

JANUARY
1954

THERE'S A PHILIPS VALVE FOR EVERY SOCKET

Amateur Radio

JOURNAL OF
THE WIRELESS
INSTITUTE OF
AUSTRALIA

For the Experimenter
and Radio Enthusiast

Building
an
Amplifier?

then don't start
without these
SPECIAL VALVES

There's a Philips valve for every socket of every transmitter or receiver. The valves shown on this page are a few from the complete range of Philips valves designed especially for Audio Amplifiers.

PHILIPS



PHILIPS EF37A

Pentode Amplifier with low hum and anti-microphonic construction.

Heater: 6.3v. at 0.2a.
Plate voltage: 250v. d.c.
Transconductance: 1800 umhos.

Stage gain as resistance-coupled Amplifier: 175.

Base: Octal.



PHILIPS EL34

Output pentode for heavy-duty work: 10-100 watts.

Heater: 6.3v. at 1.5a.

Power output: 11 watts (single valve) with 250v. plate voltage, 35 watts (two valves) Class AB with 375v. supply, 100 watts (two valves) Class B with 775v. supply.

Triode connected single valve: 6 watts, 375v. supply.

Base: Octal.



PHILIPS 6M5

Output pentode: 5-10 watts.

Heater: 6.3v. at 0.71a.

Power output: 4.9 watts (single valve) with 250v. plate voltage, 9.4 watts (two valves) Class AB with 250v. supply.

Base: Noval.



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1L4	10/-	7C5	10/-
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2X2	10/-	7G7	10/-
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6C8	10/-	809	50/-
6F5	10/-	813	60/-
6F6	10/-	815	50/-
6F8	10/-	832	50/-
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6H6	5/-	956	10/-
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6K6	10/-	1629	10/-
6K7G	7/6	2051	10/-
6L7	10/-	7193	5/-
6N7	10/-	9002	10/-
6N8	15/-	9003	10/-
6R7	10/-	9004	10/-
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6SL7	15/-	VR65A	2/6
6SN7	10/-		
6SS7	10/-		

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2716 Kc.	7020 Kc.	7125 Kc.	8488 Kc.
3482.5 Kc.	7021 Kc.	7126 Kc.	8500 Kc.
3503 Kc.	7022 Kc.	7130 Kc.	9125 Kc.
3509 Kc.	7023 Kc.	7134 Kc.	10 Mc.
3511 Kc.	7031 Kc.	7145 Kc.	10.511 Mc.
3512 Kc.	7032 Kc.	7156 Kc.	10.524 Mc.
3515 Kc.	7032.6 Kc.	7163 Kc.	10.530 Mc.
3516 Kc.	7048 Kc.	7174 Kc.	10.536 Mc.
3528 Kc.	7052 Kc.	7179 Kc.	10.544 Mc.
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3539.3 Kc.	7063 Kc.	8000 Kc.	10.563 Mc.
3634 Kc.	7064 Kc.	8017.5 Kc.	11 Mc.
3640 Kc.	7068 Kc.	8027 Kc.	12.803 Mc.
3675 Kc.	7072 Kc.	8028.5 Kc.	14.020 Mc.
4285 Kc.	7089 Kc.	8092 Kc.	14.105 Mc.
4600 Kc.	7090 Kc.	8155.71 Kc.	14.325 Mc.
5000 Kc.	7093 Kc.	8171.250 Kc.	14.322 Mc.

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WI BROADCASTS

All Amateurs are urged to keep these frequencies clear during, and for a period of 15 minutes after, the official Broadcasts.

VK2WI: Sundays, 1100 hours EST, 7146 Kc. and 2000 hours ESE 50 and 144 Mc. No frequency checks available from VK2WI. Intrastate working frequency, 7125 Kc.

VK3WI: Sundays, 1130 hours EST, simultaneously on 3573 and 7146 Kc., 51.016 and 144.25 Mc. Intrastate working frequency 7135 Kc. Individual frequency checks of Amateur Stations given when VK3WI is on the air.

VK4WI: Sundays, 0900 hours EST, simultaneously on 3560 and 14342 Kc. 3560 Kc. channel is used from 0915 hours to 1015 hours each Sunday for the W.I.A. Country hook-up. No frequency checks available.

VK5WI: Sundays, 1000 hours SAST, on 7146 Kc. Frequency checks are given by VK5MD and VK5WI by arrangements only on the 7 and 14 Mc. bands.

VK6WI: Sundays, 0930 hours WAST, on 7146 Kc. No frequency checks available.

VK7WI: Sundays, at 1000 hours EST, on 7146 Kc. and 144.5 Mc. No frequency checks are available.

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EDITORIAL



LOOKING FORWARD

With the dawn of the new year, Federal Executive dons battledress once more and sallies forth to do battle for the advancement of the Amateur cause, with full implementation of 1953's promises and TV for Hams as the first two planks in a large platform.

This year we will be honoured by a visit from our gracious Queen Elizabeth II. Who can predict what special service the Amateur fraternity may possibly be called upon to perform for Her Majesty; however, of one thing we are perfectly sure, every Amateur will be ready and willing to serve, will acquit himself well if called upon and will fulfil in every way the requirements laid down in the Amateurs' Code.

If the changed date of the National Field Day achieves its purpose, we

should be able to record a bumper harvest of logs.

Divisional membership in general should show a marked increase with the admittance of Limited A.O.C.P. holders. No doubt our astute membership committees will conduct a vigorous campaign.

Amongst the most important events for 1954 will be the publication by the W.I.A. of the first edition of "The Australian Amateur Call Book," a completely up-to-date volume which will take pride of place in every Ham shack.

The magazine "Amateur Radio," too, will show marked improvement before the year is out.

With your co-operation all this adds up to a **Happy and Prosperous New Year** for the Institute and its members.

FEDERAL EXECUTIVE.

THE CONTENTS

Simple Converter for Two Metres	3	DX Countries of the World	12
Modifying the Bendix RA-10-FA Receiver	4	50 Megacycles and Above	13
Countryman's Double Conversion Receiver	9	VK7WI to Operate at Science Exhibition	13
Hints and Kinks	9	DX Activity by VK3AHH	15
Accurate Frequency Transmission Results	9	Prediction Chart for January	15
National Field Day, 1954	10	Cancellation of Zone 29 Award	15
		Federal, QSL, and Divisional Notes	16

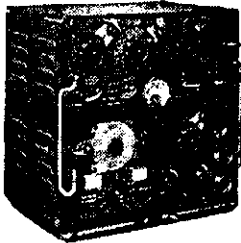
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AT5/AR8 TRANSMITTING AND RECEIVING EQUIPMENT



AT5 TRANSMITTER

A high powered unit using two 807s in final. Covering 140 Kc. to 20 Mc., with provision for six crystals and a V.F.O.

£9/17/6

AERIAL COUPLING UNITS

Price £3/10/-

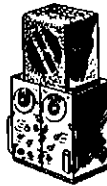
CONVERTED RECEIVER

To operate direct from 220-250 volt A.C. Output stage also altered to improve tone and reception. Complete with loud speaker in leatherette case.

Price £34/17/6

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Price £5



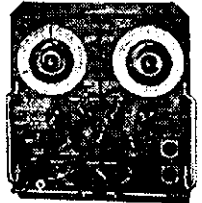
AR8 RECEIVER

11 valve twin channel Receiver, using standard 6.3v. octal valves; six bands. Complete coverage 140 Kc. to 20 Mc.

£23/17/6

POWER SUPPLY, 12 or 24 volt

Price £10



COMMAND RECEIVERS

- Type BC453, 190 to 550 Kc., £12/10/-.
 BC454, 3 to 6 Mc., £7/10/-.
 BC455, 6 to 9.1 Mc., £7/10/-.

TRANSMITTERS

- Type BC457, 4 to 5.3 Mc., £7/10/-.
 BC458, 5.3 to 7 Mc., £7/10/-.
 BC459, 7 to 9.1 Mc., £7/10/-.

COMMAND MODULATOR UNIT, Type BC456E

In new condition, contains:

- 1—12J5
- 1—1625
- 1—VR150/30
- 3—24v. Relays

Price, £3/10/-

COMMAND RECEIVER CONTROLS, Type BC450

- 3—Slow Motion Dials.
- 6—Single Pole Double Throw Switches.
- 4—Miniature Jacks.
- 3—Volume Controls, approx. 500 ohms.

Price, £1/15/-

Post. & Pack: 6/-. Interstate 8/6.

VALVES

BRAND NEW IN ORIGINAL CARTONS

1H6	7/6	813	60/-
1K7	10/6	VR150/30	22/6
6AC7	15/-	954	7/11
6B8	15/-	955	7/11
6F6	12/6	12A6	12/6
2051	22/6	2050, 22/6. This valve is suitable for use with Photo Cell Relay Unit, as per June, 1953, issue of "Radio and Hobbies."	
6K6G	12/6		
6L7	12/6		
807	25/-		
830B	60/-		

RADIO TRANSCEIVER AND INDICATOR UNIT

V.H.F. Approximately 180 Mc.

Type 1045. Valve line-up in Transceiver: 2—RL18, 1—VR135, 1—5V4, 1—EA50, 1—RL37, 6—EF50, 1—6SN7, 1—GL2050 (Thyrotron), 2—VR150/30 (Voltage Regulators), 1—884 (Gas Triode). This unit also contains a motor driven Selector Switch, two superbly designed Polystyrene six-position rotary Coil Turrets, and an I.F. Transformer strip ideally suitable for use with Television. Band width 10 Mc. Indicator Unit, Type 1047, Valve line-up: 7—EF50, 1—879, 1—VR54. Also contains a 3,000 type Relay 2,000 ohms, ten assorted Potentiometers, a two-bank Ceramic Wafer Switch, and an illuminated scale (5BP1 tube and shield not included).

These two Units are brand new, and are packed together in their original packing cases.

PRICE £21/10/- the two.

Transceiver £15/-/- } if supplied separately.
 Indicator Unit £7/10/- }

ASD RECEIVERS TYPE CPM-46A-BG V.H.F. RECEIVERS, approx. 300 Megs.

Containing the following Valves:

9—6AC7	2—6V6G	1—6SJ7
1—6H6	1—6SN7G	2—6X5GT
2—2050	2—VR105/30	2—5U4G
1—6A4G	1—VR150/30	2—2A3

Price £17/10/-

TRANSMITTER-RECEIVER Type RT-34/APS-13

Frequency Modulated, approx. 450 Mc. Valve line-up: 9—6AC5, 5—6J6, 2—2D21, 1—VR105

Also contains Dynamotor, input 27v. 1.5 amp., output 285v. 60 Ma. Price £17/10/-

GENEMOTORS

Type 72—Input: 27v. 3.6a., Output: 250v. 70 Ma., and 12.6v. 2.6 a., £1/19/6.

Type DA-3A—Input: 28v. 10.5a., Output: 300v. 260 Ma., 150v. 10 Ma., 14.5v. 5a., £1/9/6.

Type 31—Input: 18v. 12a., Output: 7.2v. 13a., 225v. 110 Ma., £1/19/6.

TRANSMITTING TUNING UNITS by G.E.

- Type TU10B 10000 to 12500 Kc., £2/10/-
- Type TU7B 4500 to 6200 Kc., £2/10/-
- Type TU6B 3000 to 4500 Kc., £3/10/-
- Type TU9B 7700 to 10000 Kc., £2/10/-

BENDIX RADIO AZIMUTH CIRCLE LOOP AERIAL CONTROLS, Type MN22A

Price 35/-.

Post. & Pack: 4/9, Interstate 6/-.

Simple Converter for Two Metres

BY F. G. BAIL,* VK3YS

WITH the introduction of the Limited Class A.O.C.P., there are no doubt many who will be endeavouring to get together suitable gear for v.h.f. operation. Here is a simple converter which will help to provide a necessary part of the equipment—the receiver.

If you have a reasonably good s.w. or d.w. receiver, then you have the basis for a v.h.f. receiver. The 274N Command series of disposals receivers (e.g. the BC455) are excellent, requiring little modification to get them into operation from either battery or a.c. power supply, are well shielded, and in addition have a b.f.o. already built in for c.w., an advantage when locating a weak signal. The converter to be described uses standard circuitry, and parts which are readily available. When once aligned, it provides ease of tuning with single dial control, and is simple to construct.

A 6J6 twin triode valve combines the function of mixer and oscillator. An aluminium chassis, 8" x 5" x 2½", was selected as it has sufficient space for the addition of an r.f. stage at a later date. The choice of the main components is of some importance. The oscillator tuning condenser, C3, is a standard 15 x 15 pF. split-stator type cut down to one rotor and one stator plate per section. A smooth, positive action vernier control should be used, one possibility being a dial mechanism from the p.a. section of the BC375 or BC191 "TU" coil units. These dials have a flexible coupling attached, suitable for a ¼" shaft. A hot soldering iron applied to the shaft coupling screws will soften the blue "locking" adhesive sufficiently to allow their removal with a hexagon key wrench or the "tang" of a small file. The circular "stop" plate can be trimmed down with a jeweller's saw blade in a fretsaw frame, or (with care), by use of a pair of good quality tinsnips.

The tuning condenser, with the oscillator coil soldered across the end, is fixed to a bracket underneath the chassis at one end (shaft at right angles to the short dimension of the chassis), with the valve socket about ¼" to the rear of the condenser. If the dial is mounted first, then the bracket size can be made to suit the final position of the dial coupling.

The valve plugs in above the chassis. This arrangement minimises the possibility of drift due to heat radiation from the valve affecting the oscillator components. The 3-12 pF. ceramic trimmer, C2, is soldered directly across the stator sections of C3 and is accessible for adjustment through a hole drilled in the top of the chassis.

The triode section of the 6J6 to which the "getter" support is attached to the anode, should be used for the mixer section rather than for the oscillator, in order to reduce the possibility of microphonic effects. This is pin No. 2 with valves of U.S.A. origin, but is sometimes pin No. 1 with valves of English manufacture. Check this when you obtain your 6J6. The "getter" support is visible through the envelope.

Mount the filament by-pass right at the valve socket onto the centre shield of the socket, this being wired to earth. Failure to do this originally, resulted in "joey's" throughout the band.

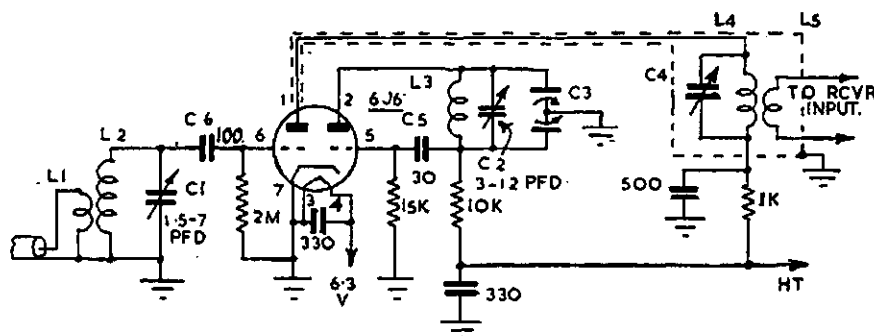
The antenna coupling coil, L1, which is anchored to a resistor strip, is tightly coupled to the mixer coil. It may be necessary to experiment with the number of turns on L1 for different forms of antenna feed.

The frequency of the converter i.f. output is not critical; 7.4 Mc. was chosen as it was desired to keep it the same as that used in the station 2 metre receiver. It can be higher if desired.

10 Ma. A quick check can be made for operation of the oscillator stage with a loop and a 40 Ma. globe. The glow from the globe will be plainly visible if the stage is oscillating.

With the output of the i.f. coil coupled by means of a shielded wire to the input terminals of the main receiver, which is tuned to the converter i.f., a noticeable increase in hiss level should be heard when the converter is switched on. Adjust C4 for maximum hiss level. Don't forget to run the shielding of the coupling lead right up to the main receiver antenna terminal, keeping the lead from the receiver earth terminal to the braid as short as possible, and enclose the i.f. coil in a small can, to reduce pick-up on the i.f. frequency. It is a good idea to by-pass all power leads at the point of entry into the chassis, and even to shield these leads to ensure minimum extraneous pick-up.

If a grid dip oscillator is available, the job of lining up will be very much simplified, but with care and patience it should be possible to get very close to the desired adjustments. If you know



All resistors half watt carbon.
By-pass condensers midget mica or preferably Hi-K midget ceramics.
C5 and C6—N.P.O. ceramicons.
Trimmers C1 and C2 ceramicon type, 1.5-7 pF. and 3-12 pF. respectively.
C3—See text.

Coil Data.—

- L1—1 turn interwound between 1st and 2nd turns of L2. 20 s.w.g. insulated wire.
- L2—3 turns ¼" diam. ½" long. 20 s.w.g. wire.
- L3—4 turns ¼" diam. ½" long. 20 s.w.g. wire.
- L4—26 turns close wound on ⅝" diam. former. 26 s.w.g. d.c.c. wire.
- L5—8 turns at bottom of L4. 26 s.w.g. d.c.c. wire.

This data applies for mixer and oscillator coils if their leads to the condensers are no more than ¼" long.

After completion of the wiring, the power can be applied and voltages checked. 100 to 150 volts h.t. is sufficient and current drain is approximately

of a 2 metre Ham in your vicinity, ask him to run a tone test signal for you. It is a little frustrating if you have no signal at all to aid in the initial tuning! Try and get the oscillator on the low side of the band, i.e. tuning 137 to 141 Mc. The trimmer should be about one-third or half maximum capacity for this frequency. Adjust C1 for peak in noise with antenna connected.

By the way, a half wave antenna for 144 Mc. is 39 inches long. Stiff copper wire or tubing will enable a self supporting dipole to be constructed. Get your antenna up as high as possible and in the clear. Contact your local V.h.f. Group for details of stations active in your area, and don't forget that most of the W.I.A. Divisions have an instrument library with v.h.f. test gear for use by members.

* 60 Shannon Street, Box Hill North, E.12, Vic.

Modifying the Bendix RA-10-FA Receiver

BY E. CORNELIUS,* VK6EC

This receiver is widely used among Amateurs and lends itself admirably to modification for Amateur purposes.

The modifications incorporated here are as follows:—

1. Improved mechanical layout.
2. Amateur bandspread on 3.5, 7, 14 and 21 Mc. bands.
3. Addition of a series-shunt noise limiter.
4. Addition of an S meter.

MECHANICAL LAYOUT

The wave-change and tuning controls come out at the ends, making the receiver inconveniently deep, and restricting available panel space for controls. Right angle drives were tried, and were unsatisfactory.

The major change (credit to VK6GB) is to rotate the coil boxes and tuning gang through 90°, and bring all controls out of the long side, remote from the tube line-up. This will be the front, and a false panel, which may be used for rack mounting, is spaced $\frac{3}{4}$ " in front of the receiver box.

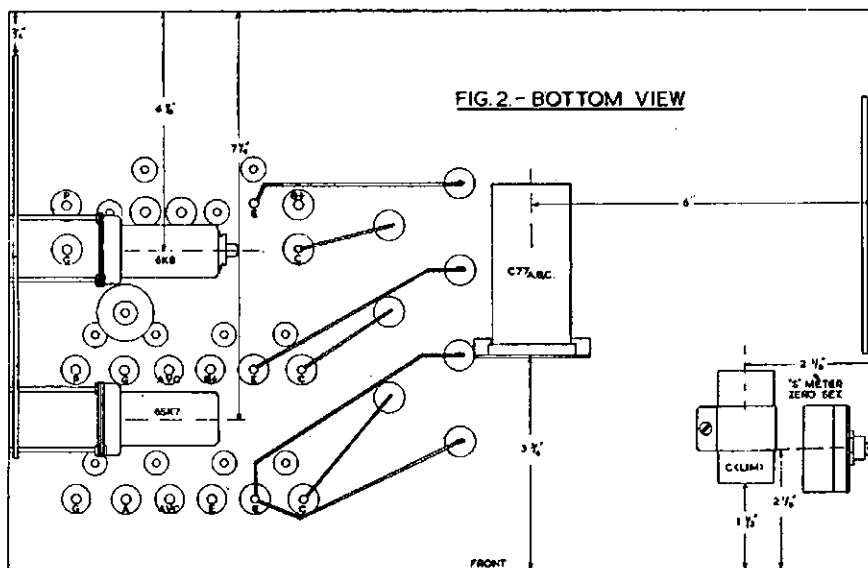
Fig. 1 shows from above the new layout of coil boxes and gang, the gang shaft being centrally mounted. This is fitted with an Eddystone log dial.

It is assumed that prior to any work outlined here, those interested will have removed genemotor and filter, and wave-change motor and gears. Also have re-wired the filaments for 6 volt operation, and removed the filament jumper and resistor tag strip.

The new layout of coils makes it essential to re-locate the r.f. and mixer stages. This can be done as shown in Fig. 2 by mounting them under the chassis, allowing very short leads to their respective coil boxes.

Fig. 2 shows the relevant components in the new under chassis layout. The

* C/o. Station 6WA, Wagin, Western Australia.



section of resistor strip for the 6SK7 r.f. stage is cut from the remainder of the strip on the rear apron and re-located toward the front, behind the r.f. stage socket. The 6K8 screen and cathode strip is also mounted on this end, next to the strip abovementioned. The valve sockets are spaced away from the end by $\frac{1}{4}$ " bolts as stand-offs.

The electrolytic filter capacitor group (3 x 30 uF.) is mounted on a bracket, horizontally under the chassis as shown, as it fouls the new position for the gang capacitor.

All the controls are brought out through the front apron, allowing room for a 2" S meter in the panel in the right hand top corner. This will project through the front of the receiver box

as well but clears the front (Ant.) coil box. A 3" loudspeaker is mounted on the left hand side of the panel, the cutout in line with the dial. See Fig. 3 for panel layout.

The wave-change shaft extends through a bush in the front of the receiver with a 1" brass pulley, slotted for the pin in the shaft, and taking a 3/16" wide flat belt of shim brass to a similar pulley. This pulley is mounted on the shaft of a Yaxley switch plate, at extreme bottom right. The plate is used solely for indexing. The belt and pulleys are shown dotted in Fig. 3.

An a.c. power supply is mounted out-board, on a separate chassis, along part of the rear of the receiver, and fixed to it. The transformer and filter choke available were too large for mounting inside, but this would be possible with miniature types. The intercom. relay, left in situ, was wired to break the transformer centre tap, as "send-receive" relay.

BANDSPREADING

The coverage of the receiver was—

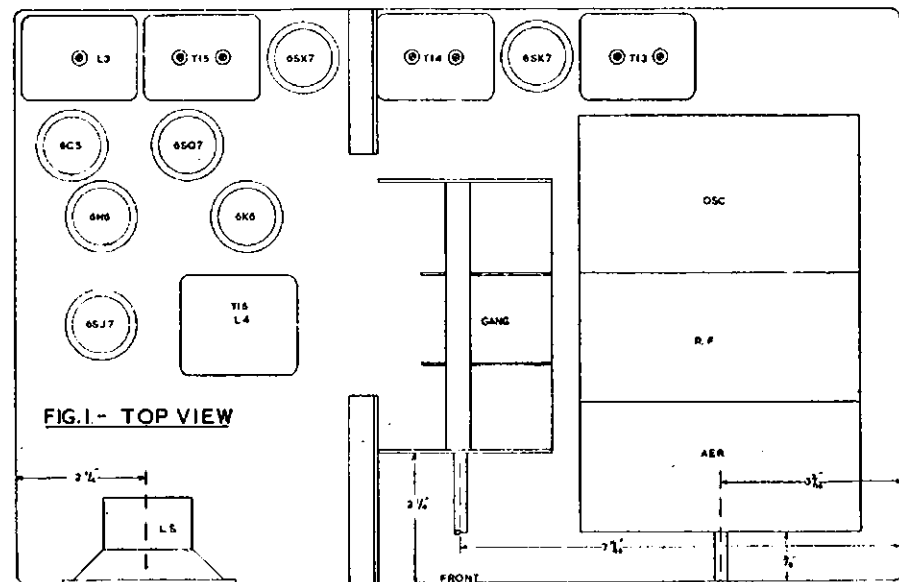
- Band 1: 200-400 Kc.
- 2: 2-5 Mc.
- 3: 2-5 Mc.
- 4: 5-10 Mc.

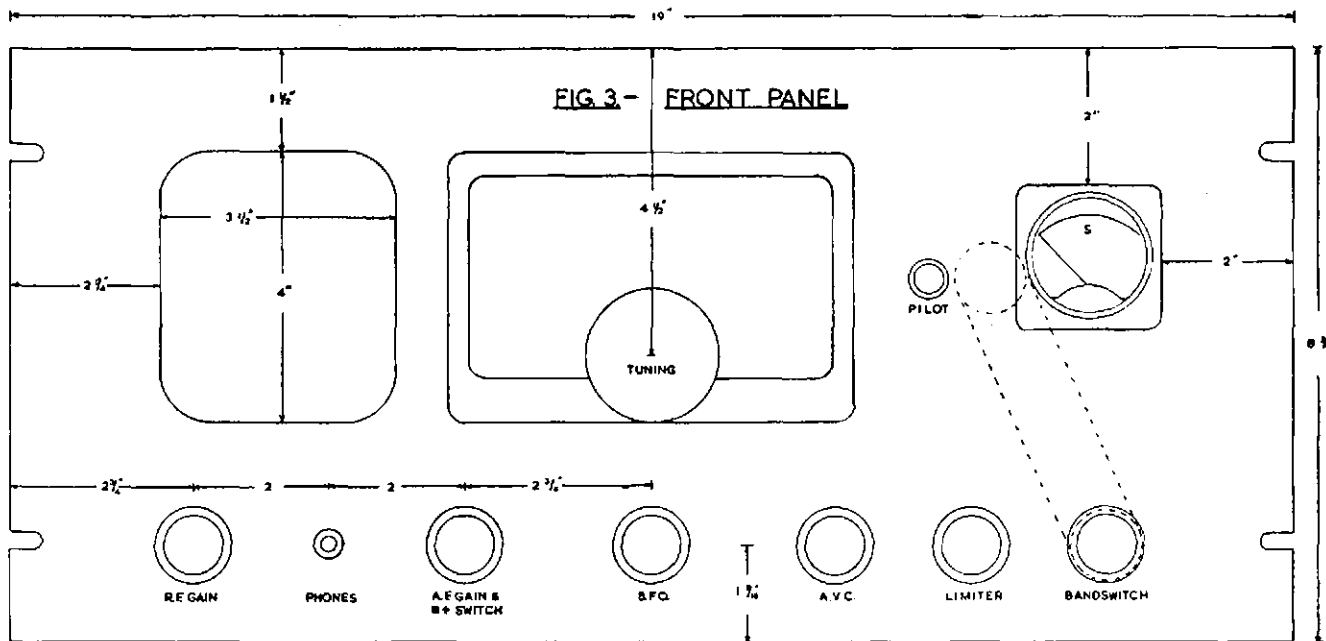
Bandspread coverage after amendment is—

- Band 1: 3.5-3.8 Mc.
- 2: 7.0-7.15 Mc.
- 3: 14.0-14.35 Mc.
- 4: 21.0-21.45 Mc.

The basic original oscillator and r.f. circuits are shown in Figs. 4a and 4b. The new bandspread circuits are in Figs. 4c and 4d. Switching points are marked at X.

It will be seen that the r.f. and aerial coils are switched at three positions, requiring an extra switch wafer for each box. One may be scored from the auto-wave-change homing mechanism, but





any standard Oak wafer will do. There is ample room in the boxes for the new wafer.

In each case Cs is a band setting capacitor, variable in the oscillator box. Cp is a padding capacitor to reduce the frequency coverage to bandspread only. It is variable in every case. C is in parallel with each section of the gang, and prevents crowding of the scale at the high frequency end. C is 100 pF., and mounted in each box across the gang terminal and the earth terminal next to it.

OSCILLATOR SECTION

Electrical

Band (1) 3.5-3.8 Mc.

Oscillator coverage: 5.13-5.43 Mc. (using 1630 Kc. i.f.).

Coil: 2-5 Mc. coil unaltered.

Cs: 50 pF. fixed plus 50 pF. (17 plate) trimmer (10% in mesh).

Cp: 50 pF. fixed plus 25 pF. (9 plate) trimmer (90% in mesh).

Band (2) 7.0-7.15 Mc.

Oscillator coverage: 8.63-8.78 Mc.

Coil: 2-5 Mc. coil as follows:—

Pri. 5 turns, Sec. 8 turns, spaced $\frac{1}{8}$ ".

Cs: 100 pF. plus 50 pF. trimmer (90%).

Cp: 30 pF. plus 25 pF. trimmer (50%).

Band (3) 14.0-14.35 Mc.

Oscillator coverage: 15.63-15.98 Mc.

Coil: 5-10 Mc. coil as follows:—

Pri. 4 turns, Sec. 5 turns, spaced $\frac{1}{4}$ ".

Cs: 50 pF. plus 25 pF. trimmer (50%).

Cp: 20 pF. plus 25 pF. trimmer (60%).

Band (4) 21.0-21.45 Mc.

Oscillator coverage: 22.63-23.08 Mc.

Coil: 200-400 Kc. former only, with slug;

Pri. 3 turns, Sec. 4 turns, spaced $\frac{3}{32}$ ".

Cs: 30 pF. plus 25 pF. trimmer (90%).

Cp: 20 pF. plus 25 pF. trimmer (50%).

Mechanical

Disconnect leads to xtal 1 and 2 terminals, and leave these vacant. Mount 100 pF. capacitor (C) in box across gang terminal and earth. Relocate Cs and Cp trimmers as below so that 50 pF. and 25 pF. units are located near the coils with which they are used, transferring left hand and right hand assemblies as need be, for short wiring to Cp.

Trimmer layout is as follows, viewed from front of box:—

Cp toward front of box.

Left hand lower pair—3.5 Mc.

Left hand upper pair—7.0 Mc.

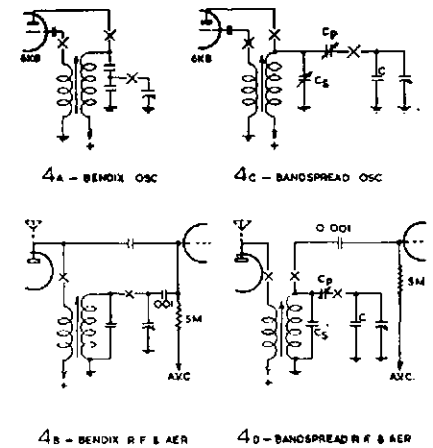
Right hand upper pair—14.0 Mc.

Right hand lower pair—21.0 Mc.

Coil layout, viewed from front of receiver:—

Left to right—3.5, 7.0, 14.0, 21.0 Mc.

Note.—The gang capacitor will make screwdriver adjustment of Cp on 3.5



X SWITCHING POINTS

FIG. 4 - BANDSPREAD

Mc. impossible. A cranked and flattened piece of 14 gauge copper wire can be used to adjust this trimmer.

Before closing box, mark all trimmer adjusting screws with indelible pencil to indicate maximum capacitance, when in line with an arrow on the box.

R.F. SECTION

Electrical

Band (1) 3.5-3.8 Mc.

Coil: 2-5 Mc. coil unaltered.

Cs: 50 pF.

Cp: 75 pF. plus 25 trimmer (50%).

Band (2) 7.0-7.15 Mc.

Coil: 2-5 Mc. as follows:—

Pri. unaltered, Sec. reduce to 16 turns.

Cs: 20 pF.

Cp: 50 pF. trimmer (50%).

Band (3) 14.0-14.35 Mc.

Coil: 5-10 Mc. unaltered.

Cs: 20 pF.

Cp: 10 pF. plus 25 pF. trimmer (50%).

Band (4) 21.0-21.45 Mc.

Coil: 200-400 Kc. former and slug, over which is fixed, at slug end, a Kingsley KCH3 oscillator coil, cut to length to fit, or on $\frac{3}{8}$ " former—Pri. 4.25 turns interwound with the bottom of secondary (KCH3 with one turn added), Sec. 7.5 turns at 16 turns per inch.

Cs: nil.

Cp: 25 pF. trimmer (60%).

Mechanical

Coil layout as for oscillator. Remove 5 pF. top coupling capacitor. Connect 100 pF. across gang terminal and earth (C).

Viewed from front of receiver, trimmer layout is:—

Left rear—3.5 Mc.

Left front—7.0 Mc.

Right front—14.0 Mc.

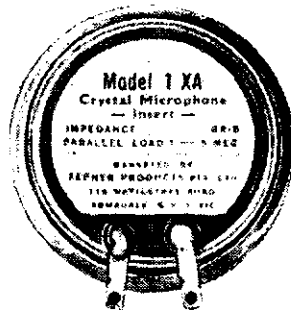
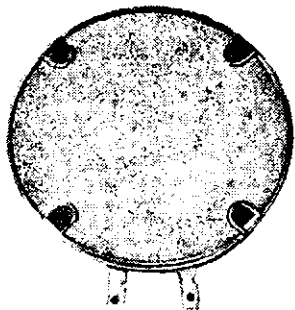
Right rear—21.0 Mc.

Add new switch wafer to accommodate gang capacitor switching.

MODEL "1XA" CRYSTAL MICROPHONE INSERT



AUSTRALIAN MADE — — FOR AUSTRALIAN CONDITIONS



FITTED WITH PLATED REAR SHIELD TO ELIMINATE HUM PICK-UP

- Patented crystal unit guarantees outstanding efficiency and performance.
- Protected against ingress of moisture with approved moisture sealed crystal element.
- Small — compact — lightweight — durable.
- Will not blast from close speaking.
- Precision engineering ensures realistic reproduction and high output with long life and dependable operation.
- The only unit available with a genuine sintered metal filter.
- Good high frequency response ensures excellent speech reproduction.
- Aluminium diaphragm mechanically protected and frequency controlled by "Zephyrfil" filter.
- Australian made throughout.
- Only carefully selected cements used throughout, to suit Australian climatic conditions.

TECHNICAL DETAILS

Rochelle salt crystal microphones are perhaps the most widely used for all types of service where quality speech and music reproduction at high output levels is a requirement. They are dependable in performance and when fitted with the appropriate "Zephyrfil" filter, their frequency response may be adjusted to suit any application or requirement.

This crystal microphone requires to be terminated with a high value parallel load of the order of 1 to 5 megohms for best results.

The mass of the moving parts is small, hence the sensitivity is high and a high efficiency is achieved.

Light gauge solder lugs are provided so that excessive heat in soldering will not be transmitted to the crystal element.

When mounted in a microphone cage, it is recommended that the insert be suspended in rubber, to eliminate shock and vibration.

One of the connecting lugs is directly connected to the case and care should be taken to solder the metal shield of the microphone cable to this solder lug, keeping the unscreened portion of the centre conductor as short as possible to eliminate hum pick-up.

All crystal elements are mounted on high grade suspension pillars being fixed thereto with a good quality cement, thus ensuring stability and long life.

Case $1\frac{1}{2}$ " diameter (rear), $\frac{3}{8}$ " thickness, $1\text{-}13/16$ " overall diameter (front) with filter fitted.

Frequency Response = 60-6,500 c.p.s.
 Output Level = -45 db (0 db = 1 volt/dyne/cm²)
 Impedance = Model 1XA Grid 1 — 5 megohms.



Approximate Frequency Response Curve

AVAILABLE FROM ALL LEADING TRADE HOUSES

ZEPHYR PRODUCTS PTY. LTD. 118 WATTLETREE RD., ARMADALE, VICTORIA

AERIAL SECTION

Electrical

Band (1) 3.5-3.8 Mc.

Coil: 2-5 Mc. unaltered.

Cs: 100 pF.

Cp: 100 pF. plus 25 pF. trimmer (10%).

Band (2) 7.0-7.15 Mc.

Coil: 2-5 Mc. as under:—

Pri. unaltered, Sec. reduce to 16 turns.

Cs: 20 pF.

Cp: 50 pF. trimmer (50%).

Band (3) 14.0-14.35 Mc.

Coil: 5-10 Mc. coil unaltered.

Cs: 50 pF.

Cp: 10 pF. plus 25 pF. trimmer (60%).

Band (4) 21.0-21.45 Mc.

Coil: 200-400 Kc. coil former and slug over which is fixed, at slug end, Kingsley KCH3 oscillator coil unaltered, or on $\frac{3}{4}$ " former—Pri. 3.25 turns interwound with bottom of secondary, Sec. 7.5 turns at 16 turns per inch.

Cs: 20 pF.

Cp: 25 pF. trimmer (90%).

Mechanical

As for r.f. coils.

ALIGNMENT

Check that oscillator grid current is within limits for 6K8 on all bands. I found some adjustment necessary on 14 and 21 Mc. coils.

Using Class C Wavemeter, or accurate source of frequency, couple to aerial, preferably by co-axial cable terminated in 100 ohms or thereabouts. Aerial coil alignment is subject to detuning by the reactance seen by the aerial input.

Connect v.t.v.m. to a.v.c. line, or use S meter if installed, as alignment indicator.

Oscillator

Band (1)

(a) Set signal source to 3805 Kc. and align 3.5 Mc. osc. slug and Cs to receive signal with gang at minimum.

(b) Set signal source to 3495 Kc. and adjust Cp with gang at maximum.

(c) Repeat (a) and (b) progressively until no change of Cp is needed after a change in Cs or the slug. Make sure that you adjust Cp only at 3495 Kc., and Cs or slug only at 3805 Kc.

Check to see that no trimmer has reached maximum or minimum capacitance. If so, a change in the fixed capacitor in parallel, or alteration of the slug setting, is indicated.

Band (2)

As for (1) except adjust Cs or slug to 7155 Kc., Cp for 6995 Kc.

Band (3)

As for (1) except adjust Cs or slug to 14355 Kc., Cp for 13995 Kc.

The Class C Wavemeter second harmonic may be used.

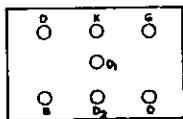
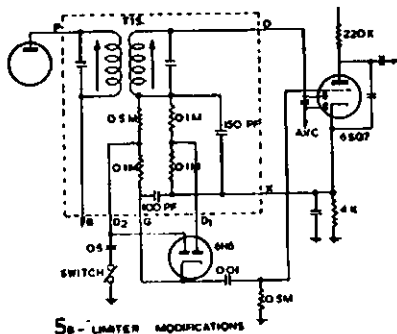
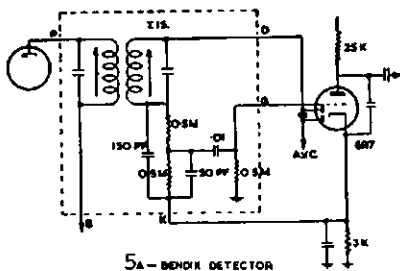
Band (4)

As above, except adjust Cs or slug to 21455 Kc., Cp to 20995 Kc.

(Class C Wavemeter third harmonic.)

Aerial and R.F. Coils

Using the same technique as in the oscillator, align the upper band edge with the slug, and the lower band edge with Ca.



5c - BOTTOM VIEW OF T15

FIG 5 - NOISE LIMITER

Each will alter the setting of the other, but as alignment is approached the error becomes vanishingly small. Check that Cs in each case is not at maximum or minimum capacitance. If so, the capacitor in shunt will have to be altered.

After complete alignment, check that v.t.v.m. or S meter gives a substantially constant reading at several points in each band. There should be less than 5% variation in sensitivity over any band.

NOISE LIMITER

The noise limiter fitted is a series-shunt type described in "Wireless World" about 1950, using a double diode (6H6) and is very effective. The tube is mounted in the spare 6K6 socket (V8). The limiter circuit results in a 3 db loss in audio gain, and this has been made good by changing V5 (6R7) for a 6SQ7, with appropriate change in cathode resistor and plate load. It is doubtful if the change in tube is necessary, and most Amateurs would find there is adequate audio gain even with the 3 db loss mentioned. In my case the 6R7 was faulty, and the 6SQ7 a preferred Australian type.

Remove T15, the 3rd i.f. transformer. Inside the can is the filter assembly whose circuit is shown at Fig. 5a.

Modify the circuit as in Fig. 5b, bringing the leads D1 and D2 through new holes drilled as shown in Fig. 5c, and

replace. Fit the silencer switch, and mount the 0.5 uF. capacitor where shown in Fig. 2 (C lim.).

To cut the limiter out of circuit, the switch is opened, and the audio by-pass capacitor becomes inoperative. The constants shown give limiting at about a 90% modulation level, and the drop in apparent level of speech, when the limiter is switched in, is just noticeable.

The 6SQ7 grid coupling capacitor and leak are wired between the sockets, when recovered from inside T15.

To replace R26 and R23, the 6R7 plate load and cathode resistor, with the new values shown in Fig. 5b, they are located as shown in Fig. 6b, showing part of the resistor strip on the audio end of the receiver. R23 from 3000 to 4000 ohms; R26 from 25,000 ohms to 0.25 meg.

S METER

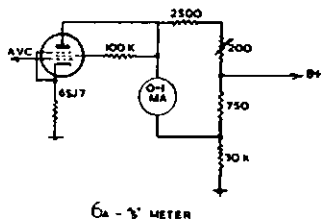
In order to avoid the necessity of switching out the meter, when the r.f. gain control is backed off, a separate S meter tube was installed. The socket is mounted under the rectangular cut-out for T17, which is not fitted. Any triode or pentode will serve, the constants shown being for a 6SJ7.

The circuit is shown in Fig. 6a. The meter zero set is mounted on the end apron toward the front, to clear the r.f. gain control, and is shown in Fig. 2. The resistors are mounted on the tag strip at this end, mentioned in reference to the noise limiter. This tag strip is shown in Fig. 6b, after modification.

The plate filter capacitors (6K6's) are removed to clear the end tags, and one wired across the working 6K6 socket. The earth wiring to the tags is rearranged to free those necessary for the S meter network.

Calibration of S Meter.—Calibration is somewhat open to question, but if each operator's estimate of S9 is made mid scale, the following calibration points will be fairly accurate.

Full Scale	Units
10%	S1
20%	S3
30%	S5
40%	S7
50%	S9
62%	10 db over S9
75%	20 db over S9
90%	30 db over S9.



6a - 5' METER

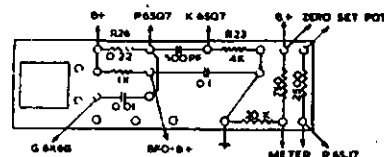


FIG. 6 - S' METER



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ALL RADIO COMPONENTS

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Continue to avail yourself of our Showroom
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MARINE TYPE MRT12 TRANSCEIVER

Designed for Small Ship operation. May also be used for Amateur Bushfire Work, etc. Very reasonably priced. Full details and descriptive leaflet from Firms handling Bright Star Crystals or direct.

Limited number Taylor Tubes:
TZ20s, £2/10/- each;
TB35s, £6/10/- each.

Transmitters altered for Bush
Fire and Fishing Boat Work.

CRYSTALS, as illustrated, 40
or 80 mx, AT or BT cut. Accuracy 0.02% of your specified frequency, £2/12/6 each.



20 metre Zero
Drift £5 each.

Large, 40 or 80
mx unmounted,
£2 each.

Special and Commercial Crystals—Prices on application.

Crystals re-ground, £1 each.

BRIGHT STAR CRYSTALS may be obtained from the following Interstate firms: Messrs. A. E. Harrold, 123 Charlotte St., Brisbane; Gerard & Goodman Ltd., 192-196 Rundle St., Adelaide; A. G. Healing Ltd., 151 Pirie St., Adelaide; Atkins (W.A.) Ltd., 894 Hay St., Perth; Lawrence & Hanson Electrical Pty. Ltd., 120 Collins St., Hobart; Collins Radio, 408 Lonsdale St., Melbourne; Prices Radio, 5-6 Angel Place, Sydney.

DC11 TYPE CRYSTAL HOLDERS WANTED. ANY QUANTITY.

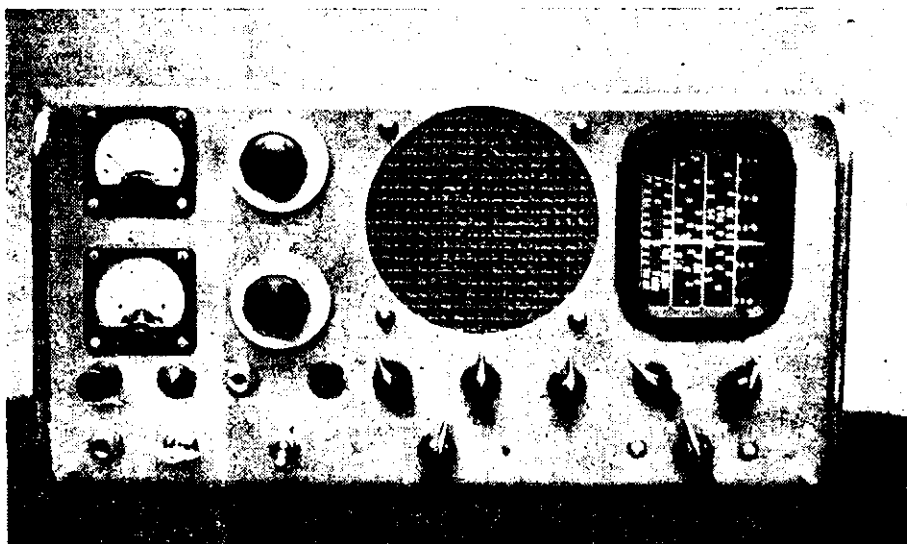
Screw-type Neutralising Condens. (National type), suits all triode tubes, polystyrene insulation, 19/6 ea.

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Prompt delivery on all Country and Interstate Orders. Satisfaction Guaranteed.



Countryman's Double Conversion Receiver

BY G. LOVEDAY*

The Bendix RA-10-FA Receiver has many possibilities as a good receiver for those with home lighting plants. It can be fitted with the "QX", switched bandspread and a converter for all-band operation. But this rather adds up to a rather high battery drain, especially with 12 volt plants.

The author has solved the problem by another way; maybe it has its drawbacks according to those of higher radio knowledge, however for a shallow pocket it works f.b. and uses "junk box" parts.

Essentially it is the RA-10-FA circuit. The valves are 12 volt, but the 6.3 series can be used with no change. The first i.f. channel crystal oscillator is 4.6 Mc. (from Command receiver), the i.f. being 5.055 Mc.; the converter is a 12BE6.

The second i.f. was changed to 455 Kc., two stages being retained. The selectivity is quite reasonable. Plug-in coils are used. The r.f. gain has not

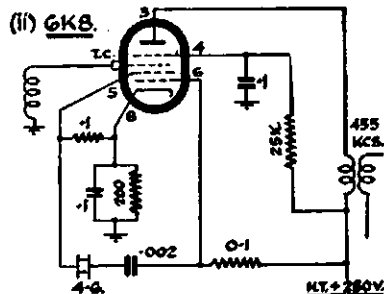
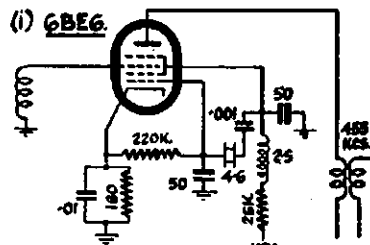
been used and it was found at the author's location that the suppressor a.v.c. was better than the conventional set-up.

Many will recognise the b.f.o. idea, as is used in Command receivers and is quite a good way of cutting down drain. The b.f.o. note is altered by slight detuning.

Coils for 40 and 80 metres were wound on 1 1/4" diameter ribbed formers, likewise 20 metres. The 6, 10 and 15 metre coils were wound on the original formers of RA-10-FA, or could be wound on plastic formers of about 3/4" diameter and mounted in appropriate sockets. The sockets should be of high quality, the writer using 4-pin, 5-pin and 6-pin Steatite for r.f., mixer and oscillator.

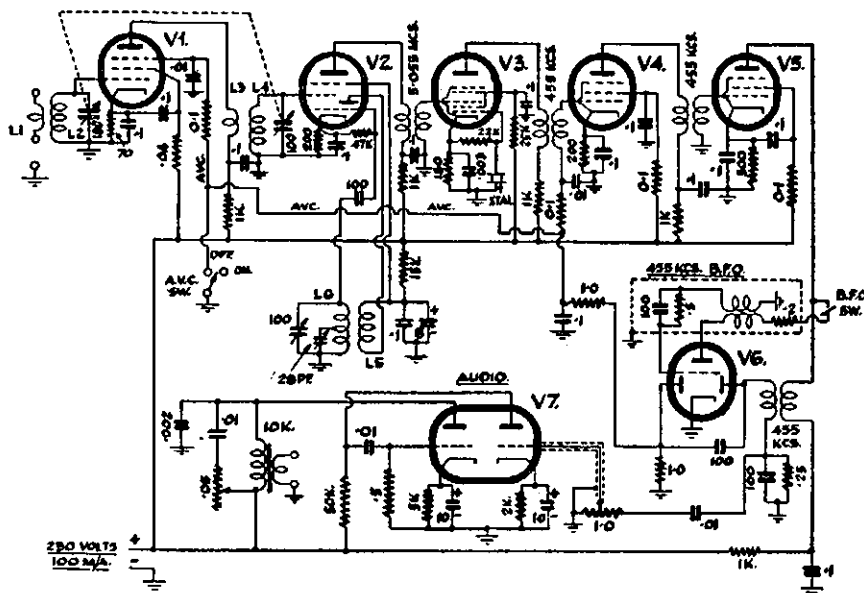
The first i.f. coils are wound on 7/16" diameter former (1600 Kc. i.f. stripped) and consists of approximately 30 turns of 24 B. and S. enamel. Coils are spaced by 7/16" and tuned by 100 pF. mica.

The second converter oscillator may appear unorthodox, however in the writer's case it works quite OK. Alternatively the following ideas could be tried if the above fails to oscillate.



The bandset oscillator is tuned by 2 1/2 : 1 friction drive, and the bandspread by a 10 : 1 mechanism.

