Sunday May 18, 1958.

Station Locations: Stations may be operated from more than one site but the National Grid Full Six Figure reference must be recorded in the log for each location in the case of entries from G, GD, GM, and GW. In all other cases, entrants must show latitude and longitude.

Eligible Entrants: All fully paid-up members of the R.S.G.B. resident in Europe. Multiple-operator entries will be accepted provided only one call-sign is used.

Contacts: May be made on A1, A2 or A3.

Scoring: Points will be scored on the basis of one contact per mile.

Contest Exchanges: RST (RS) reports followed by the band identification letter B and the contact number and location (e.g. RST559B001 5NE Wigan).

Logs: (a) Must be tabulated in columns headed (in this order) "Time, G.M.T.", "Call-sign of station contacted," "My report on his signals and serial number sent," "His report on my signals and serial number received," "Location of station contacted," "Points Claimed."
Logs must show clearly when station locations are changed.
(b) The cover sheet must be made out in accordance with R.S.G.B. Contests Rule 5 and the declaration signed.
(c) Entries must be postmarked not later than Monday, June 2, 1958.

Awards: At the discretion of the Council, a miniature cup will be awarded to the winner and a certificate of merit to the runner-up.

The General Rules for R.S.G.B. Contests published on page 437 of the March 1958 *Bulletin* apply to this contest. A copy of the General Rules may be obtained by sending a stamped addressed envelope to R.S.G.B. Headquarters.

Contests Diary

1958

May 4	-	D/F Qualifying Event (Oxford)
May 4	-	First 144 Mc/s Field Day[1]
May 10-11	-	Boy Scout International Jamboree-on-the-Air[2]
May 18	-	420 Mc/s Open Contest
June 1	-	D/F Qualifying Event (High Wycombe)
June 7-8	-	National Field Day[3]
June 21-22	-	First 70 Mc/s Contest
June 22	-	D/F Qualifying Event (B.T.H.—Rugby)
July 6	-	Second 144 Mc/s Field Day
July 13	-	D/F Qualifying Event (South Manchester)
September 6-7	-	European V.H.F. Contest and National V.H.F. Contest (both under Region 1 I.A.R.U. Rules)
September 6-7	-	420 Mc/s Contest
September 6-7	-	1250 Mc/s Tests
September 7	-	D/F National Final (organised by Slade Radio Society)
September 14		Low Power Field Day
September 28	-	R.A.E.N. Rally
October 4-5	-	Low Power Contest
November 8-9	-	Second 1·8 Mc/s Contest
November 15-16	-	Second 70 Mc/s Contest
November 22-23	-	21-28 Mc/s Telephony Contest

[1]See page 437, R.S.G.B. Bulletin, March 1958.
[2]See page 369, R.S.G.B. Bulletin, February 1958.
[3]See page 287, R.S.G.B. Bulletin, December 1957.

D/F Qualifying Event

DETAILS of the Oxford qualifying event are as follows:

Sunday, May 4.
Organizer: J. Hickling, 33 Chestnut Road, Botley, Oxford.
Frequency: 1875 kc/s.
Call-sign: G8PX/P.
Map: Ordnance Survey, New Popular Edition, Sheet 158.
Assembly Point: The Catharine Wheel, Sandford-on-Thames (N.G.R. 42/536017).
Assembly Time: 13.30 B.S.T.
Entries and Tea: Forum Restaurant, High Street, Oxford (N.G.R. 42/518063), price 3s. Intending competitors should notify the Organizer as soon as possible stating the number in their party requiring tea. For those uninterested in D/F a tour of the Colleges can be arranged.

Can You Help?

● J. M. Lyons (GM3GUY), 9 Franklin Road, Saltcoats, Ayrshire, who wishes to obtain information on the use of the type 440B transmitter on 70 and 144 Mc/s?

PLEASE ENCLOSE STAMPED, ADDRESSED ENVELOPE WHEN WRITING TO R.S.G.B. FOR INFORMATION

Letters to the Editor . . .

Neither the Editor nor the Council of the Radio Society of Great Britain can accept responsibility for views expressed by correspondents.

In Support of W3FIU

DEAR SIR,—After the classical controversy between Mr. Jessop and Mr. Varney, and the letters of protest which followed, one would have thought that the nasty carping criticism, of which Mr. N. Shires' letter in the January issue of the BULLETIN is an outstanding example, would have ceased.

As Capt. Jordan wrote this article for publication in the official organ of the R.S.G.B., which is circulated to members only, he would naturally assume some knowledge of the basic principles of radio and some measure of intelligence on the part of readers. It is surely quite unnecessary to labour the point that a standard i.f. transformer used outside its normal frequency range will require some correction. The statement that dust core i.f. transformers are to be preferred because of the better balance is surely intended to mean the balance to earth and in this sense is quite correct.

The author suggests listening to a harmonic of the carrier oscillator on a receiver to check stability. As this oscillator has a tuning range of about 15 kc/s it is simple enough to beat the second harmonic against a broadcast station in the medium wave band, and have the exciter running over a period to check the change of beat note caused by drift.

In practice, the knowledge of how many " decibels down the carrier is set " is quite unnecessary. It is much better to monitor the transmission on the station receiver (previously set up for lower sideband reception) and while speaking into the microphone adjust the carrier frequency tuning to obtain the clearest and most natural sounding speech.

Overmodulation of a filter type s.s.b. exciter does *not* produce the severe distortion and sideband splatter always caused by overmodulation of a A3 transmitter. In fact the only person who suffers in the process is the owner of the sideband station who is putting out no additional loudness but only a slightly poorer speech quality. For this reason s.s.b. stations do not overdrive the audio—there is nothing gained and therefore no temptation to do it.

Mr. Shires attempts in his second paragraph to make the alignment of a narrow spaced half lattice crystal filter a fearsome proposition only to be undertaken by those possessing expensive test equipment. I can assure him that this is not necessary and the filter can be aligned to a standard quite satisfactory for amateur use simply by using a single tone audio input set to approximately the middle of the audio pass band.

Recently I was in a net on 3·5 Mc/s which included a newcomer to s.s.b. After he had been congratulated by all concerned on the excellence of his first attempt, he volunteered the information that he had no previous sideband knowledge or any worthwhile test equipment, and he was using a W3FIU exciter constructed after reading Capt. Jordan's article. I have also recently worked an s.s.b. station in the North West of England and was struck by his crisp, clean, very natural speech quality and told him so, and asked what he was using. He replied that it was a single half section lattice crystal filter that had been aligned by his *daughter* using a single tone audio input. . . . The operator of this station is blind.

The amateur today is working under conditions which would not be tolerated by any other service. The universal use of s.s.b. for phone operation would be of very real benefit to all. It is in fact so superior to any other method its adherents are increasing daily.

Finally Mr. Shires' last paragraph is an insult to Capt. Jordan and also to the officials of the R.S.G.B. I can assure any would-be constructor that the exciter really is a " Straightforward Basic Design." It is easy to build and is giving excellent results on the air. While not in complete agreement with all W3FIU's ideas I am sure his article is a sincere attempt to put forward a basic design and to encourage the amateur who would like to get going on s.s.b. but who has until now been discouraged by the apparent complexity of this method of working.

The kind of letter written by Mr. Shires containing nothing but nasty destructive criticism, written in an atmosphere of rude intolerance, does no good to the amateur movement as a whole. Mr. Shires is not known by the British s.s.b stations on 3·5 Mc/s and as far as is known has no practical experience of sideband operation. It is therefore interesting to contemplate the motives which caused him to become an expert so rapidly and to be so rude to a sideband operator who has gone to the trouble to put forward his ideas for the benefit of those just getting interested. Could it be a desire to appear clever in print? Or could it be the King Canute attitude of a " died in the wool " A3 operator who is determined by any means in his power to decry the use of a greatly superior method of amateur communication.