* "Wirra," Ellimbah, Queensland.



- V1—12AU6 or 6AU6 R.F.
- V2—12K8, X76M, or X61M 1st Converter.
- V3—12BE6 or 6BE6 2nd Converter.
- V4—12SK7 or 6SK7 455 Kc. 1st I.F.

- V5—12SK7 or 6SK7 455 Kc. 2nd I.F.
- V6—12SR7 or 6R7 B.F.O., Det., A.V.C.
- V7—12AU7 or 6SN7 Audio.

DETAILS OF COILS

Band	Coil Diam.	L1 Turns	L2 Turns	L3 Length	L3 Turns	L4 Length	L4 Turns	L5 Length	L5 Turns	L6 Length	L6 Turns	Tap
80	1 1/4"	10	40	c.w.	14	40	c.w.	5	13 1/2	1 1/2"	10	10
40	1 1/4"	8	23	1 1/2"	6	23	1 1/2"	4 1/2	9	1 1/4"	2 1/2	2 1/2
20	1 1/4"	5	12	1 1/2"	6	12	1 1/2"	3 3/4	5 1/2	1 1/4"	2	2
15	3/4"	*5	10	3/4"	5	10	3/4"	4	8	3/4"	1	1
10	3/4"	4	6	3/4"	4	6	3/4"	3 1/2	4 1/2	3/4"	1	1

All Primaries 30 S.W.G. enamel, Secondaries 21 B. & S. enamel, unless specified.

* This Primary is wound with 21 B. & S. enamel.

† Some experiment will be necessary to get the best tapping position, also the spacing of turns.

HINTS AND KINKS

SOLDERING MINIATURE COMPONENTS

With the trend these days towards miniaturisation of electronic equipment, a new technique becomes desirable when handling the midset components. Because of their small size, such components, e.g. crystal diodes, the new Hi-K ceramic condensers, one-third and one-half watt resistors, etc., heat passed on, when soldering, and concentrated in a very small area rather than over the area of a larger component, can wreck havoc.

What to do? Use a small pointed soldering iron and grasp the lead on the component side of the point of soldering with a pair of long nose pliers to conduct the heat away. If the jaws of the pliers are cut back and replaced with copper jaws brazed on, a much better (faster) heat conductivity will result.

Sometimes, a small piece of damp cloth can serve a similar purpose when it is necessary to hold a component in one's fingers during soldering operations, protecting both the component and the fingers!—VK3YS.

ACCURATE FREQUENCY TRANSMISSION RESULTS

Following is the result of the Accurate Frequency Transmissions from VK3WI on 19th November, 1953:—

7000 Kc.	34 cycles low
7010	25
7030	14
7050	5
7070	18
7090	15
7110	20
7130	36
7150	13

NATIONAL FIELD DAY, 1954

RULES

1. The National Field Day Contest of the Wireless Institute of Australia will be held on **Sunday, 14th February, 1954**. The Contest will be of 12 hours' duration, commencing at 0900 hours E.A.S.T. and will continue until 2100 hours E.A.S.T.

2. The Contest is limited to portable stations operating within the Commonwealth and its Mandated Territories on a power not exceeding 25 watts input to the final stage with the aerial connected, with a special section for fixed stations working to portable stations, and a special multiplier which, it is hoped, will encourage the use of low power equipment.

3. A portable station for the purpose of the Contest is defined as one whose power is not derived from either private or public mains, shall not be located closer than five miles airline from the home of the operator/s and shall not be situated in any occupied dwelling or building.

4. No apparatus is to be set up or erected on the site of the portable station earlier than 24 hours prior to the commencement of the Contest. A station may be moved from one site within a State to another within the same State during the Contest.

5. More than one operator may be used in the operation of the portable station, provided that all operators are licensed Amateurs.

6. Operation may be on any of the recognised Amateur bands, and more than one transmitter may be used, providing that only one transmitter is used at any one time.

7. When calling, c.w. stations will use the call "CQ NFD," and phone stations will use the call "CQ National Field Day" to indicate that they are portable stations. Attention is directed to the requirements for portable operation as defined in the P.M.G. Handbook for the Guidance of Amateur Operators.

8. Sections: The Contest is divided into four sections, namely:—

- (a) Open,
- (b) C.w.,
- (c) Phone,
- (d) Fixed Station.

The open section will consist of phone and c.w. Portable station participants may enter each of sections (a), (b), and (c), provided a separate log is entered in each case.

9. Logs must be forwarded to the Contest Committee through the Division in time to reach Box 1734, G.P.O., Sydney, not later than 12th March, 1954.

10. Logs must be filled in in the following order: Date, Time (E.A.S.T.), Band, Emission, Power Input to the final stage with the aerial connected, Call Sign of the station contacted, RST number sent, RST number received, location of station contacted, points claimed. The log must be headed with the title of the Contest, section entered, call sign of the competitor, location of the station. At the conclusion of the log a summary of contacts must be shown together with a description of the equipment used, including h.t. voltage to the final stage, tube/s in p.a. stage, antenna used, and call signs of all operators.

11. The completed log must be signed by each of the operators with a statement that the P.M.G. Regulations and the rules of the Contest have been observed.

12. The decisions of the Federal Contest Committee will be final in all matters concerning the Contest.

13. Failure to completely observe the conditions of rule 10 will lead to automatic disqualification of a competitor.

14. Scoring: For the purpose of the Field Day the following constitute VK Districts: VK2, VK3, VK4, VK5 (South Australia), VK5 (Northern Territory), VK6, VK9.

15. Serial numbers must be exchanged during the Contest. Failure to record current serial numbers will mean loss of all points for that contact. Serial numbers will be as follows: The first three figures will be the RST report in the c.w. section, followed by the serial number of the contact. Serial numbers may commence with any number between 001 and 100 for the first contact, increasing by one for each successive contact. In the phone section the first two figures will be the RS as in the c.w. section, followed by the three

serial numbers. In addition, the QTH must be given in all cases.

16. Points will be awarded as follows:

Portable Stations—

- (a) For contacts with a fixed station within the Commonwealth (Rule 14) including the competitor's own State 1 point
- (b) For contacts with other portable stations within the same State 2 points
- (c) For contacts with stations in Asia, Oceania, North America, 3 points
- (d) For contacts with stations in other countries other than (a), (b) and (c) 5 points
- (e) For contacts with other portable stations outside the competitor's own State 10 points

In order to encourage QRP operation, for portable stations the total number of points scored will be divided by the power input in watts (with the aerial connected).

If more than one transmitter and/or input power is used for portable contest purposes, the "power in watts" will be calculated as the average.

Fixed Stations—

- (f) For contacts with portable stations in the Contest within the same State 2 points
- (g) For contacts with portable stations in the Contest outside the State 5 points

17. Awards: An attractive certificate will be forwarded to the outright winners in each section, namely, Open, Phone, C.w. Certificates will also be awarded to the winners of each section in each State, and to the fixed station in each State with the greatest number of points gained in contacting portable stations in the Contest. Further certificates may be awarded at the discretion of the Federal Contest Committee. The outright winners are not eligible for State Awards.

18. Certificates will be awarded to each operator of the winning stations, provided each operator has contacted at least 25 per cent. of the stations contacted.

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PRINCIPAL CHARACTERISTICS OF THE QQV03-20*

HEATER		Series	Parallel
Vh	12.6	4.3V
Ih	.. .. .	0.65	1.2A

CAPACITANCES

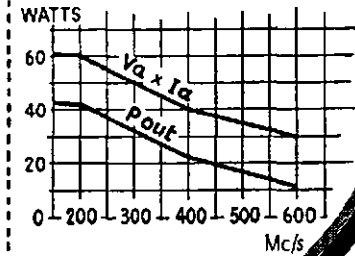
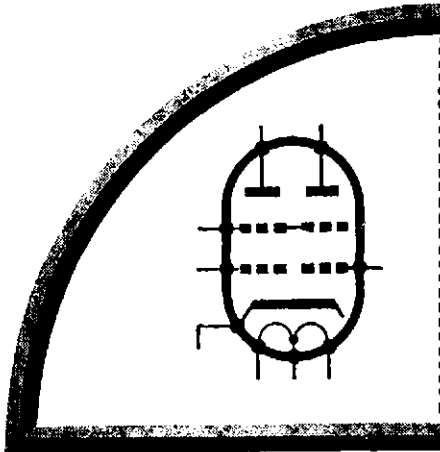
Each Section			
cg1-all	.. .. .	6.5	μMF
ca-all	.. .. .	2.0	μMF
Two Sections in Push-Pull			
cout	.. .. .	1.3	μMF
cin	.. .. .	4.0	μMF

LIMITING VALUES

As Class "C" push-pull amplifier for C.W. Telegraphy or for F.M.

Va max.	.. .. .	600 V
pa max.	.. .. .	2 x 10 W
Vg2 max.	.. .. .	250 V
pg2 max.	.. .. .	2 x 2 W
Vg1 max.	.. .. .	-75 V
pg1 max.	.. .. .	2 x 0.5 W
Ik max.	.. .. .	2 x 55 mA
f max. (at reduced ratings)	.. .. .	600 Mc/s

BASE B7A



*CY2799

A high performance Double Tetrode for the new U.H.F. wave-band allocations

Providing 15 watts output at 500 Mc/s. and with an effective upper frequency limit of 600 Mc/s. this new Mullard double tetrode, the QQV03-20, is an ideal valve for communications equipment designed to operate in the new U.H.F. wave-band allocations.

As a result of new and important design features, this valve has the outstanding advantages of high anode efficiency, excellent power gain, low filament consumption and small physical dimensions. In addition, being of conventional all glass technique, the QQV03-20 does

not require the complex and expensive circuitry that is normally associated with the disc-seal type of U.H.F. valves.

This double tetrode has special advantages in compact communications equipment, where, due to its small size and low filament consumption, it enables maximum savings in space to be made.

Brief technical details of the QQV03-20 are given above. More comprehensive information will be gladly supplied on request.

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MR7-53



DX COUNTRIES OF THE WORLD

The list of Countries as hereunder, and as amended from time to time in Federal Notes, is the Official List to be used in connection with the issue of the Australian DX C.C. Award.

The list below shows first the Country, the Zone number in parenthesis (as used by the "CQ" W.A.Z. Award) and the Amateur Prefix.

Aden & Socotra Is. (21) VS9	England (14)	G	Liechtenstein (14)	HE1	Scotland (14)	GM
Afghanistan (21)	Eritrea & Ethiopia (37) ET		Luxembourg (14)	LX	Seychelles (39)	VQ9
Alaska (1)	Faeroes, The (14)	OY	Macau (24)	CR9	Siam (26)	HS
Albania (15)	Falkland Islands (13)	VP8	Macquarie Is. (30)	VK1	Sierre Leone (35)	ZD1
Aldabra Islands (39)	Fanning Is., Washington Is., Christmas Is. (31)	VR3	Madagascar (39)	FB	Sikkim (22)	AC3
Algeria (33)	Fiji Islands (32)	VR2	Madeira Islands (33)	CT3	Singapore (28)	VS1
Andaman & Nicobar Is. (26)	Finland (15)	OH	Malaya (28)	VS2	Solomon Is. (28)	VR4
Andorra (14)	Formosa (24)	C3	Maldives Islands (22)	VS9	Somaliland, Brit. (37) VQ6	
Anglo-Egypt. Sudan (34) ST	France (14)	F	Malta (15)	ZB1	Somaliland, French (37) FL	
Angola (36)	French Equa. Africa (36) FQ		Manchuria (24)	C9	Somaliland, Italian (37)	MD4, I5
Argentina (13)	French Indo-China (26) FI		Marianas Is. (Guam) (27)	KG6	South Georgia (13)	VP8
Ascension Island (36) ZD8	French Oceania (Tahiti) FO		Marion Is. (and Prince Edward Is.) (38)	ZS2	South Orkney Is. (13)	VP8
Australia (inc. Tas.) (29, 30)	French West Africa (35) FF		Marshall Islands (31) KX6		South Sandwich Is. (13) VP8	
Austria (15)	Fridtjof Nansen Land (Franz Josef Land) (40)	UA1	Martinique (8)	FM	South Shetland Is. (13) VP8	
Azores Islands (14)	Galapagos Is. (10)	(HC8)	Mauritius (39)	VQ8	Southwest Africa (38) ZS3	
Bahama Islands (8)	Gambia (35)	ZD3	Mexico (8)	XE, XF	Soviet Union:	
Bahrain Island (21)	Germany (14, 15)	DJ, DL, DM	Midway Island (31)	KM6	Europ. R.S.F.S.R. (15, 16, 17) UA1, 2, 3, 4, 6	
Baker, Howland & Am. Phoenix Is. (31)	Gibraltar (14)	ZB2	Miquelon and St. Pierre Is. (5)	FP	Asiatic R.S.F.S.R. (17, 18, 19, 25)	UA9, 0
Balearic Islands (14)	Gilbert, Ellice & Ocean Is. (31)	VR1	Monaco (14)	3A2	Ukraine (16)	UB5
Barbados (8)	Goa (Portu. India) (22) CR8		Mongolian Rep. (Outer) (23)	(JT)	Belorus's S.S.R. (16) UC2	
Basutoland (38)	Gold Coast (and British Togoland) (35)	ZD4	Morocco, French (33)	CN8	Azerbaijan (21)	UD6
Bechuanaland (38)	Greece (20)	SV	Morocco, Spanish (33) EA9		Georgia (21)	UF6
Belgian Congo (36)	Greenland (40)	OX	Mozambique (37)	CR7	Armenia (21)	UG6
Belgium (14)	Guadeloupe (8)	FG	Nepal (22)	NE1, VU7	Turkoman (17)	UH8
Bermuda Islands (5)	Guantanamo Bay (8)	KG4	Netherlands (14)	PA, PI	Uzbek (17)	UI8
Bhutan (22)	Guatemala (7)	TG	Netherlands West Indies (9)	PJ	Tadzhik (17)	UJ8
Bolivia (10)	Guiana, British (9)	VP3	New Caledonia (32)	FK	Kazakh (17)	UL7
Bonin & Volcano Is. (Iwo Jima) (27)	Guiana, French, and Inini (9)	FY	New Guinea, Nether. (28)	PK7, JZ	Kirghiz (17)	UM8
Borneo, Brit. Nth. (28) ZC5	Guiana, Netherlands (Surinam) (9)	PZ	New Guinea, Territory of (28)	VK9	Karelo-Finnish Republic (16)	UNI
Borneo, Netherl'ds (28) PK5	Guinea, Portugese (35) CR5		New Hebrides (32)	FU, YJ	Moldavia (16)	UO5
Brazil (11)	Guinea, Spanish (35)	EA0	New Zealand (32)	ZL	Lithuania (15)	UP2
Brunei (28)	Haiti (8)	HH	Nicaragua (7)	YN	Latvia (15)	UQ2
Bulgaria (20)	Hawaiian Islands (31) KH6		Nigeria (35, 36)	ZD2	Estonia (15)	UR2
Burma (26)	Heard Island (39)	VK1	Niue (32)	ZK2	Spain (14)	EA
Cameroons, French (36) FE	Honduras (7)	HR	Norfolk Island (32)	VK9	Sumatra (28)	PK4
Canada (2, 3, 4, 5) VE, VO	Honduras, British (7)	VP1	Norway (14)	LA, LB	Svalbard (Spitzbergen) (40)	LA, LB
Canal Zone (7)	Hong Kong (24)	VS6	Nyasaland (37)	ZD6	Swan Island (7)	KS4
Canary Islands (33)	Hungary (15)	HA	Oman, Sultanate (21)	VS9	Swaziland (38)	ZS7
Cape Verde Is. (35)	Iceland (40)	TF	Oman, Trucial (21)	VS9, MP4H	Sweden (14)	SL, SM
Caroline Islands (27)	Ifni (33)	EA9	Pakistan (22)	AP	Switzerland (14)	HB
Cayman Islands (8)	India (22)	VU	Palau (Pelew) Is. (27) KC6		Syria (20)	YK
Celebes & Molucca Is. (28)	Iran (21)	EP, EQ	Palestine (20)	ZC6, ZC8	Tanganyika Ter. (37) VQ3	
Ceylon (22)	Iraq (21)	(MD6) YI	Panama (7)	HP	Tangier Zone (33)	EK, KT1, CN2
Chagos Islands (39)	Ireland, Northern (14)	G1	Papua Territory (28)	VK9	Tannu Tuva Rep. (23)	UA0
Channel Islands (14)	Isle of Man (14)	GD	Paraguay (11)	ZP	Tibet (23)	AC4
Chile (12)	Israel (20)	4X4	Peru (10)	OA	Timor, Portuguese (28) CR10	
China (23, 24)	Italy (15)	I	Philippine Islands (27) DU		Togoland, French (35)	FD
Christmas Is. (29)	Jamaica (8)	VP5	Pitcairn Island (32)	VR6	Tokelau (Union) Is. (31)	
Clipperton Is. (7)	Jan Mayen Island (40)	LA, LB	Poland (15)	SP	Tonga (Friendly) Island (32)	VR5
Cocos Island (7)	Japan (25)	KA, JA	Portugal (14)	CT1	Transjordan (20)	ZC1, JY
Cocos Islands (29) VK1, ZC2	Jarvis and Palmyra Is. (31)	KP6	Principe and Sao Thome Is. (36)	CR5	Trieste (15)	AG2, MF2
Colombia (9)	Java (28)	PK	Puerto Rico (8)	KP4	Trinidad & Tobago (9) VP4	
Comoro Islands (39)	Johnston Island (31)	KJ6	Qatar (21)	MP4Q	Tristan da Cunha and Gough Is. (38)	ZD9
Cook Islands (32)	Kenya (37)	VQ4	Reunion Island (39)	FR7	Tunisia (33)	(FT) 3V8
Corsica (15)	Kerguelon Is. (39)	FB8	Rhodesia, Northern (36) VQ2		Turkey (20)	TA
Costa Rica (7)	Korea (25)	HL	Rhodesia, Southern (38) ZE		Turks & Caicos Is. (8) VP5	
Crete (20)	Kuwait (21)	(VT1) MP4K	Rio de Oro (33)	EA9	Uganda (37)	VQ5
Cuba (8)	Laccadive Is. (22)	VU4	Rumania (20)	YO	Union of S. Africa (38) ZS	
Cyprus (20)	Lebanon (20)	OD5, AR8	Ryukyu Is. (Okinawa) (25)	KR6	United States of America (3, 4, 5) WN, K, W	
Czechoslovakia (15)	Leeward Is. (8)	VP2	Saarland (15)	9S4	Uruguay (13)	CX
Denmark (14)	Liberia (35)	EL	St. Helena (36)	ZD7	Vatican City State (15) HV	
Dodecanese Is. (Rhodes) (20)	Libya (34)	5A2 (MCI, MD1, MD2, MT2)	St. Paul & New Amsterdam Is. (39)	FB8	Venezuela (9)	YV
Dominican Republic (8) HI			Salvador (7)	YS	Virgin Islands (8)	KV4
Easter Island (12)			Samoa, American (32) KS6		Wake Island (31)	KW6
Ecuador (10)			Samoa, Western (32)	ZM	Wales (14)	GW
Egypt (34)			San Marino (15)	(M1)	Wallis Island (32)	FW8
Eire (Irish Free State) EI			Sarawak (28)	VS4	Windward Is. (8, 9)	VP2
			Sardinia (15)	IS	Wrangel Island (19)	
			Saudi Arabia (Hebjaz & Nejd) (21)	HZ	Yemen (21)	(4W)
					Yugoslavia (15)	YT, YU
					Zanzibar (37)	VQ1

FIFTY MEGACYCLES AND ABOVE

VICTORIAN V.H.F. GROUP

The November v.h.f. meeting was a great success, about 30 being present. The major portion of the time was devoted to a display of v.h.f. gear, which proved to be of interest to all, and of special interest to existing and aspiring Limited Class licencees. Among the items shown were low power tx's, converters, complete 2 mx mobile stations, grid dip osc's., antennascopes, QQE06/40 p.a., etc. 3JO called on each owner to give a brief description of his contribution. A mobile demonstration was given by 3LN, progress being followed with 3JO's modified ZB2 converter.

Referring to v.h.f. field days, it was agreed to make the first one for 1954 to coincide with the National Field Day on Sunday, 14th Feb.

The November C.D.E.N. triangulation test went off well, 3ACH operating as control station. The six locations from which 3LN, as target station, made five-minute transmissions were as follows: 1, Fort Melbourne West; 2, Elsternwick; 3, Hawthorn East; 4, Surrey Hills; 5, Jolimont Station; 6, Marlyrnong. The next one is on 13th January. The first mobile fox hunt is to be on 10th February, so please make an effort to get a 2 mx mobile station ready by then.

Recent 2 mx newcomers to the Melbourne area are ex-2OK and ex-2ABB; welcome chaps. 3DG at Lancefield is now set up to work two-way on the 2 mx band.

6 mx openings have been quite frequent during the latter part of November with the sporadic E season getting into full swing. All States and ZL have participated in openings since about 15th Nov., and on 28th VK9DB broke through and gave many a good contact. He operates on 50.2 Mc. and calls and listens each evening on the hour and half hour. Country stations including 3CI, 3ZL, 3UI, 3ATN, 3APP have been doing well. 3CI got two from the west—6BO and 6HK. We understand that 4LK and 4JW in northern Queensland are keeping a watch for 50 Mc. sigs.

From "QST" we learn that the 420 Mc. record has been pushed up further to 410 miles between WIRFU and W4TLM during last July. Six mx mobiles at Benalla during the State Convention were 3HK, 3APP, and 3UI. 3LN took his 2 mx mobile.—3ABA.

SOUTH AUSTRALIA

The main activity for Nov. appears to be on 6 mx and this band has blossomed forth quite early this year to provide openings from VK5 to all States and ZL. Some openings have the appearance of sporadic E propagation, whilst some from VK5 to VK6 have confirmed predictions obtained from the most unusual series of weather maps that I have come across, for super refraction. Cold fronts following in regular procession across Southern Australia 24 to 48 hours apart. Clem 5GL tried 2 mx to VK6 without success, but 6 mx has been open consistently.

Ron 5MK in his ideal location has had quite a feast and has been good enough to give me a copy of his log which makes 6 mx transmission look like local contacts! VK4s seem to be the most consistent stations with VK2s running them close, and last night Albert 5ZL lived up to his call sign and exchanged reports with ZL1 and ZL2 with his brother Ron 5MK a close second. No signs of VK3 as yet, but the VK4s have been heard working them. An unbroken 21st to 26th inclusive shows just what to expect of 6 mx this coming summer.

Remember chaps that we haven't yet been through a sunspot minimum on this band and a copy of his log which makes 6 mx transmission look like local contacts! VK4s seem to be the most consistent stations with VK2s running them close, and last night Albert 5ZL lived up to his call sign and exchanged reports with ZL1 and ZL2 with his brother Ron 5MK a close second. No signs of VK3 as yet, but the VK4s have been heard working them. An unbroken 21st to 26th inclusive shows just what to expect of 6 mx this coming summer.

A new official call of 6ON from Charlie should be amongst the v.h.f. signals from now on—good hunting OM, you've got what it takes to make a first-rate Amateur. Keith 5MT amidst the 6 mx signals again. My eave's dropping on 40 mx gave me Harry 5KW as a starter from Berrri, but no other news; guess Hughie and the gang will not be far behind. Brian 5CA, Ken 5BC working into VK2, while Hughie 5BC not hearing much at all, then 5BC working 6LC at Kalgoorlie at 1900 S9.

A good sign to look for is 21 Mc. short skip. Oh, my, how we miss the old 33 Mc. beacon!

By the time you read this, the New Year will be with us, so I bid you all good hunting for 1954.

VK7WI TO OPERATE AT SCIENCE EXHIBITION

As part of the Tasmanian Sesqui-Centenary Celebrations, Science Exhibition is being held in the City Hall, Hobart, opening on 7th January and closing on 17th January, 1954.

Station VK7WI will be operating from the hall during the Exhibition and will be looking for contacts with other Amateur stations both inside and outside Australia.

Operating bands will be 80, 40 and 20 metres, and operating times between 10 a.m. and 10 p.m. every day the Exhibition is open.

As the public will be listening, stations contacted are asked to keep the conversation along everyday lines and avoid as much as possible technical terms.

Because of the high noise level at the hall, the receiver will be in a quiet location several miles away and will be remotely tuned by the operator in the hall. Stations calling VK7WI are therefore asked to give long calls so that the operator will have time to tune the band.

A special QSL card for the occasion is being printed and will be sent to all stations worked, and visiting Amateurs will be very welcome.

If you are in Hobart during the Exhibition we will be very pleased to see you.

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- * Response includes Correction due to Negative Feedback. ** For use with Rola 12-OX Speaker.

Type and Mounting	Impedance—Ohms		Freq. Response		Rating Watts	Typical Application	Price
	Primary	Secondary	DB±	C.P.S.			
894-23	500	2, 3.7, 8, 12.5	2	50-10,000	5	Line to Voice Coil	16/-
900-22	2,500, 5,000	2, 3.7, 8, 12.5, 15	1	*40-15,000	15	Single 807, EL34; etc., to V.C.	57/6
896-9	8,000, 10,000	2, 3.7, 8, 12.5, 15	1	30-15,000	15	P.P. 6V6Gs, A or AB1 to V.C.	62/6
897-9	8,000, 10,000	100, 125, 166, 250, 500	1	30-15,000	15	P.P. 6V6Gs, A or AB1 to Line	62/6
763-9	3,000, 5,000	2, 3.7, 8, 12.5, 15	1	40-20,000	15	P.P. 2A3s, A or AB1 to V.C.	62/6
809-26	500	2, 3.7, 8, 12.5, 15	1	50-20,000	15	Line to Voice Coil	42/6
870-26	10,000	2 or 8	1	*20-20,000	**6	P.P. 6V6Gs or 807s as Triodes	57/6
871-9	10,000	2 or 8	1	*20-20,000	12	P.P. 6V6Gs or 807s as Triodes	81/-
872-9	10,000	3.7 or 15	1	*20-20,000	12	P.P. 6V6Gs or 807s as Triodes	81/-
891-22	6,600	83, 100, 125, 166, 250, 500	1	50-12,000	35	P.P. 807s, AB1 to Line	82/6
892-22	3,200	50, 62, 83, 125, 250, 500	1	50-12,000	55	P.P. 807s, AB2 to Line	97/-

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- ★ "LOUDSPEAKERS" Briggs 11/9 " 9d. "
- ★ "AMPLIFIERS" Briggs 23/9 " 1/- "
- ★ "RADIOTRON VALVE MANUAL" A.W.A. 12/6 " 1/- "
- ★ "PHILIPS VALVE MANUAL" 8/6 " 9d. "
- ★ "RADIO SERVICE MANUAL," Vol. 11 24/- " 1/- "
- ★ "RADIO AMATEURS' HANDBOOK" A.R.R.L. 44/3 " 2/- "
- ★ "RADIO HANDBOOK" Dawley 66/- " 2/- "
- ★ "RADIO DATA SHEETS" Beatty 12/6 " 1/- "
- ★ "RADIO ANTENNA HANDBOOK" A.R.R.L. 17/6 " 1/- "

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DX ACTIVITY BY VK3AHH*

DX HIGHLIGHTS

DL4QX intends to represent Crete on all bands early in 1954 (thanks BERS 195).

Nicobar Islands show some activity in VU5AB on 14 Mc. phone.

BAND CONDITIONS

3.5 Mc.: Openings to North and Central America, the Pacific Islands, and Far East occurred between 0900z and 1300z. Neville 2APL heard KP4PL and Ws, and 3AHH lists Ws, JA1CR, KH6PL.

7 Mc.: Break-throughs to Africa around 1600-1900z were reported. Long-path conditions to Europe deteriorated while the continent was often workable over the short route (1800-2200z). The period for openings to the American Continents, Far East, and Pacific Islands was 0700-1500z.

Considering W contacts commonplace, this month's reports are: 2QL has now moved to another QTH. Frank worked, still using low power, CE3AG* and KL7*. Laurie 2AMB keyed with KX6BF*, TI2PP*, 4X4DF*, VK9WZ*; while Ted 5DP managed QSOs with FR7ZA* (1610z), VQ4AQ* and on phone VS2UW*. Up in the North, Alan 9YV QSOed JZ0KF*, VS1FE*, JA3AA*, DU7SV* and KL7*. Eric BERS195 heard KZ5CR, SUISS, 5A2CJ, DU1DO, HRIAA, FABLW, VQ4AQ, F8IHH, 4X4BN, ZBIT5, CN2AF, ZSDY, CT3AB, ZC4RX, OQ5GU, plus a long list of Europeans. Dave Jenkin's t.r.f. brought forward 4X4DF, PA0UV, FUBCR plus Europeans.

14 Mc.: All reports mention a general deterioration of conditions. Erratic break-throughs to Africa occurred around 0500-0800z and between 1100z and 2100z. European and Middle East conditions via the long path were almost non-existent. The band opened, however, more or less regularly to those areas over the short route (1100-1400z). The American Continents could be contacted at odd times with weak to fair signal strengths.

Regarding Europe, Pacific Islands and W-land as usually workable areas, this month's c.w. activity is displayed by the Macquarie Island station (ops. VKs IAF, IBA and IRL) with VK4s, FK8*, JA's, JZ0KF*. Noel 2AHH reports AP2R*, VP9BF*, YI2AM, 457XG*, F18AR*, YK1AH*, YO3RZ*, ZSs*. 2AMB worked CR8AH* and Alan 3CX appears with a long list of ZSs*, VP6UN*, HRIAA*, JZ0KF*, CE3RE*, TI2TG*, ZK2AA*, ZK1AB*, KV4*, F8IHH*, KA01J*, HH2FL*. Ken 3KR contacted

* 10 Belgravia Ave., Box Hill North, E.12, Vic.

YI2AM*, KA01J*, YK1AH*, KP4KD*, ST2AR*, ST2HK* (2045z), VSs*, VU2s*, KR8*, JA's*, Gordon 8XU QSOed AP2R*, ZK1AB*, KV4*, LU8FBH*, VS*, VU2*, XZ2OM*, and Bob 4RW worked LU8FBS*, VU5AB*, 457*, KL7*; while Erg 5KU lists ZK1AB*, LX1AS*, 457LB*, JZ0KF*, CK5CO*, XW8AA*, SUI5J*, LU8EX*, LU3ZM*, LU8FBH*, LU8AF*, HH2FL*, VV5AO*, KR6*, VU2*, EA8FB, MP4BBD, AP2K, HS1CA. Ray 5RK logged CR8AH*, KA01J*, JZ0KF*, ZC4IP*, KW8BB*; and Austin 5WO adds LU5AQ*, KV4*, VSs*, ZC4IP*, and F7SHP* via the long path 0845z. Geoff 9GW managed XW8AA*, and 9YV keyed with LB8BD/ZC3*, HS3CA*, SVOVC*, VQ2AB*, VQ2GW*, AP2R*, ZSs*, PY5UG*. Our s.w.l.s. heard: BERS195 ST2HK, YO4CR, OD5XX, CE3QW, YI2AM, HK1TH, HRIAT, CR8AH, YV5AO, KA01J, CE3AG OD5LX; Dave Jenkin: C3PM, HRIAT, ZSs, LU5AQL, G14RY (0905z), KV4, KJ3BA. 3AHH logged LU5AQ*, HH2FL*, JZ0KF*, VU2*, KV4*, ZC3AA, TA3US, COTAH.

The band's upper 200 Kc. brought forward at 1AF (IBA, IRL) PY5DF*, VP9BF*, YV5AB*, LU4DD*, CE3AB*, VSs*; and 2AHH lists HSIWR*, OAF8*, HZ1SD*, ITIAFS*, MP4BBL*, LU6QB*, KR6*, 457s*, VU2*. Rex 3UR reports CE1BE*, KA01J*, ITIAFS*, XZ2KN*, LU8AF* and Ken 3WM spoke to MP4BBL*, MP4KAC*, XZ2KN*. HSIWR*, VSs*. The next in line is John 3AKO with VRAAE*, LU7AAT*, VSs*. Here comes 3ATN, the man with stacked vee-beams. Ray demonstrates their excellent performance with AP2A*, ZD4BE*, OQ0DZ*, CR8AJ*, VS9GV*, FF8AP*, KV4*, KP4*, PY*, CE*, M1B*, HC*, LU*, ZS*, XZ*, HS*, YV*, MP4*, VP6*, CN8*, HK*, etc. Bob 4RW worked ZM6AA*, VRA4E*, VU5AB*, KJ6AJ*. Aussie 4TN mentions OQ0DZ*, ZC5VR*, LU5*, 4X4B0*, 4X4DK*, CE3AB*, VU5AB*. John 5HI reports HSIWR*, ZSs*, VSs*, MP4BBL*, MP4KAC*, 5A2TZ, HZ1AB*, while John 5JW adds 3V8AS* and AP2R*. 5KU logged ZSs*, CN8MN*, ZM8AA*, XZ2KN*, CR8AH, 5XN found in early mornings VQ3AJB*, VQ4NZK*, VQ4AC*, OQ5KL*, VQ5EK*, ET2SM*, YI2AM. Clarry 4LL spoke to MP4BBL*, 457*, VSs*, VU2*; and Doug, 7DZ managed MP4QAH*, MP4BBL*, CR8AH*, 457*. S.w.l. reports at hand are from Norman Clarke: VQ4NZK, LU8FB, ZSs; and Albert Ebenreuter (of Box Hill, Vic.): VP4LL, VP3YG, VR3C, LU5AR, PY5CK, KC6AA.

21 Mc.: Conditions on this band were also relatively poor. However, several erratic openings to the American Continents (2100-0300z), Africa (0500-0700z), and Europe (0800-1200z) were reported.

Howard 2AMD worked KZ5WZ*, GM3DHD*, HP3FL*, VQ4EH*, VR2*, KJ6*, VQ4GM*, VS1s*, TI2RC*, KH6*, W6*, and Sid 3CI logged HC1FS*, KH8*, JA*, G*, TI3LA*, HP3FL*, VS1*, KJ6*, W5*, W6*, W8*. 3WM adds GM3DHD*, XZ2ST*, ZC4RX*, DU7SV*, LX1SI*, VSs*, VU2*; while Arthur 4FE mentions ET2US*, ZM6AA*, OQ5GU*, 457*, VQ4FR*, W5*, W9*, JA*, FK8*, and VS1*. 4TN spoke to Gs*, W5*, W6*, W8*, HC1FS*, HRIAA*, LA*, GM3DHD*, DL*, KH6*, VU2*, HP3FL*, YI3WH* and heard ZBIBU, CN8CS, VQ4EH, CT1FI. 9GW reports YI3WH*, DLs*, KH6*, Ws*, VSs*, I*, VU2*, HC1MS*, Gs*, Fs*, HC1FS*, KAs*. Dave Jenkin heard 4X4RE, 457, Gs, DL, OH, PA0, Ws, DU7SV. Here at 3AHH listings are JZ0KF*, FUB8A*, FO8AB, etc.

28 Mc.: Sporadic openings are reported from VK4 and VK9 to W-land, Pacific Islands and Far East.

Les 4XP worked W6ORD*, W6VAD*, KH6s*, JA1CR*, and MM stations Ws 5MET*, 1WDI*, 4VYU*, 3OZA*. 9GW heard Ws and W6s.

GENERAL NEWS

When these notes have reached you, this year's relief of expedition parties on Macquarie and Heard Islands will be in progress. We say "welcome home" to Hams returning after a year's service, while our best wishes are extended to those who are on their way to both Islands and to the Australian Sector of the Antarctic Continent. Bill Storer, well-known as VK1BS and VK2EG, will use VK1EG, while a member of this first Australian Expedition to the Continent, Heard Island will be represented by John VK1FG (ex-VK1FG in 1950) and George Delahoy, VK1DY (ex-VK3ADZ and VK5DY). Alan C. Hawker, VK1AC (ex-VK3IB 3AC1), will keep Macquarie Island on the map. Good luck, chaps, and we hope to QSO you often.

CG3GS is looking for VK/ZL on 7080 Kc. (phone) around 0815z. (thanks 3ALL). Operators of KA01J will shortly be relieved (thanks 3KR). HSIWR and HS3CA are at present active in Siam. ZK2AA and ZK2AB have now left Niue Island (thanks BERS195). FB8ZZ was heard several times (thanks 3YS). OY2Z has been active on 14060 Kc. (thanks W6ALQ). ST2UU is ex-FB8UU, VQ7UU, and VQ8UU. KC6AC is

CANCELLATION OF ZONE 29 AWARD

In the March, 1952, issue of "A.R.," a paragraph on the Zone 29 Award was published, giving details and rules.

It is now known that the Federal Council have authorised the new "Worked All VK Call Areas Award," and in view of this, and particularly as there has been no applicant for the Zone 29 Award, the Western Australian Division of the Wireless Institute of Australia has decided to cancel the latter award.

on Truk Island. He is mainly on 7 Mc. CR6A1 is active on 14 Mc. (around 1700z). EA2CN intends to work from Rio de Oro some time. AC4NC has been active on 14 Mc. phone. G2RO expects to make a trip to Guiana, the West Indies, and Falkland Islands at a later date.

QTHs of interest:— HSIWR—C/o U.N.O., Bangkok, Siam. F18AC—via FBMT. F18AE—Box 527, Saigon, French Indochina. ZC4 QSL Bureau—ZC4IP, Box 219, Llimassol, Cyprus.

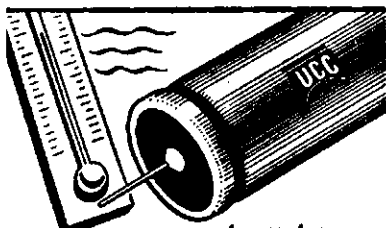
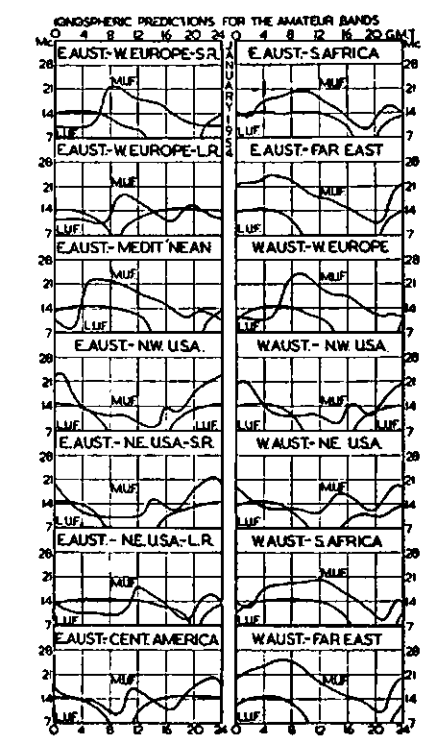
YK1AH—Box 35, Damascus, Syria. AP2R—Box 2111, Karachi, Pakistan. KR6IN—M. Sgt. William H. Payton, AF6293618, Det. 2, 1962d, A.A.C.S. Sq., Box 2, A.P.O. 239, C/o Postmaster San Francisco, Calif.

QSLs reached 2AHH: KC6AA, KZ5SW, LA9P, O4VY, VR3C, YN4CB, CT1FI, 2AMB: ZM6AA, SP3PL, 5HI, F18AC, VK1HH, HC1LO, CQZ, K48CG, KR6IN, 5JW: XW8AA, 5KU, LU8FBH, DU7SV, HRIAA, XZ2OM, PA0ZL, TF8TP, CT1JS: BERS195: W0MCF/C3, VQ9WZ, Z56R, SM7BQH (3.5 Mc.); 3AHH: TI2TG, KR6IN.

This month's thanks are due to VKs IAF, IBA, IRL, 2QL, 2AHH, 2AMB, 2AMD, 2APL, 3CI, 3CK, 3KR, 3UR, 3WM, 3XU, 3AKO, 3ATN, 4FE, 4RW, 4TN, 4XJ, 5DP, 5HI, 5JW, 5KU, 5RK, 5WO, 5XN, 6LL, 7DZ, 9GW, 9YV, and s.w.l.s. BERS195 (VK3), Norman Clarke (VK2), Dave Jenkin (VK3), and Albert Ebenreuter (VK3).

This year's festive season is approaching fast; A Merry Christmas and a very Prosperous New Year to all readers! May 1954 bring us happy hunting on all bands and "good DX"!

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FEDERAL, QSL, and DIVISIONAL NOTES



FEDERAL

A HAPPY AND PROSPEROUS NEW YEAR

The Federal Council and Federal Executive of the Institute desire to pass on to all members, to all those who have worked so hard during the past year to keep the Amateur movement alive, and to all the advertisers who have so loyally supported "Amateur Radio" magazine—A Happy and Prosperous New Year.

It is appropriate on this occasion to particularly thank the members of the Magazine Committee without whose high ranking ability our valuable Institute publication could not function.

With the additional work of also publishing the Australian Amateur Call Book, this hard working Committee are going to be working harder still. Every Amateur is expressly asked to support the Magazine Committee during 1954 by encouraging capable members to write articles, submit items of news and generally contribute to the requirements of the official organ of the Institute in every way possible; and when the Call Book is available early in March, to actively assist in distributing copies as far afield as possible so that every active Amateur has one on his operating table.

May we all look forward to prosperity in the Amateur field for 1954.

EDITOR ENGAGED

All readers of "Amateur Radio" will be happy to learn that Editor Tom Hogan, who recently underwent a serious operation which had a fifty-fifty chance of letting him walk again after 20 years of being crippled, is now moving about pretty much as a normal person and is fired with a zest for living that his long years of handicap cannot quench.

Even whilst learning to walk again, Tom has been actively taking up the threads that have ensnared him into an engagement to Sister Jennie Seymour, from Prince Henry's Hospital, St. Kilda Road, Melbourne.

Without doubt of contradiction, we know we express the hearty good wishes of every member of the Institute when we say, "Good luck, Tom and Jennie, and may your future together be a long and happy one."

MORE AMATEURS TO VKI

Veteran antarctican, Bill Storer, VK2EG, is again venturing south with the official Antarctic Expedition and will be operating under his old call, VK1EG.

This time Bill is going some 1,800 miles further south of Heard Island where a new Antarctic station will be set up. In the Amateur world, this will be recognised as a new country and it is anybody's guess how busy Bill will be if DX conditions are anywhere good.

A new stamp is to be issued by the Commonwealth to celebrate this expedition. Bill, appointed as official postman to also open yet another Post Office for Australia, will be kept "flat out" franking thousands of envelopes from the many ardent philatelists keen to receive a first-day-cover for this unique occasion. Bill expects to leave about the 9th January.

By the time this issue of the magazine goes to press Alan Hawker, VK3IB, will be well on his way to take up station at Macquarie Island and will be operating under the call of VK1AC.

Leaving for Heard Island at the same time as VK1EG goes Johnny Gore, VK2PG, who will be operating under the call VK1FG. So it looks as though we'll all have a chance to work VKI.

A.O.C.P. RESULTS

Following is a list of candidates who were successful at the examination for the Amateur Operator's Certificate of Proficiency held on 13th October, 1953:—

New South Wales

Scown, L. T. E., 83 Silver Street, Broken Hill.
Moore, G. B., 33 Richmond Street, Ryde.
Smith, R. J., Old Bathurst Road, Emu Plains.
Hay, P. L., 32 Concord Road, Strathfield.

Victoria

Webster, M. T., 8 Glen Street, Ivanhoe.
Jay, I. W., 80 Grandview Grove, Rosanna.
Glegg, E. N. L., 83 Nepean Highway, Elsternwick.

Queensland

Patterson, J. E., 8 Alice Street, Toowoomba.
Beaney, W. S., 17 Spencer Street, Rockhampton.
Fullagar, J. K., Medical Superintendent's Residence, Rockhampton Hospital, Rockhampton.

South Australia

Rowe, C. G., c/o. Dept. of Health, P.O. Box 85, Darwin, N.T.
Tapley, F. K., 10 Burke Street, West Croydon.
Othen, C. J., 9 Holden Street, Hindmarsh.

Western Australia

Grant, I., No. 11 Squadron, R.A.A.F., Pearce.
Hodgson, E. C., 178 Daglish Street, Wembley.
Smith, S. J., 430 Great Eastern Highway, Midland Junction.

Tasmania

McCracken, K. G., 153 Bathurst Street, Hobart.

FEDERAL QSL BUREAU

RAY JONES, VK3RJ, MANAGER

A QSO by VK6FL with LU8EN early in November on 14 Mc. is one of the very few that have taken place between VK6 and LU.

Jim DL4GX, ex-W6CUF, who also did a spot of contest operating at W6AM on various occasions, states he will be in Andorra next March for a week or two and will definitely be on the air from that country. He also intends striving for permission to operate from Vatican City and will not be dismayed by a refusal.

The Radio Club of Cuba point out that they are the official QSL Bureau for that country with the QTH unchanged as: R.C.C., Lealtad No. 680, Havana, Cuba.

Rob Gurr, VK3RG, ex-VK1RG, stated during early November that he has completed the issue of all overseas QSLs for contacts made during the 1952 jaunt to Macquarie Island. He promises to issue QSLs for VK stations contacted in the not too distant future.

VK6WZ, A426, Sgt. F. G. Annear, R.A.A.F. Mornet, Admiralty Islands, in sending a log for recent "CQ" Contest, to be directed to proper address, states he was snowed under during that contest by his next door neighbours in KG6.

NEW SOUTH WALES

The November general meeting was held at the usual meeting place on 27th with an attendance of approximately 73 members. The lecturer for the evening was Mr. Jeremy, from S.T.C., who lectured on s.s.c.. The lecture was very well received and Leo McMahon, who has been very keen on this type of transmission for some time, was the obvious person to give the vote of thanks.

After the meeting, the President left by air for Dubbo to finalise his country re-organisation trips. The Dubbo trip was very successful and thanks must be extended to the Dubbo Radio Club for the hospitality extended over the weekend to Jim. Also Zone Officer of Western Zone, Hugo Stitt, made a 200-mile round trip to help finalise the forming of the new North Western Zone. When the North Western Zone is established, the Western Zone will be changed to Central Western Zone. Further details will be announced later.

The Division Hamfest is to be held over the week-end 22nd and 23rd January at Royal Agricultural Showground. Members may park cars inside the grounds. There will be lots of prizes to be won by all. City members are asked to invite a country member down for this week-end so we can have a good roll up.

STOP PRESS

THE FIRST HEADQUARTERS XMAS PARTY

On Wednesday night, 9th December, at the Forrester's Hall, Elizabeth St., Croydon, VK2 inaugurated, what is hoped will be, its annual Christmas Party. An attendance of between 60 and 70, considering the late decision to hold this event, was very encouraging indeed and a very happy time was had by all. Phil 2TX came down from Wyong to show the colour slides and films of his trip (accompanied by his Holden) over Europe and the U.S.A. These were so much appreciated that a return show was booked there and then. Each lady, not always willingly, spoke a few words into the mike on arrival and these were played back during supper. Ray 2ARW showed how remarkable sound effects could be obtained from a mike—all done by two house keys and some paper. Angus 2IQ was our pianist.

Possibly the most remarkable aspect was that the attendance was 95 per cent. from the post-war Amateur, which augurs well for the progress of the Division.

Each lady received a present to mark her attendance at our First Party. The night was a credit to the organisers and workers, Margery and Ray 2ARW, Vic 2AWN, George 2AGO and Mrs. Wilson, Joy Patterson of 2AJW, and Ruth and Jim Corbin (somewhat out of their element). George 2GT, of the Council, is pretty good with a tea towel, believe us! The Xmas Tree was provided by Jim 2HK—decorations by Margery and Vic. All departed homeward

around midnight, having enjoyed their first W.I.A. Christmas Party and determined on a social night in the winter (to get into practice for our 1954 event).

HUNTER BRANCH

The November meeting of the Hunter Branch was held on 13th November at the Tighes Hill Technical College with 17 members in attendance including a welcome visitor, the Divisional President, Jim 2YC.

It was with regret that the Branch accepted the resignation of the Secretary, Varley 2SF, who, due to the pressure of other business, has had to relinquish the position. Varley has been an able and efficient Secretary for a number of years and his efforts on their behalf has been much appreciated by members of the Hunter Branch.

The lecturer for the night was Bob Winch, 2OA, who lectured on the "Grid Dip Oscillator." Bob, in his lecture, explained what a g.d.o. was, how it may be constructed, why it was necessary, and how to use it, including how to measure unknown capacitances and inductances with this instrument.

During the month the Way Way Field Day was held on 15th November, which a large number of Hunter Branch members attended, including "Shorty" 2NX, Tom 2PQ, Dave 2BZ, Jack 2ADT, Chris, 2PZ, Neil 2XY, Charlie 2ARV, Ernie 2FE, Les 2AOR, Bill 2XT, Ken 2KG, Frank (A.R.I.) 2AUH, Max 2OT, Johnny 2DZ, Jim 2ZC, Lionel 2CS, Jeff 2VU, Harry 2YL, George 2AGY and associates Milton Hughes and Norm Stanley. The Hunter Branch was successful in winning the Hidden Tx Hunt and the Way Way Scramble. Jeff 2VU won the Hidden Tx Hunt. You will recall that he also won the Hunt on 3rd October organised by the Hunter Branch. The Scramble was won by Jack 2ADT. Five prizes in other competitions also went to Hunter Branch members.

Bill 2XT has acquired a Bendix tx to operate 80, 40, 20 and 10 mx and will soon warm up the other with it. Ron 2ASJ, due to doctor's orders, has been told to rest his voice for at least a month, so he won't be heard on air for at least that length of time. Ron is also adding a 6 mx converter to his shack, but won't be listening to 6 mx until January. A welcome to the Ham bands is extended to Frank Hinks who has been allocated the call sign VK2AUH. A case of combining business with pleasure, hi! Leo 2QB has again returned to 7 Mc., putting out an f.b. signal from a new 8 watt rig he is operating.

The next meeting of the Hunter Branch will be held at 8 p.m. on 8th January at Tighes Hill Technical College.

NORTH COAST ZONE

The onset of summer has made contact between Hams in this area most irregular and it is difficult to gauge the activity of our members. However, it seems most of us have been driven to 14 Mc. judging by the number of North Coast Hams heard on that band under short skip conditions.

The Thursday night zone hook-up at 2030 hours has been rather patchy. On November 18, there were but three starters.

"Blue" 2AFU returned home to Lismore on Saturday, 21st, after a brief sojourn at Tweed Heads, with the promise of cranking up his "dismantled" tx. Alf 2UC/P has been heard on occasionally from Murwillumbah but complaints of the hopelessness of operating without a v.f.o. The Kyogle twins are heard on 7 and 3.5 Mc. now and again. Len 2LR was unfortunate enough to miss his visit this year to the Way Way Convention; his first miss.

From Lismore we hear that 2LH has recently returned from a flying trip to Sydney and Canberra. This "Customline," so rumour has it, has a certificate for airworthiness. Charlie 2ADE, the only really active Ham in Casino, is heard on 3.5 and 14 Mc. on odd occasions. It is truly amazing to hear the solid signal Charlie gets from that most unimposing antenna. Why spend time and money on a rotary beam when one has an ideal location. The hardest spot to work is Sydney, so 2RK says, and upon investigation, comes to the conclusion that no one in Sydney uses 7 Mc. at night. Does anyone remember the occasion, some years ago, when the use of local phone on 7 Mc. was frowned upon.

No news of the Byron Bay boys, 2AGM and 2AFP, but we were pleased to hear Russ 2NT from Tenterfield on 7 Mc. on Sunday, 22nd.

The six metre band is coming in for a good deal of attention on the North Coast. Old stalwart, Crieff 2XO, is firing away already and has forwarded a 6 mx crystal to Len 2LR, thus driving the last wedge to till the switch

on Len's 6 mx rig. Newcomer Web 2AQI, from Armidale, is already on the job trying to contact Reg 2ATS, in Inverell. Alec 2TG, of Beltingen, is also active on 6 mx, so the North Coast is well represented. The 2LH-2ADE-2AEB circuit is, of course, still functioning day by day.

By the time these notes are printed, we will have had a visit to the Coast by Harold 2AHA, of Newcastle, and Syd 2APS, of Tamworth. Spying out the ground for the next Urunga 2 mx Hunt, I'll bet!

It is with regret that we note the cancellation of two call signs on the North Coast in the persons of Doug 2DS, of Port Macquarie, and Jack 2VK, of Coff's Harbour. No doubt all the boys are sorry they are "giving the game away," but do extend their best wishes.

When you read these notes, it will be 1964, so I trust you will all have enjoyed the festive period and I do wish you all a happy and prosperous New Year. Whilst speaking on the prosperous side—don't forget to save for Urunga at Easter!

SOUTH WESTERN ZONE

Not much news from this zone for the month. I think we are all having a breather following the Convention. Don 2RS is about to move into his new QTH, has made provision for a comfortable shack, and is talking about the space he will have for antennae—the sig should be bigger and better. Don. Geoff 2BQ is concentrating on 50 Mc. and has had some DX contacts; has not been heard in Coolamon as yet, but that is the fault of my converter not Geoff's. Stan 2AID heard occasionally on 40 and 80 mx and is having fun re-building. Alf 2BW not heard for some time, must be the busy season. Alf.

Lyn 2AQE is very busy harvesting, getting up too early, and going to bed too late, to have any time for Ham Radio. Stewart 2PL reports that the chaps at Griffith are getting all 144 Mc. minded, building up rx's and beams for that band; we really must keep that sked one of these days. 2AJO has gone all DX happy working 14 and 21 Mc. and getting a few new countries; uses a T2FD on 21 Mc. I would like to wish all in the zone a very Merry Xmas and a Prosperous New Year with lots of DX.

VICTORIA

Mr. Editor has me tied in knots this month with his deadline. The crystal ball is in pawn so can tell nothing of the December meeting. 3FO has covered the State Convention—thanks Col—and I've lost my notes on the last Tx hunt. Add to all this, most of the last month has been spent playing round with 288 Mc. gear (hope I'm not treading on your toes, Jim 3ABA), so I don't know much about what has been going on.

If I remember correctly the last Tx hunt resulted as follows: 1st. Bob Hall, 2nd Jack Duncan, 3rd Eric Wardle. I seem to recollect thinking in Eric's case it was beginner's luck. You probably won't finish nearer than sixth again Eric.

Come to think of it there was the Annual Dinner, but as I was not present, don't feel qualified to comment. The only chaps I've seen who did attend were JJJ, 3TX and 3AHG and they went talk when I'm around, or if they do it's not for publication. Looks as though I'll have to leave this item to Col.

Visitors during the month included 3TV and 3TK. 3TV is on leave from Woomera and will be home for a few months. Have not heard him on the air as yet. After the laughs I got from Bill 3TK, I haven't the heart to have a shot at him. He's the brightest visitor I've ever had. 3AWW is no longer heard, now operating under 3WL. Reckons he'll save time in contests with a two-letter call.

3AMR was having trouble with harmonics early in the month, but haven't heard whether they have gone or not. 3ABO was having hum trouble but a partial re-build cleaned the trouble up. 3BH having a spell of hospitalisation. Hope you are soon about again Charlie.

Large print now please, and a fan-fare of trumpets! Tom 3HX—also Editor—has been and gone and done it! All those months spent in hospital were not wasted. In fact they were really enjoyed. Now we know why he was awake at 4 o'clock every morning, why he could disorganise the workings of that fine Institution with impunity, why he was presented with that fine birthday cake, why he was taken out on the balcony on fine afternoons and why—oh heck where would this end!

It was all part and parcel of a big conspiracy. In short, Tom has reached that stage in life that most of us reach sooner or later, where in a weak moment we ask one of the gentler sex to starve with us forever. In Tom's case, it is the Sister who saw him through his rough spin and she has agreed that such a life would be in keeping with her own ideas. Just wait till she sees the types you associate with Tom.

All joking aside though Tom, we all offer our sincerest congratulations on your engagement. Boy what a write-up I'll give the wedding.

Wonder how long now before the old stalwart of the Mag. Committee takes the plunge—yes you Jack.

By now you will all be resolving to spend more time in the garden, painting the house or some such thing, not that you'll do it, so I'll leave you to it and let SPS pad out the last few pages of this month's mag.

VICTORIAN DIVISION W.I.A. 4th ANNUAL STATE CONVENTION

The Fourth Annual Convention of the Division was held at Benalla on the week-end of 28th and 29th November under perfect weather conditions. All the arrangements were made by members of the North Eastern Zone and great credit goes to those boys for the excellent smooth running of the Convention.

On the Saturday visitors assembled at the Benalla Post Office and were met by Rex 3UR and Col 3WQ, who had lapel cards all made out with the call signs and members' names for identification. The dinner was officially opened and guests welcomed by His Worship the Mayor of Benalla. Approximately 60 sat down to a most excellent repast, comprising roast turkey and ham, followed by sweets and coffee.

The usual toasts were given, the first being to the Queen, proposed by Max Hull. The toast to the W.I.A. was ably proposed by Col 3WQ and responded to by Len Jackson. Fred 3YS ably proposed the health to the P.M.G. and this was responded to by Frank 3ZU. To the N.E. Zone, Reg 3LS proposed their health, and Rex 3UR ably responded. The visitors' toast was proposed by Col 3FO and replied to by Mr. F. Cook, M.L.A.

The Convention was officially opened by Mr. Cook, M.L.A., and in his remarks he spoke of the excellent work done by the Amateurs in public life and the debt of gratitude that the community owe to the experiments of the pioneers of radio. The President then delivered his opening remarks and the minutes of the last Convention were read and confirmed. He then called on Rex 3UR to come forward and receive, on behalf of the N.E. Zone, the Kinneer Trophy which had been awarded to them. In the agenda there were 13 items and the debates started. Much good will come of the recommendations passed and Council will implement them as soon as possible.

A presentation to the President of the Division, 3TF, was made by Ken 3KR on behalf of the Zone. It comprised a universal xmitter, complete with tubes and guaranteed to work, especially the final tube. The rx was a smaller bit of equipment, but can be universally used in every home. It comprised a useful family utensil with a handle on the slide. Gordon, in reply, thanked the Zone for their gift and said he would use the tx in contacting the Zone and felt sure that he would be able to get through at all times.

On Sunday, all assembled at 9.15 a.m. for the social side of the Convention. The first visit was an inspection of Reynolds Chain Factory—a truly remarkable industry and well worth the visit. All the various stages of chain making were explained by members of the staff. Next was a visit to Latooft and Callill garment establishment. Here, the lady members of the party were fully catered for, as the process of making a dress from the material to the finished garment was fully explained by the Manager. At the conclusion of this visit, refreshments were provided by the management and fully appreciated by all. The party then split up, some went to the D.C.A. Homing Beacon, and others to the Rural Automatic Exchange—both proving very interesting to members.

The highlight was the picnic lunch at Casey's Weir. Here under the shade of gum trees everybody partook of tasty sandwiches and tea plus a few files and wogs, interspersed with CQs from mobile equipment.

The final visit was to the S.E.C. link at Mt. Major. From the top of the Mount a most glorious view can be obtained. The equipment is fully automatic in operation and runs 24 hours per day all the year. The link is used between Melbourne to Macedon, to Mt. Stanley, to Kiewa and Benalla, serving the north eastern part of the S.E.C. scheme.

This concluded the Convention and members wended their way home. Charlie 3TI and a friend travelled 320 miles to be present and 3SS, 3DY, 3QZ and Mrs. Colley travelled 250 miles. Bill 3AKW made the trip from Lubeck by train. Keith 3HK had 6 mx mobile. Don 3ALQ, Neville 3ACN and Reg 3LS had 40 and 80 mx gear. Len 3LN did some high pressure salesmanship with his mobile 2 mx set-up. The Convention was a wonderful success and everybody that attended had a thoroughly enjoyable week-end.

NORTH EASTERN ZONE

A large number of zone members turned up to support the excellent results of the efforts of Rex 3UR, Hugh 3AHF, Ken 3KR and Jack 3FF in their organising of the 1953 State Convention in Benalla at the end of November. It is very much regretted that limited space will not permit enumerating all the Hams we were so pleased to see, as these notes are already late by special arrangement and we expect that our issue of space is now allotted.

However we were pleased to meet Frank 3ZU there and Henry 3HF who had left those 40 ft. poles to come down with Howard 3JV who will soon be on the air with two kilowatts (think that one out!), but unfortunately we were unable to have the company of Jim 3JK; we all wish him a speedy relief from his affliction. Also we missed Gordon 3XU, however Doug 3IJ was present and it is understood that he is to be helped by Chas 3ACW and Alan 3ALN in a spare time interest of assisting in setting up the local Rural Fire Brigade radio. Associates Jim Harrington, Vern Wyatt and later "Scotty" seemed to take in all the proceedings with interest and Col 3WQ was in great form.

Murray 3HZ apparently would not stay home to fix that audio fault in his 6 mx rig. Alan

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QUEENSLAND

SUI and Peter 3APP were locals with v.h.f. gear at the Convention and Syd 3CI was to have signals on the air from his home station to help them. Keith 3JC and Tom 3TS were there to look on, but Vic 3ABX was missed as was Des 3CO as he was on duty during the opening session. Stan 3AGT got a mention for his enthusiasm in making a trip up to Wagga to a Convention. It is assumed that professional interests cramped the style of Alex 3AT and Les 3ALE and necessitated their staying home, but we would have much liked to have met Ron 3AQQ and Des 3BP if they had been able to make the trip.

These notes would not be complete this issue without wishing everybody the Compliments of the Season and good listening in 1954.

SOUTH WESTERN ZONE

The Zone Convention was held at Colac on the 7th and 8th of November and turned out a great success in every way but the weather, and Gordon 3AGV and Jack 3AKC had nothing to do with that. During Saturday some very good mobile work on 80 mx was done by 3ALQ and gang (3AID, 3ASD, 3ZM), 3AKR, 3AGD and 3II, and 3ANQ, travelling to Colac. Twenty members attended the usual dinner that opens proceedings, the catering was perfectly topped off with liquid refreshments. The evening was in the hands of Leigh 3II with a programme of talks. If you see any of the boys demonstrating unarmed combat blame "Snow" 3AID. Sunday opened with shack visits and welcoming some more visitors from Melbourne and Geelong. Then the tx hunt was begun with the tx being hidden at Red Rock, 10 miles out. Result, 3AGD and gang, 20 minutes; 3LN and family, 27 minutes; 3ALP. A listen to 3WI and earbashing followed, then a break for dinner.

The big event—"All Band Scramble"—started after dinner. 3AKR by making 22 contacts was the top scorer. The party then went back to 3AGV's and a short tx hunt again, this time resulting 3AGD, 10 min.; 3LN, 12 mins.; 3AEH, 15 mins. A visit to the brick works proved very interesting and rather novel for a Ham "do." Our thanks go to 3AGV, 3AKC, 3AGE, 3KX, 3ACV, and 3APR for a very good show.

Better news about members this month. We wish to extend a warm welcome to Jim 3ACV, exJTT, now at 3CS, and Reg at Stoneford, who has just received his call—3APR. Welcome to the zone chaps. Don't forget to welcome ZLAJA if he calls on you in the next three months, he will be in VK3 on a working holiday. Harry is a University student.

CENTRAL WESTERN ZONE

Very little activity noticed throughout the zone this month. The Wednesday night hook-ups has been sadly lacking participants, so commencing next Wednesday the hook-up will start at 2030 hours instead of 1930 to give the boys on the land a little more time to polish off the evening meal without suffering indigestion. Unfortunately the zone is losing yet another member, John 3AKJ, of Horsham, who is transferring his rig to Frankston. Another John, 3OK, sure fixed his b.c.i. troubles—sold his rig lock stock and barrel. Merv. 3AFO (Horsham) and Ray 3ATN (Birchip) not having much luck working each other on 2 mx. Trev. must be sticking it all in on the way Ray.

At the time of writing, Bill 3AKW is attending the State Convention at Benalla. Dick 3RR is still not 100 per cent. fit, we're sorry to hear that. Trev. 3ATR, Jim 3DP and Herb. 3NN from now on will be up to their ears in work on their farms so I guess not much will be heard of you chappies until the harvest is finalised. Well, like DX on 2 mx, news is equally as scarce, so I'll sign by wishing you all the very best for 1954.

GEELONG AMATEUR RADIO CLUB

The meeting on 4th Nov. took the form of a Tx Hunt on 3.5 Mc. Tx was taken out by 3AWZ and 3AEH to the Leopold area, about 7 miles from Geelong. The signal from the FS6 was readable on the loops without difficulty. Results: 1st, J. Beckingham and 3WT; 2nd, M. Stock and party; third, 3ALP. R. Highway followed on his d.f. equipped motor cycle.

Three Geelong cars went to the Colac Convention on 8th Nov., 3ALP, 3AEH and 3AWZ—all with mobile equipment. The cars kept in close contact with each other at all times and had several interesting contacts as well. 3AEH had a contact with Hamilton while mobile on the Colac-Geelong road, and 3AWZ worked 3AGV of Colac on 144 Mc. for a distance of about 5 miles on the return trip to Geelong. The locals were moderately successful in the Tx Hunt, 3ALP being 3rd and 3AWZ 5th in the 10-mile event, and 3AEH was 3rd with 3ALP 5th in the 5-mile hunt.

The night of 18th Nov. was spent on the repair and adjustment of some of the Club's gear and as a result, the Type C Class C Wave-meter and the rx are all functioning OK.

November meeting was by far the best we have had, in attendance, for some time and it was quite pleasing to see so many of you fellows present, included among the visitors from afar were Jim 4HZ from Gympie and Joe Tunkl from VK5 land, an old friend of Ergs. Strange though he didn't know the worthy scribe from down there.

Business was pushed through and then the evening was taken up with a fine presentation of stills in colour, and ably described by Sam 4CZ, covering his tour of the British Isles, the Continent, and America during the Coronation. The whole presented with a finesse by Sam, putting him in the class of an expert on travelogues. Gave me the urge to wander to far and distant places. Thanks again Sam.

The evening finished with a Dutch auction and the W.I.A. benefited to some extent by the support given by all who took the opportunity of acquiring those bits and pieces they were wanting, also those who donated the gear for auction. Myself missing the auctioneer's eye, missed a couple of bottles of the best. The evening proved enjoyable so what say some more fellows, if you have some gear you want to dispose of, we will sell it for you at a commission or the proceeds to this Division.

Jack 4IF has just returned from a tour of the near northern cities and is very enthusiastic on the welcome he received at that way. He stayed with Bob 4NG and Bill 4WD at Rocky. They had a get together in Bob's office one night which I believe looked like going into the wee sma' hours. Those present were 4NG, 4WD, 4BC, 4VD, 4ZL, 4MJ, 4CL, and I'm told it was only Ham Radio that kept them there so long. Jack also met Hal 4DO and Len 4DI and "Doc" who hopes to get a licence one of these days. Bill 4WD presented some miniature tubes to be disposed of for this Division.

The only person contacted in Bundaberg was Jack 4SW of Gympie; proved more lucrative for Jack, he was able to meet Les 4XJ who, by the way, is going south on a caravan tour and hopes for 7 Mc. contacts on the way. While at Jim's 4HZ, he met Eric 4XR who took him to meet Col 4CR. Which brings up the point of what is meant by push pull. Jack has a new idea of it now. While expertly fixing junior's model plane, Col cast an enquiring eye at Jack, asking him did he know anything about push pull. Jack, being the way kind and not liking the receiving end of a lengthy discourse on radio, says a little. Col, with a whoop of triumph, disappears, returning with a large stump and a cross cut saw. Now Jack informs me it's the first time he has had a sore back from delving into the intricacies of push pull. Reckon if any rare QSLs come for Col, Jack will return them unknown. Anyhow, Jack enjoyed the exercise and the "cuppa" that followed. But fellows beware of the query push pull, don't say you haven't been warned.

Well fellows nought from Ipswich as the dead line is earlier this month and my spy evidently doesn't know, but I guess all goes well up there. Sorry chaps, but this is all for this month, so I'll close wishing you all on behalf of the Council all the best for 1954.

SOUTH AUSTRALIA

The monthly general meeting of the VK5 Division was held at the clubrooms to a representative gathering of members and visitors and took the form of a "Buy and Sell" evening. I find it increasingly difficult to write anything new about these particular evenings and can only say that they appear to be one of the most popular with the members, judging by the attendance and the continued bursts of laughter, and also that they serve a useful double purpose in bringing out into the open a lot of gear which is apparently much in demand by the younger members and also helps to swell the fund from which the various bits and pieces of test gear are purchased from time to time, with consequent benefit to the entire membership. It goes without saying that the two auctioneers were again the terrible twins—Dougal 5BY and Ross 5LW—and the success of the evening was due in no small degree to their antics. All in all, a good time was had by all and when it is remembered that the lights in the hall did not go out until 11.30 p.m., then nothing further need be said.

Among the welcome visitors were Bob 5BG from up North, and Lyell Herdman (G6HD) who was on the way home from Woomera Rocket Range after six months or so up there. Luke 5LL made a welcome re-appearance at the meeting and if I am any sort of a judge, it won't be long before he is on the air again. You know, I was looking at him sitting in the front row, and he does not look a day older from when he was on the air at Kilkenny. How do you do O.M. I was talking to Lyell G6HD after the meeting and he told me that no matter what part of the world that he might have been, he al-

ways found that the Radio Amateur always seemed to have come out of the same mould. Although the language and customs might appear very different on the surface, underneath a Ham was a Ham and he had only to produce his QSL card to be immediately accepted as one of the gang.

UPPER MURRAY AREAS

The Upper Murray function to entertain the wives and families was held on 10th Nov. and a good time was had by all. Tom 5TL was the organiser and it was his intention to ask all present to take part in the evening's entertainment, however Hurtle 5RE said, "Don't ask them, tell them!" This good piece of advice produced the necessary response and the results were indeed gratifying. Murray 5CF delivered a short address of welcome to the guests, Fred 5MA organised about five minutes of children's games (the big children seemed to enjoy this as well or better than the little children), Harry 5KW conducted a "give-away" quiz show without washing machines, Lux or Persil. However all the competitors received at least one chocolate frog, together with some who were not competitors. Hurtle 5RE entertained with some sleight of hand tricks and also a short picture show, Alec 5XO made presentations to the "rising generation," and as some of the children were home in bed, the parents did the honours for him when they returned home, and Tom 5TL raised his voice in song accompanied by Mrs. 5CF who also provided the musical side of the entertainment. The distribution of the refreshments was in the capable hands of Hughie 5BC, assisted by associate member Wolfgang.

Fred 5MA has installed a new half wave antenna for 3.5 Mc. and fed, but as Fred has been seen lately on the business end of a rotary hoe cultivating his holdings, he does not get much time to try it out, although he makes a valiant attempt to hold the "Northern Net" together. Hughie 5BC has not been heard on the air for some time but he has been busy building gear for 144 Mc. and his projected 16 element array is more advanced than just thinking. Harry 5KW has been away in the city for his annual leave but returned home for the November function. I wondered why we did not see you at the general meeting O.M.

Murray 5CF still has his gear in various stages of "dismantlement" which is a welcome change from saying that he has not been heard this month. Hurtle 5RE has been dabbling in pictures a little, but has been getting his share of the spoils on 14 Mc. whenever that band opens up. Tom 5TL has appeared regularly on 3.5 Mc. and is still to be heard on the air each Thursday evening for the edification of the Morse code learners at 7 p.m. He has also been getting his share of the available DX on 14 Mc. at odd times. He tells me that he had a contact with Scott (1AF) the other day and Scott told him that his brother-in-law Rob 5RG, ex-1RG, had gone to Sydney to get married. Well! I have to get my news from Macquarie Island these days, do I?

The President of the Woomera Radio Club, Len 5OC-5OB, will be making a tour of the Upper Murray district over the Xmas period and his trip will include Waikerie, Renmark, Mildura, Birchip, Ouyen, thence to Pinnaroo, Wellington and then Adelaide. Save up the surplus fruit boys, and let him have it as he passes, he will be very appreciative, but don't let it hit him too hard. Presidents are made of fragile material. Ahem!!

Frank 5MZ returned from his trip to VK3 looking well and fit and very grateful for the many courtesies extended to him on the journey. He told me that he was surprised at the number of Hams who wanted to know what sort of a joker the scribe for VK5 really was. One of the boys in Ballarat even went as far as to say that he thought that the scribe was an "old dill." Frank, ever loyal to his Division, quipped answered, "Pansy is by no means old!" Thanks Frank, that's telling them. Wait a minute, something looks not quite right to me, I think that I have been taken for a ride!!

Charlie Othen, 5ON, came on the air this week and his fourth contact was with Scott 1AF, ex-5AF. Charlie, like Joe 5JO, should prove an inspiration to all and every associate member who may at some time or other become discouraged with their A.O.C.P. attempts. He had reached the stage where any further shots at the exam only looked a waste of time, high marks in everything bar the code was the answer every time he sat, and if it had not been for the fact that he felt that to give up would only be letting Doc 5MD down, then I feel sure he would have faded out of Amateur Radio. In his trial gallops at Doc's shack he could take the code at any and every speed, but once inside the exam room then he would get only wobles in the stomach or something and proceed to bite the dust forcibly. Anyway, Charlie is on the air and we all salute him. The call sign VK5ON will always stand for

perseverance and the spirit of never give up. Long may it be heard on the air.

The other afternoon I was cruising along Wakefield Road on my two-wheel Jaguar and my attention was attracted to a young man approaching me on the opposite side of the road, also on a two-wheeler. His eyes were sticking out like er-er-shall we say organ stops, and all of a sudden I recognised him as our youngest associate member, to wit, Master Robson. I gave him my usual cheery greeting and he responded with some appearance of embarrassment. I can only assume that he thought that Presidents should be in a four-wheel Rolls Royce instead of a two-wheel Jaguar. I humbly apologise to all former Presidents.

The date of the picnic was originally given as 25th January, but when a few enquiries were made it was found that the holiday was being kept up on 1st February. Therefore I barked my friends to the new date. I also remember that the success of the picnic is dependent upon your patronage, the members of the committee have done their share and it is up to you all to roll up and show that you want a picnic. We aim to please—but we dishearten easy!!

You know, each month as I write these notes, I find at least one of my fellow Hams falling to take one of the biggest hurdles of life. Some fall early, some fall late, but fall they do, and eventually walk up the aisle with a member of the fair sex who has captured them from their first love—Amateur Radio. Fortunately for my faith in human nature, there has always been one member of the Amateur fraternity who has stood out like a guiding star, never once looking like even stumbling, and as his fellow Hams fell one by one in the race he has forged onwards and onwards, ignoring the wiles and machinations of the fair sex and managing to side-step the arrows of that little fellow known as Cupid. Then, just as he seemed set to take all hurdles in his stride, what must he do but go into hospital and when he leaves the said hospital, one of the sisters is wearing a symbol of his undying love, sometimes spelt LUV. Tom Hogan, 3HX, you fox, you wolf, you-you-you-words fail me, I am speechless. The orchestra will now play "Heart and Flowers"! Tom I am tickled pink. It's the best news I've heard for years, and I hasten to pass on our sincere congratulations. Glad to know that you are home again. By the way, I will be pleased to be matron-of-honour—with the accent on the matron!!

Each year at the Xmas social we always invite a number of "oldtimers" to be our guests for the night, and believe me some of them are real oldtimers in Amateur Radio. Strange as it may seem, on the Council welcoming these gentlemen is one who is more entitled to the compliment "oldtimer" than is probably most of our guests. I refer to Hal 5AW-SWI, who was in Ham Radio when most of the members were just a twinkling star in Heaven, or under a cabbage, or something. I felt that I had to make some mention of this fact this year, because last year his XYL gave me the rounds of the kitchen because I had dared to leave his name out of the list of "oldtimers." Happy now Viv? Can I call in again for a cup of tea?

The Woomera Radio Club this month became affiliated with the W.I.A. (S.A. Division) and we welcome them to the ranks of the leading Division in the Commonwealth. The President, Len 5OB-3OC, is a most active worker in the club and is really getting things going. He is known these days as "Haint heard never won a fat turkey Baker." Mr. Ray Farmer is getting hopes to some solid studying these days and hopes to get the coveted A.O.C.P. when he sits for the exam next February. The station is fairly active during the evenings, mainly because of the fact that Len's XYL being a long way away down in civilisation and therefore he does not have to worry about the usual household chores. Most of the boys have a rag-chew each Sunday morning from 9 a.m. until midday and are always on the lookout for contacts with any VK5 stations. The energetic secretary of the club, Ron 5FY, works mainly on c.w., but has managed to have a ragchew to Duncan 5AX who is in Gawler, from whence Ron migrated. Ted 5JE has worked quite a few Yanks from the club station and the reports have been more than favourable. The transmitter is a TM11 with 100 watts on c.w. and 30 watts on phone, which is on loan from the Department of Supply, and although its modulation capabilities fall a bit short for the chaps with c.w. voices, it will fill the gap until the new one materialises.

Well, here we are at the close of one year and the dawn of another. Few of us have been lucky enough to achieve all that we had set out to do in the year that has ended but most have at least achieved something for Amateur Radio. Speaking personally I have, in my humble way, tried to keep alive in these monthly notes the spirit of Ham Radio, and if at times through over enthusiasm in my task

I may possibly have trodden on anybody's pet corns, then I apologise sincerely. After all I have only set out to make you laugh a little, tried to foster the idea that fundamentally there are no states, divisions, nor any boundaries in our grand old hobby, and last but by no means least, I have written these notes because I genuinely enjoy doing so and also because of the many lasting friendships they have made for me in all divisions. To all my fellow scribes who have at times allowed me to needle them, I thank them from the bottom of what passes for my heart, and I can assure them that if they only knew the enjoyment that our joint attempts at mud-slinging has given our many readers, then they will all be back on the old stand during 1954. May I, on behalf of all the gang here in VK5 wish all Hams, wherever they may be, all that they wish themselves in the new year, and don't forget fellows, whenever you hear a VK5 signal on the air, then you are hearing a brother in Ham Radio! 73 DE VK5—

P.S.—Just in case a number of your readers are now reduced to tears because of the harsh treatment often handed out to me by the various scribes, please dry your tears and remember the Parson's motto: "Nil Carborundum Illegitimosum," which being translated from the Latin reads, "Don't let the so-and-so's grind you down!!"

WESTERN AUSTRALIA

The November general meeting had a highlight in so far as the lecture and the lecturer 6BO, one of the leading v.h.f. exponents in VK6, gave an exceedingly interesting and meaty lecture on his efforts in the construction and working of several pieces of equipment. Starting from scratch, without the help of disposals gear, his development by trial and error—but mostly trial and success—with circuits and tubes exhibited both a patience and thoroughness that could only be imparted by such a lecture and demonstration of the effectiveness of the equipment.

While conditions were not so good on the 20 and 40 mc bands, it gave him the opportunity to concentrate on v.h.f. 144 and 288 Mc., instead of giving the game away, or sitting waiting for rare DX. The gear consisted of a 288 Mc. tx circuit controlled with output of 15 watts, and the super regen rx on 144 Mc. This was an easy "get-at-able" tx, suitable for an output of 50 to 60 watts, and last but not least, a 7 and 50 Mc. portable built into a very small chassis. All these tx's were fitted for phone. Rollo concluded with a few suggestions to the budding v.h.f. man, and one was not to take definitely the published figures of tubes and the grid drive values.

A new member was elected, Mr. S. J. Smith, of 430 Gt. Eastern Highway, Midland Junction. Welcome OM. As yet no call sign has been allotted.

Out of the last Advisory Committee was a recommendation to members to the effect that as soon as a tx is found to be faulty or the modulator not doing its job, that the set be immediately placed on to a dummy load until the fault is rectified. Another recommendation is that the position of the 14 Mc. band between 14300 and 14350 Kc. be used more than it is. It is shunned by European stations, but there is no reason why it could not be used more often by those stations between S.E. Asia and the Eastern Pacific.

Word comes from 6EJ, Jack Cowles, of Ben-cubbin, that he will shortly be on the air with a small power set.

Reception of the W.I.A. news on 40 at 9.30 a.m. is improving somewhat for the middle distance country boys, although it is not reliable enough to do without the 80 mc re-transmission—a little later in the summer might see an improvement.

The W.I.A. Picnic will have been held before this appears in print, but indications are that it will be a successful one.

Council meetings are held at Council members' QTHs, and as 8AG resides in the hills the meeting is reserved for the last in the year. Nearly all Council members can make the trip and the business is fitted in before and after lunch. On one occasion some years ago, there was a catch in it. There was a mast all ready to be stood on end, and Council members provided the united strength necessary to do it.

With this issue VK6 extends its greetings to all VKs and expresses the hope of good times ahead.

TASMANIA

Main topic of news this month is the preparations for the building of the VK7WI tx and other matters regarding the Exhibition. By the time this appears in print the Exhibition will be almost due to open—7th January is the opening date. The response to the appeal

for parts to build the tx has been really magnificent and on behalf of the committee, I would like to thank all those who made donations of either parts, cash or time. Of course the show isn't over yet by any means, and staffing of the station during the hours the Exhibition is open is still a major problem; any offers of help to operate the station will be very gratefully accepted and even an hour for meal relief will help. A tremendous amount of work has gone into the organisation of the show and we don't want it to fall flat because of lack of operators. The remote rx tuning per 144 Mc. link had its first trial on 25th November when 7OM worked several stations from his home location at Bellerive and remotely tuning the 7LE rx at South Hobart.

Seems like summer is on the way at last as the 50 Mc. band is starting to pick up and at a recent opening, VK4 and VK2 were worked by 7AJ and the northern gang.

Heard an enquiry re field days during the coming summer—the idea is an excellent one and a lot of fun is had at these outings. We must certainly think about it when the Exhibition is over.

The Sunday night ragchew on 80 mc seems to be here to stay and is being well patronised—mainstays are 7OM, 7YY and 7MY.

I must apologise for the shortage of news this month, but my spies have let me down and the December meeting doesn't take place until next Wednesday. But I take this opportunity on behalf of the Council to wish all members a Merry Christmas and a most prosperous New Year.

NORTHERN ZONE

Last month the zone held a field day in the form of a 144 Mc. Tx Hunt. It is the first the writer has been to whilst in this zone and to all intents and purposes was very successful. Those seen at the Flour Mill congregating point and caused much interest to the non-radio fraternity of the city with their unusual beams, etc., were 7GM, 7RK, 7BQ, 7AM, 7LZ and 7CA, also two of our enthusiastic associates, Ron Rich (with friend) and Henry Solomon. The honours for the day went to Ron Rich and partner (who had TFF's gear), closely followed by 7GM/7RK combination. Others were well behind and had to be called in. Many were the experiences of some of the members. The tx was hidden in a mammoth tea chest, copiously supplied with magazines by 7XW and 7LX. 7LX's mother thoughtfully provided a very welcome afternoon tea for us. Due to the interest in the above, I believe another day is to be arranged, tentatively on 17th January.

Col 7LZ and Len 7BQ have been active on 6 mc. Gadding about the mainland on holidays is 7GM and is visiting a few shacks in VK3 and VK2. 3AIX told me a few days ago that he had been to visit him. 7XW had a letter from W2QHH who is known for QRP DX (he uses 40-60 watts in W-band) and now has 222 countries confirmed of 223. TFF, in very serious mood these days, is busily scanning over house plans, trying to decide where will be the best room to run feeders. 7RK has borrowed a 'scope—not to look at keying waveforms surely Ray?

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Advertisements under this heading will only be accepted from Institute Members who desire to dispose of equipment which is their own personal property. Copy must be received by 8th of the month, and remittance must accompany advertisement. Calculation of cost is based on an average of six words a line. Dealers' advertisements not accepted in this column.

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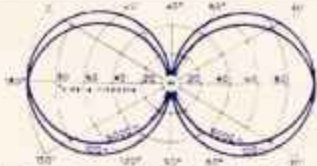
The 416 Double Ribbon Velocity Microphone



Left: Cat. 416 Double Ribbon Microphone.

Above: Polar diagram response curve of Cat. 416.

Below: Characteristic response graph of Cat. 416.



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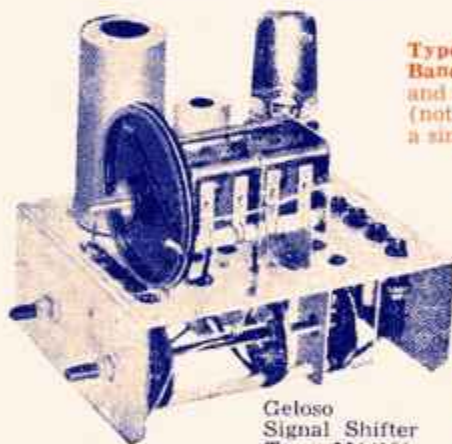
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EDITORIAL



WELCOME TO OUR ROYAL GUESTS



In common with all other citizens of Australia, we, the members of the Wireless Institute of Australia, humbly extend to our Royal Guests a hearty and sincere welcome to this "Our Land."

As this is the first occasion on which a reigning Queen has visited Australia, we are deeply appreciative of the honour bestowed upon us and look forward to the time when Aus-

tralia will become the second home of our Queen and her family.

We pledge ourselves to do everything in our power to make this visit a happy and memorable event.

Taking a lead from the Motto of the Boy Scouts, we will hold ourselves prepared at all times to serve loyally.

"GOD SAVE THE QUEEN."

WI BROADCASTS

All Amateurs are urged to keep these frequencies clear during, and for a period of 15 minutes after, the official Broadcasts.

VK2WI: Sundays, 1100 hours EST, 7146 Kc. and 2000 hours EST 50 and 144 Mc. No frequency checks available from VK2WI. Intrastate working frequency, 7125 Kc.

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VK4WI: Sundays, 0900 hours EST, simultaneously on 3560 and 14342 Kc. 3560 Kc. channel is used from 0915 hours to 1015 hours each Sunday for the W.L.A. Country hook-up. No frequency checks available.

VK5WI: Sundays, 1000 hours SAST, on 7146 Kc. Frequency checks are given by VK5MD and VK5WI by arrangements only on the 7 and 14 Mc. bands.

VK6WI: Sundays, 0930 hours WAST, on 7146 Kc. No frequency checks available.

VK7WI: Sundays, at 1000 hours EST, on 7146 Kc. and 146.5 Mc. No frequency checks are available.

THE CONTENTS

Skeleton Slots	2	Trade Review—Eddystone "700" Communications Receiver	11
Let's Listen	5	Fifty Megacycles and Above	13
The Complete Amateur—The V.F.O.	6	20th A.R.R.L. International DX Competition	13
Amateur Call Signs	7	DX Activity by VK3AHH	15
A Treatise on Practical Modern Recording Tape	9	Prediction Chart for Feb., 1954 ..	15
Antarctica	10	Federal, QSL, and Divisional Notes	16

SKELETON SLOTS

BY A. HAVYATT,* B.E., G3IFS/VK2AET

SLOT aerials were developed during World War II. for use at centrimetric wavelengths in order to provide an efficient radiator for energy at those ultra high frequencies. They were originated in wave-guide technique for radar, and with subsequent development, have been used for v.h.f. broadcasting and other v.h.f. purposes.

About three years ago the B.B.C. erected at Wrotham, England, a radiator for 90 Mc. f.m. transmission and this radiator is technically described as an assembly of co-phased slots on the surface of a vertical cylinder. This, in effect, consists of 32 slot radiators arranged in eight tiers with four in each tier spaced equally around the circumference of the vertical cylinder. In addition, it has been suggested that this form of radiator would be suitable for use in aircraft by cutting slots in the aircraft skin and plugging with dielectric, thus avoiding the use of projecting v.h.f. aerials. A further suggested application is their use as marker and landing beacon radiators on aerodromes when they could radiate from horizontal slots let into the surface of the ground, even in the surface of a runway if necessary.

At centrimetric wavelengths, energy is transmitted more efficiently as bounded electromagnetic waves in a wave-guide than as currents in a conductor. When it is required to radiate the energy which is being carried by the wave-guide, it is not necessary to put the energy back into current form and then radiate from an aerial, but instead, the electromagnetic wave can be radiated directly.

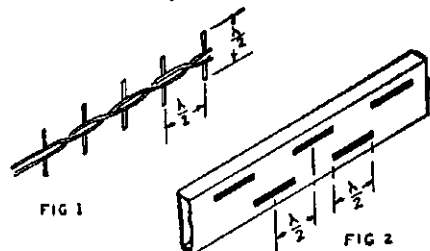


Fig. 1.—Demonstrating difficulty of constructing an array of dipoles at centrimetric wavelengths. Fig. 2.—Radiating slots equivalent to the array of dipoles in Fig. 1.

It is easy to understand that an array of dipoles (Fig. 1) would be difficult to construct in order to provide correct phasing and impedance matching at these frequencies so that some other form of radiator becomes desirable.

This problem is overcome by punching a row of holes in the side of a wave-guide so that each hole radiates some of the energy passing down the guide. It is, of course, necessary to make the holes of suitable length to act as radiators, and also to space them correctly so that they are fed in uniform phase (Fig. 2).

HOW A SLOT RADIATES

You will no doubt be asking now how slots manage to act as radiators,

and it is a little difficult to see what they have in common with other types of aerial. First of all, a slot in an infinite sheet is closely equivalent to a flat strip dipole in free space if it is assumed that the shapes of conductor and dielectric be interchanged. Reference to Fig. 3 will make this analogy clear where it will be noted that the input impedance is approximately 70 ohms in the case of the dipole and 500 ohms for the slot.

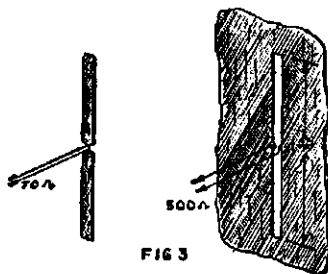


Fig. 3.—Dipole and corresponding slot in an infinite sheet.

It is well known that the electric component of the field from a dipole is in the same direction as the dipole, i.e. horizontal polarisation is obtained from a horizontal dipole. And as the electric field is at right angles to the magnetic field, it follows that the magnetic field from a horizontal dipole will be vertical. Other well known facts that emerge in connection with the dipole are that it has maximum current at the centre and maximum voltage at the ends.

However, in the case of the slot, it can be seen that, viewed from the feed point, the slot edges form short-circuited quarter wave transmission lines. This arrangement has a high input impedance, so that heavy currents will flow in the short-circuited ends and a high voltage will appear across the feed point, its value tapering off towards the short-circuited ends. This voltage across the slot lips forms an electromagnetic field in the slot which is free to radiate outwards from both sides of the sheet. The electric field is polarised in a plane at right angles to the slot length, i.e. horizontally, whilst the electro-magnetic field is vertical, assuming a vertical slot. **The important point that emerges here is that the horizontal dipole and the vertical slot both produce horizontally polarised radiation.**

The vertical electro-magnetic radiation, and hence horizontal electric field, could also be explained by the fact that current flows in the horizontal ends of the slot causing radiation of energy, whilst currents flowing in the vertical sides flow in opposite directions and cancel each other out (Fig. 4).

Another point of great similarity between the slot and the dipole is that each can be folded to alter its input impedance. A folded dipole has its impedance increased fourfold, whilst the folded slot has its impedance re-

duced to a quarter of its original value, with a resultant construction as shown in Fig. 5.

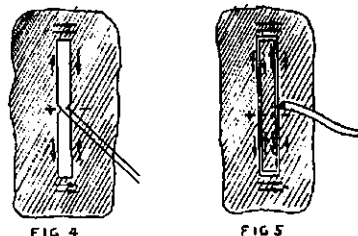


Fig. 4.—Distribution of current in sheet surrounding slot radiator. Fig. 5.—Folded slot.

FIELD STRENGTH PATTERNS

At this stage it would be as well to examine the field strength patterns of the slot aerial to enable a comparison to be made against the ordinary dipole. It will be seen (Fig. 6) that the horizontal pattern has a figure-of-eight shape similar to that which is obtained from a horizontal dipole, whereas the vertical pattern has higher energy radiation parallel to the ground than at right angles to it. This latter pattern reveals the difference between the two aerials as the corresponding dipole pattern would show equal radiation in all directions.

It is immediately apparent that the vertical radiation pattern is somewhat similar to that which would be obtained from two stacked dipoles, or a "one-over-one," and is therefore a very desirable feature for v.h.f. propagation. In addition, a conventional type of dipole reflector can now be added which gives this simple aerial a forward gain in excess of 4 db and having a broad frontal lobe.

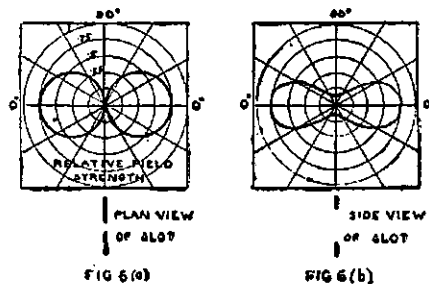


Fig. 6 (a).—Horizontal radiation pattern. Fig. 6 (b).—Vertical radiation pattern.

PRACTICAL DESIGN

So far the discussion has centred around slots cut in an infinite sheet which is impracticable and still continues to be so for sheets of finite size owing to high wind resistance and difficulty in arranging for rotation, not to mention being most unsightly. One way out of the difficulty is to use a construction of wire netting, this in fact being quite permissible and resulting in a satisfactory aerial for certain applications. But in experiments to determine how much of the sheet could be cut away to reduce unnecessary metal, it

*23 Archbold Road, Roseville, N.S.W.

was found that satisfactory operation could still be achieved with quite a narrow band of metal provided the width of the slot was increased as the surround was decreased. This led to the construction of a radiator in small diameter tube and ultimately became known as the skeleton slot aerial. For successful operation it was found that the tube diameter should not be less than $\frac{1}{8}$ ".

Owing to the fact that a point of minimum voltage appears at each end it is not necessary to employ insulators, and the aerial does in fact lend itself to all metal construction if this is desired. A slot aerial employing the Yagi method of construction is impracticable so that stacked construction must be employed to obtain a smaller vertical angle of radiation, and dimensions for a two-stack skeleton slot suitable for use on two metres are given in Fig. 7.

Flat or circular twin feeder of 300 ohm impedance may be used to provide effective feeding and matching to the elements. When 300 ohm feeder is used as phasing lines, it has a velocity factor of 0.82, so that if half wave lines are used, thus giving the same impedance at the feed end as the element impedance, they should be 33" long. Then, two such sections in parallel for the array illustrated will present an impedance of approximately 250 ohms, to which 300 ohm transmission line may be attached without serious mismatch. If on the other hand it is desired to use 75 ohm co-axial transmission line, the phasing sections may be made three-quarter wavelength long, i.e. 50", so

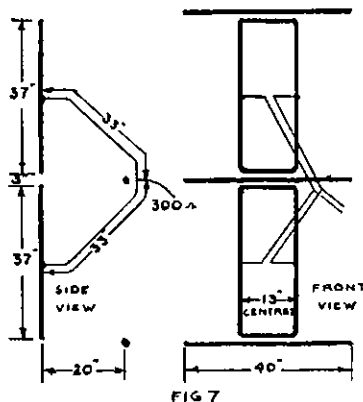


FIG 7
Fig. 7.—Dimensions of Two-Stack Two-Metre Skeleton Slot showing feeder connections.

that the feed point impedance becomes 90 ohms, to which 75 ohm co-ax transmission line may be attached again with a permissible degree of mismatch. A better match may be obtained by using a Q-bar section which can be calculated to suit individual requirements.

There is no need to limit this array to two elements, as any number may be used provided arrangements are made to feed and match the sections correctly, and standard methods of doing this can be employed.

CONSTRUCTION

A satisfactory material for construction of the skeleton slot is $\frac{1}{8}$ " screwed conduit, but care should be exercised in bending the corners, for which a bend-

ing machine of the type used by electricians is an advantage. Reflectors can be of the same material to provide uniformity of appearance.

It will be necessary to fit projecting pieces from the middle of each side of the slot towards the centre so that the phasing lines can be attached. They may be of a lighter material and $\frac{1}{4}$ " copper is suggested, as long as these projections are not expected to take too much pull from the phasing lines. Alternatively, an extra length may be left on the half wave phasing sections so that they can be split down the middle and parted to make a connection to each side.

CONCLUSION

The skeleton slot aerial has not been developed to any great extent yet, although the slot aerial, from which it originated, is well established. Additional research and experimentation needs to be carried out so that keen v.h.f. workers should find plenty to interest them with this new aerial.

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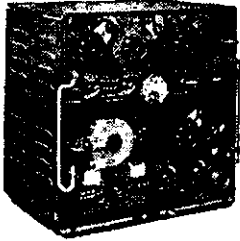
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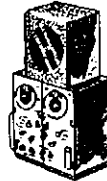
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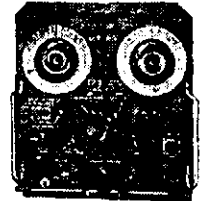
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6F6	12/6	2050, 22/6. This valve is suitable for use with Photo Cell Relay Unit, as per June, 1953, issue of "Radio and Hobbies."	
2051	22/6		
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LET'S LISTEN

BY C. A. CULLINAN,* VK7XW

Here is a simple c.w.-phone monitor which is r.f. driven. It operates over a wide frequency range without tuning and can also be used as an audio oscillator for code practice or tone work. The note is rich in harmonics which makes for easy listening. It's a small gadget of immense value in any station.

We all know that it is a very desirable practice to be able to monitor our own signals and for phone work a simple diode operating a pair of headphones appears to be quite a favourite. However, when it comes to the matter of monitoring one's c.w. signals, the problem is much more difficult.

Obviously the finest way is to devise some means of listening to the signal "off the air" with a high-quality device which will give a true reproduction. A good frequency meter will do this and if sufficiently good, will show chirp and other faults very quickly. However, this ideal method has the great disadvantage that the signal must be accurately tuned in on the monitoring device—this is time consuming and in these days of universal use of v.f.o.'s, is rapidly falling out of favour as are other methods which require tuning.

At the other end of the scale is the simple audio oscillator which is keyed simultaneously with the transmitter. This method is really simple, but does not give any clue as to what the actual signal is doing.

Whilst doing some work on the problem of telemetering for a b.c. station remote control system, it was realised that in a simpler form here was the answer to the problem of a c.w. monitor that lay in between the two extremes quoted. Then it was quickly seen that with a simple switching system a monitor could be built for either c.w. or phone operation as well as being useful as a code practice oscillator and a.f. source.

Basically the idea is to pass a sample of the carrier through a loaded rectifier and use the resultant positive voltage to drive an audio oscillator.

This then is the answer to the whole problem and in practice it works to perfection, and in the completed instrument gives loudspeaker (or headphone if desired) monitoring of both c.w. and phone transmissions "off the air."

Let's look at the circuit. A 6SN7 dual triode valve is used as a combined diode audio oscillator, a 6V6 is employed as an audio amplifier, whilst a 6X5 provides the necessary d.c.

The r.f. circuit is untuned to get over the objections to tuned circuits. The grid and plate of one half of the 6SN7 are strapped together for diode operation, the cathode having a 0.5 megohm load resistor shunted by a condenser of 0.00025 uF.

The output of the diode is fed to a switch for c.w. or phone operation.

The audio oscillator is a Hartley circuit using a push-pull output transformer. The audio note is governed by

* 64 Lawrence Vale Road, Launceston, Tasmania.

the values of C4, C5, C6, R2 and the applied voltage.

Quite a lot of experimenting can be done with these components to get a suitable note. However, it must be borne in mind that an oscillator of this kind is very rich in harmonics.

The output of the oscillator goes to a 6V6 audio amplifier by means of a second section of the c.w.-phone switch. In phone work the oscillator is disconnected from the circuit and the demodulated output of the diode is passed to the audio amplifier.