Yours faithfully,
G. R. B. THORNLEY (G2DAF).

Fulwood, Preston, Lancs.

Advertising Over the Air

DEAR SIR,—On the subject of licence abuse I wonder how many amateurs realize that the clause

Nothing in this Licence shall be deemed to authorize the use of the Station for Business, Advertisement or Propaganda Purposes

covers *all* forms of advertising.

Whilst amateurs in general are very careful not to give the name of a dealer over the air, or even mention the particular make of TV set prone to TVI, they have no hesitation in saying what make of transmitter, receiver or aerial is in use, and in some cases openly boast that they have the best on the market.

Surely this is advertising in the widest sense and is a cheap form which the manufacturers welcome.

Yours faithfully,
Carnforth, Lancs. JOHN W. ROBINSON (G5UP).

And now a W7 says " Thanks Chaps "

DEAR SIR,—On my recent visit to Africa, via the British Isles, I was entertained by many British amateurs. It was a wonderful experience and I should like, through the medium of the BULLETIN, to thank all those who helped to make my trip so enjoyable.

I was very pleased to have the opportunity of visiting R.S.G.B. Headquarters and later of seeing the Society's very fine QSL Bureau operated by G2MI and his wife in operation. I was also glad to visit G3HLS and to see his 100 ft. telescopic steel mast being turned and raised from the shack by remote control.

Now that I am a member of the Society I shall be able to keep up on all the news and read the advertisements.

With best wishes for the continued success of the BULLETIN.

Yours sincerely,
Yakima, Washington, U.S.A. GLENN LAY (W7ADS).

Kilowatts and QSLs

DEAR SIR,—The correspondence column and the *Current Comment* page in the February issue of the BULLETIN prompts me to write to express my views on two items of current interest. First of all, the case of high power versus low power, and secondly the age old problem of the QSL card.

I believe ex-G5WI's letter hits the nail right on the head as regards the " Battle of the kilowatts." Although we in W/K land most certainly have a difficult problem with the tremendous increase in amateur activity without a corresponding increase in radio spectrum available, I am of the opinion that QRO is not the solution. What will we do when a few more kilowatt stations go on the air? Will we QRO to 2 kW, 3 kW, 5 kW or even 10 kW? The thing that troubles me is the fact that thousands of amateurs are being denied the thrill and excitement of working DX because they are not financially able to " buy a kilowatt " which will allow them to compete. Anyone who operates ten metres, where until recently there was a conspicuous absence of QRO, knows what can be done with low power (tally here is 93 worked using 28 watts input), but try it on 20 metres sometime. I am all for a maximum plate input power not in excess of 250 watts!

In regard to QSL cards I was rather disturbed to read G2MI's comment " How to save Money " for I am one who firmly believes that " A QSL is the final courtesy of a QSO." Certainly

QSL'ing each and every contact with the same station is a waste of time, money and an annoying burden to the fine QSL Bureaux all over the world. But what is an amateur to do when he cannot get a QSL card in return for his? For example, I have worked half a dozen GWs and two EIs, and yet to date no confirmation from either place has been received. Also, many, many stations work for awards and certificates that require confirmations, and most DX stations will QSL only upon receipt of your card. Prior to joining the R.S.G.B. I heard many excellent comments on your QSL Bureau, and that was my prime reason for joining the society.

In conclusion, the excellence of so many DX station signals attests to the foolishness of QRO, and is proof of what can be done with proper operating together with good aerials. As far as QSL cards are concerned let's boost to the limit this important part of our hobby. To G2MI and his colleagues let us offer our appreciation for their efforts on our behalf.

Yours sincerely,

Canton, Mass., U.S.A. PAUL I. CLEVELAND (W1OHA.)

Reciprocity

DEAR SIR,—I was greatly interested and deeply pleased at the interest shown by Mr. Varney (G5RV, etc.) in his excellent letter which appeared in the January issue of the BULLETIN.

Being an American stationed in England, I am now in a position to see the effects of prohibiting the licensing of foreign residents to operate in another country, and I know for a fact that there are many more, both American and English (who are residing in the U.S.) who are in this same position. As I pointed out in a letter to W2NSD, editor of *CQ* (whose article was referred to by Mr. Varney in his letter), " It certainly cannot be a case of the security of a country being endangered, nor can politics take a large portion of the blame, but it all falls back to another rule that was passed years back before it was realised what a large growth Amateur Radio was to have, and what harm it could do in the future."

It is for the good of Amateur Radio, and therefore for all of us, that the licensing authorities of our two countries (U.K. and U.S.) and any other countries concerned, should take the necessary steps to help do away with these rulings. It is my hope that through letters sent to the organizations of which we are members (R.S.G.B., A.R.R.L., etc.) it will be possible for us to make perfectly clear our feelings in this matter.

73,

R.A.F. Station, BRUCE F. CUSHMAN
Sculthorpe, Norfolk. (K1DYA, ex-K7BOB)

Small Polls

DEAR SIR,—Surely the reason for the small number of people who vote at the Council elections is quite obvious. To most of the membership the people concerned are merely names. They really know nothing about the people concerned.

The very short notes which are included are really scarcely adequate for anyone to make up their minds whether to vote for Mr. A. in preference to Mr. B. or vice-versa. Some members may have met the individuals and know that they are tall and thin, or short and fat, but this is no guide in the question of electing a member to the Council. What we want to know surely is what the candidates ideas are on matters concerning Amateur Radio.

There are always a number of controversial issues in a live hobby such as ours, and what the member wants to know is—What are the views of the particular candidate on these various subjects?

For example:

Is he in favour of more contests, or fewer?

Is he in favour of a novice licence, as discussed in your correspondence columns, or against it?

Is he in favour of a special " advanced class " licence, or is he against it?

Does he favour the aboliton of the c.w. period for a new licence, or is he against it?

Is he keen on v.h.f. or the DX bands, or Top Band?

Is he in favour of the BULLETIN being for sale on news stands, or not?

Does he favour more articles for the short-wave listener, or fewer?

What is his attitude to the TVI problem?

There are many issues of this sort and unless one knows the views of the candidate on these subjects, how can one use one's vote intelligently?

I do not think it is a question of people not " bothering " to vote. It is that they do not know for whom to vote and, quite rightly, would rather not vote than vote for someone about whose views on various problems in Amateur Radio they know nothing.

I, therefore, favour suggestion (*c*) put forward by Gerald Gibbs (G3AAZ) in the January BULLETIN for an election manifesto from each candidate.

However, I cannot see that suggestion (*b*) is of great importance. I would not cast my vote on a man's appearance and it seems to me an unnecessary expenditure of money to reproduce portraits of the candidates. Some sort of election manifesto giving the candidates views on the controversial issues frequently discussed in the correspondence column is, I think, the clue to a large poll.

Yours faithfully,

London, N.W.3. E. M. WAGNER (G3BID).

Boy Scout Jamboree-on-the-Air

DEAR SIR,—Readers of the February edition of the BULLETIN will have noticed that the above event is taking place on the weekend May 10-11, 1958.

Quite apart from individual participation may I appeal to amateurs to interest their local scouts in the event by either allowing interested lads to visit their shacks whilst the Jamboree is in progress or by running /A stations at Scout H.Q.s or camps arranged for the purpose.

This is a wonderful chance for amateurs to bring their hobby to the notice of members of probably the largest international youth organization in the world. In this connection it is as well to remember that many of these young men are the " hams " and possible Society and Club members of tomorrow.

If interested persons will write to me enclosing a stamped and addressed envelope I will gladly forward full details of the event.

Yours faithfully,

965 Oxford Road, L. R. MITCHELL (G3BHK),
Reading, Berks. Honorary Organizer, Jamboree-on-the-Air.

How About a V.H.F. Licence?

DEAR SIR,—I have read with interest Mr. Ward's letter in the December 1957 issue on the subject of Novice licences. I should like to give my opinion on his proposals and suggest a new approach to the problem.

Mr. Ward seems to be at cross-purposes with himself, because surely anyone who operates exclusively on the v.h.f. or u.h.f. bands and can build equipment for those bands is not a Novice.

As for the removal of the c.w. test, is it really a hardship? I think the R.A.E. and the Post Office Morse test make things just difficult enough to sort the wheat from the chaff and ensure that the only people who stick it are those who are going to make a worthwhile contribution to our hobby. In common with many other amateurs I regret the abolition of the 12 months' probationary period on c.w.

As for a Novice licence on the other bands, similar to the U.S. Novice licence (WN calls), I do not think it is warranted under the present licensing conditions in the U.K. I should, however, like to offer the following suggestions for two classes of licence:

Class I. As at present (R.A.E. and P.O. Morse test). Permission to operate on all bands and with all modes.

Class II. R.A.E. only. Permission to operate on 70cm and higher frequencies only, and with all modes.

In both modes I suggest that the input power be kept at the present limit. I support no plea for power in excess of 150 watts.

The above suggestions no doubt contain snags but I think they may prove the basis for discussion by the membership and later by the Council.

Yours faithfully,

Welling, Kent. CLIFF J. LEAL (G3ISX).

HAVE YOU AMENDED YOUR BANKERS' ORDER TO THE NEW RATE OF 30/- PER ANNUM?

Radio Amateur Emergency Network

THE following County and Area Controllers had been appointed up to March 31, 1958:

ENGLAND

Birmingham
A. F. Dennis (G3CNV), 47 Hemlingford Road, Walmley, Sutton Coldfield, Warwickshire. (*County Controller.*)
M. A. Brett (G3HBE), 55 Chestnut Drive, Erdington, Birmingham, 24.
J. E. Symes (G3LNN), 20 Plants Brook Road, Walmley, Sutton Coldfield, Warwickshire.
P. West (G3JPN), 24 Bloomfield Road, Moseley, Birmingham 13.

Buckingham
F. H. Dewick (G3HIU), 47 Gloucester Road, Wolverton, Buckingham.

Cheshire
L. N. Goldsborough (G3ERB), 54 Kings Lane, Bebington, Cheshire. (*County Controller.*)
J. Speakman (G3GYV), 41 Hodge Lane, Hartford, Northwich, Cheshire.

Cornwall
H. Wright (G6LV), 2 Garland Place, Penryn, Cornwall.

Derbyshire
T. Darn (G3FGY), 42 Laurel Avenue, Ripley, Derbyshire.

Durham
E. Smith (G3JMT), 151 Cheviot Road, South Shields, Co. Durham.

Essex
C. H. L. Edwards (G8TL), 28 Morgan Crescent, Theydon Bois, Epping, Essex. (*County Controller*).
G. Cutting (G3GNQ), 72 Well Lane, Galleywood, Chelmsford, Essex.
F. C. Judd (G2BCX), 152a Maybank Road, South Woodford, London, E.18.
B. W. LeGrys (G3GOT), 75 Shaftesbury Road, Romford, Essex.
W. J. Mason (G3HSM), 39 Victory Road, Clacton-on-Sea, Essex.

Gloucestershire and Hereford
J. J. Yeend (G3CGD), 30 St. Luke's Road, Cheltenham, Gloucestershire. (*County Controller.*)

Hampshire
R. Gardner (G3GCE), 42 Norham Avenue, Ripley, Southampton.

Herefordshire
R. Smith, "Marylis," 8 Quarry Lane, Tupsley, Hereford.

Hertfordshire
A. R. Mee (G3ERV), Greenhaven, The Drift, Royston, Hertfordshire.

Kent
G. A. Partridge (G3CED), 17 Ethel Road, Broadstairs, Kent. (*County Controller.*)
B. Challis (G8UT), 43 Dorchester Close, Dartford, Kent.
R. A. M. Crust (G3MC), "Cwmcarn," Grove Green Lane, Weavering, Maidstone, Kent.

Lancashire
G. Lancefield (G3DWQ), 35 Brixton Road, Frenchwood, Preston, Lancashire. (*County Controller.*)
R. Cordingley (G3BAP), 61 Cleveleys Avenue, Lancaster, Lancs.
T. F. Wareing (G3EFA), 105 Shellfield Road, Southport, Lancashire.

Leicestershire
M. Kind (G3GXZ), 62 Clifford Street, South Wigston, Leicester. (*County Controller.*)
N. R. Clarke (G3FQY), 89 Buller Road, Belgrave, Leicester.

Lincolnshire
F. R. Peterson (G3ELZ), 58 Peaksfield Avenue, Grimsby, Lincolnshire. (*County Controller.*)
J. Browne (G4XC), 245 Yarborough Road, Grimsby, Lincolnshire.
N. T. Hodgson (G2ABK), 3 Council House, Main Road, Hundleby, Spilsby, Lincolnshire.
J. W. Marlow (G2FT), "Elton," 83 George Street, Mablethorpe, Lincolnshire.
F. K. Parker (G3FUR), 64 Tinwell Road, Stamford, Lincolnshire.

London
E. W. Yeomanson (G3IIR), 9 Trewsbury Road, Sydenham, London, S.E.26. (*County Controller.*)
E. Rayner (G6IO), 44 Lawrie Park Gardens, Sydenham, London, S.E.26.

Norfolk
D. F. Willies (G3HRK), "The Wilderness," Grove Road, Holt, Norfolk. (*County Controller.*)
E. Greebe (G3LFU), 79 Spinney Road, Thorpe, Norwich, Norfolk.

Northamptonshire
L. Critchley (G3EEL), 36 Waterloo Road, Peterborough, Northamptonshire.
B. Hayes (G3JBU), 7 Western Terrace, Northampton.

Nottinghamshire
H. S. Chadwick (G8ON), 25 Raines Avenue, Workshop, Nottinghamshire. (*County Controller for Nottinghamshire and Derbyshire.*)
H. O. Sills (G8QZ), "Elmhurst," 29 Briar Gate, Long Eaton, Nottingham.

Northumberland
T. Kennedy (G6UC), 22 Main Street, Spittal, Berwick-on-Tweed.

Shropshire
G. E. Herringshaw, Condover Hall School, Condover, Shrewsbury.

Somerset
W. C. Holley (G5TN), "Waverley," Worlibury Hill Road, Weston-super-Mare, Somerset. (*County Controller.*)

Staffordshire
J. R. Brindley (G3DML), 45 Rosendale Avenue, Chesterton, Newcastle, Staffordshire. (*County Controller.*)
V. J. Bloor (G3UD), 26 Leveson Road, Hanford, Stoke-on-Trent, Staffordshire.
G. F. Hayward (G3MDF), 47 Dartmouth Avenue, Cannock, Staffordshire.
J. J. L. Weaver (G2HNA), 72 Wolverhampton Road, Stafford.

Suffolk
W. E. H. Harris (G3DPH), 4 Glanville Place, Kesgrave, Ipswich, Suffolk.
L. Taylor (G3JMU), 121 London Road North, Lowestoft, Suffolk.
R. A. Wilson (G4RW), "The Hollows," Newry Avenue, Felixstowe. Suffolk.