In order to key the oscillator for use as a code practice unit, a jack of the type shown is connected to key in the cathode of the oscillator. This jack also removes the diode from the circuit and substitutes B plus voltage from a voltage divider.

With a 5" loudspeaker, the unit will provide ample volume for any average room for c.w. practice.

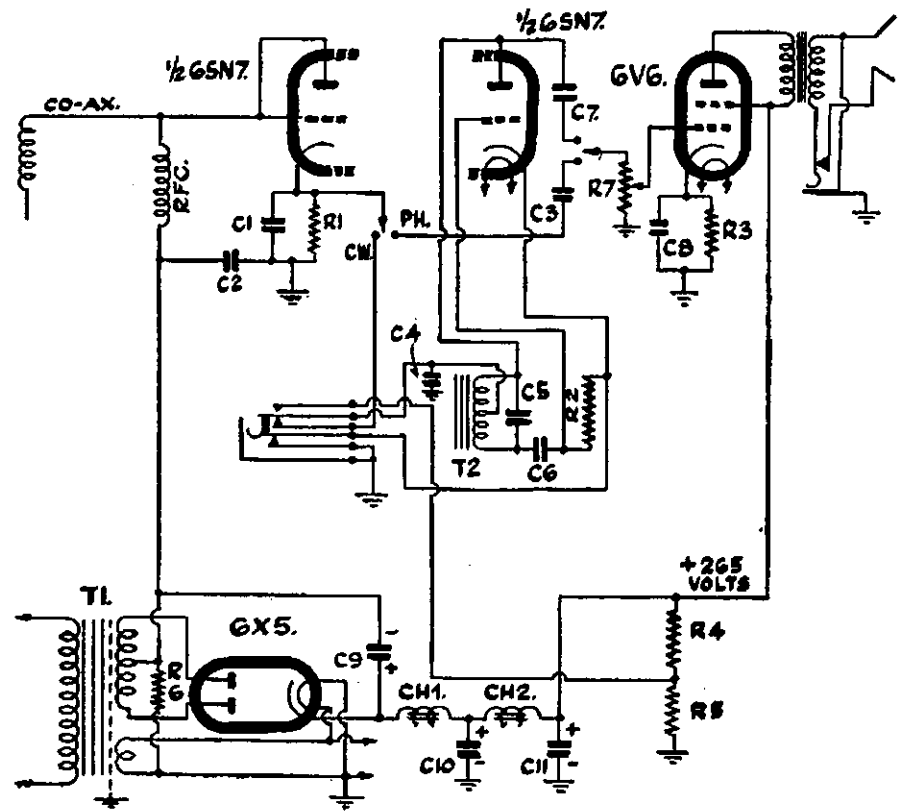
In our case, the whole unit was built into a small metal box and coupling is made into the transmitter with a small coil at the end of a piece of co-ax cable. Care must be taken to ensure that the r.f. being fed into the circuit is from one's own transmitter. If it is used near a b.c. or other station, there may be a background of this station, but some shielding and a little care will take care of this except for those who operate in the immediate vicinity of such a station. For them, the input should be tuned.

In the absence of a signal there will be a small residual current flowing in the diode load resistor and although the resulting voltage is very low it could cause the oscillator to operate very weakly. This would give the impression of a back wave. In this design it has been overcome by applying a small negative voltage to the diode via resistor R6. Be careful to note the connections to the electrolytic condenser C9. Alternatively, a crystal diode, correctly connected may be used in place of the half 6SN7, in which case any medium mu triode may be used for the oscillator.

In use the unit should be used with just enough coupling to produce a good note with an unmodulated carrier. In phone work the volume will be less than that for c.w. for the same input and volume settings.

The condenser C4 (0.1 uF.) should not be changed as with this value the unit should key satisfactorily up to at least 40 w.p.m. There may be a slight chirp due to the fact that the oscillator is being keyed (either directly or indirectly) and for this reason the transmitter keying should be checked from time to time by other means.

If you should go on phone after a c.w. session and the output of the monitor is garbled, you will probably find that the switch is in the c.w. position and the oscillator is operating on modulation.



- C1—0.00025 uF. mica.
- C2, C3, C4—0.1 uF. 200v. tubular.
- C5—0.003 uF. mica.
- C6—0.01 uF. mica or tubular.
- C7—0.05 uF. 200v. tubular.
- C8—25 uF. 50v. electrolytic.
- C9, C10, C11—8 uF. 525v. electrolytic.
- R1—0.5 megohm 1/2w.
- R2—0.1 megohm 1/2w.
- R3—250 ohm 3w. w.w.
- R4—0.2 megohm 1w.
- R5—20,000 ohm 1w.
- R6—25 ohm 3w. w.w.
- R7—0.5 megohm volume control.
- T1—Power Transformer; primary to suit mains voltage, secondary h.t. 300-300 at 40 Ma., l.t. 6.3v. at 2 amp.
- T2—Push-pull output transformer, 10,000 ohms c.t. (secondary not used).
- CH1, CH2—Low resistance filter chokes.
- Sundries—Two jacks as shown, one wafer switch as shown, one loudspeaker to match 6V6 valve.

THE COMPLETE AMATEUR

BY TOM ATHEY,* A.I.R.E.

FIRST as to the requirements of a complete station. The rules and Regulations as laid down in the P.M.G. Handbook for the Guidance of Operators of Amateur Stations must be adhered to strictly. By doing this, many unnecessary "blues" will be avoided and no tempers frayed. So the main requirements left are a good stable transmitter, a means of monitoring the output, a frequency checking system, the elimination of unnecessary harmonic radiation, and last but not least, courtesy to other Hams. The latter is self explanatory and it is felt sure one that can be dealt without any further remarks.

This leaves the more technical aspect and it is this that it is proposed to discuss. Each portion of a transmitter will be described, and circuits have been drawn, giving a basis upon which to work. Although certain valve types are quoted, it is not absolutely essential that these be adhered to. In many cases they may be unprocurable, or the pocket may not be able to stand the outlay. However, the discussed type will form a definite basis for discussion.

Many times during the course of lectures at the Queensland Division of the W.I.A.'s A.O.C.P. Classes, the question arose just what gear was required that a chap may become an Amateur, providing that he has his licence.

Consequently, as a past instructor, the author has decided to submit to the fraternity a series of articles dealing with the construction of a complete Amateur Station, capable of satisfying the most fastidious of intending Amateurs. The ethics of the sport, and it is a sport, he leaves to the instructors, as well as the general theory, knowing full well that this side will be adequately covered.

Further, the author has always been an advocate of relay rack construction. Consequently, the whole rig is designed around a relay rack. This will give the rig a smart and professional appearance and give the constructor a definite pride

It is as well to note here and now that the aerial tuning unit is not included in the rack. This is to assist in harmonic reduction. Keep your aerial tuning unit as far away from the rack as practicable. And so to our first description—

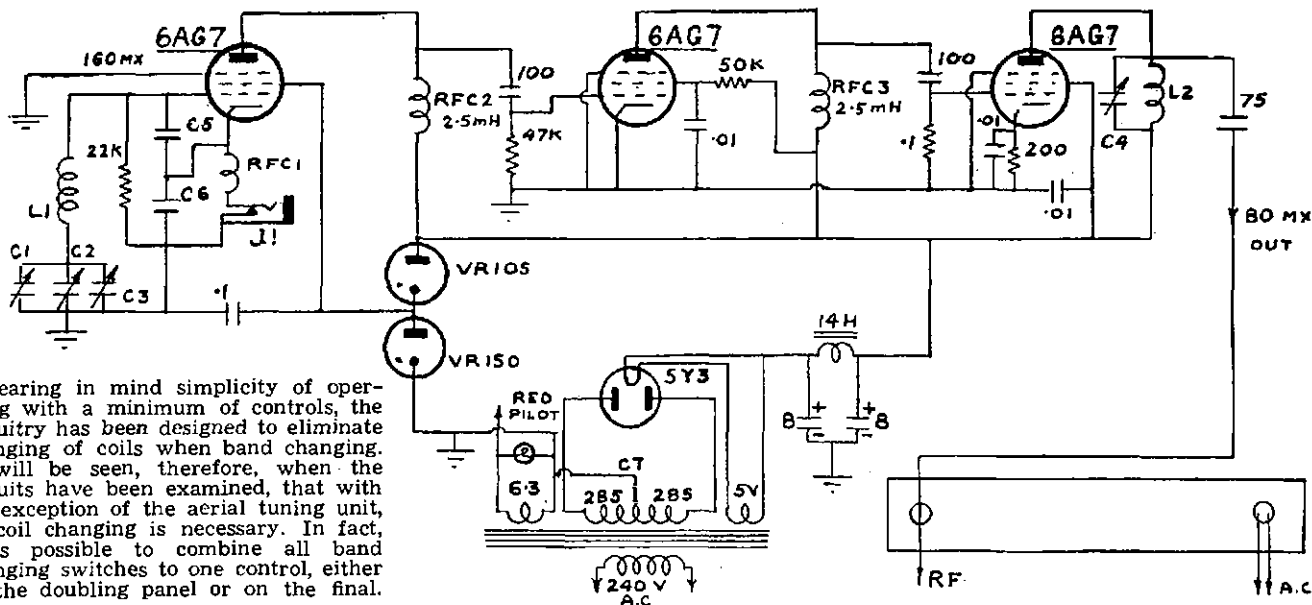
SECTION ONE THE V.F.O.

Rack Panel measurements—19" x 4 units
Chassis not more than 17" x 8" x 2" deep

The circuit consists of the familiar electron coupled Clapp oscillator, followed by an isolator-buffer and then by a buffer-doubler to 80 metres.

The 6AG7 is undoubtedly the best oscillator valve available, as harmonics can be taken from it down to the fifth with ease. The mu is high—in the vicinity of 11,000—and if possible this type should be adhered to. However, if it is unprocurable use a 6M5 or 6BW6 in that order.

The fundamental frequency decided upon was 160 metres or 1750 Kc. As the band width is 3.5 to 3.8 Mc. on the 80



Bearing in mind simplicity of operating with a minimum of controls, the circuitry has been designed to eliminate changing of coils when band changing. It will be seen, therefore, when the circuits have been examined, that with the exception of the aerial tuning unit, no coil changing is necessary. In fact, it is possible to combine all band changing switches to one control, either on the doubling panel or on the final.

The whole unit is more elaborate than seems necessary. But to make a really good job of a transmitter, it is necessary to incorporate everything that will provide flexibility of movement, tidiness and a job giving efficient and stable output. Hence the requirements for a complete transmitter should include:—

1. A variable frequency oscillator movement;
2. A crystal oscillator;
3. Doublers and/or triplers to all bands through 80 to 10 metres;
4. Provision for manual keying;
5. Provision for modulation;
6. Ease of antenna coupling; and
7. A minimum of switching.

and joy in his work. Too many rigs in the past have been "haywired" and although astounding results have been procured, even the owners admit that it could be cleaned up if they had the time. So chaps, when you begin your rig, begin it the right way—clean and neat.

It is proposed to deal with each portion of the transmitter separately and each circuit will, naturally, be included in the text. On each circuit all terminations are brought out to a panel to represent the rear of the chassis under discussion. Later on a complete diagram of cabling, interlacing all panel and chassis will be presented so that no error in cabling can be made.

metre band, this means the variation must be 1750 to 1900 Kc. Allowing for a small overlap at each end, the tuning assembly must cover 1700 to 1950 Kc.

The use of this low frequency is apparent. Just listen to any b.c. receiver working in the vicinity of 1500 Kc. and note how much drift from frequency is there—if any—and no great care taken! So use a low frequency for your fundamental. The values given will cover this range.

It is necessary to use high grade condensers in this unit. Double bearing shafted condensers preferably are best. In fact, it is recommended that the unit from the TU10 Tuning Unit be used.

Looking at the circuit, C1 is your main tuning condenser. C2 is a negative

* Ex-Instructor Qld. Division W.I.A. Classes; 41 Mountford St., New Farm, Brisbane.

co-efficient condenser of 10 pF. capacity. Here you can use a Ducon N.P.O. type B ceramic. C3 is a 5-25 pF. ceramic trimmer and again is a Ducon TS2A type N600 5-30 pF. trimmer. C5 and C6 have a capacity of 0.0015 uF. and must be silver mica. Use Ducon type SS even if the right capacity must be built up. Of course if other brands are available use them by all means. It just so happens that these types were available. The above values are critical so try and adhere to the values wherever possible.

The r.f.c. has an inductance of 2.5 mH. All coupling condensers between the isolator and oscillator, buffer and isolator, and the coupler to the output should be mica. All by-pass condensers can be of paper and tubular construction.

When wiring, use rigid lines for all grid wiring of the oscillator. Wire of a gauge about 14 s.w.g. or b. and s. tinned is good and will form a rigid joint.

Chassis layout is left to each constructor's choice. However, it is just as well to keep the grid circuit shielded from the plate circuit. This can be done by enclosing the grid components in a shielded box above the chassis and connect the plate wiring beneath it. In fact, it may be wise even to keep the coil and condenser shielded away from the valve and then enclose the whole in another shield. This will materially assist in stopping drafts from affecting the temperature and causing variation to frequency.

As the isolator's job is not only to disassociate any voltage variations between the oscillator stage and the succeeding amplifiers, but is also to act as a builder of voltage, any high-gain pentode with a high slope will act here. It is an untuned stage and is capacity coupled to the buffer-doubler, which is a power amplifier.

The output of the buffer-doubler is tuned to broad-band characteristics by the small trimmer across the coil, and in turn is fed to the multiplier chassis through a mica coupling condenser of 75 pF.

A small power pack is required, rating about 60-80 Ma. at 250 to 285 volts each side of centre tap. The h.t., after filtering, should be about 270v. Two VR tubes are used for voltage stabilisation—a VR105/30 followed by a VR150/30 in series. Thus the voltage to the oscillator plate is held at 255 volts, but the screen is held at 150 volts constant. It may be necessary to put a dropping resistor between the VR tubes and the h.t. supply, further isolating the oscillator from the normal h.t. feed.

After switching the unit on and allowing the unit to reach a steady operating temperature, no drift in frequency should be apparent if great care is taken in its construction. The v.f.o. has been designed to remain on during the entire transmission and only the master switch controls it. When the master switch (to be shown later) is put on it cuts in the v.f.o. and all filaments of each portion of the transmitter.

A final word on construction. A good dial is a must. One giving a high vernier action is most desirable, or the individual can devise some way to obtain an open reading that, at a future date, can be logged for future reference to assist in calibration.

If care is taken, the unit can be tuned by the one control and give fairly even output across the whole range of its traverse.

Incidentally, there is sufficient output from the buffer-doubler to enable it to act as a small low-powered c.w. rig on 80 metres. Hence once you have got this unit working, you can get "on the air toot sweet."

AMATEUR CALL SIGNS

FOR MONTH OF NOVEMBER, 1953

ADDITIONS

- New South Wales
 2VK—S. W. Grimsley, Charles St., Tweed Heads.
 2AQN—J. F. Cox, Station: 3 New England Drive, Kingsgrove; Postal: 33 Oatley Rd. Paddington.
- Victoria
 3GH—P. D. Barnes, Woburn St., Heidelberg, N.22.
 3UF—J. T. Lake (Major), Postal Address: C/o Chief Signal Officer, Southern Command, Melbourne.
 3WL—W. A. Wells, 23 Waterloo St., Camberwell.
 3AAW—A4420 Cpl. Wright, A. W. H., R.A.A.F. School of Radio, Ballarat.
 3AHN—G. Bills-Thompson, 6a Fairmount Road, Hawthorn, E.3.
 3AXX—N. E. Turnbull, 53 Armadale St., Armadale, S.E.3.
- Queensland
 4LE—L. H. Cox, Nutgrove, Cooyar Line, via Toowoomba.
 4TC—A. Tremayne, 22 Quarry Street (Aeroglen.), Cairns.
- South Australia
 50N—C. J. Othen, 9 Holden St., Hindmarsh.
 Western Australia
 6SJ—S. J. Smith, 430 Great Eastern Highway, Midland Junction.
- Tasmania
 7KM—K. G. McCracken, 153 Bathurst St., Hobart.
- Territories
 1DY—G. E. Delahoy, Heard Island.
 1EG—W. J. Storer, Australian Antarctic Continent.

ALTERATIONS

- New South Wales
 2CS—Ocean View Parade, Charleston.
 2DW—38 Dargan Street, Yagoona.
 2JI—98 Milson Road, Cremorne.
 2QL—20 Abbotsford Road, Homebush.
 2QM—135 Darley Street, Mona Vale.

- 2XQ—30 Crebert Street, Mayfield East.
 2XR—66 Flinders Street, Cronulla.
 2ABQ—211 Barcom Avenue, Darlinghurst.
 2AIT—22 Crane Road, Castle Hill, Sydney.
 2AVP—Station 42 Kennedy St., Kingston, A.C.T.
 Postal: Reid House, Canberra, A.C.T.
 Victoria
 3GP—18 Marara Road, Caulfield.
 3JT—Maori Chief Hotel, Cr. Moray and York Streets, South Melbourne.
 3PW—Portable station within Victoria; Postal Address: Flat 21, Chatswood Court, 14 Chapel Street, St. Kilda.
 3TC—69 Colebrook Street, Brunswick, N.10.
 3ZF—Neil Street, Greensborough.
 3ACK—Fairway Drive, Mooropna.
 3AGS—33 Alfred Road, Burwood, E.13.
 3AMU—Station: 2 Cannes Grove, Beaumaris; Postal: Flat 6, 11 Loch Street, St. Kilda.
 3ANL—Nolan Street, Maryborough.
 3AVN—43 Forster Street, Norlane.
 Queensland
 4UJ—71 Rosecliff Street, Highgate Hill, Brisbane.
 4WI—Wireless Institute of Australia (Q'land Div.), c/o J. F. Pickles, 61 Liverpool Road, Clayfield.
 4WM—Kennedy Street, Brighton, Sandgate.
 South Australia
 5DF—Wavell Street, Port Lincoln.
 5LL—3 7th Avenue, Trinity Gardens.
 5OZ—14 Whistler Avenue, Unley Park.
 5PL—P.M.G. Repeater Station, Larrimah, N.T.
 Western Australia
 6AS—Carnamah.
 6EF—29 Lynton Street, Swanbourne.
 6EW—28 Brighton Road, West Leederville, Tasmania
 7MG—Swansea.
 7MR—Stowport.
 7PM—C/o. 7NT Private Bag, Kelson.

DELETIONS

- New South Wales: VKs 2EG (now operating under VK1EG), 2OK (now operating under VK3UF).
 Victoria: VKs 3AAW (see new entry in additions), 3ADZ (now operating under VK1DY), 3AFB, 3AKQ, 3ASG (now operating under VK2VK), 3AWW (now operating under VK3WL).

FOR MONTH OF DECEMBER, 1953

ADDITIONS

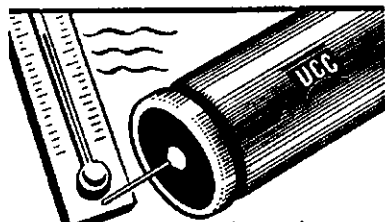
- New South Wales
 2AQJ—K. B. Pounsett, No. 38(T) Squadron, R.A.A.F., Richmond.
 2ARD—R. J. Smith, Old Bathurst Road, Emu Plains.
- Victoria
 3AND—N. T. Buchanan, 230 Ascot Vale Road, Ascot Vale.
 3ATE—R. W. Tate, Station: 3SH, Lake Boga Road, Swan Hill; Postal: 208 Campbell Street, Swan Hill.
 3AVK—V. J. Kiltney, 9 Landsborough Street, Ballarat.
- Queensland
 4FU—Dr. J. K. Fullagar, Medical Superintendent's Residence, Rockhampton Hospital, Rockhampton.
- Territories
 1AC—A. C. Hawker, Macquarie Island.
 1PG—J. H. Gore, Heard Island.

ALTERATIONS

- New South Wales
 2CE—11 Wilkinson Lane, Dundas.
 2EL—17 Clisdell Avenue, Canterbury.
 2MZ—Flat 3, 27 Hawkesbury Rd., Springwood.
 2AAF—Beaumont Road, Mt. Kuring-gai.
- Victoria
 3JE—17 Correa Avenue, Cheltenham, S.22.
 3ML—384 Glenferrie Road, Malvern, S.E.4.
 3UH—48 Eastgate Street, Oakleigh, S.E.12.
 3AAT—Roberts Road, Belmont, Geelong.
 3AHG—11 Gleeson Avenue, Burwood.
 3ALW—169 Gillies Street, Fairfield, N.20.
 3AWB—20 Diamond Street, East Preston.
- Queensland
 4DR—115 Barclay Street, Deagon.
 4HM—39 Hunter Street, Wooloowin, N.2.
 4NP—187 Preston Road, Wynnum.
- South Australia
 5JD—69 Conmurra Avenue, Ackland Gardens.
 5LF—2 Olive Avenue, Westbourne Park.
- Western Australia
 6CK—Care D.C.A. Halls Creek.
 6LA—Station: Lot 113, Morgan Street, Port Hedland; Postal: C/o. O.I.C. Dept. Civil Aviation, Port Hedland.
 6SP—126 Matheson Road, Belmont.

DELETIONS

- New South Wales: VKs 2NV, 2PG (now operating under VK1PG), 2ZZ, 2ABY, 2AEC.
 Victoria: VKs 3ET, 3IB (now operating under VK1AC), 3SJ, 3ABP (now operating under VK2AQJ), 3ACI, 3AIT, 3AND.
 South Australia: VKs 5TA (now operating under VK3ATE), 5VL (now operating under VK3AVK).



for extreme climatic variations.

U.C.C. "METALPACK"

It's the Super-Tropical capacitor made to withstand extreme temperature variations from -40°C. to +130°C. Check these big features: • Solid foil and paper assembly, non-inductive • Rigid outer aluminium casing • Non-hygroscopic processing for high performance • Full hermetic rubber sealing to tube and rivet • Spiral wire connection for maximum contact to element, brought through rivet and soldered.

Approved to Inter-Services Specifications RCSI31/2 and RCLI31/1

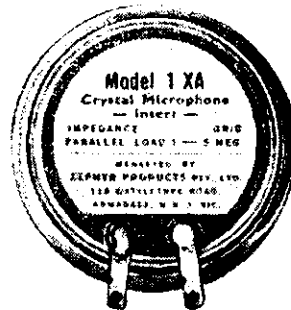
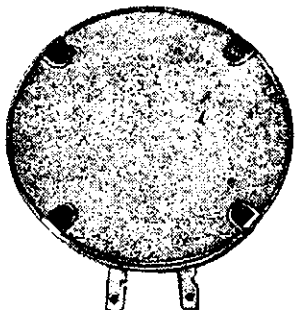


433 Punchbowl Road, Enfield, N.S.W. LF 3611. U.C.C. 41.8

MODEL "1XA" CRYSTAL MICROPHONE INSERT



AUSTRALIAN MADE — — FOR AUSTRALIAN CONDITIONS



FITTED WITH PLATED REAR SHIELD TO ELIMINATE HUM PICK-UP

- Patented crystal unit guarantees outstanding efficiency and performance.
- Protected against ingress of moisture with approved moisture sealed crystal element.
- Small — compact — lightweight — durable.
- Will not blast from close speaking.
- Precision engineering ensures realistic reproduction and high output with long life and dependable operation.
- The only unit available with a genuine sintered metal filter.
- Good high frequency response ensures excellent speech reproduction.
- Aluminium diaphragm mechanically protected and frequency controlled by "Zephyrfil" filter.
- Australian made throughout.
- Only carefully selected cements used throughout, to suit Australian climatic conditions.

TECHNICAL DETAILS

Rochelle salt crystal microphones are perhaps the most widely used for all types of service where quality speech and music reproduction at high output levels is a requirement. They are dependable in performance and when fitted with the appropriate "Zephyrfil" filter, their frequency response may be adjusted to suit any application or requirement.

This crystal microphone requires to be terminated with a high value parallel load of the order of 1 to 5 megohms for best results.

The mass of the moving parts is small, hence the sensitivity is high and a high efficiency is achieved.

Light gauge solder lugs are provided so that excessive heat in soldering will not be transmitted to the crystal element.

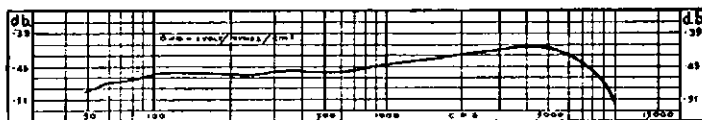
When mounted in a microphone cage, it is recommended that the insert be suspended in rubber, to eliminate shock and vibration.

One of the connecting lugs is directly connected to the case and care should be taken to solder the metal shield of the microphone cable to this solder lug, keeping the unscreened portion of the centre conductor as short as possible to eliminate hum pick-up.

All crystal elements are mounted on high grade suspension pillars being fixed thereto with a good quality cement, thus ensuring stability and long life.

Case $1\frac{1}{2}$ " diameter (rear), $\frac{3}{8}$ " thickness, 1-13/16" overall diameter (front) with filter fitted.

Frequency Response = 60-6,500 c.p.s.
 Output Level = -45 db (0 db = 1 volt/dyne/cm²)
 Impedance = Model 1XA Grid 1 — 5 megohms.



Approximate Frequency Response Curve

AVAILABLE FROM ALL LEADING TRADE HOUSES

ZEPHYR PRODUCTS PTY. LTD. 118 WATTLETREE RD., ARMADALE, VICTORIA

A TREATISE ON PRACTICAL MODERN RECORDING TAPE

PART ONE

BY G. W. STEANE

MUCH has been written of late as to the advantages of tape against wire in modern recorders, but now it seems quite clear that tape has won the day as is evident by the almost universal trend of tape sales as compared with wire, and in U.S.A. even the largest manufacturers of recorders, The Webster Company, have cleared their stocks of wire recorders and have launched a big sales campaign in marketing their new tape recorder.

Those of us who have used a wire recorder in the home have almost certainly been faced with the ordeal of joining the wire when it breaks—wire less than 4,000th of an inch thick or about the same size as a human hair—and maybe there are some of us who have had to untangle wire which has caught in the machine itself.

Travelling at a relatively high speed, usually more than 18" per second, which is essential for the reproduction of the higher frequencies, it is quite a mechanical problem to wind the wire evenly on to the spools provided and although the stainless steel wire now used is fairly strong, it is so easy to break same with "birds nests" or wire curlage all over the place.

Even on the best machine, there is no way of avoiding the background noise due to the rotation of the wire which invariably takes place.

One turn of record wire touching the next on the spools tends to leave an echo of surprising strength. This is called "printing" or "echo" and so high can the background be that our leading broadcasting stations no longer use these recorders but have installed professional tape recorders instead.

Present day tapes consist of a non-magnetic base which supplies the necessary mechanical strength, and a coating which supplies the magnetic properties. The base material may be either paper or plastic. Pylal paper base uses a kraft paper of special "construction," approximately 0.0018 inch in thickness. It is supercalendered to achieve a surface which is the utmost in smoothness. By using the proper paper construction, a smooth surface is achieved without using a filler. A filler (a fine powder to fill the pores of a coarse, poorly constructed paper) tends to rub off onto machine parts in unpleasant fashion. If enough binder is added to the paper to hold the filler, the paper is stiffened and curled and the tape will not seat smoothly on the heads. This impairs the high frequency response unless excessive tape tension is used.

Plastic base uses 0.0015 inch thick cellulose acetate. This is an improvement over the German practice, which used an oriented (stretched) vinyl material that would tend to wrinkle and shrivel up if overheated. This could easily happen in the back of a closed car in the summer sun. Plastic base is

It's nice to hear from Geoff Steane after so many years. He was one of the original members of the Victorian Division of the W.I.A. going back to the spark days when we had the spark transmitter rigged up in our Chapel Street, Prahran, days, and since then he has been in almost every phase of radio. Most of his time was on sound-systems and valves, but he originally started the W.I.A. A.O.C.P. construction classes as theoretical instructor with VK3BQ on the practical side. He has recently been studying T.V. at the Sydney University and in the meantime has been importing Magnetic Tape from France, which accounts for his extraordinary interest in this line.

much smoother and somewhat more uniform in thickness than is paper base. Hence the resulting tape has less background noise, less modulation noise, and lower distortion.

Black oxide has a higher coercivity than red and in the French tape it can show up to 320 oersteds, whereas red tape ranges around 280 oersteds.

Black oxide is recommended for tape speeds of under 7½" per/sec. and will operate successfully on speech with tape speeds as low as 1½" per/sec.

Continental tape manufacturers differentiate on red and black in this way whereas the Americans seem to use red tape for all speeds.

Black tape is, of course, harder to erase than red and the improvement in high frequency response is not apparent apart from any highly specialised applications.

The binder is a tough, flexible combination of synthetic resins, used to hold the oxide to the base. Since tape may be stored tightly wound on reels for long periods, there must be no tendency for one layer of tape to stick to the next. At the same time, the binder must not be made so hard that the tape is made stiff—for then it would not seat well on the heads, and the high frequency response would be impaired.

The coefficient of friction between the binder and metal must be low, otherwise the tape will not move smoothly over the heads—leading to flutter and to squeal. This must be achieved in the material itself and not by applying a lubricant afterwards, for lubricant will rub off and foul the heads and sometimes the capstan. The anti-friction quality must be an integral part of the formula.

Just to make the problem of the formulator more difficult, all these properties must be achieved without injury to the toughness and strength of

the binder, and without causing it to curl. A weak binder will rub off onto the heads very rapidly. Tape which has curled will not lie flat on the heads without excessive tension, and the high frequency response will be impaired.

For uniform quality from one foot of tape to the next, the oxide and the binder must be completely mixed—an operation known as dispersion. The French tape coating is dispersed for many hours in large mills, each weighing more than an automobile. Poor dispersion would increase modulation noise, as well as impair uniformity. The various ingredients are introduced into the mills according to a carefully developed sequence, then milled. A small amount is withdrawn from the mill and test-coated. If the test coat shows satisfactory dispersion, the mill contents are released for production use.

Modern tape has a ferric-oxide coating on one side of either plastic or paper base. This coating is made very thin, about 0.0008 inch, and is usually ¼" in width, which gives a tensile strength of about 5 lbs. which is more than sufficient to stand up to even the poorest tape recorder. It is much easier to drive tape at an exact speed and there is no necessity to arrange for the magnetic head to move backwards and forwards as in a wire recorder. We might add that in the case of the latter, it is quite a problem to produce a wire head which will stand up to the cutting effect by the friction of the wire which saws its way through the softer pole-pieces of same, whereas in the case of the tape it is generally accepted that a pressure of one oz. across the gap of the head is sufficient to prevent flutter and the wear of the head and tape is negligible.

Several types of magnetic tape have appeared on the Australian market of late months, each with their own technical characteristics and for the connoisseur it is rather important that the frequency response, mechanical strength and output is examined as there is quite a variation in laboratory tests. Some agents for these tapes give information on all these factors and may be this article will enlighten many readers on same.

However, on account of dollar restrictions, American tape is now off the market with the exception of a few samples, so that it may be of interest to readers to note that one of the leading manufacturers of tape recorders in U.S.A. openly advertise that their tape can withstand 57,000,000 replays before the output drops 5 per cent which, in itself, gives our readers some idea of the durability of tape generally. We presume of course that this colossal figure can only be expected when tape is lifted free from the magnetic head on fast rewind, which is usual with most reliable recorders.

(Continued next issue)

ANTARCTICA

AND this is the day! Long months of preparations, thousands of hours of special training have gone past; numerous preliminary tests, careful planning of instrumentation and research are over. Melbourne, the 4th of January, 1954—a farewell speech by the Minister for External Affairs, Mr. Casey, a last hand-shake, and the Kista Dan, the Danish exploration ship chartered by the Federal Government, sails for the seventh continent—Antarctica.

Aboard is a team of well chosen men whose aim is the establishment of a scientific research observatory in the Australian sector of that vast, wide-open land down south. Besides permanently planting the Australian flag there on icy ground, this means that scientific data of great importance will, in future, be available for the benefit of Australia, of mankind in general, in fact of future generations!

Let us recall that the whole continent covers an area of approximately 5,000,000 square miles.

Its chief feature is the great barrier of mountains and ice at its outer rim at points climbing to a height of 15,500 ft. An ice sheet about 2,000 ft. thick covers a plateau inside this barrier. There is a volcano, Mt. Erebus (13,202 ft.), on Ross Island. The vast Antarctic land is surrounded by the Antarctic Ocean whose main seas are Weddell Sea, Biscoe Sea, and Ross Sea. Animal life is restricted to a few birds, mostly penguins. Other animals are seals and cetaceans. Lichen and mosses form the flora.

The climate of the colossal block of ice is rather unfriendly. Extreme values of air temperature are -18°F . and $+32^{\circ}\text{F}$. The yearly mean temperature is approximately $+12^{\circ}\text{F}$. Terrific snowstorms and gales are likely to blow any time during the year. Sunshine is a rarity.

Long is the chain of south-polar expeditions beginning with Capt. James Cook in 1774. To mention only a few others: Ross 1839/43, Scott 1901, von Drygalski 1901/03, Shackleton 1908/14, Byrd 1928, Sir Hubert Wilkins 1928/29, Sir Douglas Mawson 1929, and the recent French Adelle Land Expedition (1948/51). Establishment and continuous operation of two permanent sub-Antarctic stations, at Heard and Macquarie Islands (since 1947/48), have also been a major contribution to Antarctic research.

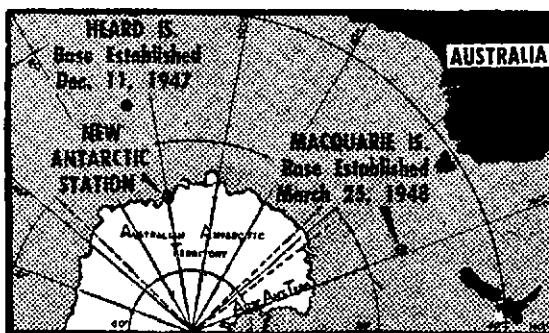
Almost half of the wide area (2,472,000 square miles) is Australian territory. The coastal district between 60° and 75° East longitude is called MacRobertson Land. This is the place the expedition anticipates to set foot on. Sir Douglas Mawson landed here with his team in 1929. He named the land after MacPherson Robertson who had helped to finance his trip. Although the main object of this 1954 Australian expedition is finding a suitable base and the establishment of a permanent research station and thus laying the foundation for large-scale investigations in years to come, its scientific programme is of considerable extent, and

includes work in meteorology, geology, surveying, biology, and geophysics. It is obvious that both official and Ham Radio communication back to this country and with other parts of the world will supply data which should be of great interest for ionospheric research. The ten men undertaking this work on the cold continent are a literally hand-picked team of experienced explorers, most of them Antarctic or sub-Antarctic veterans.

Leader of the expedition, as well as its surveyor, is Robert Dovers; others are the French observer Georges Schwartz, technical superintendent and senior wireless operator L. E. Macey, medical officer Dr. R. O. Summers, meteorologist W. J. R. Dingle, geologist B. Stinnear, engineer John Russel, wireless operator and postmaster Bill Storer (VK1EG), carpenter W. Harvey, and cook J. G. Gleadell.

BY HANS J. ALBRECHT, VK3AHH

When the Kista Dan has arrived at the coast of the continent, the most difficult work will begin for the party—that of finding a satisfactory base. Reconnaissance of the mainland is of vital importance and will be cared for by two R.A.A.F. Auster aircraft fitted with floats and skis. The establishment of the station will be supervised by Mr. P. G. Law, Director of the Antarctic Division of the Department for External Affairs.



Region of Australian Antarctic Research. (Southern Magnetic Pole at $71^{\circ} 10' \text{ S}$ and $150^{\circ} 45' \text{ E}$.)

The expedition camp will consist of several huts, their construction and outfit being the result of numerous experiments by the Antarctic Division and also of long-time experiences of other explorations. Some of these huts are of a prefabricated type specially designed for this purpose. The Antarctic village to be set up in MacRobertson Land will provide the necessary accommodation for men and apparatus and is intended to be the base for investigations in the hinterland. The camp's electric power will be supplied by two diesel electric generators of 15 kva. each.

The wireless station will obviously be located in the camp. Two R.A.A.F. type AT20M transmitters constitute the main transmitting equipment. Their coverage is 2 to 20 Mc. The final p.a. contains

four 813s in parallel with a plate voltage of 1,600 volts supplied by the separate power supply using 866s. The modulator houses 813s and the output is rated at 500 to 750 watts, fed to an inverted vee antenna (70 ft. high at the apex). Two AR7s and a National X100A form the receiving set-up. The latter belonged to Sir Hubert Wilkins' expedition, which may be regarded as a good omen for successful radio communication to this country! An AT5/AR8 system (powered from either batteries or AC power supply) as emergency equipment will be stored in a separate hut.

Meteorological elements to be measured are the same as at any weather station of this kind, i.e. temperature of air and ground, barometric pressure, wind, humidity, all on the ground as well as in upper regions (by radiosonde ascents), in addition to observations on clouds and snow conditions. Instruments used are principally the equivalent to those in ordinary, lower latitudes, although they are types specially designed for Antarctic use. As is usual practice, values of observations are daily sent by radio to this country for evaluation. Besides special instruments of entirely new design are to be utilised for meteorological radiation research.

The party's medical officer has at his disposal a surgery complete with a blood transfusion unit, operating and a portable X-ray equipment.

Although the main tasks of the expedition are research, investigations to add another contribution to the great mosaic work of knowledge on Antarctica, it must never be forgotten that these volunteers, these energetic men, keen to be pioneers of science, have to live for a whole year under conditions not comparable with those back home. It is for this reason that the authorities concerned did everything humanly possible to bring some civilisation to their village on Antarctic ground. Thus there are recreation quarters with a library, radiogram, chess, table tennis sets, etc. It is obvious that all huts with the exception of the stores are electrically heated.

Ham Radio may be listed as a means to keep these men in touch with the civilised world. Bill (ex-VK1BS in 1951) will operate under his Antarctic call sign VK1EG. His equipment will be a modified AT5 and a Hammerlund receiver. He intends to use c.w. and also phone, if signals are strong enough.

A considerable section of the expedition's programme is headed "field investigations. Here again special well proved equipment will be used. First, there are three tracked snow vehicles, so-called "weasels." Their excellent Antarctic performance had been demonstrated by the French Adelle Land expedition. A weasel contains special navigation instruments, an astro-compass, and a portable transceiver of type SC694C (U.S.). The frequency range is approximately 3.6 to 6 Mc. A 2E22 and miniature tubes constitute the line-up. The set is powered by a pedal generator or a

vibrator unit. The antenna is a whip or a long wire.

Sledges hauled by huskies are the traditional snow vehicles used on Arctic and Antarctic expeditions, and thus similar sledges will be used by this expedition, too. They are also equipped with radio communication, being an ex-R.A.A.F. set, Gibson Girl, converted to a two-channel rig (5.4 and 5.5 Mc.) and powered by a hand-crank generator. The receiver is a MCRI covering 550 Kc. to 15 Mc. (battery). Specially designed "caravans" will be used in connection with the weasels.

While biological, geological, and geophysical research and surveying carried out by the expedition will assist the completion of an over-all scientific picture of Antarctica, meteorological observations taken should invaluablely contribute to an improvement in this country's weather forecasting. All cold air masses reaching Australia originate at the south-polar region. So far the number of weather stations between there and here has not been and cannot be sufficient for a complete knowledge of those air masses, which, however, is vital for accurate forecasts. The establishment of the new station will certainly better this position greatly, not only by adding another station, but particularly by its location very close to the origin of those cold air masses.

This article would be incomplete without a discussion of the prospects of communication with MacRobertson Land. It must, however, be said that a prediction can hardly be made because not enough practical data is available. Signals originating at or passing through Arctic and Antarctic regions can be affected by severe disturbances caused by ionospheric and magnetic storms which are more frequent in those areas of high latitudes. In fact, the two zones of extensive auroral activity are a good indication for the expansion of these disturbed regions. A type of turbulence often exists among ionospheric layers there, causing a radio wave to be reflected irregularly. This becomes evident by a "flutter" fading, a familiar sound on signals passing through these areas, e.g. short-path contacts between Australia and the eastern part of South America (LU and PY). As a more detailed discussion would be beyond the scope of this article, we can confine ourselves to stating that MacRobertson Land may be just inside or just outside the southern auroral zone. Future will show how strong signals will be and how they will sound! After all, VK1EG is one of us, and thus however keen DXers in all corners of the globe may be to work that new DX country down south, we shall certainly be just a bit keener to contact Bill!

Special Features

The B.F.O. is switched according to the intermediate frequency and is very stable.

The Meter on the panel can be switched to check the current reading for each of the valves. In one position, it acts as a tuning indicator.

Construction

The front panel and the coil box are strong alloy diecastings, other units being steel or brass of heavy gauge. All metal parts are well finished and protected against rust or corrosion. Components and materials throughout are of the highest quality and the receiver is suitable for use in tropical climates.

The Sole Australian Agents are R. H. Cunningham Pty. Ltd., of 118 Wattletree Road, Armadale, S.E.3, Vic.

TRADE REVIEW

Eddystone "700" Communications Receiver

BRIEF SPECIFICATIONS

Frequency Coverage

Ten ranges as follows, selected with a low capacity rotary switch:—

Range 1—	14 Mc. to	31 Mc.
" 2—	8 "	14 "
" 3—	3.8 "	8 "
" 4—	1.5 "	3.8 "
" 5—	600 Kc.	1500 Kc.
" 6—	240 "	600 "
" 7—	92 "	240 "
" 8—	48 "	92 "
" 9—	26 "	48 "
" 10—	15 "	26 "

Valve Sequence

V1—R.F. Amplifier	6BA6	(CV454)
V2—R.F. Amplifier	6BA6	(CV454)
V3—Mixer	6BE6	(CV453)
V4—Oscillator	6AU6	(CV2524)
V5—Beat Freq. Osc.	6AU8	(CV2524)
V6—I.F. Amplifier	6BA6	(CV454)
V7—I.F. Amplifier	6BA6	(CV454)
V8—A.G.C. Amplifier	6BA6	(CV454)
V9—Det. & 1st Audio	6AT6	(CV452)
V10—Push-Pull Driver	12AU7	(CV491)
V11—Push-Pull Output	6AM5	(CV136)
V12—		
V13—A.G.C. Rec. & Mut.	6AL5	(CV140)
V14—Voltage Stabil.	VR150/30	(CV126)
V15—Power Rect.	5Z4G	(CV1863)

I.F. Stages

The two I.F. stages operate on 465 Kc. on Ranges 1, 2, 3, 4, 5, and 7, and are switched to 110 Kc. on Ranges 6, 8, 9 and 10. Four degrees of selectivity, one of which incorporates a crystal filter.

Input Impedance

Above 4 Mc.—72 ohms unbalanced. Below 4 Mc.—Equivalent to a 400 pF. capacitor in series with a 12 ohm resistor, to match into a random long wire aerial.

Output Impedance and Response

A small monitor speaker is fitted internally. On the front panel are two telephone jacks, one for the connection of an external 2.5 ohm loudspeaker, the other for telephones. Maximum output is 2.5 watts into 2.5 ohms. The response is level within 4 db from 50 to 10,000 c.p.s.

Sensitivity

For a 15 db signal-to-noise ratio and 50 milliwatts output:—

Above 100 Kc.—	2 to 5 microvolts.
Below 100 Kc.—	5 to 10 microvolts.

Image Discrimination

At least 25 db down at the highest frequency and considerably greater at other frequencies.

Automatic Gain Control

The A.G.C. amplifier (V8) enables an excellent characteristic to be obtained. The audio output varies by not more than 3 db for an increase of 80 db input, above 5 microvolts.

Power Supply

AC mains, 110 or 200/240 volts, 40/60 cycles. Total consumption 90 watts. Protecting fuses fitted.

Tuning Drive and Scale

The two-speed geared drive has reduction ratios of 125 to 1 and 25 to 1 operation, being smooth and positive. The 16-inch scale is calibrated in frequency on all ranges to a high degree of accuracy. At the top centre of the main dial is an auxiliary bandspread scale which gives an effective length of 160 inches per range. The dial is well illuminated by tubular lamps.

Low Drift Crystals

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AMATEUR BANDS

ACCURACY 0.02% OF STATED FREQUENCY

3.5 Mc. and 7 Mc.

Unmounted £2 0 0

Mounted £2 10 0

12.5 and 14 Mc. Fundamental Crystals, "Low Drift," Mounted only, £5.

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Regrinds £1 0 0

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- ★ **MAIL ORDER SERVICE** A. & R.'s. mail order service is geared to give fast and reliable service to Country and Interstate Hams. Equipment carefully packed and sent to any part of the Commonwealth.

AUDIO OUTPUT TRANSFORMERS

- * Response includes Correction due to Negative Feedback. ** For use with Rola 12-OX Speaker.

Type and Mounting	Impedance—Ohms		Freq. Response		Rating Watts	Typical Application	Price
	Primary	Secondary	DB±	C.P.S.			
894-23	500	2, 3.7, 8, 12.5	2	50-10,000	5	Line to Voice Coil	16/-
900-22	2,500, 5,000	2, 3.7, 8, 12.5, 15	1	*40-15,000	15	Single 807, EL34, etc., to V.C.	57/6
896-9	8,000, 10,000	2, 3.7, 8, 12.5, 15	1	30-15,000	15	P.P. 6V6Gs, A or AB1 to V.C.	62/6
897-9	8,000, 10,000	100, 125, 166, 250, 500	1	30-15,000	15	P.P. 6V6Gs, A or AB1 to Line	62/6
763-9	3,000, 5,000	2, 3.7, 8, 12.5, 15	1	40-20,000	15	P.P. 2A3s, A or AB1 to V.C.	62/6
809-26	500	2, 3.7, 8, 12.5, 15	1	50-20,000	15	Line to Voice Coil	42/6
870-26	10,000	2 or 8	1	*20-20,000	**6	P.P. 6V6Gs or 807s as Triodes	57/6
871-9	10,000	2 or 8	1	*20-20,000	12	P.P. 6V6Gs or 807s as Triodes	81/-
872-9	10,000	3.7 or 15	1	*20-20,000	12	P.P. 6V6Gs or 807s as Triodes	81/-
891-22	6,600	83, 100, 125, 166, 250, 500	1	50-12,000	35	P.P. 807s, AB1 to Line	82/6
892-22	3,200	50, 62, 83, 125, 250, 500	1	50-12,000	55	P.P. 807s, AB2 to Line	97/-

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FIFTY MEGACYCLES AND ABOVE

FIJI TO AUSTRALIA ON 50 Mc.

VK2WH contacted VR2CB at approx. 1025 a.m. on 30th Dec. The band remained open until the early afternoon and VR2CB and VR2CG were both contacted by a number of VKs mainly in the south eastern States. In due course, VR2 was heard in VK6 and vice versa; no QSO as yet but very encouraging. VK2WH was the first DX contact made from Fiji on 6 metres.

V.H.F. CONTEST LOGS

Please send in your log for the 1953-4 Ross A. Hull V.h.f. Contest. Don't delay, do it now! Logs to be in hands of Federal Contest Committee, Box 1734, G.P.O., Sydney, not later than 24th Feb., 1954. Page 10, December issue "A.R." for rules and scoring.

NEW SOUTH WALES

This month we have much news of 50 Mc. activity, the band being open to all States, VR2 and ZL. On the 30th December, at 11 a.m., VR2CB was QSOed by VKs 2ADT, 2WH, 2AZN, 2HO, and 2VW. There may have been others we did not hear of. Later up came VR2CG and he was also worked by many VKs. The Ross Hull Contest has been most successfully concluded, and it's going to be interesting to see who out of VKs 6BO, 4BT, 4NG and 5MT will take it away. Signals in Sydney have never been so good on six before from ZL as this season. Signals on New Year's Day were heard as early as 5.45 a.m. in Sydney, and by 9 a.m. no less than 20 different stations were worked.

A visitor to Sydney, Dudley 2DQ, says that he hears Sydney stations in the winter time up at Broken Hill, but they won't have a look around the band; now chaps have a look for 2DQ on 50.45 Mc., usually around 7.30 p.m. Dudley visited many shacks in Sydney and we hope he enjoyed his stay.

On 144 Mc. there have been many openings, but not so many taking advantage of them. 2AJZ, 2ANF and 2WH have been in contact with 2GU in Canberra and signals both ways are reported as S8. The Newcastle boys have been heard on and off. Max 2OT being on the ball most times. 2QW's QTH is now Homebush, hope to hear him soon. 2ABR has shifted his QTH to East Hills, hope it's tops Bill. Alf 2CE has moved to Dundas, and by his signal strength it is a better QTH; good luck Alf. Alan 2ACC has had many contacts with Newcastle, congrats OM. 2ABO tells us that there are eight Wollongong chaps ready to go on 144 Mc., if they can get some help; how about it chaps?

We were pleased to hear Wal 2EW come up on 144 Mc. with a very good signal. John 2ATO has gone walkabout up to Barrington tops (what no gear John). 2QZ and 2OA have been away, hope to hear you on again soon.

The winners of the Fox Hunt held on 13th Dec., were 2HL and 2AJZ in first place, 2OA and 2WJ in second place. This event is most popular, and usually has a good turn up. We hear that 2LG and 2ABE ended up at Heathcote! They started at Woodville Road, and finished up at the head of Georges River, where a picnic lunch and get together concluded the day. One

Ham was heard to sing "give us another one do!" 2ANF and Ezz Griffiths were the Fox, and did a good job.

2XX and 2OT were experimenting with antennae the other night, and ended up working each other on four feet of string that had been soaked in salt water, signals between Newcastle and Sydney must have been good, signal reports were S4 to S5 each way. We welcome 2ARD of Emu Plains to the 144 Mc. band and wish him success; John has been worked in Sydney at S7 to S8 good work OM. 2ACT has now got his converter going and can hear 2KS now! 2ADY mobile in Sydney QSOed 2ADT in Newcastle, not bad going eh!