Sussex
B. C. Oddy (G3FEX), "Three Corners," Merryfields Way, Storrington, Sussex. (*County Controller.*)
W. L. Rimmington (G2DVD), "Batwells," Hayes Lane, Slinfold, Horsham, Sussex.
F. Robins (G3GVM), 104 Congreve Road, Worthing, Sussex.

Worcestershire
G. Parkes (G3NL), 43 Oldbury Road, Worcester.

Yorkshire
Lt. Col. A. C. Dunn (G2ACD), 57 Promenade, Bridlington, East Yorkshire. (*County Controller.*)
G. H. Brown (G3FVW), "Hill Rise," Mill Lane, Cayton Bay, near Scarborough, East Yorkshire.
T. Griffin (G3GUV), 22 Albert Terrace, Middlesbrough, North Yorkshire.
F. Marshall (G2CPS), 92 Flemingate, Beverley, East Yorkshire.
R. Mayman (G2ABR), 27 Tennyson Avenue, Hull, East Yorkshire.
W. R. Metcalfe (G3DQ), 3 Royal Crescent, Bridlington, East Yorkshire.
D. M. Pratt (G3KEP), 27 Woodlands Grove, Cottingley, Bingley, West Yorkshire.
J. R. Petty (G4JW), 580 Redmires Road, Sheffield 10, West Yorkshire.
H. M. Rix (G5GX), "Greenroofs," Leven, Hull, East Yorkshire.
A. W. Walmsley (G3ADQ), 6 Hilton Road, Legrams Lane, Bradford 7, West Yorkshire.
W. D. Heath (G3ABS), 4 Dalton Terrace, Denby Dale, Huddersfield, West Yorkshire.

WALES

Cardiganshire
V. C. Morgan (GW3FRK), "Hafan," Comins Coch, Aberystwyth, Cardiganshire.

Glamorgan
Capt. C. R. Mountjoy (GW3ASW), "Pant Villa," Cwmbach, Aberdare, Glamorgan.

Pembrokeshire
Capt. C. G. Price (GW2OP), Bangeston Hall, Pembroke Dock, South Wales.

SCOTLAND

Northern Scotland
W. G. Cecil (GM3KHH), 10 Cluny Terrace, Buckie, Banffshire. (*County Controller—all counties.*)

Stirlingshire
J. Simpson (GM4QV), 10 Falkirk Road, Bonnybridge, Stirlingshire. (*County Controller.*)

ISLE OF MAN

J. Wilkie (GD5SF), 10a Finch Road, Douglas, Isle of Man.

NORTHERN IRELAND

G. Henry (GI3BHK), "Carrowlaverty," Armoy, Co. Antrim. (*County Controller—all N.I. counties.*)
Dr. J. J. Cosgrove (GI3HXH), "Stacumnie," Culmore Road, Londonderry.
R. R. Parsons (GI3HXV), 134 Benmore Drive, Finaghy, Belfast.
J. Thompson (GI3ILV), 1 Westland Road, Portadown, Co. Armagh.

British Red Cross Society Film "Humanity in Action" added to R.S.G.B. Film Library

THROUGH the good offices of the British Red Cross Society and World-Wide Pictures Ltd., the Society has acquired a copy of the R.A.E.N. sequences in a new film, "Humanity in Action." The film is now held by the Society's Hon. Film Curator, Mr. L. S. Gillham, 2 Parkstone Avenue, Hornchurch, Essex, to whom application should be made for its loan. The film can only be shown on a sound projector. All other films in the R.S.G.B. Film Library can be shown on a standard 16mm. projector. The film runs for approximately seven minutes at 24 f.p.s.

Can You Help?

● R. Nunn (B.R.S.21746), 18 Alderson Street, West Hartlepool, Co. Durham, who would like to hear from any member who has converted the long wave range of an A-Z Radio Unit (made by Sound Sales Ltd.) to shortwave operation?

● J. Sterritt (B.R.S.20938), 9 Everton Drive, Cregagh, Belfast, who would like circuit details for the addition of an "S" meter to the BC348H?

Regional and Club News

Acton, Brentford and Chiswick Radio Club.—A committee has been formed to assist members with TVI problems. Morse practice facilities are available. Meetings are held on the third Tuesday in each month at 7.30 p.m. in the A.E.U. Rooms, 66 High Road, Chiswick W.4. Prospective members are invited to attend. *Hon. Secretary:* W. G. Dyer (G3GEH), 188 Gunnersbury Avenue, Acton, London, W.3.

Aldershot and District Amateur Radio Society.—Recent activities have included a discussion on the merits of cubical quad aerials for 10m. Meetings are held on alternate Tuesdays at 7.30 p.m. at The Cannon, Victoria Road, Aldershot. *Hon. Secretary:* S. E. Hume, 25 Kingsway, Aldershot.

Bath.—There was attendance of over 50 at the Bath Hamfest at the Angel Hotel, Bath, on March 8. Among those present were L. E. Newnham, G6NZ (President), Bill Green, G3FBA (Zone D Representative and R.R.), Vic Newport, G3CHW (C. R. for Bristol), Basil Munro, G3FLK (C.R. for Devon), Les Avory G2FQP (T.R. for Weston-super-Mare) and Donald McLean (Hon. Secretary, Yeovil club). Old-timers present included Arthur Parsons (G2PS) and Ron Lavis (G8DX). The programme included games, films and songs at the piano by John Tolman, father of G3EKS. Prizes and gifts were generously donated by Iliffe and Sons Ltd., Mullard Ltd., Adcola, Jackson Bros., Windsor Electronics, T.C.C., Multicore Solders, Erie Resistor Co., Southern Radio, Data Publications, Litesold and Stratton & Co. Ltd. The arrangements were in the hands of a committee led by the Town Representative, John Russell (G2ZR).

Blackpool & Fylde Amateur Radio Society.—At the recent A.G.M. the following were elected: *President:* Gill Williamson (G3FYZ); *Vice-President:* Len Frankland (G3GEE); *Chairman:* Lewis Beevers (G3JLF); *Hon. Secretary-Treasurer:* John Wells (G3IZG), 91 Park Road, Blackpool; *Deputy Honorary Secretary:* Cyril Holmes (B.R.S. 21291); *Committee Members:* " Jim " Newland (G5ND), James Woodhouse (G4HH) and Ron Lambert. Meetings are held every Wednesday at 7.30 p.m. at the Clubroom, Back Gadsby Street. Visitors are always welcome. Morse instruction is given from 7.30 to 8 p.m. Recent activities have included a lecture on " Sound and the Cinema " by G3JLF and a demonstration of the Phonotrix midget tape recorder by G4HH.

Egham & District.—In an effort to form a group in the district, a meeting will be held at The Church Hall, Church Road, Egham, on Tuesday, April 29, commencing at 7.45 p.m. There will be a programme of films of radio interest. All local members and others interested in Amateur Radio, whether transmitting amateurs or not, are assured of a warm welcome. Further information may be obtained from D. S. Froome, 39 Manor Way, Egham, Surrey.

Grafton Radio Society.—The big event recently was a visit of Arthur Milne (G2MI) who gave a most interesting talk illustrated with colour transparencies on " The International Aspects of Amateur Radio." A Junk Sale and a further lecture on " Beam Aerials " by G3JEA have helped to keep activity at a high level. *Hon. Secretary:* A. W. H. Wennell (G2CJN), 145 Uxendon Hill, Wembley Park, Middlesex.

Gravesend Amateur Radio Society.—Recent activities have included talks on " Oscillators " and " Standing Waves " by the Chairman, A. Watson (G3DCV), and planning for N.F.D. Radio theory classes by E. Woods (G3FST) take place on Mondays. Membership is rising. Meetings are held on Thursdays at 7.30 p.m. at 4 Cobham Street. *Hon. Secretary:* L. C. Bodycombe, 21 Grieves Road, Northfleet, Kent.

Ham Hop Club.—The founder of the Ham Hop Club (George Partridge, G3CED, 17 Ethel Road, Broadstairs, Kent) has decided to place the club on a broader footing by changing its name to the International Ham Hop Club. The officers for 1958 are: *President*—DL7AH; *Chairman*—ON4ZX; *Hon. Treasurer*—G4ZU; *Hon. Secretary*—G3CED; *Committee Members*—DL2SY, F/SWL9273, G3LQI, GW8WJ, HB9OP and OZ3LI. This body will exercise control over matters of joint policy and every effort will be made to establish a tradition. Headquarters will remain in England. Detailed plans have been worked out to perfect the system of holiday arrangements. Further details can be obtained from G3CED.

North Kent Radio Society.—The society hopes to operate G3ENT/A in connection with Erith Borough Council's arrangements for August Bank Holiday. Meanwhile, G3ENT, which is the club station, continues to be very active. Efforts are being made to start a constructional section. Details of meetings are given in *Forthcoming Events. Hon. Secretary:* D. W. Wooderson (G3HKX), 39 Woolwich Road, Bexleyheath.

Northampton Short Wave Radio Club.—Meetings will continue to be held at the Club Rooms, Allen's Pram Works, 8 Duke Street, but on *Thursdays* in future. A 19 set is being prepared for portable operation during the summer months under the club call-sign G3GWB/P. *Hon. Secretary:* S. F. Berridge (G3ITW), 20 Ethel Street, Northampton.

Shefford & District Amateur Radio Society.—All interested in radio, television and electronics are invited to attend the society's meetings held every Friday at 8 p.m. at Digswell House. Recent events have included talks on " Home-made Electrostatic Speakers " by H. Hyde, " Single Sideband Techniques " by G3GKA and " Top Band Mobile " by G3HTW, and a screening of the film *Mirror in the Sky*. *Hon. Secretary:* G. R. Cobb (G3IXG), Western House, Ampthill Road, Shefford, Bedfordshire.

Stockport Radio Society.—Attendances at recent meetings have been good and it is hoped that the summer programme will result in many new members being enrolled. Outdoor activities planned are participation in the 2m Field Days, Region 1 Field Day and National Field Day. A Mobile Rally is planned for July. Details of meetings are given in *Forthcoming Events. Hon. Secretary:* G. R. Phillips (G3FYE), 7 Germans Buildings, Buxton Road, Stockport.

Thames Valley Amateur Radio Transmitters' Society.—At the March meeting the General Secretary, John Clarricoats, O.B.E., G6CL, addressed the society on " Twenty-five years in retrospect," with particular reference to the activities of T.V.A.R.T.S. which is celebrating its Silver Jubilee this year. Founder members present were G2KI and G6GB while G2GK sent a telegram from Torquay.

Torbay Amateur Radio Society.—There was an attendance of more than 50 at the society's Annual Dinner at the Oswalds Hotel, Torquay. The Acting Chairman, G2GM, commented upon the large increase in membership during the year. Those present included the C.R. for Devon, B. Munro (G3FLK). Gifts were donated by Lustraphone Ltd., S. G. Brown, Antex Ltd., Avo Ltd., Mullard Ltd. S. T. & C. Ltd., G.E.C. Ltd., Cosmocord Ltd., Multicore Solders Ltd. and McMurdo Ltd. Arrangements were in the hands of the Social Committee led by J. Olway. A vote of thanks to the M.C., E. A. Crocker, was proposed by F. J. Wadman (G2GK). Plans for N.F.D. were discussed at the March meeting. *Hon. Secretary:* G. A. Western (G3LFL), 118 Salisbury Avenue, Barton, Torquay.

Welwyn Garden City.—To Reg Wade (G3IRW) of Hoddesdon went the silver cup awarded annually by Stanley Harrison, J.P. (G3EPK) for the outstanding exhibit in the Welwyn Garden City Constructors' Exhibition. His winning exhibit consisted of a chassis containing two p.a. stages, one of them using an 832 for 145 Mc/s and the other a QQVO3/20A for 435 Mc/s, with some beautifully made silver-plated inductance lines with micrometer adjusting tuning bars.

Worthing & District Amateur Radio Club.—The Worthing " Bucket and Spade " Party will be held on June 22, 1958. Stations will be on the air to guide in visiting mobiles. *Hon. Secretary:* J. R. Toothill, 113 Kings Road, Lancing.

Unit Amateur Radio Club 21st (N.M.) Corps Signal Regiment (T.A.).—A wireless operator training course commenced at the T.A. Centre, Kingsway, Derby, on March 8. The syllabus has been arranged with a view to preparing candidates for the R.A.E. Lectures and demonstrations will take place on May 3-4, May 31-June 1, June 14-15 and July 5-6. The lecturers are W. James (G6XM), F. Wyer (G8RY), H. E. Jones (G3JXL) and C. D. Didcott (G2FHF). The course is restricted to members of the T.A. but anyone interested in tuition for the R.A.E. will be welcome and may obtain the necessary information on application to the Adjutant of the Unit at the Drill Hall on Tuesdays and Thursdays from 7.30 p.m.

Can You Help?

- N. Pride, 100 Raikes Lane, Birstall, near Leeds, who requires the manual for the Marconi CN1 transmitter-receiver?
- L. Ratcliffe (G3EQG), 26 Hope Street, Great Harwood, near Blackburn, Lancs., who requires information on a panadaptor suitable for use with the Hammarlund Super Pro, the intermediate frequency of which lies between 450 and 470 kc/s?

East Midlands Regional Meeting

SUNDAY, APRIL 20, 1958

MECHANICS INSTITUTION, NORTH CHURCH STREET
(Opposite Victoria Station)
NOTTINGHAM

Programme

Assemble	**1.30 p.m.**
Meeting	**2.15 p.m.**
Tea	**4.30 p.m.**
Lecture and Raffle Period	**5.30 p.m.**

Tickets, price 9/6 per head (which includes tea), available from the Region 4 Representative, Dr. E. S. G. K. Vance (G8SA), 43 Blackwell Road, Huthwaite, Sutton-in-Ashfield, Notts, and the Notts C.R., Mr. A. Walmsley (G2HIO), Park House, Cinderhill Road, Cinderhill, Nottingham, not later than April 15. The Council will be represented by Messrs. W. R. Metcalfe (G3DQ), A. O. Milne (G2MI) and J. A. Rouse (G2AHL).

West Midlands Regional Meeting

SUNDAY, MAY 11, 1958

DIGBETH INSTITUTE, BIRMINGHAM

Programme

Assemble	**2 p.m.**
Business Meeting	**2.30 p.m.**
Exhibition of Gear and Draw	**4 p.m.**
Tea	**4.30 p.m.**
Talk on Aerials by Mr. Simms of the B.B.C.	**5 p.m.**
Station Visits	**6.30 p.m.**

Tickets, price 7/6 per head including buffet tea, can be obtained from the Region 3 Representative, W. A. Higgins (G8GF), 28 Kingsley Road, Kingswinford, Staffs. (Telephone: Kingswinford 3921). An informal luncheon is also being arranged at the Imperial Hotel, Temple Street, Birmingham, for 12.30 p.m. at 8/6 per head. Bookings may be made either with the Regional Representative or G. A. Swinnerton (G6AS), Birmingham District Representative, 120 Grange Road, Olton, Birmingham, 27. (Information, including application forms, has already been circulated throughout the Region.) Council will be presented by L. E. Newnham, G6NZ (President), C. H. L. Edwards, G8TL and John Clarricoats, O.B.E., G6CL (General Secretary).