The winner of the Scramble, held on 23rd Dec., was Cliff 2LG with 18 points, Ezz 2ADY/M 18, and 2HL and 2APQ (Horrie and Perce) 13. Congrats to all. There were 20 stations on and a good hour was had by all.

Tests on 144 Mc. have been carried out between VK6 and Sydney during the 6 mx openings, but no results as yet, but it will come. 2APQ and 2KS have developed 144 Mc. duplex working and say they have it to a fine art now. They use vertical and horizontal polarisation to facilitate this. John 2ANF says that he will be on two when business permits; John is very busy.

The 576 Mc. band is dead, but a lot of thought has been given to revive it soon.

VICTORIA

Six mx openings provide the main news, with the break-through to VR2 of special interest. First in VK3 to contact Fiji was 3IM who made it with VR2CB at about 11 a.m. on the 30th December. The band remained open long enough for a good number to participate. During the period of the popular Ross Hull V.h.f. Memorial Contest, excellent conditions occurred, with all VK active call areas, VK9, ZL1, 2, 3 and 4, and VR2 being contacted from VK3. It is generally agreed that conditions were as good, if not better, than any experienced here so far. The opening on the 31st included a period from about 2 p.m. until late in the evening when all ZL districts came through with very good strength. VK4 was well represented, at least 14 stations being active at the time there.

The first 2 mx mobile fox hunt is to be held on the evening of Wednesday, 10th February. Can you have a mobile set-up going by then? The object is to locate a target mobile station which will be touring the suburbs.

V.h.f. meetings are held on the third Wednesday of the month at the Institute rooms, 191 Queen Street; the next being on the 17th at 8 p.m. If you are active on any v.h.f. band or just interested in the v.h.f.s. you are welcome to attend.

The next v.h.f. field day will be on the 14th February, which coincides with the National Field Day.—SABA.

288 Mc.: This band is becoming more popular this year and new calls will possibly be heard. Those known to have either complete gear or gear under construction include 3ED, 3QO, 3ZT, 3AAF, 3AFJ, 3AHN, 3AHC, 3AHS, 3ALK, 3ALD, 3ATK and 3AUX. SPO has dismantled his gear in disgust, but will possibly make a comeback late in the year. 3ALQ is contemplating trying the band as is 3XP. Mod. osc. appear the order of the day, although 3AFJ is using an m.o.p.a. job consisting of a pair of 7193s driving an 832. 3AFJ would like to hear from anybody else planning activity on this band. 3AHC is planning to operate mobile

20th A.R.R.L. INTERNATIONAL DX COMPETITION

Phone: Feb. 12-14 and March 12-14

C.W.: Feb. 26-28 and March 26-28

Due to lack of available space for the somewhat lengthy rules of this popular Contest, readers who desire to compete are asked to contact the Secretary in each Division who will be supplied with copies from the Federal Executive. Many Australian Amateurs subscribe to "QST" and the full rules will be found in January, 1954, issue of that journal.

marine at an early date, and in this regard would like to know of any activity in the Geelong area.

SOUTH AUSTRALIA

There has been much activity on 50 Mc. during the past couple of months and the results have paid off with some very good DX with VK9, VR2 and ZL added to the list. The 21 Mc. band has been giving short skip contacts at the same time as the 6 mx contacts. It has been suggested that the V.h.f. Contest in this State be changed to an award to the operator who has a two-way contact over the greatest distance for each year or season—any other ideas chaps? The present form is apparently, even with the easy conditions, not acceptable to the VK5 gang. The award this year goes to 5PS—Warwick went to the trouble of building up a 288 Mc. rig just to be on the band and his trophy is a double tetrode tube for v.h.f. operation very generously donated by Philips Industries—vive le grand!

Had a ring from Tom 5TL who was paying a flying visit to Adelaide, the outcome of which should be a "City Slicker" on 2 mx coupled to a converted 522. Hughie 5BC has a 16 e.l. ready to fire with the necessary, and together with Harry 5KW also on the air there, should be a very good chance of running a link right along the Murray Valley. Bill 3AJU, at Red Cliffs asking for contacts chaps, so it looks like some worthwhile DX.

What a gathering of v.h.f. addicts at a certain commercial enterprise in Angus Street! Nice work Max, and very best wishes from us all—the latest recruit, Jack 5JD, our worthy Federal Councillor for 1954. Clem, you will need all your quick talk now! What do you do in VK5 when the taxi services in VK4 and VK2 interfere, Max?

Haven't heard a word about the Adelaide Plains and their 1 mx activity. My usual sources of information, Bob 5PU and Roy 5BT, apparently are lying low to hatch out a few more technical tricks. What about it chaps—perhaps 576 Mc. is a little more active!

Had a visit from associate Brian Jellett, who resides near Narracorte and hopes to sit for his ticket this year; he is interested in 2 mx work besides fire control work, so the Mount Gambierites won't be so isolated after all—any news boys? I'll be accused of padding this! SMK, 5ZL, 5MT, 5JO (been to VK3 and back—enough said!), 6MD and others (but not me) been active on 6 mx and very smug about the DX.

Has anyone used their 6 mx beam for 2 mx work yet—if not why not? I'll tell you later if it works, because I have just repaired mine after the storm!—3XU.

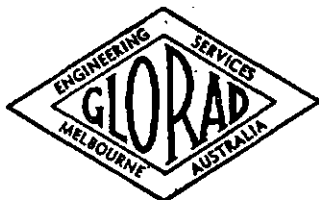
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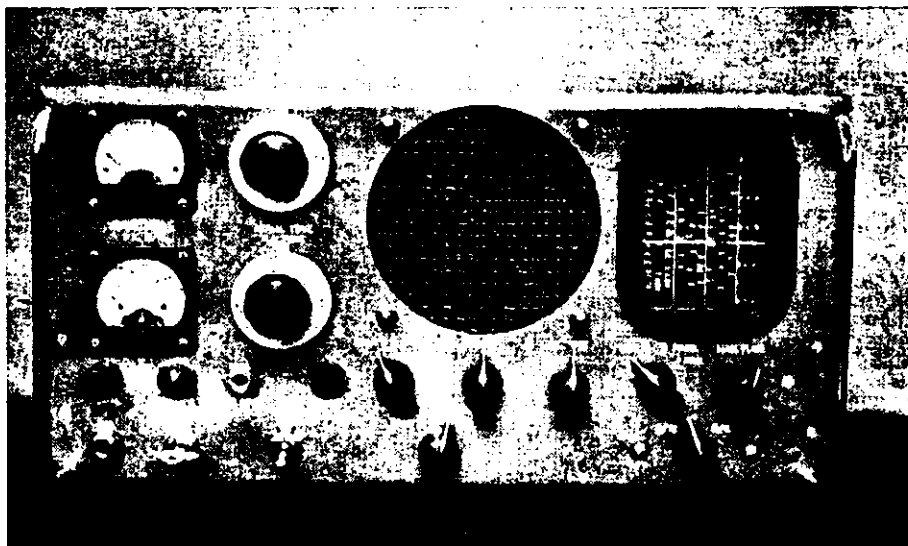
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DX ACTIVITY BY VK3AHH*

DX HIGHLIGHTS

All who missed CE0AA a few months ago will have another chance to work Easter Island: CE0AC (phone) and CE0AD (c.w. and phone) expect to commence operation on the 20th January. Let us hope that more than seven VKs are lucky this time! (thanks 3CX).

There is hope for new activity from Niue Island. Probable call sign is ZK2AC (thanks BERS195).

All being well, Bill Storer, VK1EG (ex-1BS, 2EG), wireless operator of the expedition to Antarctica, should begin operation towards the end of February.

BAND CONDITIONS

3.5 Mc.: This band provided fair to good signals from Europe and U.S.A. The mid-summer noise does not help matters, but nevertheless propagation conditions were found to be reasonably regular. Times for Europe were 1800-1940z (with an apparent peak around 1920z) and for North America and the Pacific Islands 0900-1400z.

Two s.w.l. reports from the young Jenkin brothers of Box Hill, Vic., are at hand: Dick Jenkin-DU7SV (1035Z); Dave Jenkin-W7MRG. 3AHH lists W. G6GN, DL4OS, HB9EU, and others with relatively weak signals.

7 Mc.: This band has also been affected by atmospheric noise, which naturally reduces the chances of working DX. However, openings to the African continent are reported between 1400 and 1900z. European signals were not very strong this month. Short-path contacts were predominant (1700-2000z). W. Far East, and Pacific Islands were workable, if active, during 0600-1500z. Sometimes W broke through via the long route (1900-2000z).

Considering W contacts as normal, these are this month's reports: 3QL is feeling happy in his new QTH which allows Frank to work and hear much more DX than the previous one. Here is Frank's list: HB9LO*, DL1MK*, and FA3FM, QOQDZ, CN2CS, CN8FL, SO1SS, 3V8AN, VQ4AQ, VQ3EO, common Europeans as heard. Laurie 2AMB logged CTISS*, MP4BBD*, SU1SS*, VS1FE and Europeans heard. Ivor 3XB worked KC6AF*. Fred 3YS adds ZK1AB*, and Don 3ALQ reports a phone contact with KH6ABX*. 3WQ said that 3ARV worked VQ3RJB* and MP4BBD*. Don 6HK QSO'ed PAORC*, ZS8CH*, ZS2X*, VE7EH* and SM5CO*. This month's s.w.l. reports are BERS195: DU7SV KP4KD, MP4BAF, KV4AA, VQ4AQ, S8BAJV (off VU); Dick Jenkin: CT1QF (phone), DU7SV, Dave Jenkin: VR2CW, DU7SV, S8BER.

14 Mc.: Although conditions were not very steady during December, many African and South American contacts are reported. South Africa was workable between 0500 and 0830z and around 1300-1900z, the latter period with general African conditions. Openings to South and Central America occurred between 0800 and 1400z, while Europe, the Middle East and the Mediterranean area were well represented by a number of stations (0700-1700z). W was best workable over the long route. Conditions this month were as a rule not very reliable.

Remembering that ordinary European contacts as well as those with W and the Pacific Islands count as usual, we have on c.w.—Chas 1AC with LU*, KV4* and KR6*. 2QL presents ZS3A*, CE*, LU*, IS1FIC*, XZ20M*, F18AE*, 4X4*, LU4Z1*, VQ4HJP*, and CK1BZ, HB2FL, CM9, KV4, ZC3AB, KP4, C8BF, YK1AB, CP3CB, ET2NG, S70WE, XW8AA, F18AF, OD5XX, HS3CA; followed by another good list from Noel 2AHH: JZ0KF*, ZS3*, SU1SS*, S70WE*, O44BR*, CN8BJ*, LX1AS*, 457AP* and 4X4BA*. 3AMB adds G14RY*, JZ0KF*, ZS's, 5A4TG, 3CX has again provided an excellent collection with ET2NG*, KJ6AY*, C8BF*, OD5XX*, KV4*, ZK1BI*, XW8AA*, KA01J*, ZC5VS*, T12TG*, DUICV*, 5A2TG*, and CR6AI, ZC3AB, AC4NC, CR6AJ, Alan has now worked 182 countries. Jack 3JJ has also been quite active, proved by ZC5VS*, ET2NG*, ZS's, PY5TH*, LU3EL*, LU4AAN*, PY2CK*, LUBEN*, LU8FBH*, LU5GN*, LU5AQ*, LU7DJF*, LU2BG*, LU4ZO*: while Fred 3YS QSO'ed C8BF*, Y12AM*, JZ0KF*, F18AE*, VU2CQ*. Lln 3ANJ reports VQ4DV*, FA9VN*, 4X4FQ*, and FUBAD*. Up in Queensland, Bob 4RW keyed with T12TG*, ZS's, FQ8AK*, CR6AI, E14Q, LU5AQ*, ST2AR*, FN8AD*, Y12AM*, CE3AD*, KV4BB*, ET2NG*. Les 4XJ managed JZ0KF*, F18AR*, VR4AE*, XZ20M*, ZC4FB*, VS1FX*, and F08AC, XW8AA. Rob 5RG men-

tions JZ0KF*, KV4*, VS1*, XZ20M*, and Austin 5WO worked VU2GB*, F18AE*, KV4*, ZS's, G14RY*, 9S4AX*. From the far west we have Jim 6RU with FN8AD*, F18AE*, JZ0KF*, 5A4TA*, ZS's, FK8AE*: while up in New Guinea, Alan 91Y QSO'ed CP1BX*, 15LV*, VR4AE*, 4X4BA*, G14RY*, LU8AF*, VR2AS*, CE3AG*, VR2BZ*, VS1GA*, VS1GB*. This month's s.w.l. list is headed as usual by Eric BERS195: AP5T, CE3AG, CR8AF, CE4BX (at 0315Z), ET2NG, F18s, FK8s, HPIAT, HRIAT, OD5XX, OQ5VN, QOQDZ, MP4BBL, OA4DX, LU5AQ, JZ0KF, PY2CK, XZ20M, YK1AH, ZC3AB, VR2BZ, S8M8S (off ZBZ). Dick Jenkin heard DU1MB, FN8AD, 5A4TH, F18AE; Dave Jenkin: LU6TQ, YN1AA, ET2NG, KV4, CE4BX, F18AF, G14RY, KL7FA, F08AC, JZ0KF, VU2DF, FK8, HS1DD, HS3CA, VS1, LU4AAN, ZS's, E14X. Here at 3AHH the log shows YV5DE*, KP4JE*, FN8AD*, F18AE*, F18AT*, Y12AM*, CP1BX*, HK3FF*, T12TG*, ZC5VM*, JZ0KF*, OA4ED* and KH1TH, AP2K, PY1TD, ET2NG, ST2HK, HRIAT, OD5LX, MP4BBL, CE4BX, PY2CK, 5A1TZ.

This month's phone reports are—2AHH: F08AC*, HC1FS*, CE3QJ*, Y12AM*, LU7CD*, CE3II*, PY5DP*, PK2SB*, ZEGJA*, ZS's*, ZE2JE*, ZE3JY*, VQ4EU*, VQ5EK*; and Hans 2AOU mentions LU8AJ, ET2PA, ZEGJA, ZS's, Stan 3TE QSO'ed D18AA*, ZS's*, F08AC*, HS1WR*, KC8AA*, KG4AN*, MD5DO*, VQ3RJB*, VQ4AC*, VS1's, CN8FX*, Y12AM*, YV5BQ*, YV5FK*, ZC4RY*, ZC5VM*, 3A2AM*, followed by Rex 3RU who reports ZS's*, Y12AM*, FK8AB*, HS1WR*, XZ2KN*, LU9EN*, HZ1TA*, VU2EJ*. 3XB managed QSOs with ZS's. Ray 3ATN spoke to CS3AC*, AC4NC*, MP4BAB*, VP2DL*, 15SG*, SV0WJ*, Y12AM*, CR6AJ*, XW8AA*, ST2NW*, CP5AB*, VQ4NZK*, VQ8AL*, HC2OS*, ZP5FS*, OA4DI*, CR7AU, ZC4RX*, ZS's, XZ*, CM*, YV*, KV4*, ET2*, HZ*, PY*, LU*, CN8*, ZE*, 5A2*, VP8*, 4X4*, KZ5*. Cliff 3AKR worked ZC5SF* and heard KTIWJ, OY3Z, 4RW reports AC4NC*, VU2CR*, VS1*, CP5AB*, FK8AB*, VR2BJ*, VR4AE*, John 4RT QSO'ed ZC5SF*, H3PT*, while Aussie 4TN lists ZS's*, ZEGJA*, H3PT*, KZ6AC/MM*, CP5AB*, CN8MM*, ZC5VR*, XW8AA*, HF3DA*. John 4TW mentions ZS's*, ZE2JE*, ZE1JX*, and 4RG logged ZE2JE*, ZS's; followed by Austin 5WO with ZS's*, 6HK was lucky in contacting PK2SB*, and Keith 6KC spoke to a long series of ZS's*, ZE2KP*, VS1*, ZEGJA*, while 6RU adds 9S4AX*, 15RM*, Y12AM*, TF55V. This month's Tasmanian representative is Doug 7DZ with LU5XE*, KV4*, ET2MK*, PY5DP*, MP4KAC*, XW8AA*, ZC5SF*. Finally here are the s.w.l.'s—BERS195: VQ3RJB, VQ4AC, Y12AM; Norman Clarke: VU2CR, ZEGSG, VS3RM, XZ2KM, LU8ABC, LU7DL, VS1, ZS's, CP5AB; Dick Jenkin: ET2PA, ZS's, ZE2JE, VS2, ZC5SF, HZ1AB, KC8AA, XZ2KN.

21 Mc.: As usual, this band displayed erratic conditions to all continents. American openings were likely between 2200 and 0300z and sometimes Europe came through around 0900-1100z with Africa from about 0500 to 1000z.

2AHH worked VS1ES*, DU7SV*; and Quentin 3IM reports VU2EH*, VS1ES*, KA5RC*, KH6AIO*. Percy 3PA mentions KJ8AY*, HC1FS*, VU2AT*, S2AT*, ZE2JE*, VQ4RF, ZK2AA*, 457LB*, KR6AA*, SM*, F*, GM*. 4RT spoke to VU2CQ*, CT1FT*, ZB1BU*, Y13WH*, VS2CP*, VU2EH*, 4X4CB*, 4X4CX*, VU2EJ*, FA3AY*, CN8CS* and Europeans*. Y13WH* is the next in line with HC1FS*, JA4BB*, VU2EJ*, VS1FE*, VS6BE*, DU7SV*, followed by Basil 6BS who reports ZS5QV*, VS1FE*, VS6BE*, G*, DL*, VU2CQ*, CT1FT*, VU2RX*, Europeans, ZC4RX.

26 Mc.: Good short-skip conditions naturally observed on all appropriate bands suddenly caused an improved activity on this band. W2JAC/MM is reported by almost all stations nowadays interested in "Ten." This station is aboard a ship at present cruising in Australian waters. Further reports came from 3YS with W5MET/MM and KH6ARN, and Les 4XJ (the VK4 station mentioned in this place in January "A.R." should also read 4XJ) heard W6VAD, W3OZA/MM, and said that 2AFE worked W6BLZ.

GENERAL NEWS

On the 4th January, the Kista Dan, expedition ship of the Antarctic Division of the Dept. for External Affairs, sailed from Melbourne bound for Heard Island and Antarctica. This expedition to the Antarctic continent is intended to be the forerunner of others in future years. It is not here the place to emphasise the scientific importance of these expeditions, but it may be mentioned that any data collected by them will be of great interest for atmospheric research as well as for the eventual development of the Australian sector of Antarctica. As is

well known by now, Bill Storer, VK1EG, is a wireless operator of the expedition. It is hoped that after a successful landing of the team, propagation conditions will be kind to us and allow communication. Whatever the case, Bill can be assured that we are looking for him on 7 and 14 Mc. on c.w. and, should signals be strong enough, on phone, too.

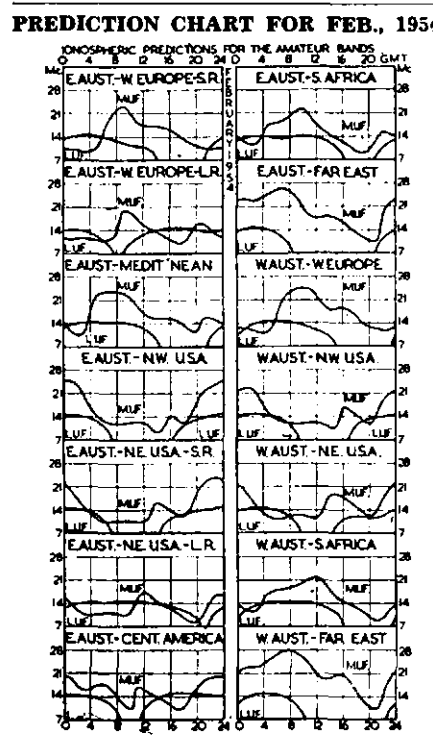
As can be read on the appropriate page of this issue, the 50 Mc. boys had a good time during December. Several VKs worked stations outside VK and ZL. Good work, fellows!

G6GN wants to contact VK on 3.5 Mc. between 1800 and 1900z (thanks 3CX). Other stations looking for VK on that band are F08AD and ZK1BG (thanks BERS195). Liechtenstein (HE) is represented by HE0LAA and occasional expeditions signing.../HE. CP1BX should be on his way to Costa Rica by now. Alan, or on the air better known as "Chas", VK1AC has commenced operation, from Macquarie Island, PZ1WX is back in PAO-land, EA0AO is reported to be active (thanks 6RU). FSAT is ex-FP8AG, Steve KG6AEX, well known to VKs as a consistent 21 Mc. station, is former holder of the following: W3CRW, KP6AA, KH6AEX (thanks 3YS), KZ5OM is ex-KP6AE. There is suspicion about FN8AD (see "A.R." 10/53).

Our most successful s.w.l. is undoubtedly Eric Trebilcock, BERS195. Eric can look back at long years of s.w.l. activity, mainly c.w. His results in 1953 show again that BERS195 is ever keen on the job. Eric heard 127 countries and 35 zones (120 countries on 7 Mc!) and mailed 1088 reports during the year.

- QTHs of interest— VQ3RJB—Box 107, Moshi, Tanganyika. VQ4EH—Box 71, Kisumu, Kenya. ZP5DC—C/o. American Embassy, Asuncion, Paraguay. 3A2AW—Via SM5ARP. CR6CK—Box 164, Marange, Angola. CR6CS—Box 244, Nova Lisboa, Angola. FQ8BA—Box 108, Brazzaville, French Equatorial Africa. VP2DL—Box 103, Dominica, Windward Island, B.W.I. KA01J—Bobb, c/o. F.E.A.R.L., Box 111, Iwo Jima, c/o. A.P.O. 500, c/o. P.M. San Francisco. QSLs received this month are—2AHH: Y12AM, DUICV, KA01J, 2AMB: 4X4CW, 4X4FQ, ZC4IP, 3PA: VU2AT, 3ATN: VK1HM, CP5EK, MP4BI, VP5AK, F78AS, VP2DL, SV0WJ, ZP5CQ, KA01J, 5JW: ZC5SF, 5RG: KV4BB, 9Y: KV4BB, CP1BX, ST2HK, JZ0KF, ZC4IP, 3AHH: VS1SF, OZ3FL, F08AA, ZK1BG (3.5 Mc.).

PREDICTION CHART FOR FEB., 1954





FEDERAL

RADIO AMATEUR CALL SIGN BOOK

Work has progressed very satisfactorily with the production of the Australian Radio Amateur Call Book and it is hoped that this will be available earlier than the target date in April.

Miss Touzeau, "A.R." Advertising Agent, has reported a most successful trip to Sydney after advertising support and it is currently estimated that more advertising will be available than was first figured necessary for a publication of this nature. This, of course, is all to the good and should assure its success.

The front cover blocks are in the course of preparation for the production of a multi-coloured cover of attractive design; this will in all probability appear as an advertising reproduction in "A.R." for March. Don't miss out on a copy of this valuable publication—place an order with your Divisional Secretary NOW!

And Remember! If you have any doubts as to the accuracy of your address on the files of the Postmaster-General's Department let us have a correction without delay. If you change your QTH between now and late March, let us know so that the very latest and up-to-date call book may be the result of our efforts. Address all correspondence relating to the call book to: G. M. Hull, Federal Secretary, Box 2611W, G.P.O., Melbourne, C.I.

PLAN TO EXPAND FEDERAL EXECUTIVE

Since the war the Wireless Institute of Australia has grown in every State and the Divisions have found it necessary to afford a larger membership on Councils in order to cope with the extra administrative work involved by the expansion of activities of the Institute.

During this period of growth the Federal Executive has remained constituted with five voting members who have mostly had to also accept the responsibility of running the Institute in the Federal sphere.

Although under its Constitution the Federal Executive may co-opt any number of people to undertake various tasks, those people have no vote on the Executive and therefore virtually no say in what the Executive does.

To afford a more efficient Executive body to deal with the ever increasing tasks that come before it, it is proposed to make an early move to amend the Federal Constitution to provide for the expansion of voting members on the Executive.

NATIONAL FIELD DAY CONTEST

ALL BANDS ON SUNDAY,
14th FEBRUARY, 1954

See "A.R." page 10 of the January issue for details. Write today to the Wireless Inspector in your State for your PORTABLE PERMIT.

Fixed or Home Stations, do not forget there is a section for you, too. Certificates will be awarded to the top scorers in the various sections in each State.

FEDERAL QSL BUREAU

RAY JONES, VK3RJ, MANAGER

The results of 6th All European DX Contest 1032, staged by the Danish Radio Society as part of their silver jubilee celebrations, are now to hand. It is indicated that this Contest has now been abandoned. The winner for Australia is our old friend Fred Haas, VK5FH, with the fine score of 4,828 points. Then follows VK2GW 1,218, VK3XK 432, while a check log was received from VK5RX. The aforementioned scores are in the c.w. section. No logs were received from Australia in the phone section.

New rules have been issued by the E.D.R. for their "OZ-CCA" diploma. The old rules proved too difficult for non-Scandinavian countries to comply with and many modifications have now been introduced to make the award easier of attainment. Information is available from this Bureau.

A fine call book has been issued by the J.A.R.L. Listings are most comprehensive giving the call sign, name, address, bands used, types of emission used, date licence first issued, occupation and date of birth of the licensee, and telephone number. Only thing that appears to be missing is the size scandals worn by the

holder. Listings are given both in Japanese and English except for Occupation which is stated in Japanese only. Much other general radio information is included in the book.

Quite a few Hams were included among the 300 people who gathered at 3 North Wharf on 4th January to witness the departure of the Kista Dan for Antarctica, and to say au revoir and bon voyage to Bill Storer, VK1EG; Lem Macey; George Delahoy, VK1DY; and John Gore, VK1PG. Seen among the crowd were Hans VK3AH, Brian ex-VK1BA, Eric ex-VK1EM, Vic VK5JH, Dick VK3XD and yours truly.

Fred Croyley, ZL2AAH, complete with XYL, and seven, repeat seven, sons, recently arrived in Melbourne to take up residence in this premier city. A wise choice Fred and welcome to you all.

Ken Smethurst, well known as MP4BAD a few years back, is now operating as DL2UY and asks for QSLs to be sent to: 1750377 Cpl. K. Smethurst, O.M.C. Flight, 2 Group (Unit) Signals, R.A.F. Sudern, 2nd T.A.F., B.A.O.R. 39, Germany, or via R.S.G.B. With an address like that, who would blame Hams for choosing the alternative.

Dolf PA0RFL (ex-PK2ZZ) has enlisted the aid of his old friend, Col. Wright, VK7LZ, in an endeavour to obtain outstanding VK QSLs for his PK2ZZ operations. Dolf would be happy to receive a card from the following VK stations: 2VA, 3ADZ, 3JJ, 3GU, 3HL, 3APA, 4FY and 4DE. Dolf has a close attachment with Australia, being a member of the Dutch 18 Squadron during the War. This Squadron, for a period, was domiciled in and worked from VK. Dolf also married a VK4 girl and one of their two children was born in VK. Any of the above stations can send their cards to VK7LZ, 3 Knight Street, Launceston, Tas., and Col. will see they reach Dolf safely.

NEW SOUTH WALES

The last meeting of this Division was the Christmas Social which was held at the usual meeting place and was attended by approximately 70 members. About the only business that was discussed was preliminary discussions on the Constitution.

Coloured slides were shown by Ken 2AXZ and the Secretary Dud 2LQ covering a variety of scenes from Norfolk and Lord Howe Islands, last year's Zone Convention at Urunga, Warragamba Dam, and Southern Tablelands of VK2. Last, but not least, in the boys' estimation, Ken's professional models aroused wide interest and requests for telephone numbers. Supper was served and everyone had an enjoyable evening.

The Division had a visit from a Magazine Committee member in Ron 3RN. A few discussions were held at the Pharmacy and one in the electrical department of a well known furniture store in the city.

WESTERN SUBURBS

All's quite on the Western Front is an old saying, but it is still true for Ham Radio hereabouts. ZDP has put in an appearance from Annandale on 21 Mc., but ZAGG appears to have given away for wearing a check shirt and square dancin'. 2AMY still plodding around 20 mx, but v.f.o. controlled now. Reg 5SP paid a visit to a number of us around here. I see there is to be a newcomer from Concord Road, Concord (no call as yet). O.T. 2FU back on after many years. Back on also after 12 months silence is 2AAH of Strathfield; good to hear you Harold.

Paid a visit to Bob 2AHF with Alan 2AOI of Concord and we were much impressed with the size of the shack, enough room to swing two cats, and completely shielded (probably for t.v.i.). A surprise in PA0ASB on 7 Mc. caused a sensation, but it turned out he was in Guilford using his old call as a portable until his VK call arrived. 2AXZ hibernating and 2ARF preparing to shift QTH and indulge in some h.f. work. My telephone number was wren in the December issue, it is LA 8234 (days only). Well hoping to get some dope, 73.

HUNTER BRANCH

The main event for the month was our Hunter Branch Christmas Social, held at Henderson Park Hall, Adamstown, and attended by 130 Hams, XYLS and Harmonics. Among those in attendance were the Divisional President and his wife, Mr. and Mrs. Jim Corbin, who made the trip from Sydney to be present, also Doug 2ASA from Wyong, "Major" 2RU from Gosford, Bill 2AEY from Taree, and Jeff 2VU and Alec 2JZ from Singleton.



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5769A

Urunga Convention

The usual North Coast and Tablelands Convention is to be held at Urunga again this Easter. Make your plans now.

Committee is under the chairmanship of Zone Officer, Noel Hansen, 2AHH.

Interstate visitors are requested to make their arrangements early by contacting 2AHH, 2XO, or any of the North Coast gang for full details.

It is too well known in VK2 and VK3 to warrant further comment.

The Christmas Tree, which had pride of place on the floor, was liberally adorned with coloured lights, decorations and presents and was a credit to the members who erected it.

The Social commenced with games for the children followed by films, chosen to interest young and old alike, after which the children were issued with ice cream and cordials whilst awaiting the arrival of the "white whiskered gentleman" in the shape of John 2DZ, our Hunter Branch President. To the tune of "Jingle Bells," Father Xmas entered and distributed presents to each child in the hall, each lady then received a present for which they were allowed the honour of kissing Father Xmas (note—My name is on top of the list to be Father Xmas at the 1954 Social). All OMs then received their present, with Syd Daniels receiving a special present for Ron 2ASJ, who was unable to attend and whose absence was missed by many.

Frank Hinks, A.R.I. who has recently acquired the call sign VK2AUH, was then suitably initiated into the ranks of Ham Radio by Ken 2KG assisted by Frank 2FX. Because most Hams are a sucker for disposals, Frank was handed an all-day sucker, then because Frank is short of space at his new QTH he was given a "sky hook" attached to a rubber balloon. For DX he was handed a pair of "cans," 12 oz. tomato juice variety. A wavemeter was next issued to him, being a 3 ft. long stick with a "standing wave" mounted on it, a toy trumpet was next issued as a modulation indicator, then the "Call Book," consisted of a Sydney telephone directory, which Frank was assured contained thousands of "calls." The "key" presented was one which would grace any 21st birthday party and the "log" was of stringy bark. Each Ham must have a "bottle" and the one Frank received was of the gaseous emission type filled with the brown liquid that cheers. Finally, Frank was presented with a "receiver," a small child's type plastic with a handle attached. A QSO was then carried on with Father Xmas by emptying the contents of the "bottle" into the "receiver" and Frank and Father Xmas suitably imbibing of same.

A Buffet Supper was provided which suitably refreshed all present, after which all returned to the main hall to witness the "Eightsome Reel," a folk dance given by members and their wives, trained by Mrs. Greenhaigh. The Reel which was one of the highlights of the Social was performed by Mr. and Mrs. K. Greenhaigh, Mr. and Mrs. J. Clarke, Mr. and Mrs. J. Cowan, Max Sobels and Joyce White. The ease and grace with which the dancers performed this Reel was a credit both to Mrs. Greenhaigh's training and the dancers' natural aptitude and stamina. General dancing, including Spot and Balloon Dances concluded another successful Hunter Branch Christmas Social.

Most Hunter Branch members will notice the loss of Bert 2CN from our ranks. Bert has gone to Toowoomba so it should not be long before we hear him with a VK4 call sign. Harold 2AHA has been touring Northern N.S.W. and Southern Queensland and as he had a portable rig with him was able to keep in touch with the Newcastle gang. Leo 2QB has also set off on a tour of VK4, but did not take a rig with him so we'll all have to wait till he gets back to see just how far he went. I received a letter from "Golden Voice" Ron 2ASJ lately wherein he reports that his 6 mx converter is going well and he is hearing ZL and VKs 5, 4 and 3.

Harry 2AFA, Neil 2XY, Bill 2AXM, Les 2AOR and Charlie 2ARV have been active on 20 mx lately, but DX is still scarce. Johnny 2DZ is shifting into a new shack and should soon be back on the air. Lionel 2CS is still in the process of settling down after moving to new QTH, but will be on again as soon as possible.

During the last opening on 144 Mc. on Saturday night, 19th Dec., Max 2OT and Les 2AOR

worked Ted 2XK and Perce 2APQ in Sydney until 0145 hrs. 20/12/53. Max and Ted were reading each other 5 and 9. During the course of the four-way QSO various experiments with antennae were carried out. Ted 2XK disconnected his beam and used a long wire 150 ft. long on which he received Max 2OT 5 and 7, by using a dipole Ted could receive Max 5 and 6, and by using a 10 inch rat-tail file he could still receive Max 5 and 6. Max 2OT disconnected his beam and could receive Ted on a piece of copper tube 19 inches long at 5 and 6. Now, hold on to your braces, Max soaked 19 inches of string in salty water and using same as a receiving aerial could copy Ted at 54 R4. Ted, to satisfy himself it could be done, also soaked 19 inches of string in salty water and could hear Max 52 R3. A mutual exchange of pieces of string has been arranged between Max and Ted and they have been suitably framed on the walls of each shack. All sceptics please note, Les 2AOR and Perce 2APQ were in on this QSO and were witnesses to these experiments.

The next meeting of the Hunter Branch will be held at Tighes Hill Technical College at 8 p.m. on 12th February, 1954.

CANBERRA RADIO CLUB

The above club held its second Annual Social at the end of November when 45 members and friends spent an enjoyable evening in the club rooms. At the second Annual General Meeting, Norm Ritchie, 2ANR, was elected President and the positions of Hon. Secretary and Treasurer are filled by Les Sparks and K. McConnell respectively. The club is now under reconstruction under the leadership of 2JG and should soon be on the air again with a 599 signal—we hope! Morse classes will start again in the autumn and it is hoped that a few new calls will be added to the call book. Address for all communications is P.O. Box 59, Kingston, A.C.T.

VICTORIA

Subject matter for this month is rather a problem. No meeting, no Tx Hunt gen, and no information to pass on from Council.

From my holiday listening there appeared plenty of activity, with plenty of portable stations about including 5JR, 3LN, 3SK and 3ADW. Let's hope all these chaps and many more go out for the National Field Day on 14th Feb.

3ARV and 3RN are two who are known to have gone to Sydney for the holidays. Did either of you chaps bring back any of that super disposals gear advertised in that area?

I hear the hard working fellows whose names appear on page one are looking for assistance. Volunteers will be called for at an early date. This looks like an opportunity for some of our associate members to take an active interest in the working of the Institute.

Sorry to report that 3OO has been in hospital for the last month. He will be there until the end of January at least. On his discharge, he assures me more time will be devoted to Ham Radio.

Visitors to the most untidy shack in VK3—a rather doubtful distinction—during the last month included 3RN, 3TK, 3AAF, 3AHC, 3ALK, 3ATK, 3AMZ, 5KF and 5JO. Ross 5KF had his brother-in-law with him, whilst Joe 5JO had his son Ray as pilot and a friend Doug as navigator. Joe had a special QSL card prepared for his mobile and portable contacts.

The VK3 President, scribe, A.C. member—a real little New Zealand "nerd"—must have the VK3 boys bluffed. Do you think either of them would give any information about that guy? No on your life! But at least I tried to get something.

Our Editor—Tom 3HX—must have more faith in the fair sex than any other VK. He took Jennie along to a party attended only by members of the gang and their XYLs. That's alright, but he left her with said XYLs for an hour. Tom old chap! That's a very unwise move. You can never tell what irreparable damage you have done. That hour could have undone all the good work you put in during the last six months.

The next meeting of the Division will be held on 3rd February when a member of the M.T.C. staff will speak on Receiver Servicing. Don't forget the Tender Night in March. Start sorting out your bits and pieces now.

Remember last month the VK5 scribe offering to be Matron of Honour at Tom's wedding—with emphasis on the Matron. Well I hear via the grapevine that said scribe has had fittings for a wedding dress. The only comment I can think of is rude, so I'll keep it to myself.

The only late news gleaned is on the February Tx Hunt.

TRANSMITTER HUNT, 28th FEBRUARY

Details of the proposed marathon hunt have now been discussed and this hunt is scheduled for Sunday, 28th February. There will be four

tx's to find, the second to be located at a spot suitable as a lunchtime location. It is hoped to award prizes, one for the winner and one for the next best performance. The scoring will be in accordance with a "standard" time to be set for each location, based on an average speed of 25 m.p.h. to the first location, and 30 m.p.h. for the remaining three (to curb the urge for excessive speeding!). Three points will be deducted for every minute a competitor arrives under the time decided upon, for each location, and one point off for each minute over the time. Opening of the sealed instructions and failure to find the tx will result in an additional 50 per cent. of maximum points being deducted.

Assembly point is at College Parade, rear of University at 10 a.m. No. 1 transmission will be on at 10.30 a.m. and off at 11.30 a.m. No. 1 location then becomes the assembly point for the commencement of hunt for No. 2 transmitter, which will be switched on at 12 noon and allowed to run till 1 p.m.

Break for lunch will be 1 to 2 p.m. when No. 3 transmitter will then come on, and go off at 3 p.m. No. 4 transmitter will appear on at 3.30 p.m. and off at 4.30 p.m.

Transmitters No. 1 and 3 will be on 3516 Kc. with call sign of VK3WI, and No. 2 and 4 on 3525 Kc. with call sign of VK3APC.

It is expected that a member of the press will be present and possibly also a newsreel photographer, so we ask you to come along bright and early, competitors and non-competitors alike, and make the day a success. Wear your Institute badge! Bring your lunch (and tea if required), plus a map of approximately 40 miles radius of Melbourne. Bring the family, tell your friends to come along—the more the merrier!

Non-competitors who are unable to join in at the commencement, may assemble in College Parade at 2 to 2.30 p.m. and will be given directions from there.

NORTH EASTERN ZONE

It is regretted that Murray 3HZ was not able to attend a social function in Nagambie recently, all the leading lights in the local C.W.A. had been tentatively lined up so that the KYL would have been entertained while the OM was pumped on the activities of Alex 3AT, Peter 3ARF, Les 3ALE, and Alan 3UL, however, a study of bowler results reported in the provincial news-sheet suggests that the time was well spent elsewhere. Syd 3CI was after VK9 contacting on 6 mx when last heard of, and also assisting Doug 3IJ with a 6 mx converter; speaking of converters, it would be interesting to know if Keith 3JC has been converted to 6 mx yet or if he is still after the DX on 20. Des 3CO, another potential 6 mx fan, was to have a visit from Doug 3IJ a while back.

The last zone hook-up (December) was very hot in Benalla, the McCartney Trophy in Ken's 3KR shack reading 108 degrees, at this juncture Hugh 3AHF was reported to be knocking the tops off "807s." Jack 3FF is back on the job again, but latest advice has it that Howard 3YV is away on holidays, where, no doubt, Col 3WQ has also gone, and we hope that a rest, although possibly forced, is helping Jim 3JK back along the road to good health.

Chas 3ACW is still hot on the trail of his local history, but apparently Vic 3ABX has been working 20 mx while Frank 3ZU has been reported on 40 mx. Des 3BP is on the harvesting, in spite of similar commitments Henry 3FP can still manage a little radio. It is hoped that competition from the "Kanga Arms" is not using up the time George 3GD puts in on radio, best you get Tom 3TS in to taking the proprietor away fishing if he makes it too hot OM.

Before this meets the public eye, Associate Vern Wyatt and a mate, Lex, we have sat for their A.O.C.P. exam, and we all hope the questions were the ones they knew the answers to. Those in Country Fire Authority work have often heard of a "Proper Officer," if you have not seen a live one in captivity previously, look hard at Rex 3UR when you meet him next.

CESSATION OF A.F. TRANSMISSIONS

It is regretted that the A.F.T. Transmissions from VK3WI will have to be cancelled for the time being.

When it is possible to recommence this service full information will be contained in "Amateur Radio."

SOUTH WESTERN ZONE

Zone activities were at a low level during the holiday period although the zone hook-up is still going at 1000 hours every Sunday on 3600 Kc. How about some of you Geelong chaps joining us, you are still in this zone? The Geelong Club's tx was heard on the 3.5 Mc. band, being operated portable at the You-Yangs with a good strength signal. 3HG has joined in and he is operating from Pt. Lonsdale. Bill 3AMH is still missing, having been lost around Ballarat some weeks ago. Bert 3BI still manages to find a few minutes to put in an appearance. 3ADN has not been heard for some time, but is putting his spare time on bush fire net.

3BV too busy sailing boats during the summer. 3EQ chasing 522s and bits and pieces, looks like 144 Mc. again, what about it 3AKR and 3AGD. Bill 3WT and Ed 3AKE are having a spell in the hospital—don't stay too long, hope to hear you both soon. 3BU has his antenna OK now thanks to 3ALG and 3AWZ.

A discussion on the proposed cutting up of the zones using the regional boundaries has not met with approval in this zone. It would mean this zone would be cut into at least three parts, leaving three or four active Hams in at least two of the new zones. It has been suggested that a piece be cut from the eastern end of this zone only, lots more later on this matter.

FAE NORTH WESTERN ZONE

On Wednesday, 6th January, the Annual Meeting of the Far North Western Zone was held at the home of 3GZ. Members present included 3TI, 3MF, 3AJU, 3AUG, 3SN, 3AFP, Associate Fred Uchtman and visitor Evan 3AAP. Apologies were received from Frank 3FC who was unable to make the trip from Ouyen, also Ian and George from Mildura D.C.A. Officers elected for the ensuing year were President 3GZ, Secretary 3TI, Treasurer 3MF. The Sunday W.I.A. hook-up will be taken by 3AFP, 3AJU and 3TI. Weekly zone hook-up will take place every Wednesday night on 7 Mc. band at 7 p.m.

Chas 3TI, who with Fred attended the Benalla Convention, gave us a very comprehensive report on the Convention and several items on the agenda paper were discussed fully. The meeting concluded with supper provided by 3MF's XYL. Bill and Charlie brought some two mx equipment, which was inspected with great interest by the members. A practical

demonstration was given by Chas and Bill to prove that the gear worked. Chas operated his tx at his home and it was received on Bill's rx at 3GZ's shack. Quite a deal of discussion went on about the merits of various antennae for 2 mx. Bill 3AJU has a sked with the gang at Renmark in S.A. and has hopes of bridging the 90 mile gap between these centres. We hope to have more news of the 2 mx activity next month.

GEELONG AMATEUR RADIO CLUB

The month of December was an active one outdoors. On the 2nd a tx hunt was the order of things, the operators being 3AKE and 3APK. The location chosen was in the Barrabool Hills about 10 miles out. Results—1st, G. Wood and 3ABK; 2nd, 3AEH; 3rd, J. Beckingham and 3WT. J. Cations, W. Zimmer, M. Stock and V. Clarke failed to locate before closing time.

On the 13th (Sunday), V. Clarke and 3AWZ chose the site for another hunt, the location being off the Drysdale-Queenscliff Road about 3 miles from Drysdale. The only member to find the tx was 3AEH. Thanks to envelopes and directions, all parties met at Queenscliff for lunch and later another hunt taken out by V. Clarke and 3AWZ was located by all present, the first three being 3AEH, 3ALG and 3BU.

The Christmas Party was held on the 15th. Several films were shown including one loaned for the occasion by R. Hall, of the Moorabbin Club, which he had taken at several tx hunts.

3WT, 3AKE and 3BU are on the sick list at present, but latest information is that all are on the improve and we hope to enjoy their company shortly. 3AEH is on holidays and is operating portable in South Gippsland and has maintained a regular schedule with the lads at home.

QUEENSLAND

December meeting saw a better than average attendance, though we sure could do with your attendance. Hope one resolution you make will be to attend your meetings more regularly in 1954. Two very interesting lectures were given, one by John 4FT on "Balanced Bridge V.T. V.Ms." and the other by Tom Athey on "Matching Transmission Lines"—both ably presented and enlightening.

The Dutch auction wasn't so successful as the last, maybe being so close to Xmas no one

having any money. The hearing aids were baled out for and among the lucky ones were 4FT, 4TF and 4WF. John 4FT has converted his to a pocket rx for b.c. band and I believe with very good results, though he isn't having much luck with the crystal insert as a mike; looks as if you are stuck with the 3 inch speaker John.

Arthur 4AW filed the breach and organised the Xmas Do, which was well attended by, strange to say, quite a few who we haven't seen in many moons. With the goodies, the amber liquid, and the jokes—blue and otherwise—each and everyone enjoyed the night. Thanks for the effort, Arthur, may your beard grow long.

Frank 8FN (ex-4FN) has been enjoying a stay in Brisbane and as usual getting behind this Division with his usual activity. Frank organised a couple of broadcasts from 4WI, also prepared the editorial for "Q.T.C.," and by an large worked like a tiger. We certainly lost one of the willing horses when Frank left for New Guinea. We haven't been able to find a permanent home for 4WI since. All this and tripping to Lismore kept him busy. Hope to see you in a couple of years time Frank and I'm sure we won't give you so much to do next time.

Herb 4HB is in hospital at the time of writing this, hope your stay is short Herb. John 4FP has gone for a tour of ZL land, Jim 4OB is taking his National Service in Townsville in the Air Force. Listening around the bands I think most of the others must be taking holidays also, as there is very little activity. A word of warning; don't mention Melbourne weather to Keith 4KS as I believe it didn't treat him very well during his stay there. I told you to take your long underwear Keith, and a hot water bottle.

Believe Bill 4WF is doing some conversions to a BC348. Leon 4FW is having trouble with his, wants to know how to get rid of a high noise level which has recently developed. Maybe you two should get your heads together. Any other suggestions from you BC348 boys for Leon. Jack 4SF, between enjoying a brief holiday, has put himself up a new tower for his beam, must be good to be so energetic Jack. Also heard Jack working a couple of new countries, Del 4RJ and Chilla 4SD seem to keep the c.w. end of the band alive from Brisbane, though Bob 4RW, of Townsville, and Des 4GZ, Charters Towers, seem to cause the most QRM here on 20 mx. Clive 4CC, when not looking for flying

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saucers, seems to find time to play with a.b.f.m. and s.s.c. or something.

Harry 4OX (MacKay) put a very nice signal in Brisbane during Xmas. I believe he is the most active up there with an occasional burst from 4BQ.

The Rocky boys came through one evening on 20 mx and it finished up in a round table conference. Bill 4WD, the chairman hi! Bob 4NG was there, after chasing home the bacon, and Eric 4EC keeping an eye on Bob. I gathered when things are quite up that away, for amusement, they start a QSO on 80 and generally wind up through all the bands to 6 mx, not a bad way to spend a pleasant Sunday. Aussie 4TN, Don 4GP and yours truly holding the line on the Brisbane end, would like to have another rag chew fellows.

Frank 4ZM is enjoying his holidays on the North Coast, looks like he has deserted the c.w., as I heard him on phone with a clamper tube modulator. John 4RT always seems to be about when the DX is there, so it's the only time I hear him here. Aussie 4TN has been doing some construction with a portable rig, and when not trying it out is hunting for the DX on all bands, especially 21 Mc.

Well chaps by the time this is read, the nominations for Council will be due in, so if you have aspirations of becoming a Council member, or you are not satisfied with the workings of the present Council, let's have your nomination as new blood on Council is always welcome, plus the fact it gives one and all the opportunity to get the inside on the multitude of business that is handled by the Council, and a clearer picture of the Institute itself.

Also keep in mind the Annual Dinner and general meeting for the election of officers. Both functions worth remembering.

April will be the month for the VK4 Intra-state Contest so if you want your call on the shield, start coking up the rig as the Contest is going to be tough this year, as there is quite a lot keen to get their name in top place.

So for now better conditions for 1954 and more support to the Institute.

SOUTH AUSTRALIA

The VK5 monthly general meeting for December took the form of a Xmas get-together at which approximately 120 members and several invited guests in the form of "Oldtimers" met together to celebrate the coming festive season. The word oldtimers only means oldtimers in Ham Radio and does not mean to infer that the invited guests were all decked out in long white beards and carried gnarled walking sticks. Among the oldtimers were Merv. Brown (ex-5MB), Clem Ames (ex-5AV), Fred Carter (ex-5GK), Cliff Churchward (ex-5BA and incidentally 70 years old), Nobby Prince (5WK), Gordon Ragless (5GR), and ex-associate member Herby Zietz. Apologies were received from Ken Milne, Ivor Thomas (5IT and incidentally one of the finest of the ex VK5 Presidents), and Lance Jones (ex-5BQ)—all of whom were absent from the State on business. John Clifton (5EH, who is one of the leading DX men in VK5 although a "shut-in") came along to the meeting and renewed many acquaintances made on the air, and our thanks are due to Ken 5KC for going along with his conveyance and picking John up and delivering him safe and sound to the meeting, later returning him to his home after spending what must have been a memorable night in such congenial company. Nice work Ken, little actions like that are the beacons along the road of Ham Radio which will still be shining when most of us are forgotten.