NORTH MIDLANDS MOBILE RALLY
Trentham Gardens, near Stoke-on-Trent
(4 miles south of Stoke on the A34 Manchester-London road).
Sunday, April 20, 1958

Large reserved room with car park adjoining. Catering in the Ballroom (no prior booking required). Miniature railway, Italian Gardens, Rose Gardens, Hot Houses, Boating Lake. The A.A. is erecting direction signs locally. Fix your QSL card on the windscreen for identification. B.A.T.C. TV Demonstration.

RALLY STATIONS

G3GBU/A—1980 kc/s G3MAR/A—3660 kc/s
G3BA/A—144·7 Mc/s G6SN/M—144·6 Mc/s
will be on the air from 11.30 a.m.

Entrance to Gardens: Adults 1/6d., Children 9d., Cars 1/-.

Organized by the Stoke-on-Trent Radio Society and the Midland Amateur Radio Society.

CHELTENHAM MOBILE RALLY
Montpellier Gardens, Cheltenham
Sunday, May 11, 1958

On arrival visitors are asked to hand in a QSL card with the registration number of their car on it. The cards will be displayed to facilitate personal QSOs. Light refreshments available. Miniature golf course.

RALLY STATIONS

G3GPW/P—1810 kc/s G3CWV/A—1995 kc/s
G3YZ/P—145·3 Mc/s

Mobiles are asked not to call G3GPW/P on his own frequency as the whole band will be monitored.

Organized by Cheltenham Amateur Radio Society and R.S.G.B. Group

BOURNEMOUTH MOBILE RALLY
Kings Park, Boscombe, Bournemouth
Sunday, May 18, 1958

This rally is not intended to be anything more than a social get-together and there will be no competitions or other programme items. All interested are invited to attend and bring picnic lunch and/or tea. There are several first-class restaurants within one mile of the site.

RALLY STATIONS

G2HIF/P—145 Mc/s G3HLW/P—1880 kc/s
will be on the air from 10.30 B.S.T.

Mobiles are asked to contact the talk-in stations as soon as possible on their way to the Rally and to report progress periodically.

Organized by the Bournemouth Amateur Radio Society.

LINCOLNSHIRE MOBILE RALLY
George Hotel, Spilsby
Sunday, May 18, 1958

The programme will include a Junk Sale and High Tea. A licensed bar will be provided. Tickets, price 7s. 6d. each, may be obtained from the Organizer, N. T. Hodgson (G2ABK), Main Road, Hundleby, Spilsby, Lincolnshire, not later than Wednesday, May 14. Lunches will be available if booked when applying for tickets.

RALLY STATION

G2FT/M or G8GI/M will be on Top Band from 10.30 B.S.T.

LONGLEAT MOBILE RALLY
Longleat House, near Warminster, Wiltshire
Sunday, June 15, 1958

Full details in next month's issue

Organized by the City and County of Bristol R.S.G.B. Group.

Forthcoming Events

Details for inclusion in this feature should reach the appropriate Regional Representatives not later than the 18th of the month preceding publication. T.R.s and club secretaries are reminded that the information submitted MUST include the date, time, venue of meeting, name of lecturer or details of any other special event being arranged.

REGION 1

Blackpool (B. & F.A.R.S.).—April 16 ("Mobile Operation," recorded lecture by C. H. L. Edwards, G8TL). April 30 ("Propagation" by K. Darlington). May 14 ("Aerials" recorded lecture by F. Charman, G6CJ), 7.30 p.m., Back Gadsby Street.

Bury (B.R.S.).—May 13 (Technical Forum on Aerials) 8 p.m., George Hotel, Kay Gardens.

Chester (C. & D.A.R.S.).—April 22 ("Interview"); April 29 ("Aerial Systems, Part 2 by H. Morris, G3ATZ), May 6 (Top Band Net), May 13 (N.F.D. Discussion), 8 p.m., Tarran Hut, Y.M.C.A.

Liverpool (L. & D.A.R.S.).—April 15 ("More Aerials" by B. Meaden, G3BHT), April 29 (Tape Lecture—"Mobile Hints"), 8 p.m., Room "A," Wavertree Community Centre, Penny Lane, Liverpool, 18.

Manchester (M. & D.R.S.).—April 14 ("Mobile Operation" by D. Barber, G2AKR); May 5 ("Keying and the Electronic Key," by W. D. Wallace, G3HCD).

Stockport (S.R.S.).—April 23 ("Tape Recorders" by A. Evans), May 7 ("Hi-Fi from the Junk Box" by F. A. Boyes and A. Smith, G3AYT); 8 p.m., Blossoms Hotel, Buxton Road.

Wirral (W.A.R.S.).—April 8 (Seventh Annual Dinner at Coach & Horses Hotel, Moreton); April 25 (Discussion on Aerials, Part II); May 9 ("New N.F.D. Transmitter" by N. Kendrick, G3CSG); 7.45 p.m., No. 4 Hamilton Square, Birkenhead.

REGION 2

South Shields (S.S. & D.A.R.C.).—April 30 ("F.M. Tuners"), 7.30 p.m., Trinity House Social Centre, Laygate.

REGION 3

Birmingham (M.A.R.S.).—April 15 ("Are you afraid of your receiver?" G. Brown, G5BJ); May 20 ("The Oscilloscope," A. Watt, G2DRG), Midland Institute, Paradise Street.

(Slade).—April 25 ("Criss Cross Quiz"); May 9 ("From Transmitter to Aerial," T. J. Hayward), 7.45 p.m., Church House, High Street, Erdington.

Coventry.—April 25, 7.30 p.m., Vine Street School. (C.A.R.S.).—April 25 ("Construction of New Gear"); May 5 ("Astronomy and Cosmology," recorded lecture), 7.45 p.m., 9 Queens Road, Coventry.

Nottingham (N. & D.A.R.S.).—April 18, 7.30 p.m., Albert Hall Institute, Derby Road, (A.G.M).

Stourbridge & District.—May 6, 8 p.m. ("DX Working," D. A. G. Edwards, G3DO), Brotherhood Hall, Scotts Road.

Wolverhampton (W.A.R.S.).—May 19, Park Hall Hotel (Annual Dinner).

REGION 4

Derby (D. & D.A.R.S.).—April 16 (Telephone Exchange Visit); April 23 (Film Show "Magnetic Materials and Particle Count"); April 30 ("Modifications to Surplus Equipments," A. Blakemore); May 7 ("Junk Sale"); May 14 (Open Evening), 7.30 p.m., Room 4, 119 Green Lane, Derby.

Ilkeston (I. & D.A.R.S.).—April 24 ("Amateur-built Tape Recorders," E. E. West, G3KTP); May 1 (Junk Sale); May 8 (Open Evening); May 15 ("Interplanetary Travel," recorded talk by W. A. Scarr, G2WS), 7.30 p.m., Room 5, Ilkeston College of Further Education, Field Road, Ilkeston.

Leicester (L.R.S.).—April 14 ("Symposium on the 'Cub,'" P. G. Goadby, G3MCP); April 21 (New Club-Room Work, etc.); April 28 ("Aerials," R. G. Frisby, G2CFC).

REGION 7

Acton, Brentford & Chiswick.—April 15, May 20 (Discussion), 7.30 p.m., A. E. U. Rooms, 66 High Road, Chiswick, W.4.

Bexleyheath (N.K.R.S.).—April 24, 7.30 p.m., (Film Show); May 8 (A.G.M.), Congregational Hall, Chapel Road, Bexleyheath.