Profiting by past experience, Council decided that the entertainment side of the evening should follow the lines of an ordinary general meeting and Mr. Keith Manning, a member of the Adelaide Camera Club, came along and gave us an excellent illustrated-in-colour talk on his recent trip to Ceylon. The reaction of all present to this talk was particularly good, and Doc 5MD, in his proposal of the vote of thanks, expressed the view of all present when he said that we were all sorry when the lights went up, because our trip to Ceylon had come to an end much too soon. The applause that greeted the vote of thanks should have clearly indicated to Mr. Manning just how much he had contributed to the success of the meeting.

At this juncture the seats were all pushed back to the wall and all the goodies placed upon the tables, to the intense satisfaction of the President. Everybody appeared to have a good time, and it would appear that this type of Xmas meeting has come to stay, although it is possible that there are one or two members who would prefer the old style of Xmas social and its associated entertainment, but Council can only hope to please the majority and I think that most will agree that the 1953 Xmas get-together was a good effort.

The amount of food brought along by the members was as last year colossal, and the

remains of the feast was taken along to one of the orphan homes in the vicinity by Gordon 5XU and I close the description of the night with the fact that the Xmas cake, complete with a bean, aerial and a miniature Father Xmas (labelled Pansy), was presented to the Division by Jack 5JZ and members are all appreciative of this annual gesture on his part.

The tone of several Xmas cards received here seems to suggest that the feud between Doc 5MD and myself is all a lot of boloney, and I hasten to say that it is none of my seeking, but arose from a misunderstanding at a little social evening we once attended. During supper, Doc's wife and I were quite enjoying ourselves at the table eating a number of those little roasted birds called quail. May, that's his wife, and I, sure were making those birds disappear and certainly May did her share. Later on in the evening it came my turn to add to the entertainment, and without stopping to think I sang that sweet little ballad, "How happy are the birds in May." Need I say more? Doc has never forgiven me, and if you want further proof, take the way I am treated on the few occasions that I visit the QTH of Doc. The first thing that he does when I enter the drawing room is to manacle me to one of the hardest chairs in the room and stand gloating at me whilst I start picking a bag of oakum instead of playing bridge with the rest. When supper comes around, do I get any of the famous Barberier sponge cake, you said it, I don't. All I get is a plate of rock buns and a small hamper accompanied by a glance of compassion from May. When we leave the precincts I am accompanied to the gate by Doc, who hands me the money for the oakum, picking and tells me in a condescending voice to try and keep on the straight road up to the bus or else I might be in trouble. No feud? What do you think? I'll say that there is a feud, and all over a few little birds!!

UPPER MURRAY AREAS

The December meeting of the Upper Murray gang was held at the QTH of Tom 5TL and there was a distinct experimental flavour to the gathering due to the fact that all present brought along some experimental gear for exhibition. If it had been held down here at the city it could have been mistaken for a buy and sell night, but as it is the practice in the Upper Murray areas to give away instead of to sell, then such a supposition would be entirely out of order. (Do I see a crack in that remark? Maybe it is my suspicious nature Tom!!) Fred brought along his efforts in a multi-band tank tuner unit, Hughie brought his grid dip meter to ensure that Fred was OK. Tom produced some 144 Mc. gear, which when tried out caused Tom to go a delicate shade of pink, associate member Wolfgang brought along a small rx that he had made up, and Hurtle just brought himself along to ensure order. There were several absentees, Harry being caught up with his vocation, Alex reported sick, but advised that he had given Murray a relay for Tom. The relay and Murray did not appear at the meeting, and the worst is felt! A good time was had by all, and the usual Xmas greetings exchanged.

5TL is building a "City Slicker" for 144 Mc. and has high hopes of something really promising eventuating. Tom is a little dubious as to whether it will work in the country. I am sorry that I cannot answer that one, but I am a 288 Mc. man! Ahem!! 5KW has a fluorescent hanging near his 6 mx beam and as yet no neighbours have copied him on their b.c. aerials, but you can never tell. Possibly Harry is preparing the contract forms for the home lighting service before he jacks up the power. 5XO expects to be mostly inactive due to an accumulation of work and also because of a projected shifting of the QTH to Loxton in the near future. This Alex certainly gets around, why not pay the rent? Sorry Mr. Kelly, sir, just a slip of the pen, Sir!!

SMA will be QRL with the coming fire harvest. 5RE paid a flying visit to the b.b.s.s. and had a few words about radio with one of the technicians on duty, peaceful words of course. 5BC makes it a little hard for me because he is mostly on the v.h.f.s, and of course that means that I cannot write of the doings of Hughie without stepping on the corns of the v.h.f. correspondent, to wit, Shylock 5XU. 5CF and the relay are still missing, and until the whereabouts of Murray is known I can say no more.

Remark recently had a road courtesy test and a certain Ham from that area was an entrant. Riding down the road on "Rattling Salvation," he came to a sudden fire burning on the side of the track and proceeded to dismount and put it out. He was approached by a man who told him not to bother as it was part of the test and he had scored full points for that part of the test. Mounting his motor bike he set off down the road and after successfully negotiating a few more tests, he came upon another fire burning in a man's front

garden. Hastily dismounting he again rushed in and started kicking the rubbish around and soon had the fire well and truly out. Imagine his feelings when a big burly brute came out of the front door of the house and said, "What the ——— do you think you are ——— doing, it took me fifteen ——— minutes to get this ——— rubbish to start to burn!!" The said Ham retired in extreme mortification and lost several points for being in late at the finish. I have purposely left out the name of the said Ham because I do not wish to embarrass him. Kindhearted Pansy they call me, among other things!

Hal 5AW walked up the aisle with his daughter this month and said "I do" in a loud and well modulated voice. Present at the Church were Doc 5MD, Ross 5LW, Gordon 5XU, and that sartorial leader of dress, complete with bow tie, Warwick 5PS. My reason for mentioning these gentlemen is because when the bride's motor car arrived it had a car aerial, but when it left it did not! The above mentioned gentlemen including the bride's father were taken to the vestry and interrog—interrog—interrog—well, anyway they were asked some very pointed questions. It is expected that an important statement will be released at any time now, but I cannot give it to you as yet owing to finding it a little difficult to type with these handcuffs on!! After the work of the day is completed, possibly Barberier will let me listen in to the Amateur bands on his rx. Vive-Barberier!!

The Woomera Radio Club has by now received the special certificate of affiliation and should be very pleased with it. It was certainly a work of art and the full credit must go to Betty, who for your benefit is the charming daughter of Reg 5RR, the genial Secretary of the VK5 Division. It was displayed at the December meeting for all to see and received its full share of praise from the members present. The design by Betty was a real knockout, nice work my dear! (I'll get on!) The recently erected vee beams are now functioning, and when the club gets their new tx feeding the beams, then they will be heard in and around. They have worked an MP2, getting a 5 and 9 report, which is not bad for their 30 watts on phone, and the President of the club, Len 5OC, has had a number of contacts with his friends in VK5, with good reports. The Regimental Trust Fund in Woomera has granted the club a sum of 100 quidlets, which will put them on a firm financial footing as well as enabling them to purchase sundry pieces of suitable equipment. The club station, excuse my blushes, 5WC to you, has been putting in a consistent signal down here, in and around Adelaide, on 7 Mc., and will be pleased to have a contact with all who may hear them. No QSL card has as yet been printed, but several ideas have been submitted, the President of the VK5 Division being well to the front. Anyway blokes, they have promised to QSL.

At Xmas time, previous to this year, I have always watched my daughter and my wife receive bundles of Xmas cards from various friends, and with a lump in my throat see them display them on the lounge room mantle piece with a somewhat pitying look in my direction as all that I have ever received have been bills. I must admit that I got something of my own back when I used to sneak into the lounge and huff and puff and blow all the cards down to the floor amid screams and yells from my daughter, but this was poor compensation for not receiving any cards myself. However, and I repeat, however, this year for some reason or other I received so many cards from Hams all over VK that my wife and daughter had in self-defence to sink to the level of huffing and puffing themselves, amid ribald cheers from VK's number one Xmas card receiver. The cards were many and various, polite, threatening, insulting and several indecent. The last named I placed in the hands of the police, and if some of the "top brass" connected with this magazine figure in the police courts in the near future, don't place all the blame on me. Seriously, I was a little overcome with all my sudden popularity, and I can honestly say that I did not realise that all the bilge and tripe that monthly issues from my typewriter was read by so many of the gang in VK. I regret that I cannot answer them all in return, mainly because my XYL has not given me my next month's allowance, but I would like to say thanks a lot fellows, and your Xmas greetings are reciprocated heartily by poor little Pansy. Apparently you want me to continue carrying on like a "Nong-Nong" in 1954, and if that will help the cause of our grand hobby, Ham Radio, then who am I to quibble. Don't take me too seriously is all I ask!!

SOUTH EAST AREAS

SCH has started to build his new shack, which is a move in the right direction. Claude has been heard on the v.h.f. frequencies and also the emergency fire service frequencies. 5TW has had a few contacts on 20 mx and also manages to keep his skeds on 2 mx. Tom tried to work

Joe 5JO on portable but without success. 5KU is at present on holidays but has found time to lower the beam for slight modifications. Erg intends to instal a motor on the beam, which should make operating much easier. 5JA has been progressing steadily with his tape recorder but most of John's spare time has been given to the E.F.S. base station. 5FD has been heard on 40 mc several times, so that is a good sign, but rumour has it that John is very busy designing a garage door that will open just before the car hits it; very funny, very funny. 5MS is still very active on 20 mc and has also been heard on 40 mc on sked. Stuart has had quite a few visitors over the holiday period, they did not have any trouble locating his QTH as his beam and tower is quite a landmark in Mount Gambier.

5CJ has not been very active apart from the usual skeds, but Col has been meeting up with a number of visiting Hams from all States. Greetings reciprocated.

Among the visiting celebrities to the Mount over the holiday period were Ivan 5QV and a friend, Noel 5ZO and his XYL, and Joe 5JO and his son Ray, together with a friend named Doug. Joe was portable on his way to VK3 and proved a good ambassador for his Division by calling in on every Ham available on the trip. Both Col 5CJ and Tom 5TW tried to contact him on his way from the Mount to Melbourne, but were prevented by noise and conditions. It has been suggested that possibly he was grabbed as he passed the border, but there is no confirmation of this as yet, although if they were travelling in his son's station wagon with the tassy blue curtains, well, anything could happen! You ought to see it, it has all mod. cons., hot running maids and everything. What am I saying?

A visitor to our fair city over the Xmas period was Gordon 5XU (ex-5XU) and his XYL. They renewed a number of friendships made many years ago and paid a visit to the tent of Warwick 5PC and discussed with relish as to how they used to take on any Government department for an argument, at the drop of a hat. Both Gordon and his charming XYL don't look a day older than when they left VK5, in fact when I entered the lounge room in my wheel chair and feebly shook them by the hand, I formed the impression that they had possibly discovered the secret of eternal youth. We spent most of the time together each trying to outdo the other as to the wonderful qualities possessed by our respective large families. We finished about equal on points, although I felt that my suggestion that I might be a contender for the grandfather stage should have won the day!

Another welcome visitor to VK5, and also the b.b.s.s., was John 3ABI who paid several visits to the local boys and made a number of new friends as well. His main reason for the trip to VK5 was "Cherches la femme" and from what I am led to believe, it is real serious. Anyway John, you could do worse than settle in the premier State of the Commonwealth. VK3 and VK4 scribes please note!

By the time that these notes are being read, nominations for the 1954 Council will be the order of the day. I should say that most members in VK5 realise that being a Council member is not a job to seek, this being amply illustrated in the past by the lack of nominations, and I also think that members realise that without an efficient Council the VK5 Division would soon fade out. Therefore I wish to stress to you all that some new blood, and some young blood, will be an asset in the coming year. Any member of the VK5 Council will be more than pleased to take a well earned rest, and if any member hesitates to nominate for the Council because he feels that he might be hurting somebody's feelings, then I say forget it, the pain will be a pleasure. This is a chance for any efficiency expert to hop in and run the VK5 Division according to the lines advocated sometimes on the air, and sometimes in the gutter after the general meeting, but the main thing is to hop in and get yourself a headache and secure a hide like an elephant. It is with regret that I announce that there is no chance of tipping me off the Council because under the rules the retiring President does not face a poll. BAH!! And a couple of POOH POOHS!

"They all laughed when I sat down to play!" A couple of months ago the President of the VK5 Division, amid terrific insults and mud slinging, announced that he was going to experiment on 288 Mc. and warned all and sundry to be prepared for action. The mirth and ridicule that ensued for weeks after this announcement came from the youngest associate member to the veteran in v.h.f. technique, and through it all, with a grim smile on his Grecian features, the indomitable President carried on. If you care to turn to the v.h.f. notes for this month and look under the VK5 notes, providing that the correspondent in sheer jealousy has not forgotten his duty, you will see that the winner of the 1953 V.h.f. Intra-state Contest is none other than W. W. Parsons, 5PS.

Sheer modesty stops me from telling the whole story of the Contest, but this I will say. I scored four times more points than any other contestant, and as the reigning v.h.f. champion for the coming year, I salute you. Pardon my titter but my tittering mechanism is working overtime! I desire to thank Norm Colman for planting the idea of the v.h.f.'s. In my mind, Charlie 5ON for presenting me with the beam, Reg 5RR for putting the life blood into the tx, and Rex 5KY for so manfully coming back to my hesitant and feeble plea for a contact on 288 Mc. Good heavens! Did I do anything toward winning the Contest? As I said before, "They all laughed, etc., etc." You beautiful!

WESTERN AUSTRALIA

The Christmas and New Year has come and gone; just a brief interval in the "march of time." (I hope it is not a copyright expression—Ed.) To the interested Amateur it is a period given over to family affairs and as soon as stability is established, the game goes on. Festive times do not produce more Radio Hams, or see the existing ones seek new pastures. All look forward to more suitable conditions for say DX, or to construct that new tx, or rebuild that double conversion super; each to his own line of experiment. It seems to many of the older Hams that the official designation was changed from Experimenter to Amateur for a purpose. Was it because so many of us were just copiers, and followed the book without even a thought of the why and how of the equipment being constructed? Why leave it entirely to the other fellow—the professional constructor to the Amateur book on radio to do all the experimenting for you? Be an experimenter first and last and add something real to the progress of radio. Every little helps, and let us have some original articles in our magazine. In the last few issues a medal should go to VK8EC, not only for research, but for making the results available to inspire others to go thou and do likewise.

Events since the last publication consisted of the Annual Picnic held at the Zoological Gardens, which turned out a great success. The children were well catered for, and the Social Committee, with 60R at the helm, rowed, steered and stoked up the fire and even put on a Punch and Judy show. Thanks are due to 60R and the Committee who did their job and pulled in others to help. Old, and we hope, new members turned up.

The last meeting for the year was in the nature of a social evening and whereas at ordinary meetings the rag chew period lasts for about ten minutes, on this occasion it lasted practically the whole evening; so did the refreshments! Thanks to the judgment of the commissariat department. A pleasant idea was to invite all our special friends, all those outsiders who gave us lectures during the year, and also many now and one-time members we are pleased to record did turn up and received a cordial welcome. Evidence of the unity existing in VK5 need not be looked for any further than the retention of the R.D. Trophy. Team work was essential to do that.

TASMANIA

As this month has been one mad rush to complete the Institute Exhibit at the Sesqui-centenary Science Exhibition, these notes are rather brief and for this I apologise. The January meeting was held on Wednesday, 8th January and was well attended considering the holiday period. There was little business to attend to, the main items being the taking of nominations for the 1954 Advisory Committee and the arranging of a roster of operators for VK7WI at the Exhibition. After the meeting those present moved to the City Hall to view the progress being made on the VK7WI stand, and further work was done so that the exhibit would be complete for the opening on the following day. 7BJ and 7AL retired early in the meeting to work on the VK7WI tx—these two members doing excellent work to get the rig finished five minutes before the Exhibition opened.

The Exhibition was opened at 3 p.m. on 7th January by His Excellency the Governor, who inspected the station and showed great interest in Amateur Radio. Although conditions have been rather poor so far—20 mc being the only usable band—all Australian States including VK9 have been worked as well as several ZLs. The high noise level at the hall absolutely prevented using a rx there, especially when the Hydro Electric Commission start demonstrating with arcs and sparks several feet long. The receiving centre was set up several miles from the hall at the residence of Mr. Bill Tait and the output from the rx relayed to the hall via a 2 mc link, the rx may also be tuned from the hall by means of the same link. This com-

pletely overcame the noise problem, and Bill has been doing good work by being in attendance at the rx all the time and keeping the show going.

Since the new TWI tx was not quite ready for operation, TYY very nobly loaned his rig so that the station could go on the air, and a very nice rig, too Bill—complete with foot control and all.

The exhibit has attracted large crowds so far, especially when the band is open and contacts are coming thick and fast. The show I think can be considered to be a complete success and will do much to advertise Amateur Radio and the Institute. This success is entirely due to all those who gave their time and to those who could not spare the time but made donations in other ways.

HAMADS

9d. per line, minimum 2/-.

Advertisements under this heading will only be accepted from Institute Members who desire to dispose of equipment which is their own personal property. Copy must be received by 8th of the month, and remittance must accompany advertisement. Calculation of cost is based on an average of six words a line. Dealers' advertisements not accepted in this column.

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SELL.—Ham Radio parts: Power Supplies 200 Ma. mains and m/g; Leach Relays, and others; Meters, Condensers, etc.; 5" C.R.O. parts. Must sell, best offer part or lot. Apply 13 Rutland Ave., Brighton, South Aust.

SELL.—4 G.E. Tuning Units (£8); 1 R.C.A. 100 Kc. Crystal (£2); 10 Xtals various frequencies (£5); 1 BC733D Receiver less crystals (£5); 1 Command Receiver 6-9.1 Mc. (£4/10/-); 1 Command Xmitter, 5.3-7 Mc. (£4); 1 TA12D Xmitter (£10); 1 AR8 converted to AC with 8 inch speaker and power supply (£20); 1 AT5 Aerial Coupler (£3); all apparatus complete with tubes; 1 Command Xmitter Aerial Relay Unit (£1). £60 the lot (will separate). J. W. Nairn, 22 McLean St., Morwell, Vic.

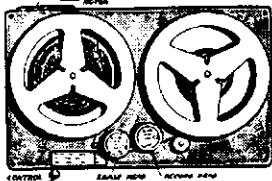
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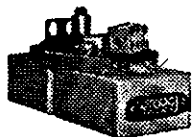
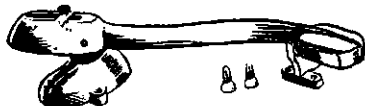
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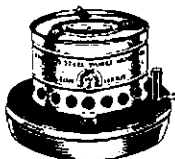
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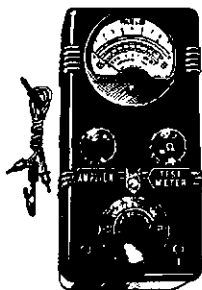
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The ingenious mechanical bandspread mechanism gives an almost linear scale equivalent to about 32 feet on each tuning range. The figures that follow apply to bandspread coverage on the bands allocated to Amateurs at the Atlantic City Conference. Variation in the width of each Amateur band necessarily affects the degree of coverage and against each band we have shown the number of vernier divisions required to tune over the corresponding number of kilocycles for each separate band width.

Band Width	Tuning Coverage on Vernier Scale	Vernier Divisions of Bandspread	Kilocycles in Band
29.7 Mc. to 28 Mc.	34.375"	208	1700
21.45 Mc. to 21 Mc.	7.5"	45.5	450
14.35 Mc. to 14 Mc.	6.45"	39	350
7.3 Mc. to 7 Mc.	15"	91	300
4.0 Mc. to 3.5 Mc.	61"	364	500
2.0 Mc. to 1.8 Mc.	30"	182	200

TUNING RANGE

The receiver is provided with four wave bands, the first three overlapping and covering from 32 to 1.7 Mc. and the fourth covering 1465 to 480 Kc. Each band is selected by a low capacity switch. The actual ranges are:

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- (2) 12 Mc. to 4.5 Mc.
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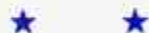
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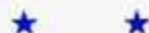
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WI BROADCASTS

All Amateurs are urged to keep these frequencies clear during, and for a period of 15 minutes after, the official Broadcasts.

VK2WI: Sundays, 1100 hours EST, 7146 Kc. and 2000 hours EST 50 and 144 Mc. No frequency checks available from VK2WI. Intrastate working frequency, 7125 Kc.

VK3WI: Sundays, 1130 hours EST, simultaneously on 3573 and 7146 Kc., 51.016 and 148.25 Mc. Intrastate working frequency 7135 Kc. Individual frequency checks of Amateur Stations given when VK3WI is on the air.

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VK6WI: Sundays, 0930 hours WAST, on 7146 Kc. No frequency checks available.

VK7WI: Sundays, at 1000 hours EST, on 7146 Kc. and 146.5 Mc. No frequency checks are available.

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EDITORIAL



PROGRESS

Back in October, 1945—nearly nine years ago—the Editorial commenced like this: "Proudly do we, the Magazine Committee, present the first printed issue of 'Amateur Radio' since January, 1941."

That was a great month in the history of the W.I.A., and those who worked so hard to bring to fruition the first post-war printed issue of our magazine were justly proud of themselves, because progress had been made after cessation of a world war that could easily have spelled doom to the Institute. A small committee of men had been working for four and a half years producing a duplicated magazine before this, and only those few knew the difficulties and obstacles that had been overcome in presenting to W.I.A. members the first printed "Amateur Radio" since before the war when it was a somewhat poorly printed octavo size publication.

Some of the members of that original committee are still actively engaged behind the scenes producing your magazine which has continued to improve in quality and compilation since those early days—even if limited circulation and lack of advertising support has precluded the possibility of including more pages for the time being. Others have joined the ranks of this silent band of workers who month after month work long into the late hours of many nights to maintain and improve the official organ of the Institute.

And now in 1954 another milestone is reached when, for the first time

in its history, the Wireless Institute of Australia is to print another publication as a subsidiary publication to "Amateur Radio"—the "Australian Radio Amateur Call Book," the cover of which you see printed opposite in color as it will be in reality.

The production of this book concludes more than two years of time-consuming work on the part of members of the Federal Executive, the Magazine Committee, and the Advertising Representative—work and time that has gladly been given to preserve for the Australian Amateur a service that he is entitled to have.

The Institute owns the copyrights for a period of five years, and with the support of Amateurs, both in Australia and overseas and the unselfish support of advertisers, it will ensure that this very necessary Amateur facility continues. By owning a copy yourself and sending copies away to your overseas friends from time to time, the future of the publication will be an undoubted success.

The Federal Council of the Institute has unanimously agreed to the Victorian Division accepting the responsibilities of producing the Call Book, so the same committee of unselfish men are shouldering the added burden on their time and energy as willingly as they did back in 1945 and before. They deserve the unlimited thanks of every Amateur in the Commonwealth.

FEDERAL EXECUTIVE.

THE CONTENTS

A One Metre Superheterodyne—Conversion of the ASB4 Receiver	2	VK7WI Operates from Hobart Science Exhibition	12
"Radio Ham Can Help Save Life"	3	Amateur Call Signs	15
A Treatise on Practical Modern Recording Tape—Part II.	5	Amateur Bands Available	15
The Complete Amateur—Crystal Oscillator and Multipliers	9	DX Activity by VK3AHH	16
A Simple and Effective "S" Meter 11		Prediction Chart for March, 1954	16
		Fifty Megacycles and Above	17
		Federal, QSL, and Divisional Notes	19

the main chassis. The oscillator socket is mounted on the original ceramic stand-off insulators, but new holes are drilled so that the socket is turned at right angles to allow short leads to the tuning condenser and lines.

Alignment of the i.f. stages is easily performed by using noise from the mixer. With the audio gain about half on, there will be quite a healthy hiss in the speaker and the slugs can be adjusted for maximum noise level. Start at the 55 Mc. stages; screw the slugs right in and then bring them out about six turns each. Next, adjust the 6J5 oscillator coil (mounted between the 6J5 and the 6AC7 at the back of the chassis) until the noise peaks up, and then adjust the 11 Mc. slugs; re-adjust the 55 Mc. stages for maximum noise.

With the dimensions given, the 6J6 coil should peak in the centre of the band. An easy way of checking this, if there is a super-regen receiver handy, is to spread or compress the turns of the coil, when mounted on the sub-assembly with the 6J6 plugged in, to give correct capacity (not necessarily with heater alight) until the receiver is pulled out of oscillation—grid dip idea!—in the centre of the band. Hold the assembly just near enough to get a sharp drop-out (thanks Ray, 5BT).

To align and get the correct coverage for the oscillator, the 5 pF. across the tuning condenser can be tapped nearer to or further from the tube. Use the super-regen to ascertain the band limits, for it emits a healthy signal!

Once the band has been found, it may be necessary to change the 6J5 oscillator frequency and re-align the 11 Mc. channel. Remember the second oscillator will give harmonics which could fall into the band and cause interference with the real signals.

Refinements can be added. An out-board S meter can use the biasing voltage obtained from the second diode of the 6H6 detector (see circuit). Its usefulness includes beam pattern measurements and, of course, can give an accurate

assessment of improvement at other stations which are not noticeable on the "rush-box."

Unfortunately with so many tubes and two stages of conversion, there is a high hiss level, but to a lesser degree than the super-regen. The weaker signal is free of hiss on the ABS4 and whereas the super-regen radiates a strong signal on the 1 metre band, the oscillator for the ASB4 is outside the band and any radiation which should be small with the mixer circuit layout won't interfere with other 1 metre signals.

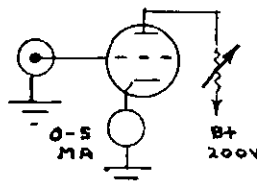
Antenna coupling is not critical and there is no noticeable QSB from swinging feeders. The main drawback, from a duplex man's point of view, is the fact that numerous beats between the two oscillators in the receiver and the transmitter produce a situation which makes duplex almost impossible. However this disadvantage is heavily outweighed by improved receiver performance.

In the interest of the lowest possible noise keep the h.t. voltage as low as possible; 150 volts (at 60 Ma.) gives about the best performance.

The author will be glad to answer any queries.

COIL DATA FOR 288 Mc.

- L1—2 turns 20 s.w.g. on $\frac{1}{4}$ " diameter.
- L2—4 turns 20 s.w.g. on $\frac{1}{4}$ " diameter tapped at its centre.
- L3—Loop $2\frac{1}{2}$ " long spaced $\frac{1}{4}$ ", 12 gauge.
- RFC1, 2, and 3—30 turns 26 s.w.g. on $\frac{1}{4}$ " diameter.



6J5 OR
SIMILAR

Adjust R47 until cathode current, with no signal, is 5 Ma. Use a 6J5 or similar tube.

"Radio Ham Can Help Save Life"

Tribute to the work done by Mackay Radio Ham, Mr. Harry Dearness, during the rescue of the crew of a ketch from a reef 68 miles off the coast was paid by Police Chief Inspector J. F. Buggy.

"This is the second time since I have been here that he has rendered such valuable assistance," Inspector Buggy said.

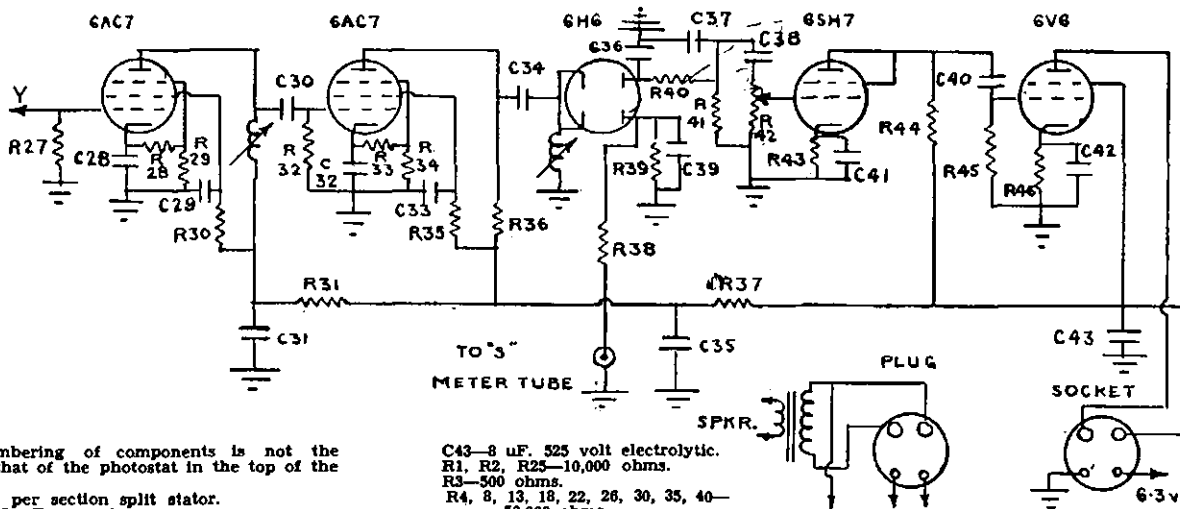
(During the rescue of the owner and passengers of the Quest IV., Mr. Dearness was in constant contact with rescue launch Peekaye. He operated from his own Amateur Station VK4KW.)

Inspector Buggy said Mr. Dearness had been placed at his disposal by his employer, Mr. R. Boxall, during working hours.

His assistance had been very valuable and was appreciated by the Police.

Similar incidents to the running around of the Quest IV. were always likely to happen here. Assistance given by Radio Amateurs could be the means of saving a life, Inspector Buggy said.

—Extract from the "Daily Mercury," of Mackay, Queensland.



N.B.—Numbering of components is not the same as that of the photostat in the top of the box.

C1—4 pF. per section split stator.

C2, C27—5 pF. ceramic.

C3, C36—50 pF. mica.

C4, 5, 6, 8, 9, 10, 12, 13, 14, 16, 17, 18, 20, 21, 23, 24, 25, 28, 29, 31, 32, 33, 35, 39—500 pF.

C7, 11, 15, 19, 22, 30, 34—200 pF.

C36, C37—100 pF.

C38, C40—0.1 uF.

C41, C42—25 uF. 40 volt electrolytic.

C43—8 uF. 525 volt electrolytic.

R1, R2, R25—10,000 ohms.

R3—500 ohms.

R4, 8, 13, 18, 22, 26, 30, 35, 40—50,000 ohms.

R5, 10, 15, 20, 41—0.25 meg.

R6, 11, 16, 28, 33—15 ohms.

R7, 9, 12, 14, 17, 19, 23, 29, 31, 34, 37—100 ohms.

R21—2,200 ohms.

R24—200 ohms.

R27, R32, R36—35,000 ohms.

R38, R45—0.5 meg.

R39—2 meg.

R42—0.5 meg potentiometer.

R43—5,000 ohms.

R44—0.1 meg.

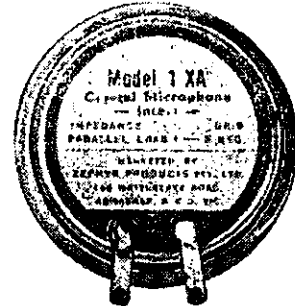
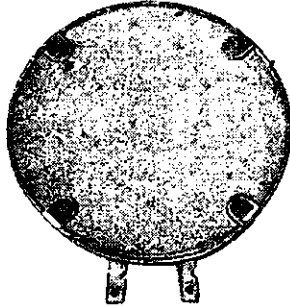
R46—350 ohms.

R47—Approximately 30,000 ohms.

MODEL "1XA" CRYSTAL MICROPHONE INSERT



AUSTRALIAN MADE — — FOR AUSTRALIAN CONDITIONS



FITTED WITH PLATED REAR SHIELD TO ELIMINATE HUM PICK-UP

- Patented crystal unit guarantees outstanding efficiency and performance.
- Protected against ingress of moisture with approved moisture sealed crystal element.
- Small — compact — lightweight — durable.
- Will not blast from close speaking.
- Precision engineering ensures realistic reproduction and high output with long life and dependable operation.
- The only unit available with a genuine sintered metal filter.
- Good high frequency response ensures excellent speech reproduction.
- Aluminium diaphragm mechanically protected and frequency controlled by "Zephyrifil" filter.
- Australian made throughout.
- Only carefully selected cements used throughout, to suit Australian climatic conditions.

TECHNICAL DETAILS

Rochelle salt crystal microphones are perhaps the most widely used for all types of service where quality speech and music reproduction at high output levels is a requirement. They are dependable in performance and when fitted with the appropriate "Zephyrifil" filter, their frequency response may be adjusted to suit any application or requirement.

This crystal microphone requires to be terminated with a high value parallel load of the order of 1 to 5 megohms for best results.

The mass of the moving parts is small, hence the sensitivity is high and a high efficiency is achieved. Light gauge solder lugs are provided so that excessive heat in soldering will not be transmitted to the crystal element.

When mounted in a microphone cage, it is recommended that the insert be suspended in rubber, to eliminate shock and vibration.

One of the connecting lugs is directly connected to the case and care should be taken to solder the metal shield of the microphone cable to this solder lug, keeping the unscreened portion of the centre conductor as short as possible to eliminate hum pick-up.

All crystal elements are mounted on high grade suspension pillars being fixed thereto with a good quality cement, thus ensuring stability and long life.

Case $1\frac{1}{2}$ " diameter (rear), $\frac{3}{8}$ " thickness, 1-13/16" overall diameter (front) with filter fitted.

Frequency Response = 60-6,500 c.p.s.
 Output Level = -45 db (0 db = 1 volt/dyne/cm²)
 Impedance = Model 1XA Grid 1 — 5 megohms.



Approximate Frequency Response Curve

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A TREATISE ON PRACTICAL MODERN RECORDING TAPE

PART TWO

BY G. W. STEANE

The most popular types of coating material presently employed are the black (Fe_2O_4) and the red (Fe_2O_3) gamma iron oxide. The Germans synthetically manufactured these oxides by the reaction of ferrous sulphate, ammonia, and ammonium nitrate, which produced a very finely divided black magnetic iron oxide, which was subsequently crystallised out of solution.

The black oxide was then further oxidised at 230°C . for six hours in a specially constructed agitating dryer utilising air pressure to produce the red ferric oxide having a crystalline structure. Each of the minute crystals is subsequently separated according to size. Only those measuring one micron or less are used.

Extreme care must be exercised in the manufacture of this material. Particle size must be reasonably uniform. When wide variations in particle size occur, it is impossible to produce a final smooth coating. Irregular coatings contribute to variations in amplitude, irregular high frequency response, and noise, which ultimately limit the dynamic range of the entire recording system. The importance of maintaining particle sizes of under one micron can best be understood by a casual review of the dimensions involved in magnetic recording.

For ideal recording resolution, the magnetic particle size should be at least 15 times smaller, which indicates a particle size of approximately $1/40,000$ th inch (or one micron). Smaller particle sizes will, of course, do no harm.

In fact, the smaller the particle, the easier it is to obtain proper dispersion during application. Obviously, the more uniform the particles are in size, the smoother will be the final coating. A smooth coating assures negligible variations in distance between the magnetised particles and the pick-up head. Significant variations in this distance will increase the amplitude variations at high frequencies.

The effects of humidity and tension upon the dimensional stability of paper bases are easily laboratory checked. It has been found that treated paper base tape will elongate approximately 0.1% when subjected to the usual tension encountered in recording machines for a period of three days at a relative humidity of 100%. Plastic tape elongates approximately 0.2% under similar conditions. These differences are char-

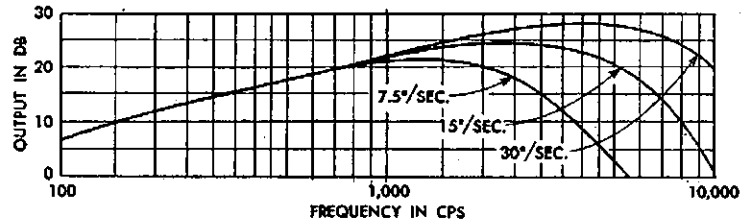


Fig. 2.—Showing how tape speed affects frequency response and output.

The nature of the binder is obviously important. It is desirable to utilise a binder which will keep the magnetic particles permanently fastened to the paper or plastic base.

The most commonly used binders are polymeric vinyl chloride compounds and cellulose acetate or nitrates. The binder represents between 60% and 75% of the magnetic coating.

Some of the other more important characteristics to consider in comparing both types of bases are dimensional stability, compliance, tensile strength, tearability, and cost.

acteristic of the superior dimensional stability of paper over plastic base tape.

HEADS AND RESPONSE

Some good English tape recorder heads, viz.: Fradmatic, have two magnetic gaps, one acting as a back gap to the other and things are so arranged that if any wear takes place after a long period, the head can be turned around 180° to make use of the alternate gap. The same heads use mu-metal laminations of only 10 mil. section and have an impedance of 2,600 ohms and are of the twin-track type.

Head alignment is, of course, essential in tape heads, especially if one's tape recorder is expected to play tape recorded on another machine. Some machines actually have a means for azimuth adjustment to ensure that the gap has no deviation from a right angle between the slit and direction of tape travelling will manifest itself as a serious loss on the high frequencies. See Fig. 1.

The English tape heads referred to have an ingenious mounting method whereby the heads could be rocked a few degrees before they are locked into the exact position.

A year or two ago a frequency response from a tape recorder of 1,000 cycles per inch per second of the speed of the tape was considered a standard without any thought of the type of tape or the gap size of the head, but now research has shown us that the frequency response is inversely proportional to the slit width or gap of the reproducing head, whereas the recording head is not so critical in this respect. Thus while a 0.00025 to 0.0005 inch slit is used in a good reproducing head, the recording head may have a 0.001 inch slit. This relationship is shown graphically in Fig. 1a.

For an idealised system, the gap length of the playback head should not be greater than one-half the wavelength of the highest recorded frequency. In a practical system, utilising

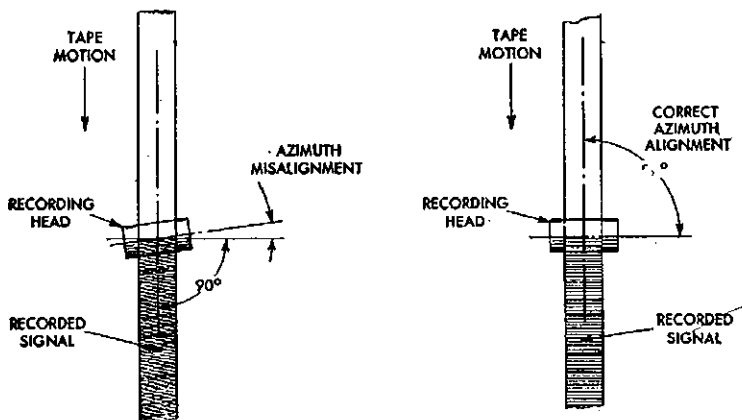


Fig. 1.—Showing effect of misalignment of recording head.

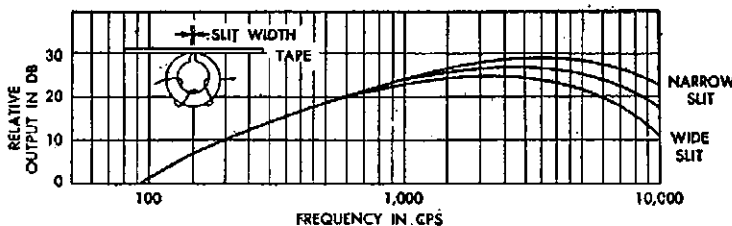


Fig. 1A.—Showing how head gap affects frequency response and output.

a tape speed of $7\frac{1}{2}$ inches per second, the wavelength of a 10,000 cycle signal is 0.00075. Practical gap lengths of $\frac{3}{10,000}$ are therefore employed in playback systems where 10,000 cycle reproduction is desired.

At frequencies where the slit width approaches and exceeds one recorded wavelength in size, the frequency response is impaired. Faulty contact between pole pieces and tape has an equally bad effect. Even as little as 0.001 inch space between a pole and the tape will have a major effect. For this reason, a lacquer coating over the magnetic medium (lying between it and the poles) is out of the question.

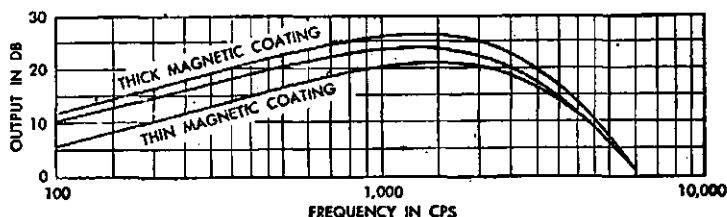


Fig. 3.—Showing how thickness of ferric-oxide coating affects response (unequalised).

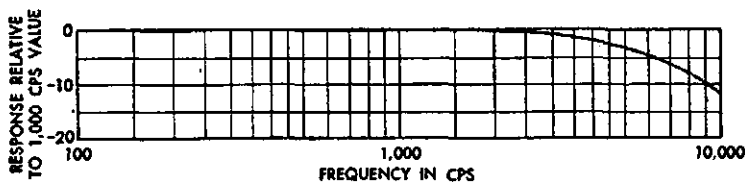


Fig. 4.—Showing loss of high frequency response when bias is increased from 4 Ma. (optimum) to 10 Ma.

An overloaded recording head will have the tips of the poles saturated. This increases the effective slit width and impairs the frequency response, as well as causing distortion.

Response is affected by tape speed, particularly at the higher frequencies, as shown in Fig. 2. The effect of increasing tape speed is to increase the frequency of maximum response. The shift is directly proportional to speed, hence the frequency of peak response will be doubled when the tape speed is correspondingly changed.

Irregular as they appear, these curves are levelled out into the sort of thing the engineer wishes to see by the application of simple equalisers, providing high frequency boost in recording and low frequency boost in reproduction. It is not desirable to use too much high frequency boost in recording, otherwise high frequency overload is likely to occur. Holmes has advised against a boost of over 15 db.

The effect of coating thickness on frequency response may be more readily appreciated if we use curves based on the response of an equalised system. For an unequalised system, the effect of changing the coating thickness is shown in Fig. 3.

It has been found that excessive bias will tend to exert a partial erasing effect on the higher frequencies, so that the frequency response is impaired. This is illustrated graphically in Fig. 4.

Extremely small signals are picked off the tape (approximately 1 millivolt at 1,000 cycles and approximately 50 microvolts at 50 cycles) in a non-

pre-equalised recording system. This exceptionally low voltage necessitates extreme precaution in the design of the input stages of the playback amplifier. Ordinary preamplifiers are characterised by sufficient inherent noise to become the basic limitation in the dynamic range of the entire system.

DISTORTION AND NOISE

Bias current has a profound effect on the distortion produced by a tape. Professional recording machines often have a bias adjustment, and it is possible to set this properly or improperly. Amateur recording machines generally have a non-adjustable bias, and it is highly

Others advise that the bias be increased beyond this value, enough to reduce the output by either 1 or 2 db. These rules lead to incompatible results if used in comparing paper and plastic base material, but no definitive study of the bias problem has yet been made, so we leave the question unsolved.

Experiment seems to indicate little shift of optimum bias with tape speed, so in a two-speed machine, it is satisfactory to set the bias at the optimum value for the lower speed. At the higher speed the bias will still be close to optimum.

In some poorly designed recorders we find conditions which make it difficult to make reliable distortion measurements: The bias current changes considerably as the machine warms up, and there is also considerable variation of bias from one machine to another. Some of the older home-type machines may get hot enough to melt plastic tape if run continuously, so it may be desirable to add a ventilating fan or blower.

The character of the bias can also affect the distortion. It has been found that second harmonic distortion or any asymmetry of the bias waveform will cause second harmonic distortion in the recording and an increase in noise. The machine designer should pay especial attention to bias waveform, for not all machines are equally good in this respect.

It is possible to get audible beats between the bias frequency and harmonics of the audio tone, making it desirable to have the bias frequency at least five times the frequency of the highest audio tone to be reproduced. Thus the bias frequency of most home-type machines is of the order of 25 to 30 Kc., while that of most professional machines is between 80 and 100 Kc.

Harmonic distortion sets the reference level used for signal-to-noise ratio data. A reference level corresponding to 1% or 2% harmonic distortion has often been utilised. Under this condition, professional recording machines in the field have shown a signal-to-noise ratio of the order of 45 to 65 db. Response of such machines has been uniform to 15 Kc. or beyond with a tape speed of 15 inches per second.

desirable that the tape used on such a machine works well at the bias the machine normally provides.

If we apply a fixed input and vary the bias, we may secure a family of curves like those in Fig. 5.

Some professional machine manufacturers are advising that the bias be set by applying a tone of moderate frequency, at a level about 10 db below the overload point, and adjusting the bias for maximum output. This might be done by the use of 1,000 c.p.s. with tape running at 15 inches per second.

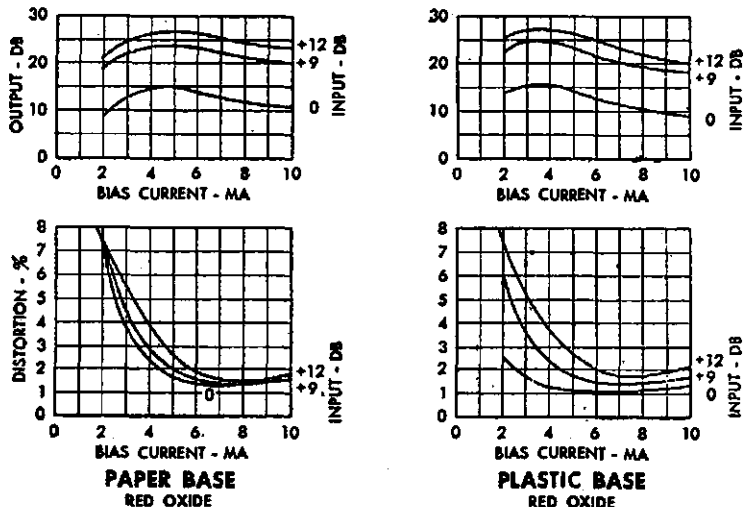


Fig. 5.—Effect of changing bias current on output and distortion with various values of input on tape.

Recently, manufacturers have found that improved heads lead to a great increase of usable frequency range. Thus, home machines using tape at 3.75 inches per second may have good response up to 6 or 7 Kc., and professional machines running tape at 7.5 inches per second may have uniform response up to 10 or 15 Kc. Machines of this type are relatively new, and not yet a major part of the field; they are all characterised by the improved quality of the reproducing head. The physical modification of the head is almost imperceptible—reducing the slit width by several ten-thousandths of an inch—yet it is enough to double the available frequency range for a given tape speed.

Excessive recording level leads to unpleasant distortion, hanging about the signal in a veritable curtain. It also leads to a volume compression effect which removes the accent, the artistic touch. This may change the apparent frequency response of the recorder. Thus, a drum beating away in the middle of an orchestra may overload the tape and lose most of the energy of its highly transient sounds. On reproduction, the relative loudness of the drum may be so diminished that it sounds as though removed to the back of the studio.

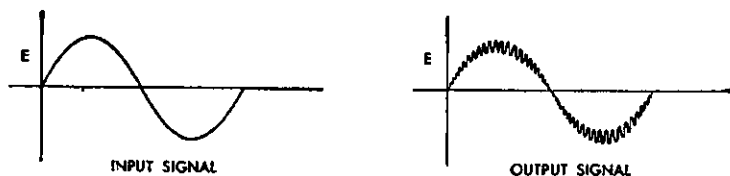


Fig. 8.—Showing how modulation noise appears on signal.

It is, therefore, quite undesirable to use the level corresponding to 1 or 2% harmonic distortion as the nominal recording level, i.e. as the meter indicated value. Because of the slowness of the pointer action, transients encountered may have an intensity of 10 to 15 db greater than that actually read on the volume indicator meter, and overload will surely ensue. The most critical recording organisations, therefore, set their nominal recording level 10 db below the 1 or 2% level. This means that the actual signal-to-noise ratio, according to standard practice, is 10 db poorer than the machine manufacturers' catalogue value. Some organisations are less concerned with distortion and more concerned with signal-to-noise ratio. They set their nominal recording level 5 or 6 db below the 1 or 2% point, which leads to an audible fringe of distortion on every long sustained peak.

MODULATION NOISE

The noise previously referred to is the conventional type of noise, audible when there is no signal. Tape has an additional type of noise which is called modulation noise, Barkhausen noise, or "behind-signal" noise, present only when signal is present.

It will be recalled that a previous paragraph stated that magnetised tape was noisier than unmagnetised. Because of this, there is an increase of noise when a signal is applied to the tape. Careful inspection on a cathode ray oscilloscope reveals that this noise fluctuates with the signal—in fact is

modulated by it (whence the name "modulation noise"). Modulation noise has been blamed on many factors, with non-uniformity of magnetic properties, non-uniformity of thickness, and Barkhausen effect, being the most popular. It is a very complex phenomenon, and the "poor dispersion" cited in a subsequent paragraph is only one of many governing factors. This effect is illustrated in Fig. 6, which shows graphs of the input voltage to and output voltage from a tape.

In making an oscillograph test of this sort, it is necessary to use a filter to remove all traces of recorded bias. In spite of its high frequency, some bias is recorded, and will be shown on the screen and confused with modulation noise unless it is removed with a suitable low pass filter.

Under certain conditions, modulation noise is audible to the listener, particularly on solo instrument or solo voice passages, as a fuzzy edge to the tone or as a hoarse background for it. The ear considers modulation noise as distortion. In view of its inharmonic character, it is particularly offensive. Some machines exhibit "modulation noise" much more strongly than others, and conceivably an overload condition may be mistaken for modulation noise.

When paper is coated, the top surface of the coating is very smooth, but the bottom surface (being in contact with the paper) is as rough as the paper surface. The resulting microscopic irregularity of coating thickness creates modulation noise—which is why a recording on paper base tape never sounds quite as clean as the same recording on plastic base tape. Nevertheless, the difference in sound is much less on better quality professional recording machines than on poorer ones—indicating that the difference is partly a function of the machine.

PERFORATED TAPE

As well as the ¼" plastic and paper tape now on the market, we understand that a Sydney wholesaler has small stocks of 8, 16, 17.5 and 35 mm. tape or film for application with standard and sub-standard film equipment.

The ferric-oxide emulsion is so efficient that it is used in preference to the straight optical sound track in professional recording or, to be exact, two "cameras" are used on the set, one the regular optical camera, and the other the magnetic sound camera, both operated from the same power switch ensuring that the magnetic sound recording is in synchronisation with the frames of the picture. The sound on the magnetic tape is then later electrically "dubbed" on to the film where a regular optical sound track is made.

All this has the advantage of economy and flexibility as the original magnetic film can be used thousands

of times as it is only necessary to erase each recording after it has been used by placing the reel of film over a 50 cycle erase coil—a method which has now become universal instead of using an erase head which could be dangerous if it were accidentally switched on during recording.

The fidelity of recording is better than the optical recording and there is no need to worry about the presence of light on the perforated tape or film as in the old optical method.

We understand that the sound on one of our regular weekly newsreels in Sydney is recorded by this process.

Many thousands of amateur film enthusiasts may be interested to know that a Sydney firm is now making arrangements to deposit a ferric-oxide track alongside the picture frames of 8, 9.5 and 16 mm. film, whether of the silent or sound type, which will enable the amateur to fit or purchase a magnetic sound head and record or playback his own sound so that it is lip-synchronised with the picture frames.

In the case of 16 mm. film, a frequency response of from 80 to 7,500 c.p.s. plus or minus one db is possible.

Imagine what a boon this would be to the enthusiasts, especially anyone who desires to turn silent films into talkie films.

We hope to give our readers more information on this at a later date and we understand that R.C.A., of America, have decided to give this subject worldwide publicity and standardise upon its use, which will be such a help in television films as well as in the home.

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4-6SK7	1-6H6
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1-5U4	1-6SJ7
1-6SN7	1-6SA7
1-6SL7	

Many other useful parts.
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Containing the following Valves:—

1-5GP1 cathode ray tube with full length mu-metal shield.
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15-6S7
3-6SL7
1-6J7

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Brand new in original Carton

1H6	7/6
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6AC7	15/-
6B8	15/-
6F6	12/6
2051	22/6
6K6G	12/6
6L7	12/6
807	25/-
813	60/-
830B	60/-
VR150/30	22/6
954	7/11
12A6	12/6

2050, 22/6. This valve is suitable for use with Photo Cell Relay Unit, as per June, 1953, issue of "Radio and Hobbies."

The above valves are only obtainable from Melbourne Branch.

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Two valve, inter-phone Amplifiers. Complete with filter, choke and output transformer.

£3/10/-

U.H.F. MIDGET HOMING RECEIVERS

Frequency range 234 to 258 Mc. Can be operated from either 12 or 24 volt internal changeover switch. Manually tuned dials. Calibrated in frequency.

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Type TU26B
200 to 500 Kc., £2/10/-
Type TU6B
3000 to 4500 Kc., £3/10/-

SELENIUM RECTIFIERS

Copper oxide 12 volts 4 amp. Suitable for battery chargers.
45/-

GENEMOTORS

Type 72—Input: 27v. 3.6a., Output: 250v. 70 Ma., and 12.6v. 2.6a., 39/6.

Type DA-3A—Input: 28v. 10.5a., Output: 300v. 260 Ma., 150v. 10 Ma., 14.5v. 5a., 29/6.

Type 31—Input: 18v. 12a., Output: 7.2v. 13a., 225v. 110 Ma., 39/6.

Any of these models can be converted without re-wiring to operate fractional h.p. motors on 240v. AC.

RADAR RECEIVER

American, Type CPR46AAT
Containing Valves:—

1-955	1-6AG7
3-956	1-83V
4-6AC7	1-2X2

and 24v. switching motor.
£6/19/6

SYNCHRONISER UNITS

Type 1155

Containing following Valves:

6-6SN7	1-6H6
3-6L7	2-6AC7
2-6AG7	6-717A
2-6L6	

Brand new, £12/10/-

A.W.A. TRANSMITTING CONDENSERS

25 pF. to 375 pF.

22/6

MODULATING UNIT

Type 169

Containing Klyston tube, three neon stabilisers, one EF50, two half-wave selenium rectifiers, one 5U4 rectifier, one CV85, potentiometers, gears, resistors, high voltage condensers and transformer.

£4/19/6

TRANSMITTER-RECEIVER

Type RT-34/APS-13

Frequency Modulated, approx. 450 Mc. Valve line-up:

9-6AG5
5-6J6
2-2D21
1-VR105

Also contains Dynamotor, input 27v. 1.5 amp., output 285v. 60 Ma. Price £17/10/-

COMMAND

RECEIVERS

Type BC453, 190 to 550 Kc., £12/10/-.

BC454, 3 to 6 Mc., £7/10/-.

BC455, 6 to 9.1 Mc., £7/10/-.

TRANSMITTERS

Type BC457, 4 to 5.3 Mc., £7/10/-.

BC458, 5.3 to 7 Mc., £7/10/-.

BC459, 7 to 9.1 Mc., £7/10/-.

BENDIX RADIO COMPASS

RECEIVERS, Type MN26H

12v. input. Frequency ranges 200 to 410 Kc., 550 to 1200 Kc., and 2.9 to 6 Mc. Complete with 12 valves and genemotor. Valve line-up:

2-6N7	1-6B8
1-6F6	1-6L7
2-6J5	5-6K7

£24/17/6

AT5/AR8 TRANSCEIVERS

AR8 RECEIVER

11 valve twin channel Receiver, using standard 6.3v. octal valves. Six bands. Complete coverage 140 Kc. to 20 Mc. Dial calibrated for all bands.

£23/17/6

AT5 TRANSMITTER

A high power unit using two 807s in final. Covering 140 Kc. to 20 Mc. with provision for six crystals and V.F.O.

£9/17/6

Junction Box and Cables, £5. Aerial Coupling Unit, £3/10/-.

TRANSMITTERS

Type TR3548

Containing Valves: 1 Rectifier VU111, 1 EF50, 1 10 Cm. Magnetron Valve complete with magnet, 1 Crystal Diode Type 1N21; and 1 24 volt Blower Motor. Brand new. Price £5/19/6.

THE COMPLETE AMATEUR

BY TOM ATHEY,* A.I.R.E.

SECTION TWO

Crystal Oscillator and Multipliers

Panel Size: 19" x 5 units
Chassis: 17" x 10" x 2" deep.

This section of the Basic Transmitter has been designed to act as a crystal oscillator and/or a multiband multiplier stage. The unit requires four valves of a type similar to the 6AG7.

First a brief description of the unit will be given. The first valve, V1, acts as either a Colpitts harmonic crystal oscillator on 80 metres giving output on 80 or doubling to 40 metres; or by shifting switches S1A and S1B, which are ganged, the crystal is cut out and the v.f.o. substituted, operating on the same basis of output.

The second valve, V2, is a doubler to 20, taking the output of V1 at 40. The third valve, V3, is a tripler taking the output of V1 at 40 (or 7 Mc.) and tripling to 15 metres (21 Mc.). The fourth valve, V4, picks up the output of V2 on 20 and doubles to 10 metres. Here in a nutshell are the contents of this unit.

* Ex-Instructor Qld. Division W.I.A. Classes; 41 Mountford St., New Farm, Brisbane.

Describing the unit in detail, the panel has five controls—three switches and two peaking controls. A meter to read resonant dips is also included. The controls are as follows:—

S1A and B—Crystal and/or V.f.o.
S3—Meter Switch.
S2A, B, C, D, E, F, G, H—Band Switch.

The function of S1 is to change the unit from crystal to v.f.o. The action is such that when at the crystal position the 100K resistor in the grid circuit of V1 is earthed through the r.f.c. in the cathode lead and the crystal is put into circuit.

When the switch is moved to v.f.o. position, the 100K resistor is earthed by shorting out the r.f.c., the crystal circuit is opened, and the valve V1 acts as a buffer on 80 or a doubler on 40 metres.

The function of S3 is obvious. It is a five-position two-pole wafer switch which when switched to the appropriate position will read the resonant dip in plate current.

S2 assumes by far the most important function. By it is controlled the band upon which it is desired to work.

At position 1, h.t. is fed to the 80 metre coil and thence to the plate of V1. Valves V2, V3 and V4 have no h.t. supplied at this position, which in itself

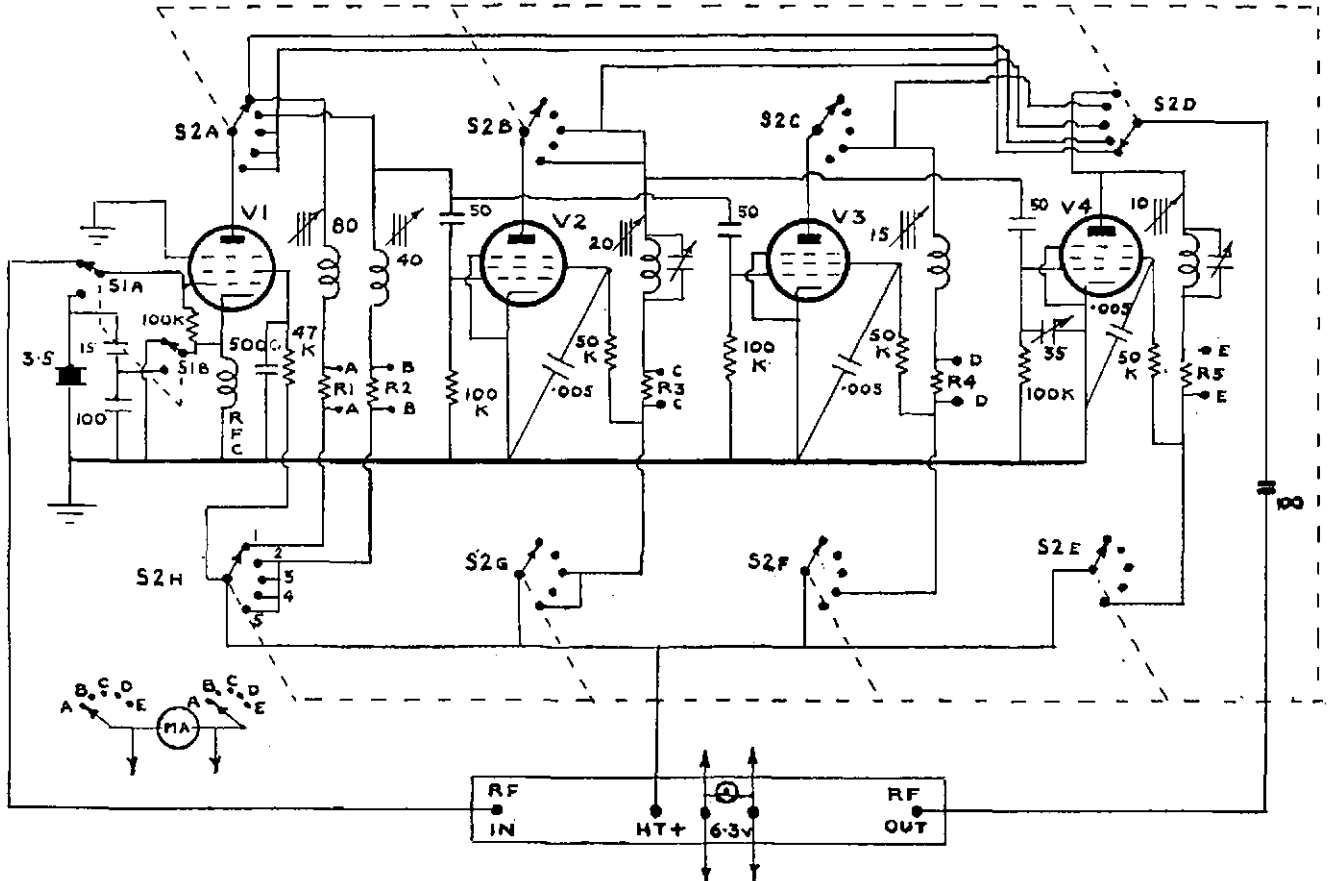
forms a saving of power used by the rig and at the same time rendering the stages for 7, 14, 21, and 28 Mc. inoperative.

Moving the switch to position 2, h.t. is removed from the 80 metre coil and fed through the 7 Mc. coil to V1. At position 3, h.t. is fed to V2 and V1 only and the output is taken from the plate circuit of V2 only. At position 4, h.t. is placed on V3 and V1, and removing it from V2 and V4, thus rendering V2 and V4 inoperative. Finally, when position 5 is set h.t. is fed to V1, V2, and V4 only and V3 is opened. Thus at no time do the whole four valves draw current simultaneously.

Mounting this switch at first proved difficult as long leads were hard to avoid. However by using four two-pole five-position switches, each mounted near its respective components, and by chain coupling them with chain and sprocket drive, it was possible to drive or rotate the switches from one control and at the same time keep all leads short and direct.

The coils for 80, 40 and 15 metres are slugged to the middle of the band and need no further tuning once they are set. The 20 and 10 metre coils, having a larger range of frequency spectrum to cover, have peaking condensers

(Continued on Page 11)



"ACOS" CRYSTAL MICROPHONES AND MICROPHONE INSERTS

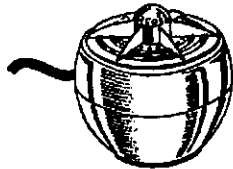
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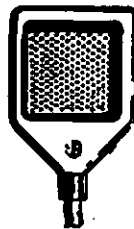
MODEL 35
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MODEL 33
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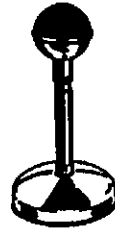
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TECHNICAL DATA SHEETS GLADLY FORWARDED ON REQUEST

"ACOS" CRYSTAL MICROPHONE INSERTS

MIC. 3 SERIES

TYPE	DESCRIPTION	DIMENSIONS	RESPONSE	CODE	PRICE
MIC.3-2	General Purpose	1½in dia. x 1in thick	20db Peak at 2500 C.P.S.	Mona	£1 19 3
MIC.3-5	" "	" " " " "	12db " " " "	Mervyn	1 19 3
MIC.3-6	" "	" " " " "	5db " " " "	Myrtle	1 19 3

MIC. 6 SERIES

TYPE	DESCRIPTION	DIMENSIONS	RESPONSE	CODE	PRICE
MIC.6-4	General Purpose	2 1-32in dia. x 19-32 thick	20db Peak at 2250 C.P.S.	Margie	£1 19 3
MIC.6-6	" "	" " " " "	5db " " " "	Maudie	1 19 3
MIC.6-11	" "	" " " " "	12db " " " "	Mandy	1 19 3

MIC. 14 SERIES

TYPE	DESCRIPTION	DIMENSIONS	RESPONSE	CODE	PRICE
MIC.14-5	General Purpose	1 7-16in dia. x 11-32in thick	20db Peak at 3500 C.P.S.	Maxie	£1 19 6
MIC.14-11	" "	" " " " "	12db " " " "	Mitchell	1 19 6
MIC.14-12	" "	" " " " "	5db " " " "	Malcolm	1 19 6
MIC.15	Hearing Aid	0.9in dia. x 0.155in thick	30db " " 3000 "	Marlene	1 19 6
MIC.17	" "	15-16 in sq. x 7-32in thick	30db " " 3500 "	Maggie	1 19 6
MIC.18	General Purpose	1 7-16 in dia. x 9-32in thick	20db " " " "	Maisie	1 19 6

MIC. 23 SERIES

TYPE	DESCRIPTION	DIMENSIONS	RESPONSE	CODE	PRICE
MIC.23	General Purpose	1 3-16 sq. x ¼in thick	20db Peak at 3000 C.P.S.	Maureen	£1 19 3
MIC.23-3	" "	" " " " "	5db " " " "	Margaret	1 19 3
MIC.23-4	" "	" " " " "	12db " " " "	Milton	1 19 3
MIC.32	High Quality	1 13-16 dia. x 9-16in thick		Martin	2 15 6

All Microphone Inserts, except MIC.15-17-18, are fitted with inbuilt 10 meg. Resistor.
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A Simple and Effective "S" Meter

BY D. BEADEL,* VK9DB

Here is an "S" meter which is so simple in circuitry and application that it has possibly been overlooked by the majority of Amateurs. The basic circuit, as shown in Fig. 1, requires only a meter movement to provide a signal strength meter that has many decided advantages and very few minor disadvantages.

This "S" meter requires no additional components or tubes, is of the forward reading type, and can be inserted in any communications receiver with the minimum of modification.

The only exacting requirement is that the meter should have a sensitive movement, preferably in the order of 100 microamps., but as low a sensitivity as 500 microamps. may prove satisfactory in many receivers.

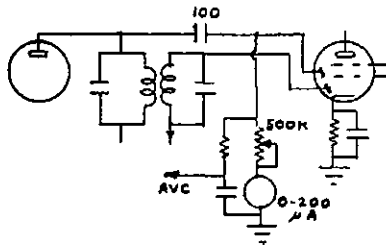
The scheme is simply to read the current of the a.v.c. (or signal) diode, whether it be a single or multi-function tube. As can be seen in Fig. 1, the a.v.c. diode load may be replaced by a suitable rheostat which can then be employed as an "S" meter adjust control when initially calibrating the unit. Naturally the delay on the a.v.c. diode will decide the signal strength that is required to make the diode conduct, which in turn is directly affected by the gain ahead of the diode. However, the average receiver, when connected to an antenna and tuned off a station with r.f. gain at maximum, will usually provide sufficient noise to produce some small a.v.c. voltage and consequently a low reading on the metre, and any signal above this level provides an appropriate deflection. So, in effect, we are reading a.v.c. voltage directly and using the diode load as the multiplier in our metering circuit.

This system, however, depending on the meter used and the multiplier required therefore, may reduce the available a.v.c. voltage and may impose additional loading on the final tuned circuit in the i.f. amplifier. However, the more sensitive the meter, the less pronounced will be the effect. Yours truly happens to be employing the circuit on a modified BC342 and a 200 microamp. meter in conjunction with a 500K ohm rheostat connected potentiometer is used, the potentiometer being adjusted to approximately 400K ohms to give the required calibration.

The actual calibration and what input is required to provide an S9 signal is something for the user to decide. This station uses a purely arbitrary value as possibly do the majority of users, the purpose being to provide a consistent report, not a laboratory check. However, as an indication of what inputs may be involved: If we select 0.5 microvolts as representing a signal strength of S1, then a quick calculation will show that by doubling the voltage for each additional "S" point (e.g. doubling

voltage = 6 db increase) and provided we accept that one "S" point equals a 6 db change, then an S9 signal represents an input of 128 microvolts approx. (actually 125.8 u/v.)

The r.f. gain control will, of course, affect the signal fed to the a.v.c. diode and consequently a setting must be decided upon when calibrating the meter. The obvious choice appears to be to have the gain wide open.



A thermionic or crystal diode may be connected to the output of the i.f. amplifier, thus providing an "S" meter circuit completely divorced from all other circuits, though additional loading is imposed on whichever tuned circuit is selected. This arrangement, how-

ever, has no effect on the a.v.c. circuits and the series multiplier may be reduced to a low level as is required for less sensitive meters. However, the loading effect may be considerable under these conditions.

Provided the sensitivity and signal/noise ratio of the receiver is reasonably constant over its entire coverage, no adjustment is required of the meter once calibrated against the "S" unit divisions on the meter scale, and the potentiometer in my case is mounted internally and is not accessible from outside of the receiver.

The connections to the "S" meter, if such is located outside of the receiver, may be made with absolutely no fear of causing audio instability, due to the low impedance nature of the meter movement itself.

A variety of variations of this basic circuit suggest themselves. One, where it is desired to use an 0-1 Ma. movement, being to provide an additional i.f. amplifier and diode circuit, using say a 6B8G, 6G8G tube, to provide additional power for such a meter. Tuned circuits are not required and a resistance/capacity coupled amplifier would suffice.

The Complete Amateur—Crystal Oscillator and Multipliers

(Continued from Page 9)

across the coils, thus enabling maximum output to be delivered to the grid circuit of the final chassis.

You will notice in the grid circuit of V4 that a small additional trimmer is included from grid to earth. This is to further assist in maintaining coverage across the 28-30 Mc. spread and once set should not need retuning.

The circuit is straight forward, both from a constructional and operating point of view and should present no difficulties. When tuning to resonance or dip watch the grid meter in the final rig for maximum movement, indicating maximum drive being delivered. It will usually be found that maximum grid drive is just off maximum dip and this is as it should be.

Great care in shielding between stages is not necessary as each unit of the multiplier stage operates on a different frequency. The main objects to watch

are solid wiring, good soldered joints and clean workmanship. Use co-axial cable between the input of the multiplier and the v.f.o., also between the r.f. output of the multiplier and the input of the final.

All stages are capacity coupled and the valves are arranged in cascade.

COIL DETAILS

- 80 Metres—1" of winding on 1" diameter former of 28 B. & S. enamel.
- 40 metres—36 turns, 1" diam., 26 B. & S.
- 20 metres—22 turns, 16 t.p.i., 1/8" diam., 18 B. & S. enamel.
- 15 metres—12 turns, 16 t.p.i., 1/8" diam., 18 B. & S. enamel.
- 10 metres—8 turns, 16 t.p.i., 1/8" diam., 18 B. & S. enamel.

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* 4 Mile, Port Moresby, T.N.G.

VK7WI Operates from Hobart Science Exhibition

In May, 1953, the Tasmanian Division of the W.I.A. was invited to provide an exhibit at a proposed Science Exhibition to be held as part of Tasmania's Sesqui-Centenary Celebrations. As this was thought to be an excellent opportunity to bring Amateur Radio before the public, the Institute accepted the invitation and a committee consisting of R. O'May, 7OM; R. Calvert, 7RT; K. Johnson, 7RX; F. Evans, 7FJ; L. Jensen, 7LJ; and L. Edwards, 7LE, was formed to handle the project.

It was decided that the exhibit would consist of a typical Amateur Station to be operating under the call sign of VK7WI during the hours the Exhibition was open and since the Division did not have its own transmitter, a suitable rig would be built for the occasion, this rig to become the official 7WI rig at the club rooms after the Exhibition was over.

PREPARATION OF TRANSMITTER

After a little gentle persuasion, Joe Brown, 7BJ, volunteered to design a suitable transmitter, and Joe, in his usual efficient way, produced a design using a band-switched exciter using 6V6s driving an 813 with an all-band tank, modulated by class B 807s.

Since it had been decided that an attempt would be made to build the transmitter from parts donated, this design seemed at first a little optimistic, but when a list of parts required was sent to all members, the response was beyond expectations and nearly all the parts required and a good sum of money were received.

All this part of the project took some considerable time and it was late in November before the actual building commenced. At the December meeting volunteers were asked for to build the various units and again the response was excellent, more volunteers being available than units to build. As the deadline for the exhibit was 7th January, the building of the transmitter developed into one mad rush as the Christmas holidays drew to a close and the opening day drew near, the last few days being a nightmare for all concerned.

Despite much burning of the midnight oil in an effort to get the rig going in time, it was found that on the opening day there were still some finishing touches to be added and tests to be made. It was decided, therefore, to accept the offer of Bill Watson, 7YY, of the loan of his rig and the unfinished transmitter was exhibited as a transmitter under construction.

METHOD OF RECEIVING

It was anticipated that because of the location of the City Hall next to the Tramway workshops and because of other electrical exhibits in the Hall, the noise level would be very high, especially as the Hydro-Electric Commission

intended exhibiting the high voltage testing of insulation and demonstrations of man-made lightning. It was therefore decided that the receiver would be at some quiet location and signals fed from the receiver to the Hall by 144 Mc. link.

The receiving centre was set up at the residence of Mr. Bill Tait at Mt. Stuart and a set-up designed to tune the receiver remotely from the Hall so that the operator would have the receiver under his control. This was done by coupling a reversing motor to the receiver and controlling the motor by means of two audio tones transmitted from the Hall to the receiving centre by 144 Mc. link. The Hall operator had, therefore, only a three position key as a receiver tuning control—the three positions being tune high, tune low and stop, and, after a few minutes' practice, it was surprising how easily stations were tuned—when they were there!

Unfortunately, conditions for the ten days the Exhibition was open proved to be very poor, 14 Mc. being the only band worth working, but, despite this, a total of 120 stations were worked, including all Australian States and several KG6s, ZLs, and a VR4.

Staffing of the station proved to be somewhat of a problem as the Exhibition was open from 11 a.m. to 10 p.m. every day for ten days. Day-time operators were drawn mainly from those doing shift work, but in the evenings the position was easier, any visiting members doing their share to relieve the rostered operators.

AERIAL SYSTEM

The aerial system consisted of an 80 metre half wave end fed slung between two convenient flag poles on top of the Hall; quarter wave feeders were run down the outside of the Hall and through a window.

The two two-element beams for the 144 Mc. link to the receiving centre were also mounted on one of the flag poles, the co-axial feeders following the same route as the tuned feeders to the equipment in the Hall.

To make the exhibit more interesting from the public's point of view, a unit consisting of three six-inch c.r.o. tubes was built to show the carrier as generated by the oscillator, the speech waveform from the microphone, and the com-

bined envelope pattern as radiated by the aerial. The entire background of the exhibit consisted of several hundred QSL cards representing approximately 126 countries and loaned by 7RX and 7LJ. Mounting the cards took five packets of pins and the 7LJ family all one evening, but made a very colourful and interesting backdrop.

The erection of the stand proved to be no great problem except that all timber yards were closed for the holidays and timber had to be obtained from a sawmill several miles out of town. Good work was done with a hammer and paint brush by one of the 7OM junior operators.

If the interest shown by the public can be taken as any indication, the exhibit proved to be a great success, good crowds being attracted to the stand, especially when the band was open and stations were being worked. The exhibit will go a long way towards advertising the Institute and Amateur Radio generally, and the success of the venture is due to the interest shown and the co-operation given to the committee by members of the Division.

Donors and helpers are too numerous to mention personally, nearly all members donating either parts or money or helping in some way. However, I feel that some mention should be made of the excellent work done by Tom Allen, 7AL, who built the r.f. and modulator units for the transmitter and allowed the use of his business premises for assembling the rig. Tom Moore, 7FM, who wound most of the power transformers and the modulation and driver transformers, and for his long hours of operating the station. Joe Brown, 7BJ, for his excellent design and efforts to get the rig going in time; L. Jensen, 7LJ, for printing signs and special 7WI QSL cards and assembling the power supply for the transmitter. Keith Johnson, 7RX, for making all the chassis for the transmitter and cabinet for the c.r.o. unit. To Bill Tait for his long hours on duty at the receiving centre and his help with the erection of the stand, also to Mrs. Tait for her tolerance in allowing all the receiving equipment to be set up in her best room; and to Bill Watson, 7YY, for his relay modifications and loan of his transmitter, etc. But the list of helpers is much too numerous to mention personally and on behalf of the committee, I would like to thank all those members who gave their time, parts and money to make the exhibit the success that it was. The Division has benefited by now having a first-class transmitter, a quantity of spare parts and timber to fit out the proposed shack at the club rooms.

A description of the transmitter and details of the remote receiver tuning arrangements will be subjects for future articles for the magazine.

—L. W. Edwards, VK7LE.



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Command Transmitters: Freq. 4—5.3 Mc., 5.3—7 Mc., or 7—9 Mc. Complete with valves and crystal £7/10/-

AT5 Transmitters, comp. with valves, £7/10/-

522 Transmitters, comp. with valves, £12/10/-

AT5 Aerial Tuning Units, A.W.A. Contains two Relays and 0-5 Ma. Meter £2/10/-

Bendix RA1B Power Supplies, 240 volt AC, 24v. at 1 amp. output 250v. HT, £5 each.

Genemotor Power Supply, new, SCR522, 24v. input, 150v. and 300v. output at 300 Ma. Includes relay, voltage regulator, etc. A gift at 35/-, Too heavy for postage.

2.5v. Filament Transformers 15/-

4v. Filament Transformers 15/-

18 VOLT GENEMOTORS, I.F.F. TYPE, WANTED URGENTLY. STATE PRICE.

American Headphones, low impedance, complete with Cable 25/-

Single Shielded Hook-up Wire, new, 8d. yard

Hammarlund BC191E Plug-in Coil Units, contains two variable condensers, coil formers, fixed condensers, etc. Complete £2/10/-, Less vernier dial, £2.

Six volt bayonet type Dial Lamps 1/- each

Locktal Sockets 1/6 each

Valve Sockets, ceramic, 8-pin Octal 2/6

Valve Sockets, ceramic, 4-pin 2/6

Five-core Cable, not shielded 8d. yard

Solor 28 pF. silver plated wide-spaced Condensers 7/6 each

72 Ohm Co-axial Cable 2/- yard

Co-ax Connectors, male/female, small Pi type, new 2/6 pair

2 uF. 1000v. block type Chanex Cond., 12/6

Shielded Cable with two 12-pin Plugs .. 7/6

Phone Plug and 4 ft. Cable, American .. 4/6

Meters—0-5 Ma., square type, new 27/6

Meters—0-5 Ma., 2" round, scale 0-15, 0-250 Ma., A.W.A. AT5 type, less ext. shunt, 25/-

Meters—0-40, 0-120 Ma., separate connection, new 27/6

Meters—0-150 Ma., round type, new 27/6

Meters—0-20 volt, 5 Ma. movement, square type, 2 inch, new 15/-

Meters—0-2.5 Amp. R.F., square type, 2 inch, new 15/-

Meters—0-5 Ma., 1½ Ma. movement, round type, 2 inch, new 22/6

NEW VALVES

12K8	10/-
211	30/-
834, R.C.A.	£1
884 Gas Triode	25/-
100TH	45/-
954 American	10/-
955 American	10/-
957 Acorn Triode. Filament: 1.25v. at 50 Ma., plate current 2 Ma. Ideal for portable equipment	10/-
EF50	10/-

TESTED VALVES EX DISPOSALS GEAR

1A3	10/-	6U7	10/-
1A5	10/-	6V6	10/-
1G4	7/6	6X5	10/-
1K5	7/6	7A6	10/-
1K7	7/6	7A8	10/-
1L4	10/-	7C5	10/-
1S5	10/-	7C7	10/-
2A3	10/-	7F7	10/-
2X2	10/-	7G7	10/-
3A4	10/-	7N7	10/-
3Q5	10/-	7W7	10/-
5R4GY	20/-	7Y4	10/-
5U4	12/6	12A6	10/-
6A3	10/-	12AH7	10/-
6A8	10/-	12C8	10/-
6AC7	10/-	12J5	10/-
6AG5	15/-	12SG7	10/-
6BE6	15/-	12SK7	10/-
6C4	12/6	12SQ7	10/-
6C5	10/-	12SR7	10/-
6C6	7/6	807	10/-
6C8	10/-	809	50/-
6F5	10/-	813	60/-
6F6	10/-	815	50/-
6F8	10/-	832	50/-
6G6G	10/-	866	20/-
6H6	5/-	956	10/-
6J5GT	10/-	1603	10/-
6J6	15/-	1626	10/-
6K6	10/-	2029	10/-
6K7G	7/6	2051	10/-
6L7	10/-	7193	5/-
6N7	10/-	9002	10/-
6N8	15/-	9003	10/-
6R7	10/-	9004	10/-
6SH7	5/-	9004	10/-
6SH7GT	4/-	EF50	7/6
6SJ7	10/-	OA4	10/-
6SK7	10/-	VR105	15/-
6SL7	15/-	VR150	15/-
6SN7	10/-	VR65A	2/6
6SS7	10/-		

Command Receivers, 150—550 Kc., £9/10/-

Command Receivers, 3 to 6 Mc., and 6 to 9 Mc.

As new, less genemotor; air tested, £27/10/-

AR8 Receivers, complete with Valves and air-tested £22/10/-

AR12 Receiver, converted to 230v. AC, contains Xtal Filter £27/10/-

AR8 Connecting Cables, 8-pin sockets, 5/- ea.

522 Receivers, original cond. with valves, £9

R1155A English Com. Receiver, nine valves, five bands, freq. range: 75 Kc.-18 Mc., original condition, less power supply, £29/10/-

AR301 High Freq. Receiver, uses three 954s, one 955, six 6AC7 I.F. stages at 30 Mc. Easily converted to 144 Mc. Complete £6/10/-.

American I.F.F. Units, complete with Valves, less Genemotor £5 each

Relays, A.W.A., Aerial Change-over type, 12 volt 35/-

American Antenna Change-over Relays, "Leach," 24 volt 250 ohms, ceramic insulation. Beautiful job. A gift at 35/-

Coils, small slug-tuned type, suitable for Converters, etc. 3/6

Shielded Wire, 16 a.w.g. single core. In 100 yard roll 30/-

English Carbon Mike Transformers, new, 5/-

LARGE STOCK OF CRYSTALS

100 Kc. R.C.A. Crystals £4

1,000 Kc. Crystal mounted in case with 10-pin valve socket and 4-pin Continental power plug 35/-

Marker Crystals, 3.5 Mc., 5 Mc., and 10 Mc. Crystals ground to any frequency. Price on request.

Following is a list of Crystal Frequencies available for immediate delivery, £2 each—

330 Kc.	5170 Kc.	7096 Kc.	8176.923 Kc.
500 Kc.	6000 Kc.	7097 Kc.	8182.50 Kc.
775 Kc.	6200 Kc.	7100 Kc.	8183.5 Kc.
1777.5 Kc.	7010 Kc.	7109 Kc.	8317.2 Kc.
2050 Kc.	7012 Kc.	7118 Kc.	8318 Kc.
2075 Kc.	7013 Kc.	7121 Kc.	8320 Kc.
2716 Kc.	7020 Kc.	7125 Kc.	8488 Kc.
3482.5 Kc.	7021 Kc.	7126 Kc.	8500 Kc.
3503 Kc.	7022 Kc.	7130 Kc.	9125 Kc.
3509 Kc.	7023 Kc.	7134 Kc.	10 Mc.
3511 Kc.	7031 Kc.	7145 Kc.	10.511 Mc.
3512 Kc.	7032 Kc.	7156 Kc.	10.524 Mc.
3515 Kc.	7032.6 Kc.	7163 Kc.	10.530 Mc.
3516 Kc.	7048 Kc.	7174 Kc.	10.536 Mc.
3528 Kc.	7052 Kc.	7179 Kc.	10.544 Mc.
3532 Kc.	7062 Kc.	7202.3 Kc.	10.546 Mc.
3539.3 Kc.	7063 Kc.	8000 Kc.	10.563 Mc.
3634 Kc.	7064 Kc.	8017.5 Kc.	11 Mc.
3640 Kc.	7068 Kc.	8027 Kc.	12.803 Mc.
3675 Kc.	7072 Kc.	8028.5 Kc.	14.020 Mc.
4285 Kc.	7089 Kc.	8092 Kc.	14.105 Mc.
4600 Kc.	7090 Kc.	8155.71 Kc.	14.325 Mc.
5000 Kc.	7093 Kc.	8171.250 Kc.	14.322 Mc.

WANTED TO BUY—RADIO PARTS, VALVES, TRANSFORMERS, RECEIVERS, TRANSMITTERS, ETC.

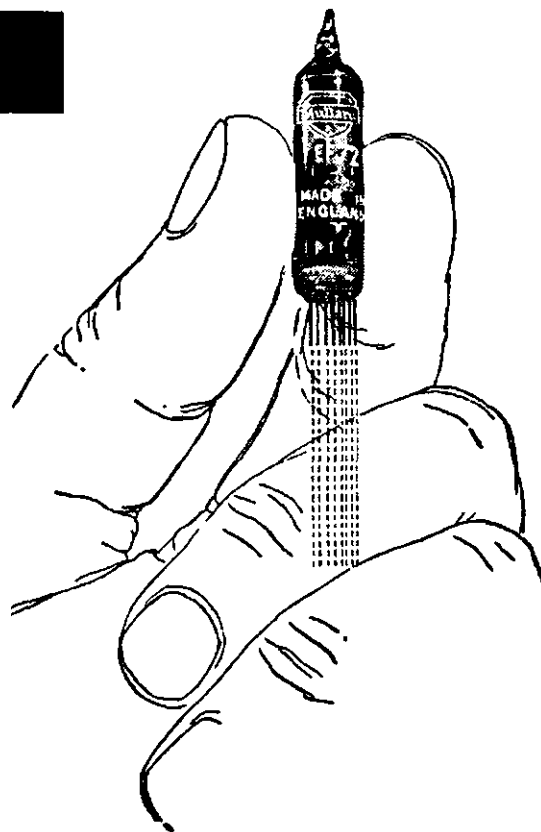
Sub-miniature Valves

DIRECT AND INDIRECTLY HEATED SUB-MINIATURE VALVES FOR COMPACT COMMUNICATIONS EQUIPMENT.

Developed originally for Service applications, these Mullard sub-miniatures combine outstanding electrical performance with small size and extremely low power consumption. The battery sub-miniatures offer special advantages in "Hand Talkie" equipment, while the indirectly heated types are especially suited to all electronic applications where space is limited or where shock impact or high g vibration is encountered.

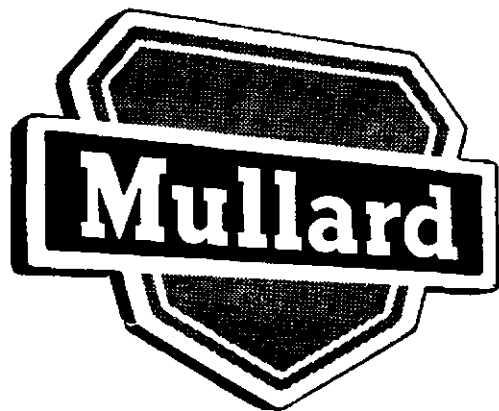
Many thousands are already in use in Australia in V.H.F. communications and other vital equipment, providing outstanding service under the most rigorous conditions.

The illustrations give the actual size and complete technical details will be gladly supplied on request.



The sub-miniature silica-loaded polystyrene socket illustrated (with silver-plated contacts) receives the stubs formed by jig cropping the 1½" long flying leads, which, if preferred, can be wired directly into the equipment.

Type No.	Description	Filament or Heater (V) (mA)	V _a = V _{g2} (V)	-V _{g1} I _a (V) (mA)	I _{g2} (mA)	g _m (mA/V)
EA76	Single diode (5 mm. bulb)	6.3 150	150 (max.)	— 9.0 (max.)	—	—
EC70	U.H.F. triode oscillator	6.3 150	100	2.0 13	—	5.5
EF70	High slope R.F. pentode with short suppressor grid base	6.3 200	100	2.0 3.0	2.5	2.5
EF71	Variable- μ R.F. pentode	6.3 150	100	1.2 7.2	2.2	4.5
EF72	High slope R.F. pentode	6.3 150	100	1.4 7.0	2.2	5.0
EF73	High slope pentode for industrial applications	6.3 200	100	2.0 7.5	2.5	5.25
EY70	Half-wave rectifier	6.3 450	250 (max.)	— 45 (max.)	—	—
DY70	High voltage rectifier (directly heated)	1.25 140	10KV (P.I.V.)	— 2.0 (max.)	—	—
DAF70	A.F. pentode combined with single diode	1.25 25	67.5	0 1.0	0.25	0.44
DF72	R.F. pentode with sharp cut-off	1.25 25	67.5	0 1.7	0.5	1.0
DF73	Variable- μ R.F. pentode	1.25 25	67.5	0 1.7	0.5	0.8
DL70	R.F. output pentode	1.25 110	150 (V _{g2} = 90V)	-7.5 6.5	1.4	1.5
DL75	Output pentode	1.25 25	90	-2.5 1.75	0.4	0.85



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INDUSTRIAL POWER VALVES AND RECTIFIERS—TELEVISION PICTURE TUBES—ELECTRONIC PHOTO-FLASH TUBES—HEARING AID VALVES—X-RAY TUBES AND ACCESSORIES—GEIGER COUNTER TUBES—CATHODE RAY TUBES—PHOTO CELLS—IMAGE CONVERTERS—RADIO RECEIVING AND TRANSMITTING VALVES—THYRATRONS—STABILISING AND VOLTAGE REFERENCE TUBES—ELECTROMETERS—COLD CATHODE TUBES—MEASURING INSTRUMENTS—SCIENTIFIC APPARATUS—RADIO RECEIVERS—COMMUNICATIONS EQUIPMENT—ULTRASONIC GENERATORS—PERMANENT MAGNETS—MAGNETIC MATERIALS AND COMPONENTS, ETC.

MR6-53

AMATEUR CALL SIGNS

FOR THE MONTH OF JANUARY, 1954

ADDITIONS

- VK— New South Wales
 2QS—V. B. Aldrich, 12 Robinson St., Chatswood.
 2AAL—A. R. Price, "Sunny Corner," 28 Robertson Rd., North Curl Curl.
 2AQO—P. L. Hay, 32 Concord Rd., Strathfield.
 2AQU—H. J. Champion, C/o. Dept. of Civil Aviation, Lord Howe Island.
 2ARZ—M. R. B. Riley, 6 Baringa Rd., Mortdale Heights.
 2ASS—S. W. Banks, 101 Robey St., Maroubra.
 2AXH—W. H. Hannam, 32 Hillcrest Rd., Terrigal.
 2AYS—L. T. E. Scown, 83 Silver St., Broken Hill.

Victoria

- 3AFL—S. L. Skinner, 8 Fontaine St., Pascoe Vale, W.V.
 3AGW—A. G. Wilkey, Lot 117, Box Hill Rd., Oakleigh.
 3ALN—A. S. W. Taylor, Station: Scoble St., Avenel; Postal: Aeradio Station, Mangalore West.
 3AXJ—L. W. Jay, 80 Grandview Grove, Rosanna, N.Z.

Queensland

- 4BV—W. S. Beaney, 17 Spencer St., Rockhampton.
 4JD—J. E. Patterson, 8 Alice St., Toowoomba.
 4KX—A. M. McGregor, 6 Murray St., Red Hill, Brisbane.
 4ML—M. L. Weeks; Station: Thursday Island; Postal: C/o. O.T.C. Radio Station, Thursday Island.

South Australia

- 5FT—F. K. Tapley, 10 Burke St., West Croydon.
 5UR—C. G. Rowe, Station: Montow St., Darwin; Postal: C/o. Dept. of Health, P.O. Box 85, Darwin.

Western Australia

- 6EH—E. C. Hodgson, 178 Dalglish St., Wembley.

ALTERATIONS

- VK— New South Wales
 2DA—8 Seaview Street, Balgowlah.
 2FJ—Bourke Ave., Bradwater, Saratoga, via Gosford.
 2KS—74 Caldwell Parade, Yagoona.
 2MF—18 Hamil Crescent, Earlwood.
 2SQ—10a Ronald Street, Dubbo.
 2YA—C/o. Mrs. Black, 23 George St., Liverpool.
 2ABR—C/o. Deepwater Motor Boat Club, Webster Road, Milperra.
 2AEM—368 Tribune Street, Albury.
 2AJJ—49 Telopea Street, Mt. Colah.
 2ALU—Power Station Residence, Cowra.
 2ASB—No. 2, 14 Howe Crescent, Ainslie, Canberra, A.C.T.
 2AUC—70 Corunna Road, Stanmore.
 2AVB—2 Hillmont Avenue, Thornleigh.
 2AWQ—3 Robert Avenue, Russell Lea.

Victoria

- 3EJ—Main Street, Lilydale.
 3FE—20 Louise Avenue, Mont Albert.
 3IE—49 Cookson Street, Camberwell.
 3KM—106 Stevenson Street, Kew.
 3LP—834 Hampton Street, North Brighton.
 3MN—14 Sunlight Crescent, East Brighton.
 3RT—18 Percy Street, Mitcham.
 3VJ—27 Princess Avenue, Highett.
 3WC—Doncaster Road, Box Hill.
 3AGT—Armstrong Street, Tongala.
 3AKC—Station: 31 Irving Street, Wangaratta; Postal: C/o. Wangaratta Broadcasting Co., P.O. Box 167, Wangaratta.
 3AKJ—17 Kars Street, Frankston.
 3AKI—59 Albenca Street, Mentone.
 3AKP—Colquhoun Street, Stawell.
 3APK—28 Richmond Street, Geelong East.
 3ASH—17 Waitara Grove, Norlane.
 3AWC—34 Miller Street, Bendigo.

Queensland

- 4ID—20 Bernard Street, Brighton, Brisbane.
 4FX—12 Gadara Street, Hendra, Brisbane.
 4RY—14 Lamette St., Holland Park, Brisbane.
 Western Australia
 6PJ—Cr. Brooksall and Gunn Streets, Floreat Park.

Tasmania

- 7DS—Smith Street, Longford.
 7PM—Kelso.
 7RT—2 Vantona Road, Sandy Bay.
 7SD—170 Brisbane Street, Hobart.
 7SK—Tranmere Road, Howrah.
 7SJ—112 Tranmere Road, Howrah.

Territories

- 9AU—Station: The Terrace, Lae, T.N.G.; Postal: C/o. R.T.C., Lae, T.N.G.

DELETIONS

New South Wales: VKs 2FF, 2GP, 2GV, 2LY (now operating under VK3AFL), 2OU, 2AAK (now operating under VK2AAL), 2AAL (see new entry), 2AHL, 2AIA, 2AKX (now operating under VK4KK), 2ANN, 2AOZ, 2AWU.

Victoria: VKs 3BD, 3JP, 3AVB (now operating under VK2QS).

South Australia: VKs 5GE, 5HJ (now operating under VK2AQU).

Western Australia: VKs 6GL, 6LS.

Territories: VKs 9BI (now operating under VK3AGW), 9BJ, 9LW, 9RT.

AMATEUR BANDS AVAILABLE

*1.84— 1.86 Mc.	†288— 296 M.c.
3.5 — 3.8 "	†576— 585 "
7 — 7.15 "	1,215— 1,300 "
14 — 14.35 "	2,300— 2,450 "
21 — 21.45 "	5,650— 5,850 "
26.96— 27.23 "	10,000— 10,500 "
28 — 30 "	†21,000— 22,000 "
50 — 54 "	†30,000 Mc. and
144 — 148 "	Above.

* Available for emergency network purposes only. Normal Amateur activities are not permitted in this band.
 † Temporary allocations.

THE HOUSE OF QUALITY PRODUCTS

AERIAL EQUIPMENT

- Belling & Lee Ceramic "T" Dipole Insulator, 7/6
 Eddystone Cat. No. 966 Pyrex End-Strain Insulator 3/8
 Eddystone Cat. No. 946 Aerial Lead-in Glass Tube Insulator 8/7
 Eddystone Cat. No. 916 Bee-Hive Stand Off Insulator, 2" high 3/8
 Hard Drawn 14 Gauge Copper Wire 6d. yard
 Belling & Lee L688 Semi-Air Spaced 72 ohm Co-axial Cable 3/3 yard
 Belling & Lee L1221 Screened Twin 72 ohm Co-axial Cable 2/3 yard
 Belling & Lee L336 72 ohm Twin Flat Line, 1/- yd.
 Belling & Lee L733P & L733S Plug & Socket for L336 72 ohm Twin Line—Plug 1/6, Socket 9d.
 Belling & Lee L677P & L677J Line Plug and Socket for 300 ohm Flat Feeder Cable—Plug 1/4, Socket 1/5.

GELOSO SIGNAL SHIFTER UNITS

• To all our Clients who have placed firm orders with us for the popular Geloso Signal Shifter Units we tender our humble apologies for the unexpected delay. Due to hold-ups in shipping from Europe—a matter beyond our control—the January shipment has been delayed until March or April. You may rest assured that no time will be wasted in forwarding orders on hand as soon as the shipment arrives. In the meantime we trust you are not unduly inconvenienced.

★

★

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A beautiful range of Microphones and Microphone Inserts at attractive prices. Available from stock. Write for Technical Brochure and choose the unit most suited to your requirements.

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Phone: MU 2426

DX ACTIVITY BY VK3AHH†

DX HIGHLIGHTS

At last there is c.w. activity from Fanning Island! VR3D operates on 7026 and 14052 Kc.

Rio de Oro should be represented for about 15 days from the 4th March, 1954. Call signs will be EA9DE and EA9DF (thanks 3ATN).

T19AA has been active from Cocos Island.

When these notes reach you the appearance of VQ6UU and FL8UU will belong to the past but operation of that station from Yemen can be looked forward to (thanks 3CX).

VQ4NZK intends to operate as VQ9NZK, VQ7NZK and VQ1NZK (thanks 3ATN).

Heard Island is back on the Ham bands again with George VK1DY (thanks 3KB).

BAND CONDITIONS

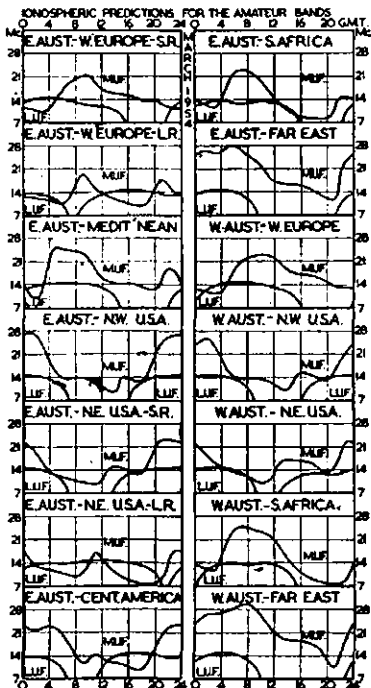
8.5 Mc.: Europe and North America and perhaps Asia were the only continents workable during January. Only short-path conditions to Europe were observed here (1800-1900z), while Macquarie Island and New Zealand stations report reliable European openings over the long path between 0700 and 0800z. North American contacts were possible around 0800-1300z with rather erratic break-throughs at times.