East London.—April 27, 2.30 p.m., Ilford Town Hall ("Beam Aerials," G. A. Bird, G4ZU).

East Molesey (T.V.A.R.T.S.).—May 7 ("World Wide Press Radio Communications" by John Kay, G3AAE), Carnarvon Castle Hotel, Hampton Court.

Enfield & District.—April 20, 3 p.m., ("Communication Receivers," W. H. Allen, G2UJ), George Spicer School, Southbury Road, Enfield.

Guildford & Woking.—April 25, 7.30 p.m., "The Cannon," Portsmouth Road, Guildford (Junk Sale).

Holloway (G.R.S.).—Mondays and Wednesdays (R.A.E. and Morse), 7 p.m.; Fridays (Club), 7 p.m., Montem School (ex Isledon School), Hornsey Road, N.7.

Norwood & South London.—April 19 (Film Show); May 10 ("International Amateur Radio," D. Deacon, G3BCM), 7.30 p.m., Windermere House, Westow Street, Crystal Palace.

Science Museum (S.M.R.S.).—April 15, 6 p.m., Lecture Demonstration of Amateur Television, Lecture Theatre, Science Museum, S.W.7.

Welwyn Garden City.—May 8 (Preparing for N.F.D.), I.C.I. Recreation Club, Black Fan Road, Welwyn Garden City.

Slough.—May 5, "Stag Hotel," Wrexham Street, Slough (N.F.D. Discussion).

REGION 8

Brighton (B. & D.R.C.).—April 15 (Junk Sale); April 22 ("Ferrites" by C. Kenny, G3LJK); April 29 ("High Gain Amplifiers for Biological Research"); May 6 (Mullard film "Made for Life"); May 13 (Talk by H. R. Henly), 8 p.m., The Eagle Inn, Gloucester Road, Brighton 1.

REGION 9

Bath.—May 12, 7.30 p.m., 12 James Street West ("Listening for DX," by Ken Creamer).

Bristol.—April 18, 7.15 p.m., ("The Grid-Dip Oscillator and its Applications," D. V. Newport, G3CHW); May 16, 7.15 p.m., ("Modern High and Low-K Dielectric Materials," H. F. Kay, D.Sc.), Carwardines Restaurant, Baldwin Street.

Weston-super-Mare. — May 14, 7.30 p.m. ("Aerials for the Amateur," W. Holley, G5TN), Albert Hotel.

REGION 10

Cardiff.—April 18, 7.0 p.m. (Meeting with Hastings Club Mobile Party), British Volunteer Hotel, The Hayes, Cardiff.

Port Talbot.—May 6, ("Tape Recorders," by G. Thomas); May 20 (R.A.E. Instruction), 7.30 p.m., 14 Holland Street, Port Talbot.

REGION 12

Aberdeen (A.A.R.S.).—April 18 ("Your Questions Answered"), April 25 ("Portable Equipment"), May 2 ("Selectivity"), 7.30 p.m., 6 Blenheim Lane, Aberdeen.

REGION 14

Falkirk & District.—April 11, 7.30 p.m., Temperance Café, Falkirk.

Representation

THE following are additions to the list of Town Representatives published in the December 1957 issue:—

Region	Town or Area	Name, Call-sign (or B.R.S.) and address
1	CHESHIRE Chester	C. RICH (B.R.S. 18644), 90 Becketts Lane, Chester.
	LANCASHIRE WEST Preston	G. LANCEFIELD (G3DWQ) 35 Brixton Road, Frenchwood.
2	CO. DURHAM West Hartlepool ..	L. M. ARROWSMITH (B.R.S. 19480) 51 Alverstone Avenue, West Hartlepool.
5	BEDFORDSHIRE Shefford & Bedford	G. R. COBB (G3IXG), Western House, Ampthill Road, Shefford.
	CAMBRIDGESHIRE Cambridge ..	A. H. G. WATON (G3GGJ), Arkengarthdale, New Road, Barton.
6	GLOUCESTERSHIRE Stroud	A. A. H. SPARROW (G3EKD), Janarth, Farmhill.
10	GLAMORGANSHIRE Cardiff Area ..	R. MORRIS (GW3HJR), The Shack, St. Cenydd Road, Caerphilly.
	MONMOUTHSHIRE Pontypool ..	J. S. HAMMOND (GW3JBH), 46 High Street, Abersychan.
13	FIFESHIRE Dunfermline ..	A. H. KIGHTLEY (B.R.S. 21504), 28 Castlandhill Road, Rosyth.
16	NORFOLK Great Yarmouth ..	A. D. BESFORD (B.R.S. 15796), 2 Hamilton Road, Great Yarmouth.

Affiliated Societies' Representatives List No. 5

IN addition to the names listed last month the following Corporate Members of the R.S.G.B. have been nominated to serve as Affiliated Societies' Representatives for 1958:—

AINSDALE RADIO CLUB: R. J. Woodroffe (G2DQX), 72 Burnley Road, Ainsdale, Southport, Lancs.

BAILLEUL RADIO SOCIETY: G. Fish (G3ADJ), c/o Sgts. Mess, 3 Trg. Btn., R.E.M.E., Bailleul Camp, Arborfield, Reading, Berks.

DERBY AND DISTRICT AMATEUR RADIO SOCIETY: F. C. Ward (G2CVV) 5 Uplands Avenue, Littleover, Derby.

RAVENSBOURNE AMATEUR RADIO CLUB: J. Wilshaw (B.R.S. 18936) 4 Station Road, Bromley, Kent.

SUTTON AND CHEAM RADIO SOCIETY: F. R. Scott (G2CZH), 140 Seymour Avenue, Morden Park, Surrey.

YORK AMATEUR RADIO SOCIETY: G. F. Nottingham (G3DTA), 23 Abbotsway, Muncaster, York.

Correction to List No. 4. Gravesend Amateur Radio Society. The address of Mr. V. Curling should read: 66 (not 65) Burch Road, Northfleet, Gravesend.

New Members

THE following were elected to Membership at the February 1958 meeting of the Council:

Corporate Members, Home (Licensed)

G2JR †H. B. BURTON, 149 Longfellow Road, Coventry.
G2MX †A. R. GEORGE, 82 Marlborough Road, Kirkby-in-Ashfield, Notts.
G3BDH †R. R. FLAUM, 29 Mighell Avenue, Ilford, Essex.
G3CYX †P. F. P. LAMBERT, 9 Earlshall Road, Eltham, London, S.E.9.
G3DRQ †W. F. FREESTONE, 38 Marlborough Road, Slough, Bucks.
G3DBY †J. S. HALLATT, 10 Queens Grove, Chorley, Lancs.
G3FCQ L. J. DUMBLE, " Righi," Pilmer Road, Crowborough, Sussex.
G3GXV †R. W. LIVERMORE, 256 Grove Green Road, Leytonstone, London, E.11.
G3HFP †T. WORTON, 38 Wyresdale Avenue, St. Helens, Lancs.
G3HPG †P. D. ROBINSON, 19 Lywood Road, Leighton Buzzard, Beds.
G3HPS G. H. BEDFORD, 285 Mountnessing Road, Billericay, Essex.
G3JPQ M. G. D. HUTCHINS, c/o The Rectory, Dursley, Glos.
G3LIV J. MELVIN, 4 Kelvin Gardens, Dunston, Gateshead 11, Co. Durham.
G3LPT †G. WOODS, Two Acres, School Lane, Halesworth, Suffolk.
G3LPU E. W. BURRELL, 11 Milton Road, West Green, Tottenham, London, N.15.
G3LTH F. A. VOGEL, 11 Longfield, Starcross, Devon.
G3LVW †R. W. B. SMITH, Roker Private Hotel, 563 New South Promenade, Blackpool, Lancs.
G3LYT W. J. C. FENNELL, North Lodge, The Moat, Berreswell, near Coventry.
G3MAZ H. V. BELL, 152 Kingsway, Widnes, Lancs.
G3MCB A. V. WILLIAMS, 16 Tamworth Road, Sutton Coldfield, Warwicks.
G3MDT R. LANGSTON, 59 Merchants Way, Canterbury, Kent.
G3MEH R. E. PIPER, 65 Sherwood Park Road, Sutton, Surrey.
G3MFK M. CAMP, 28 Douglas Street, Moston, Manchester 10.
G3MFO P. J. ELLIOTT, 17 Weighton Road, Harrow Weald, Middx.
G3MGU A. T. DODSON, 23 Lansdowne Place, Cheltenham, Glos.
G3MHM S. F. WHEELER, 47 Bordesley Green Road, Small Heath, Birmingham 9.
G3MIN †B. C. A. KENNEFORD, 16 West Way, South Lancing, Sussex.
G3MIP S. W. HEILBRON, 71 Ferndale Road, Sefton Park, Liverpool 15.
G3MIX F. L. PARSONS, 50 St. Marks Crescent, Maidenhead, Berks.
G4LJ †G. D. BREWER, 70 Broomhill Park Road, Southborough, Tunbridge Wells, Kent.
G5OW †W. O. WIGG, 40 Cromwell Road, Beeston, Nottingham.
GM3MDV 1825634 F/Sgt. R. HOGGAN, Sgts. Mess, R.A.F. St. Mawgan, Newquay, Cornwall.
GM3LLB A. S. NELSON, 16 Udston Avenue, Stonehouse, Lanarks.
GW3MFY †W. M. LEE, Avondale, Bryntirion Hill, Bridgend, Glam.

Corporate Members, Overseas (Licensed)

EI6X B. R. FOGARTY, Hillcrest, Plassy Avenue, Corbally, Limerick, Eire.
I1MB †M. BERARDI, Viale Tito Livio 59, Rome, Italy.
I1TC T. TOSCANI, Via Alle Tramvie 5, Cremona, Italy.
K2PMD Dr. J. L. CATHIE, Alexander, Genesee County, N.Y., U.S.A.
K4QLD EWALD A. DIECKMANN, 565 NW, 129th Street, Miami, Florida, U.S.A.
K6GQQ EDDIE L. RAINEY, 55th Ftr. Bmr. Squadron, Box 129, Wethersfield, R.A.F. Station, Essex.
K6OEF THEODORE R. PFEIFFER, 11135 Babbitt Avenue, Granada Hills, Calif., U.S.A.
K9EAB CHARLES C. CORNE, Jr., 711 West McClure Avenue, Peoria, Ill., U.S.A.
ON4EG F. BAEYENS, Avenue Albert 196, Brussels, Belgium.
SP5HH R. P. JACHIMJAK, P.O. Box 70, Warsaw 32, Poland.
VE2MR C. B. TAYLOR, 118 Lincoln Drive, Beaconsfield West, Quebec, Canada.
VE4GD D. E. POECKENS, H.M.C.S. Churchill, Churchill, Manitoba, Canada.
VK4XK R. A. COLLINS, 150 Ashgrove Avenue, Ashgrove, W.3., Queensland, Australia.
VP8CR L. W. BARCLAY, 67 Oakleigh Park Drive, Leigh-on-Sea, Essex.
VQ2FC V. P. COTTON, P.O. Box 17, Broken Hill, N. Rhodesia.
VR2BC †G. B. GREGORY, c/o Dept of Agriculture, Suva, Fiji.
W4ACO JOSEPH S. FIELD, JR., 216 Costello Road, West Palm Beach, Florida, U.S.A.
W2ULO J. VARGAS, 49 Fairview Avenue, Park Ridge, N.J., U.S.A.
W4SYM N. C. MARSHALL, 3616 Craig Avenue, Louisville 15, Kentucky, U.S.A.
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Corrections to previous lists:

B.R.S. 19445 J. W. EGERTON, should read: B.R.S. 19945.
B.R.S. 21745 D. I. HAMMOND, not D. T. HAMMOND.

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THE following is a list of the R.S.G.B. QSL Bureau Sub-Managers showing the call-sign groups for which they are responsible:

G2 and DL2 calls:	**G. Verrill (G3IEC), 64 Forton Road, Gosport, Hants.**
G3, 4 and 5 two-letter calls & GC	**P. Jones (G3ESY), 94 Holme Lacy Road, Hereford.**
G6 calls:	**A. J. Mathews (G6QM), 62 Ashlands Road, Hesters Way Estate, Cheltenham.**
G8 calls:	**A. W. Gover (G4AU), 20A, Cambridge Road, Bromley, Kent.**
G3AAA-BZZ:	**M. Hassall (G3EMD), 99 Shenstone Valley Road, Quinton, Birmingham.**
G3CAA-DZZ:	**C. A. Bradbury (B.R.S. 1066), 13 Salisbury Avenue, Cheltenham.**
G3EAA-HZZ:	**W. J. Green (G3FBA), 82 Bloomfield Avenue, Bath.**
G3IAA-KZZ, B.R.S. and A numbers	**C. Usher (G2CCD), 24 Carlisle Road, Dartford, Kent.**
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GM calls:	**D. Macadie (GM6MD), 154 Kingsacre Road, Glasgow, S.4.**
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Envelopes for the *collection* of cards should be sent direct to the Sub-Manager concerned and not to the QSL Manager (Mr. A. O. Milne). Outgoing cards should not be sent to the Sub-Manager unless they are in the call-sign group for which he holds envelopes. For example, the holder of G3J-- call may send cards for calls in the series G3IAA-G3KZZ to his own Sub-Manager, together with envelopes for the collection of cards, but he should not send to him cards in any other call-sign series. Sending cards for general distribution to the Sub-Managers only involves the cards in delay and the Society in needless expense.

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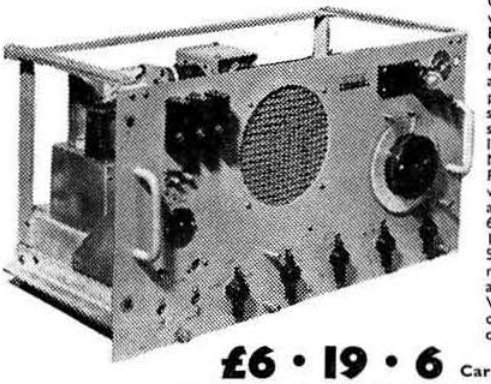

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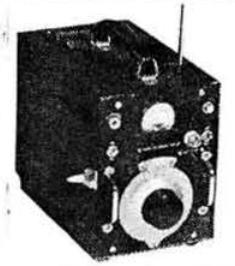

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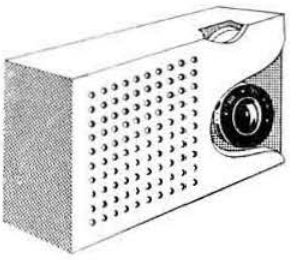

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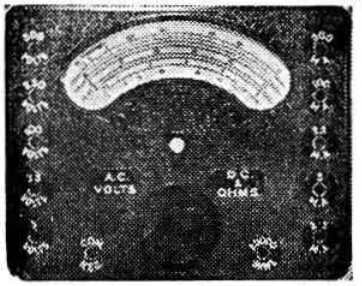

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(continued on page 496)

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