Chas. IAC heard a series of Europeans (0800z) and 3AHH worked VK9WZ*, SM5AQV* and heard other Europeans of which G8GN had the strongest signal (all around 1800-1900z).

7 Mc.: Conditions on this band were relatively good. Openings to Europe occurred via both short and long route, 1700-2100z and 0700-0930z, respectively. Africa broke through between 1800 and 2100z, while South-East Asia was workable between 1300 and 2000z provided stations there were active. Times for Pacific Islands and Far East were 1000 to 1600z, while contacts with North America were possible between 0700 and 1800z, and occasionally around 2000z (long path).

† 10 Belgravia Ave., Box Hill North, E.12, Vic.

PREDICTION CHART, MARCH, 1954



If QSOs with WAC land are again regarded as commonplace, IAC leads this month's list with Europeans* until 1400z. While Frank 9QL reports KP4JE*, VR3D*, ZK2AC*, CN8FL*, VQ4AQ*, Europeans* and ZS5DN, ZS5PH*, QOQDZ*, KEZLA, Laurie 2AMB heard HRIA A, and Les 4XJ spoke to KH6AYG*. Ted 6DP worked MP4BBD* and Europeans*. Col 7LZ has spent quite some time on this band with results like KC8AA*, KC6AF*, MP4BBD* (at 1400z), VR3D*, KV4AA*, KV4AQ*, VU2AT*, VR2AS*, KX6BC*, XE2LA*, DUINL*, VS2EB*, HS1D*, AP2K*, Europeans* and 4X4RE, VS6CG. Alan 9YV mentions JZ0KF*, KX6BG* and JZ0KF* also on phone. S.w.I. reports come from: Eric BERS195 CE3QW, FA9RW, KX6BH, KX6BU, MP4BBD, QOQDZ, VQ4AQ, VR2CG, VR3D, ZE3JP, ZS2A, 4X4BT, plus a long list of Europeans; Dick Jenkin: AP2K on c.w. and VQ5EJ, 4S7SW, VS1 on phone; Dave Jenkin: VR3D. Here at 3AHH we have KH6AA*, ZK1AB*, JA1BU*, 4S7XG*, VS1FE*, Europeans*, and HC1FG, XE2LA, VR3D, VQ4AQ, 4X4RE, KZ5CR.

14 Mc.: General conditions were poor and very erratic during January. Rather unreliable European conditions prevailed between 0900 and 1500z, while Africa sometimes broke through around 0500-0800z and 1100-1700z with weak signals. Conditions to North America were observed between 0500 and 0700z and 2000 and 2300z, with South America around 0900-1400z and 2000-2100z.

As is usual, contacts with common stations in W land, Europe, Pacific Islands and Far East will not be mentioned in particular.

Dots and Dashes revealed the following activity: IAC worked VU2*, LU5AQ*, XV4*, LU3CM*, VS6CG*, UA9KCC* and 9QL mentions YI2AM*, DU1CV*, ZC4IP*, ZC8VS*, 3V8AN, OA4ED*, and LX1AS, 4S7LB, HRIA A, Noel 2AHH QSOed 4X4BA*, a series of ZSs*, CN8EJ*, LX1AS*, 4S7AP*, 4S4TG*, VQ4E1*, 5A1TE*: followed by Alan 3CX: TA3FAS*, DU1CV*, FN8AD*, C3AA*, F18AZ*, HS1D*, DUIDO*, VQ4EG*, VQ4E1*. The next in line is Alf 8KB with FQ1AB*, DU1CV*, F18AT*, F18AR*, HRIA A*, YK1AH*, 3V8AN*, ZSs*, VLDY*. Ken 3KR worked F18AR*, HRIA A*, VQ4EG*, ZS*, HS1D*: while Lee 3KO keyed with ET2NG*, VS8AG*, VQ3KIF*, 9S4AX*, CPIBX*, HRIA A*, ZB1BU*, HS1D*, 4X4*, VS1*, F1*, KV4*, 4S7*, XZ*, VU2*, Lin 8ANJ reports ZC5VS*, VQ4AQ*, ZK1AB*, followed by Eric 3ANQ with YI2AM* and HS1D*. Bob 4RW contacted HZ1AB*, CN8AF*, ZS*, 4S7*, ZC4IP*, YI2AM*: and Ray 5RK mentions CR9AF*, MP4BBD*. Austin 5WO QSOed XZ2OM*, ZS*. W.A. is well represented by John 6OU with FA9VN*, FQ8AP*, CR6AI*, PY2CK*, PY4EE*, VQ2CW*, C8PF*, CR9AF*, OD5AV*, 5V0WE*, ZK1B1*, 5A4TG*, 3V8AN*. 9YV has another fine list showing ST3HK*, VR2BZ*, JZ0KF*, F18AZ*, F18AP*, F18AR*, F18AE*, VQ4E1*, HZ1TA*, ZS*, ET2NG* and VS6CT*. BERS195 heard CM9AA*, FA9VN*, F18AZ*, FL8UU (1800z), FN8AD, FQ8AB, HP1LE, HRIA A, HS1D, JZ0KF, LU4WK, SUI5S/MD5, MP4BBD, FQ8CK, MP4BBD, VQ4AQ, VQ4RF, VR3D, VR4, VU2, YI2AM, ZE3JP, ZS, 3V8AN, 4S7, 4X4BT, and we have another s.w.I. report from Dave Jenkin with ZS, OA4ED, 5A4TG, VU, VQ2AB, 8AHH's log shows FW8AB, VR3D, ZS*, XE1TD*, VS1*, YI2AM*, and FB8XX and HZ1AB.

Here is how the band presented itself on phone: 2AHR worked FA3JY*, 4X4FQ*, 4X4CX*, HZ1TA*, ET2FA*, 4X4BT*, 4X4DR*, CN8MM*, HZ1AB*, 4S7SW*, EA8BB*, VQ2DC*, ZE6JA*, ZSs*, ZE2JE*, ZE3JY*, VQ4EU*, VQ5EK*, YI2AM*. Neville 2APL spoke to PY8HF*, VR2CM*, while Stan 3TE QSOed F18AN*, F18AT*, HSIWR*, HZ1AB*, LX1S1*, OD5LC*, PY5DP*, VS1s*, VS2s*, VS9GV*, XZs*, XW8AA*, YI2AM*, ZSs*, 4S7*. Rex 3UR reports ZSs, ZC5SF*, KA0LJ*, and John 3AKO mentions ZSs*, VS2*, F18AR*, 4S7*, YI2AM*. Ron 8ARV heard FR7AD, 3ATN has again been quite active; Ray's excellent results are shown by ZS*, ZEs*, CR7AU*, CR7AD*, VQ2PL*, CR6AJ*, VQ2FU*, LU*, VQ4BP*, F18AR*, F18AT*, F18AZ*, KV4*, FQ9V* (Corsica), ZS3P, CR8AG*, FQ8AK*, AO, PY, SUIMR*, Bob 4RW adds MP4BBD*, VR3C*, ZM6AA*, followed by John 5H1 with ZS*, MP4BBD*, VU2* 6OU tried his beam with results like Doug 7DZ spoke to LX1S1*, KT1WX*, while KTIWY*, VR4*, ZS*, KA0LJ*, LX1S1*, ZB8JA*, and another Hobart station, Keith 7RX, reports F18AZ*, VQ4BP*, 4S7s*, OD5AB*, F18AR*, VSs*, VP8AX*, HSIWR*, VS9GV*, 15BC*, XW8AA*, YV5AO*, CE3II*. Up in the north 9YV got interested in "phone" with HZ1TA*, VR4*, VSs*, KA0LJ*, LU2NG*, XZ*. S.w.I. Norman Clarke heard PY2CK, VS, VU2s; followed by the young Jenkin brothers; Dick heard YI2AM, HZ1AB, CR3C, VS, 4S7, VS1MS, and Dave adds YI2AM, ZM6AA and ZC6SF.

21 Mc.: Erratic openings have been typical of this band for quite some time and so they were during January! Europe and Africa broke through on some days between 0900 and 1100z, and North America was represented by a few weak W signals around 2200-0100z. Quentin 3IK worked MP4QAH*, DJ*, KW6BB*, VU2EJ* and heard WA4TE. Percy 3PA reports 4S7XG*, VSs*, VQ4AQ*, VS6AE*, YU3RU*, a long series of Gs*, and heard QO7JU, CR7AD, ZB1BF, ON4AU, VQ4EG, VQ4RF, DLs, YI, MP4QAH, John 6OU helps out with SMSOC*, Gs*, 4S7LB*, and VS*.

27 and 28 Mc.: These bands provided sporadic conditions to the Far East, W land, and Pacific Islands. I should like to emphasize that only the keen co-operation of a few stations consistently watching these bands nowadays, enables me to fill this paragraph—thanks chaps!

Chas. IAC spent some time listening on the 28 Mc. band, observed short-skip conditions and heard VK5HI. Aub. 2APE worked KA6RC*, and Norm 2ALJ reports KH6ARE*, KH6ARN*, W5MET/MM*, and also heard a W5 Emergency Net on 27 Mc. on 2/1/54. Les 4XJ worked KH6ARN* and W5MET/MM*.

GENERAL NEWS

The B.E.R.U. Contest took place in the usual good style on the 30/31 January week-end and all participants should have had an enjoyable time. The once rare country "Fanning Island" should be normally workable from now on.

DX C.C. LISTING

PHONE			
Call	No. Ctr.	Call	No. Ctr.
VK4HR	12 172	VK4RT	22 124
VK3BZ	3 168	VK4WJ	17 122
VK3EE	10 163	VK4JF	8 114
VK6RU	2 150	VK4DO	20 112
VK3J	21 158	VK3MS	24 109
VK3JD	1 155	VK3CE	23 108
VK4KS	9 152	VK3WM	25 108
VK6KW	4 150	VK3HO	29 103
VK3LN	11 141	VK2ADT	13 102
VK3AWW	14 140	VK2AHA	15 102
VK3JE	7 139	VK6PJ	19 101
VK4WF	16 137	VK3GJ	5 100
VK3ATN	26 136	VK3GG	27 100
VK4RW	23 127	VK5LC	18 100
VK6DD	6 128	VK3AUP	30 100

C.W.			
Call	No. Ctr.	Call	No. Ctr.
VK3BZ	6 214	VK4RF	11 125
VK4HR	8 195	VK3YL	39 125
VK3FH	15 191	VK3YD	27 123
VK4JF	29 184	VK3EK	3 122
VK4EL	9 172	VK3J1	25 118
VK3CY	26 160	VK3ST	37 117
VK3X	23 159	VK3PL	38 117
VK2EO	2 152	VK3JUM	12 116
VK3CN	1 151	VK4DA	24 114
VK2GW	16 151	VK4DA	7 113
VK6RU	18 150	VK7LZ	17 112
VK6SA	28 150	VK4RC	13 107
VK4QL	38 146	VK8KW	40 104
VK6BO	33 144	VK2V	34 103
VK3XO	43 144	VK3AFA	14 101
VK3VW	4 143	VK3NC	19 101
VK2QL	5 142	VK2OA	32 101
VK4DO	20 141	VK7RK	22 100
VK3KB	10 138	VK2AEZ	35 100
VK3JE	21 137	VK9XK	41 100
VK5FH	31 134	VK3RJ	42 100
VK3XK	30 128		

OPEN			
Call	No. Ctr.	Call	No. Ctr.
VK3BZ	4 224	VK7LZ	23 116
VK4HR	7 210	VK3VQ	48 116
VK4JF	32 200	VK2ASW	53 116
VK3JE	12 198	VK3JA	43 114
VK6RU	8 196	VK2ADT	14 113
VK2NS	16 195	VK3HO	38 111
VK3HG	3 181	VK3PG	47 111
VK4EL	10 172	VK3MM	49 111
VK8KW	13 171	VK4RC	21 110
VK2DI	2 170	VK3ZE	34 110
VK3XK	1 167	VK2ZC	25 108
VK4KS	24 167	VK3KR	56 107
VK4DO	15 165	VK2YL	11 106
VK3AWW	45 150	VK3AWN	36 105
VK9GV	46 148	VK3VN	18 104
VK3LN	29 144	VK4UL	27 104
VK3FL	28 143	VK6PJ	22 104
VK4WF	40 141	VK6JF	44 104
VK3MC	5 139	VK3HZ	50 104
VK3OP	19 137	VK7KB	30 103
VK6DX	42 137	VK2TI	37 103
VK4RW	52 137	VK3YS	57 103
VK6DD	22 136	VK7RK	31 102
VK3HT	41 135	VK4TY	35 102
VK2ADE	28 133	VK9XK	54 102
VK2AHA	9 128	VK5HI	51 101
VK3AHM	20 125	VK2CX	8 100
VK3J1	33 119	VK2TG	39 100
VK5LC	35 116		

FIFTY MEGACYCLES AND ABOVE

VICTORIA

SOUTH AUSTRALIA

VE3D does his best to satisfy a long queue of DX-hungry c.w. boys on 7 and 14 Mc. The operator is Ray Baty, of Melbourne. VK3GT is reported to have also gone to Fanning Island. It is understood that Ray will stay on the island for approximately two years. QSLs can be sent to Fanning Island as there is a mail delivery every three months (thanks 3OM and 3PV). Activity from South Korea (HL) has been reported (thanks 1AC and s.w.l. Norman Clarke). Activity is planned from Navassa Island (American Poss., near Cuba) (thanks 3CX). Further details will be published as they become available. Chas 1AC operates on all h.f. bands except 21 Mc., and hopes to be also on that band before long. Alan 9YY advises us that he expects cards from JZ0KF to arrive shortly. ZL1AGR is ex-ZM6AF (thanks BERS 195). KG8GX is a U.S. Navy club station on Guam. W3NLS is ex-M13LK.

QTHs of interest:
VR3D—Ray Baty, O.T.C. Cable Station, Fanning Island.

ZC5VM—Sgt. Mills, R.A.F. Detachment, Labuan, British North Borneo.
ZC5SF—George Harrison, Harbour Master, Sandakan, British North Borneo.

15LV—Box 505, Mogadiscio, Italian Somaliland.
Y1ZAM—R.A.F. Club Station, R.A.F. Habbaniya, M.E.A.F. 19, Iraq.
Ex-KP6AE—KZ3OM, William J. Christian, C/o P.A.N.R.F.P.S., Drawer 2006, Fort Gulick, Canal Zone.

W11S/KF6—Lawrence Benjamin, 2204 N.E. 7th Ave., Portland, Oregon, U.S.A.

Rare QSLs were received by:—SAHH: 4X4BT, OAFU, LUICV, Y1ZAM, Z8EJA; SAFL: Y03RF; 0A8N: M1B, ST2NW, CS3AC, ZC4RX, VQ2FU, Z8EJA, E1Z, LUSAR; 5HI: AP2R, FA3V, CN6CS, ZB1AQ, DU7SV; 8WO: Z53T, KV4AA, KV4BB, VK1EM, VS2DQ; 7DZ: LX1SI; 9YY: VQ2AB, ET2NG, F1AE, JZ0KF; BERS195: F6TQ, OK1KTW (both for 3.5 Mc. reports); SAHE: XW8AA, VP8BG, T1ZPZ, ZK1AB, FK8AC, and DU7SV.

The monthly "thank you" is this time directed to VKs 1AC, 2QL, 2AFE, 2AHH, 2ALJ, 2AMB, 2APL, 3CX, 3IM, 3KB, 3KR, 3PA, 3TE, 3UR, 3XO, 3AKO, 3ANJ, 3ANQ, 3ARV, 3ATN, 4RW, 4XJ, 5DP, 5HI, 5RK, 5WO, 8GU, 7DZ, 7LZ, 7RX, 9YY, and to s.w.l.'s BERS195 (VK3), Norman Clarke (VK2), Dick Jenkin (VK3) and Dave Jenkin (VK3).

Please remember: Increased activity at night time between 7000 and 7150 Kc. reduces chances of further expansion of commercial QRM!. Let's occupy our band!

Good conditions were experienced on 6 mx between the Melbourne area and VK7 on the 15th January. Skip distance rarely decreases sufficiently to enable contact to be made with Tasmania, particularly so for northern Tasmania. 7AJ and 7LZ, of Hobart and Launceston respectively, both came through with excellent signals. 7LZ faded out first as the skip lengthened. However, they remained in long enough for several QSOs to be made. On the same evening VK5s were also getting through. First sign of Tasmanian 6 mx sigs in Melbourne was the occasion when 7CW and 7NC broke through for a brief period in 1947 while they were in contact with VKs. Occasional openings have occurred since then, several contacts having been made.

3VL and 3US, Rex and Gwen of Leongatha, are still active on 6 mx down there. Look for them on Sunday evenings. They also mention that 3TH is active again on 6 mx. 3KX, a visitor to Melbourne recently, hopes to have his 2 mx station in operation at Colac soon with higher power and new beam.

A general discussion took place at the January v.h.f. meeting, arrangements being finalised for the fox hunt, a 368 Mc. display night at the February v.h.f. meeting, and field days. Listen to 3WI for details. The March v.h.f. meeting will be on Wednesday, 17th, commencing as usual at 8 p.m. and held at the Institute rooms. All are welcome to attend.

In making a plea for more activity on the v.h.f. bands the following points are worth consideration:—

1. These bands are relatively static free and much less subject to most types of electrical interference.
2. Free from varying propagation conditions which often impair the effectiveness of the lower frequencies for ranges of 100 miles or less.
3. Due to shorter physical wavelength experimentation with a great variety of antenna types of practical size is possible. Rotary beams of high gain are easier to construct and erect.
4. Offers scope for portable and mobile tests, and, incidentally, no special permit is required for this type of operation on 50 Mc. and above.
5. Provides activity which is as yet unexplored by many of us. There is the fascination of striving to extend the present maximum distances already achieved.

Referring to (4), comparatively simple gear may be used. An input of 2 to 10 watts to the final of the tx, together with a super regen rx of the non-radiating type will give very good results. A suitable ex-disposal genemotor or vibrator pack will provide the necessary h.t. supply. A number of articles dealing with compact portable and mobile equipment have appeared in the various Amateur magazines. See "QST" for April, 1952, and June, 1951, for typical examples.—SABA.

Well chaps, it looks as though we will have to build up a 70 Mc. rx to monitor the v.h.f. bands for twice in a month the Eastern States' taxi services have made VK5 with very strong signals. There is every possibility then of them being on 24 hours of the day, so what more could we ask!

Six metre band has shown most activity but why, oh why, does every station almost fold up as soon as the contest is over—it makes me more in favour of a longer period with some modified scoring scheme to take care of the extension. And whilst I am on contests, Council discussed our own v.h.f. contest and decided to refer it back to the general meeting for discussion—the proverbial "hot-potato" what! So it's your move next my hearties.

Noticed in "QST," December, a handy gadget called a "V.h.f. Balun—pocket size" for matching co-ax to the balanced line. In usual "QST" style, the four coils—two bifilar wound pairs—have no details except that they are "a pair of standard t.v. balun coils" and they lend themselves to cover the 50 and 144 Mc. bands—possibly the 288 Mc. band I suppose. However, with a magnifying glass, I counted 32 turns close wound on about 3/4" diameter, which could mean 16 turns double wound, about 1 1/2" long. Each coil pair is wound in opposition to its neighbour. The two outer coils connect to the terminals at one end and to the inner and outer co-ax connector (earthed). The other coils interwound are connected together at the terminal end and at the co-ax end to opposite connections from that which their interwound coils are made.

A new arrival on the 6 mx band is Bert 5BW who has acquired Max 5GF's gear; welcome to the ranks OM and you know by now that during the DX season and the V.h.f. Contest the locals don't answer nohow. Ray 5BT has been taming a 6M5 on 6 mx and fell into the trap that we have all kicked ourselves out of—measuring plate and screen current and wondering why the dip was poor—an 833A to anyone who hasn't done it! Keith 5MT is without a 6 mx rx as at writing so working cross band with 2 mx; lend you my 6 mx one for your 2 mx one Keith, then I can work 2 mx—how long is it Clem, 3 or 4 years!! Talking about Clem, Ray followed your progress through the city and the echoes indicated that you were dodging in and out of the tram poles. Good strength from the 6J8 final—half watt input did I hear you say! Well, I'll take heart again. Where was Reg 5RR at the time?

On 1 mx a few stalwarts Rex 5KY and Howard 5XA with Charlie 5ON are continuing the good work; Eric 5EG livening up the band too, maybe we'll get a contact soon Warwick.

Important news on 2 mx, Tom 5TL calling and listening four nights of the week at 1930 hours for any contacts, particularly from the city. Am afraid that you'll have to bounce the signal off Mt. Lofty Tom. Hughie 5BC using a 18 element beam now, so should be able to push that signal report up to S8 plus 40 db. Have some good literature in circulation with the tape recording that I made of my lecture on antenna couplers. Country Hams who cannot use the tape recorder may like to have a look at the synopsis and publications. Thanks for the prompt response to the questionnaire chaps.—5XU.

50 Mc. W.A.S.

Call	Certificate Number	Additional Countries
VK2WJ	13	4
VK2VW	9	3
VK4RY	2	2
VK4HR	4	2
VK5LC	1	1
VK6DW	3	1
VK3PG	5	1
VK3RR	6	1
VK3HT	7	1
VK2AEZ	10	1
VK3XA	11	1
VK3GM	12	1
VK3ACL	14	1
VK3ZD	16	1
VK2HO	17	1
VK3ABC	8	
VK2WH	15	

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1332-9H	200-220-230-240	300	120	2 x 6.3v-2a; 5v-3a	53/3
1356-3H	200-220-230-240	400	150	5v-3a; 2.5v-5a; 6.3v-4a	70/-
1371-8	200-220-230-240	500-600-750-850-1000	300		150/-
1400-19	200-220-230-240	565-500-425	250	2 x 6.3v-3a; 2 x 2.5v-3a; 5v-3a	110/-
1643-23	200 or 230	—	—	6.3v Tap 5v-2a (500v insul.)	17/8
1525-21	200-230-240	—	—	2.5v-10a (1000v insul.)	47/6
1305-22	200-220-230-240	—	—	2.5v-10a (3000v insul.)	75/-

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FEDERAL

AUSTRALIAN RADIO AMATEUR CALL BOOK

The interest has been so great regarding the forthcoming Australian Radio Amateur Call Book that its success is almost assured as at the date of this issue of the magazine, if one could use such information as a basis for computing the success or otherwise of a publication.

In response to a request for corrected names and addresses in these columns last month, a flood of letters has been received pointing out current errors and advising of prospective changes before the publication date some time in March (you still won't get a copy until April—the machines merely commence running in March!). All this points to one thing—accuracy; and that is what is wanted in this, the Institute's first subsidiary publication to "Amateur Radio."

But one word of warning to those who have forwarded these corrections and additions in to Federal Executive! They must also be forwarded to the Postmaster-General's Department under the terms of the Amateur License. It does not suffice to only forward such information to the Institute as publisher of the Call Book, the information must also be forwarded to the Department for the official files. So to those who have forwarded in amendments, etc., and to those who may do so in the near future, please note this requirement of the Regulations.

The Call Book will sell through leading book-sellers and all Divisions of the Institute at 4/6 per copy—a little higher than was first expected but nevertheless still reasonably priced as things go in this age in which we live. The main thing is to maintain a facility to which every Amateur has a right.

A WELL MERITED AWARD

The Victorian Division has seen fit to award—or should we say, confer—Life Honorary Membership on our Federal QSL Manager, Ray Jones, VK3RJ.

We particularly mention Ray in these columns because he has carried out the arduous duties of handling QSL cards for more than twenty years, during which time he has handled thousands upon thousands of QSL cards for all Amateurs in Australia and for many societies overseas and members of those societies. This is no mean task as anyone who has done such work in the Institute's Divisions will know only too well.

Before the Federal organisation came into being, Ray carried out the same job in the Victorian Division, and in receiving this honor has become the second Federal officer to be listed under honorary membership. Ray has well and truly earned it and our best wishes and congratulations are extended to him for a good job done. May he continue to serve the Institute for another twenty years.

VICTORIA

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President: J. A. Weddell, VK4FT.
Secretary: V. P. Green, VK4VS, Box 636J, G.P.O., Brisbane.
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Divisional Sub-Editor: J. T. Hope, VK4XL, Royal Parade, St. John's Wood, Ashgrove.
QSL Bureau: Jack Files, VK4JF, Vanda St., Buranda, South Brisbane (Inwards and Outwards).

SOUTH AUSTRALIA

President: W. W. Parsons, VK5PS.
Secretary: R. G. Harris, VK5RR, Box 1234K, G.P.O., Adelaide. Telephone: J 1151.
Meeting Night: Second Tuesday of each month at 17 Wymouth St., Adelaide.
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QSL Bureau: Geo Luxton, VK5RX, 8 Brook St., West Mitcham, South Aus. (Inwards and Outwards).

WESTERN AUSTRALIA

President: G. A. Moss, VK6GM.
Secretary: J. Mead, VK6LJ, Box N1002, G.P.O. Perth.
Meeting Place: Perth Technical College Annex, Mounts Bay Road, Perth.
Meeting Night: Third Tuesday of the month.
Divisional Sub-Editor: W. E. Coxon, VK6AG.
QSL Bureau: Jim Rumble, VK6RU, Box F319, Perth, West. Aus. (Inwards and Outwards).

TASMANIA

President: L. E. Edwards, VK7LE.
Secretary: F. J. Evans, VK7FJ, Box 371B, G.P.O., Hobart.
Meeting Night: First Wednesday of each month at the W.I.A. Club Room, 147 Liverpool Street, Hobart.
Divisional Sub-Editor: L. E. Edwards, VK7LE.
QSL Bureau: Inwards—T. Allen, VK7AL, 6 Thirza St., New Town; Outwards—Ray Calvert, VK7RT, 310 Park St., New Town, Tas.
Zone Correspondents: Northern: M. A. Chaplin, VK7CA, 58 Merallyn Rd., Launceston; North Western: R. K. Wilson, 11 Cunningham St., Burnie, Tasmania.

FEDERAL QSL BUREAU

RAY JONES, VK3RJ, MANAGER

FK8 Hams staged a "do" at the Hotel du Pacifique, Noumea, in early January to welcome Keith Mealing, VK3NJ, who visited New Caledonia on a vacation. According to information the table was well "loaded" with beer, whisky and sandwiches, but no news is given as to whether any or all of the 11 FK8 Hams who attended or the guest were also "well loaded," but the stage seemed set for such an eventuality. However, the gesture gave Keith much pleasure.

Adrien, FK8AB, has commissioned FK8AO to procure him a supply of cards and the matter is well in hand. To save time owing to the poor mail facilities with Wallis Island, Adrien will supply FK8AO with details of the contacts and the latter will fill out and mail Adrien's cards from Noumea.

Alan White, G3HCU, in sending the season's greetings to this Bureau (and to all VK Hams, mentions that he always is on 21 Mc. on Wednesdays and Sundays from 0700 G.M.T. onwards, looking for DX QSOs especially with VK.

The most unique confirmation yet sighted by yours truly is one sent to VK8KO by G2AVP confirming QSOs on four bands on the same day. The date was 31st January, 1949, and the bands 25, 14, 3.5 and 7 Mc. G2AVP, who used 120 watts to a 417 ft. long wire antenna, is a much travelled Ham and has signed the following call signs: VS9AP in Aden, VQ4CM, SU4CM, HZ1VP, and VS9AP in Oman.

The Phone Section of the forthcoming 20th A.R.R.L. International DX Competition is set down for the week-ends of February 12-14 and March 12-14, while the C.W. Section occupies the week-ends of February 26-28 and March 26-28. Full details of times and method of compiling logs may be had from this Bureau.

As the writer is holidaying during the last week in January and first two weeks of February, notes are few and being compiled early. Correspondence will suffer some delay during the above-mentioned period, but even a QSL Manager must have a breather now and again. Itinerary is a little vague at the moment and will depend on the weather and the purse (mainly the latter).

To show that he bears me no animosity, my "floral" friend in charge of the VK5 notes sent me a nice Xmas Card. His card design was aptly chosen and clearly defined and the written greeting was a pleasure to read and a greater pleasure to reciprocate.

NEW SOUTH WALES

HUNTER BRANCH

The January meeting of the Hunter Branch was held at Tighes Hill Technical College with Johnny Clarke, 2DZ, in the chair and 15 members present. Varley 2SF agreed to carry

on as Secretary until the annual election of officers, but due to pressure of business would not stand for re-election. Max 2OT resigned from his position as Class Manager so the Branch is looking for another Class Manager to replace Max and carry on his good work.

The lecturer at the meeting was Lionel Swain, 2CS, whose subject was "Reminiscences of the Newcastle Radio Club"—an amusing and educational lecture especially to the younger members of the Branch.

We have lost another two members from the Hunter Branch. Jack 2ADT has moved to Inverell and Max 2OT has been transferred to Sydney, but his QTH will still be in Newcastle until he can arrange accommodation in the "big smoke."

Leo 2QB got up as far as Rockhampton in his trip to VK4 and called in to see Web 2AQI at Armidale on his way through. Ron 2ASJ has been holidaying at Denman and latest reports are that Ron's health is much improved and his voice is well on the mend. Harry 2AFA and Neil 2XY have both installed "hop over beams" for use on 14 Mc. and report good results with them. Frank 2ATH has shifted to new QTH at Lambton and will be on the air within a short while.

The March meeting will be held at Tighes Hill Technical College at 8 p.m. on 12/3/54.

VICTORIA

The February meeting of this Division was held on 3/2/54 at the Melbourne Technical College, when Messrs. Burton and Williams, of the M.T.C. staff, spoke on Receiver Fault Finding. Not only did these gentlemen speak on the subject, but also brought along a collection of gear and gave practical demonstrations. The 85 or more members present greatly appreciated the effort made by the speakers, and after firing many questions at them carried a hearty vote of thanks.

Now that we have the use of the Radio Theatre until a later hour, time is available to conduct a fair amount of business, and many items were finalised on this occasion, a summary of which follows:—

New Members: Full, 3AVK, whose name I missed. Associates: R. Neil, D. Goldworthy, D. G. Dow, Peter Davies, and Frank Clarke. Welcome one and all. There's plenty of seats at the meetings, so let us see you there.

Federal Councillor: Fred Bail, 3YS, was re-elected to this position.

New Call Book: This matter is well in hand and members were asked to notify the office immediately if there has been any change in their addresses, or if there is any mistake in the last official list published.

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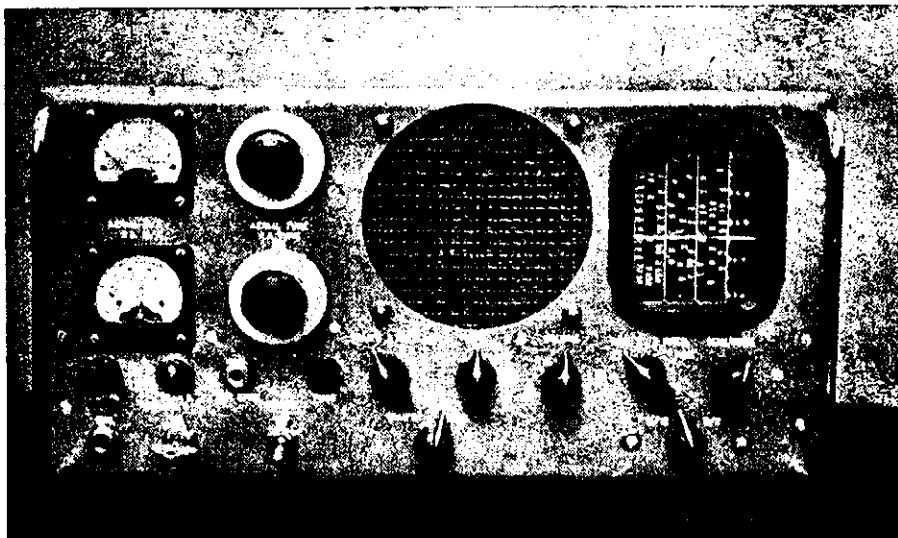
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Library: Ron 3ARV volunteered for the job of Librarian and asks those wanting books to contact him at 18 Madden Grove, Burnley. Ron will probably be rushed for volumes I and II. of Conversions to Surplus Equipment which have just been acquired. These books cover a host of American equipment types and should be well worth perusing.

High Power Permit: After due consideration Council has decided that for the time being they are unable to increase the power at 3WI. The permit available authorises an increase to 500 watts for the Sunday morning broadcast only. Without entering into the pro's and con's of the matter, I suggest leaving the power "as is," but for Pete's sake put some audio on the carrier.

TRANSMITTER HUNT, 14th MARCH

After discussion at the February general meeting, it was decided to change the date of the Marathon Tx Hunt to 14th March. This change has been made because of the Royal Visit.

For full details see February issue of "A.R." on page 17. Briefly, the scoring: three points deducted for each minute a competitor arrives in the area under the time decided upon, and one point off for each minute over the time.

Assembly point at College Parade, rear of the University at 10 a.m. and first signal on at 10.30 a.m. Total mileage including the return to Melbourne, approximately 90 miles. Please wear your badge and clip your name or QSL card onto your car windscreen. See you at the Hunt!

Somewhere about this stage of the meeting, the President requested that two members present leave the room, or be forcibly evicted. Wisely they chose the easier course. These two members have, over a number of years been guilty of certain misdeeds and the time had arrived for them to be judged by their fellow members. Note that they were not permitted to speak in their own defence. The charges were first against Ray Jones, 3RJ, "that over a period of many years he had delayed delivery of QSL cards in favour of brass pounding," and secondly against Ron Higginbotham, 3RN, "that he had delayed the printing of 'A.R.' in favour of building bigger and better rigs."

After various members present had elaborated on their misdeeds the meeting unanimously agreed that suitable punishment would be to thrust Hon. Life Membership upon them.

In a short speech, Ray stated that in the time he has been Editor of QSL Manager he has handled over 800,000 cards which is over 6,000 hours work. Unfortunately Ron has lost count of the number of words he has had to check and read at least twice, how many people he has had to chase for copy, how much almost illegible handwriting he has had to decipher and so forth. Sufficient to say, both craps have more than done their fair share of the work involved in running our Institute.

After all that I'll have to keep personal notes to a minimum or the big blue pencil will come into operation, but even so, a couple of points must be raised. For understatement, I'll nominate 3RE's remark that he likes working DX. Anybody who builds a house around the shack is more than keen. Just as well the XYL feels the same.

For overstatement, I'll back 3ZS calling himself "Grandpa." That title is suitable only to old blokes like me Max, and when you reach more mature years—say 20 years' time, or thereabouts—I'll be happy to congratulate you on the occasion. If you don't believe me, ask young Bill, 3TX, who now has a shiny 50 ft. pole rearing its ugly head above his back garden. Bill doesn't feel a day older now than he did when he "acquired" the coil from a "T" model Ford and radiated a signal somewhere between 200 and 600 metres!

Lastly! Whattabout a 40 Metre Scramble???

NORTH EASTERN ZONE

We took notice of the photographs in a well known metropolitan daily recently that included Ken 3KR earnestly talking to the microphone of VLSQB. V.h.f. seems to be catching on up here; at the time of writing including our "regulars" Alan 3UI, Syd 3CI, Peter 3AFF, Les 3ALE, Alex 3AT, and Murray 3HZ; Doug 3IJ, Jim 3JK, Des 3CO and Stan 3AGT are also following, or thinking of following, that type of work, and some have graduated or are graduating as far as 2 mx.

Des 3BP has been heard in spite of very low power input, but Howard 3YV and Gordon 3XU have not been obvious lately. Johnny 3ACK was mentioned in the last call sign amendments. Jack 3FF is another who is handicapped at times by low power. Those uncapped "60's" must have sustained Hugh 3AHF through our recent very hot weather. Rex 3UR is troubled, on occasions, with a high noise level; some might suggest he should be initiated to the mysteries and privileges of 6 mx. Col 3WQ

is one who currently has a good position for local 80 mx daylight working.

Frank 3ZU has been heard on 20 mx, but it would seem that Vic 3ABX is apparently busy and more or less off the air. Keith 3JC and Henry 3HP were among those mentioned as receiving cards from Bob Gurr, VK1RG, on his recent return from Macquarie Island. Our associate Vern Wyatt did not sit for his A.O.C.P. in January, but hopes to be "in it" in April with at least one of his mates from Cobram.

CENTRAL WESTERN ZONE

The last two months have meant hard toil and little available time for Ham activity for the majority of our zone members, but now that the harvest has been reaped and holidays had by all, we are beginning to hear familiar old voices around 80 mx again.

Firstly a dash of v.h.f. news. Keith 3AKP, of Stawell, is now all geared up on 2 mx with beam aligned down 3DP's neck of the woods, so Jim get cracking on your 2 mx converter and that 3Z2 before Keith starts plugging in 80 mx coils. Charlie, formerly 3IB and now operating as VK1AC on Macquarie Island, has settled down amongst the icicles and putting some i.b. c.w. signs into here on 20 mx. So chaps, have a listen of an evening and give him all the news. Bill 3AKW has his new rig working well on 20 mx and by now should have nabbed Charlie.

Well due to poor weekly hook-up attendances, I find news is very scarce, so what say Bob, Trev, Jim, Dick, Byron and all you other Central Westerners, let's make next Wednesday night at 8.30 on 80 mx an all time record.

EASTERN ZONE

The Zone Vice-President, that old stalwart from down Yarram way, Alf MacKrell, has become engaged; congratulations Alf. Alf is also anxiously awaiting results of the A.O.C.P. exam, so I think we will be congratulating him on another score soon. One of Alf's friends from Yarram, John Batterick, has also become engaged; best of luck also John. I heard a rumour that Peter 3IZ, who used to be at Yarram, became engaged recently too. These Yarram boys are certainly dark horses!

Stan Baxter, of Traralgon, is now the owner of an A.O.C.P.; good on you Stan, we always said you could do it. It is high time that another lad around these parts went for his ticket, namely Laurie Daniels. What about it Laurie?

The zone hook-ups have been rather small lately, but as conditions improve from now on, so also will the hook-ups we hope. 3SG appeared early in February for the first time for quite a while to test a new mobile rig for the National Field Day. Leo has built a mobile rig that works off either v.f.o. or crystal and is bandswitched from 10 through to 80 mx. 3QZ, 3PR and 3WE have been the mainstays of the hook-ups over the past couple of months and have done a great job keeping the hook-ups going. 3AHK dropped his 3650 Kc. rock and broke it, of course! This coupled with the fact that Howard 3VG has taken his v.f.o. to VK9 with him has kept Ossie off the hook-ups. Yes Howard has got his shift to VK9 at last.

The Sale boys are still very quiet, however Arthur 3ABF came up on New Year's Day with a mighty 100w. signal. Bairnsdale is very quiet these days, Jack 3FK hasn't been heard for some time and Alan 3AFA hasn't put a signal on the air yet. The Leongatha chaps, apart from 3PR, are also very quiet, likewise the boys down Warragul way.

The monthly meeting of the local sub-branch was held at the home of Lindsay 3IO and a most enjoyable time was had by all. Membership of the sub-branch has dwindled somewhat over the last year, mainly due to members leaving the district. If the meetings get much smaller, they will be starting to look like a State Convention. Main discussion at the meeting was on preparation for the National Field Day. An inspection of Lindsay's gear proved to be very interesting and he is to be congratulated on the neatness of his set-up. The next meeting will be held at Jack 3FK's place in Bairnsdale and is being eagerly looked forward to by all.

GEELONG AMATEUR RADIO CLUB

The major item of interest for the month was a field night on the 13th when a tx was hidden by SAWZ and J. Beckingham in the vicinity of Batesford. A Type 3 tx was used and a satisfactory signal was heard at the starting point. First to arrive were Vic. Clarke and 3AEH, with 3ALP only three minutes behind, followed by 3IC and J. Barbour. Several others arrived later; one car, the navigator of which it is not desired to disclose, had a most pleasant trip (?) to Barwon Heads. It appears an article on sensing would be of interest.

Three members, who did not take part on this occasion, were 3WT, 3BU and 3AKE who were all on the sick list at the time. W. Brownbill and Ed. Kosseck are on the job

again at present and we are pleased to report that the progress of Bill 3WT, although slower, is still in the right direction.

QUEENSLAND

January has been very quite all round in this Division, the activity on the air and in our organisation seems to be at its lowest ebb. Our Secretary informs me that the response to the nominations for Councillors has been very poor, plus the fact some of the present Councillors are retiring after, on their part, lengthy service as Councillors. I and fellow Councillors hope you, as a member of our Institute, won't let the business of the Council be curtailed by lack of members. We don't want to be in the sorry plight we are in with our official station, 4WI, begging for a home. It is requested you take over some duty on the Council; after all it's your organisation to protect your interests in the greatest international hobby in the world. Individualism and petty differences won't protect us from the inroads of commercialism in our hands which we have striven so hard to maintain. So what about a review of yourself and your activity and see what you can

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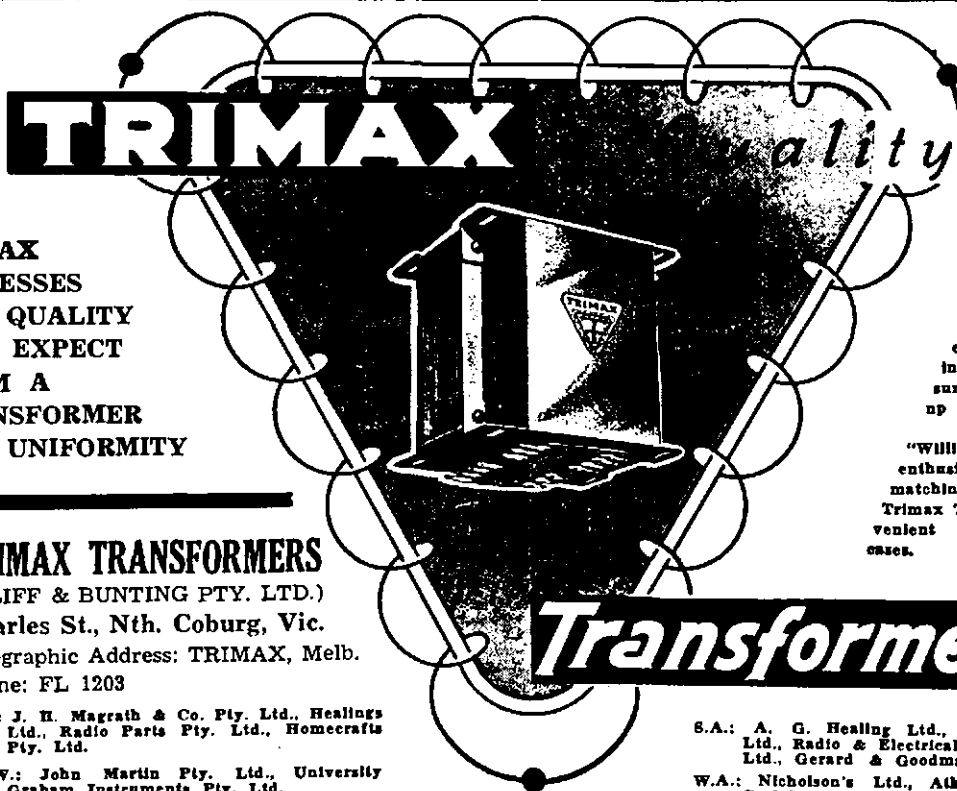
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do to assist, and put that something that is lacking in this Division, back into it.

January showed what can be done by one member. When I look at the activity of Frank 9FN while he was on leave in this Division. Especially after some of the tales, completely unfounded, that Frank was greeted with on his trip around some of the country members' shacks. Seems as if there are some unscrupulous saboteurs in our midst. I offer this warning to all members. If any Amateur or otherwise makes a derogatory statement about members or Councillors of this Division, ask him to produce proof or where he obtained his information, to pass on to Council. If nothing is forthcoming in this way, tell him to, in polite Australian, shut his trap, as defamatory statements can lead one through the perils of a court case. And please don't pass on these old maids' mutterings you hear unless the truth of them can be substantiated by cold facts.

January meeting was as usual poorly supported, though it was pleasing to see those of you who were there, which included Jack 4SF from Ipswich Harold 4HM, Keith 4KF, Jim 4PE (about again after his accident) and Frank 4FN who presented the highlight of the evening with coloured films of the highlights of Port Moresby and their coronation celebrations, plus those flashes of the family at play that creep into family photography, and if the films did lack anything, Frank made up for it in his running commentary, even on the leader of the native Girl Guides!!

Must welcome some newcomers to this Division in VKs 4WT, 4FU, 4TF and associate members D. Carter and C. King.

Heard Bill 4YA on air again after holidaying in Victoria and Hal 4HG after re-building the rig. Believe the beam is still on the ground though, can't you get a few helpers from the Ipswich gang? Jack 4SF is wearing himself thin climbing up and down his tower doing all those little adjustments to his beam and working a little DX in between. Aussie 4TN and John 4RT have been heard "rasseling" with European DX, and Clive 4CC back with a.m. after giving other types the once around. Keith 4KS getting his portable going for a trip down South. Frank 4ZM hopping between c.w. and phone, having a high old time. John 4FU heard putting a mighty signal in here calling WX. Haven't heard Gympie though I have searched for signs of 4HZ without any luck. Joe 4JH, of Townsville, came through for a pleasant QSO and told me he had been entertaining Bill 4WD, from Rocky, who was up that way on holidays.

John 4FT having a holiday from radio and sweating hard for his accountancy exams. Arthur 4FE works the chap next door on v.h.z., with a 5 over 5-be cheaper to shout through the window Arthur 4RJ, 4ZE and 4UJ have been punching holes in the ether on c.w. and Tom 4TT trying yet another antenna, which goes to show some Amateurs are active on the air at least.

Don't forget April for our Queensland VK4 Contest. April for the Annual General Meeting and Annual Dinner, see you there.

March for your dues, March for your Council nominations.

All outstanding contest certificates for Queensland contests should be out in March. The winners of prizes donated by Brisbane firms will be presented with them at the Annual Dinner if they are present. The date is 3rd April—remember it.

SOUTH AUSTRALIA

The monthly general meeting of the VK5 Division was held at the club rooms to the usual capacity attendance and the guest speaker for the evening was Mr. G. Bowen (5XU) whose subject was "Antenna Couplers." Gordon has lectured many times before to members and has established for himself quite a reputation on the subject of antennae and associated apparatus. It is suffice to say that he was as usual his instructive and interesting self and managed to pass on to his listeners much of his knowledge, and also to remove from their minds several misconceptions concerning standing wave ratio, impedance mismatch, and the other mysteries connected with aerials. Most of what he said we have at various times read in our text books, but undoubtedly an hour of personal explanation accompanied by a few circuits on the blackboard teaches more than days of book reading.

Gordon brought along several types of v.h.f. aerials and discussed their advantages and disadvantages, and I must say that when he produced his version of the slot antenna for 288 Mc. working, the audience really sat up and took notice. Gordon concluded his talk with a few selected pictures projected on a screen together with suitable explanations, and the vote of thanks proposed in able manner by Hector 5UZ suitably expressed the opinions of all present as to the success of the

lecture for the evening. This lecture will be available on tape shortly and I can recommend it to all country members.

No general business of any importance was discussed and it can only be assumed from this that the VK5 Division is sailing along in very placid waters. The President, however, did address the meeting on several matters, one being the fact that nominations for the 1954 Council were now due and he stressed the point that some new and young blood would be all to the better in the Council, and stated that any member of the present Council would not be hurt to any extent if he was dropped off the said Council. The "here heres" and other sundry remarks which came from various Council members more than supported the remarks of the President.

The President when interviewed after the meeting did not appear very confident as to the possibility of there being any new members for 1954! He also referred to the fact that the annual subscriptions were again due and said that he hoped any member would not withdraw from the activities of the VK5 Division because of possibly being short of the necessary. He pointed out that the VK5 Division had always made provision for any member who might find himself temporarily financially embarrassed due to family sickness, hospital expenses, or any of the many unexpected problems associated with the family man. The Secretary or the Treasurer, or for that fact any member of the Council, will be only too pleased to explain just why you don't have to drop out of the Division, and don't forget they are the soul of discretion. Anyway, the President is usually broke to the wide and the Council members have had plenty of practice dealing with him. Seriously fellows, don't drop out because of any false pride on this matter, the Division is too big for anything like that.

The meeting closed at the witching hour of 10.30 p.m., but the lights never went out until a much later hour, which leads me to think that a good time must have been had by all.

Was talking to Bill 5VK who was telling me at the meeting that he was moving from his present QTH at the "Snuggery," down to the city and would be heard from the Seaton Park area in the near future. He originally hailed from Guernsey with the call sign of G2BHX and lived in the town of St. Sampsons. We welcome him to the city and will be pleased to see him at the general meetings more frequently.

Received a letter and parcel from Les 5UX all the way from Cook. The letter was true to form, but the parcel was eyed very suspiciously. It turned out to be a smashed boomerang under the label of "unmitigated balderdash." Les does not miss a chance to have a shot at me, or I at him, and this I will say, he is one of the few in this world who can dish it out and also take it in return. A stout fellow! (very subtle). He also called in to the b.b.s.s., after a trip to Perth, and we had quite a chat about Ham Radio. He thinks that he might be back nearer the city lights in the near future. Here's hoping Les, we could use you in the Divisional activities.

I have it on the best of authority that at the next buy and sell night, Ross 5LW intends to dispose of the remains of his automobobble. It appears that on the way to the famous Kelly fishing grounds, over the Xmas period, the said car became a little temperamental and decided to continue the journey on its head. Ross was quite put out about this (very funny, very funny), and when everybody sorted themselves out, it was found that the trailer and boat, together with the stock of provisions and all the usual gear associated with the art of fishing, were slightly knocked about. Ross finished up with the XYL's wig on his head and had a little trouble in finding his glass eye and cork leg, but apart from some bumps and bruises on the children and XYL, all was reported fair. Ross said, when interviewed by the representative of the magazine, who was quickly on the spot, that he was very lucky to be hit where he was, if it had been anywhere else he would have been badly hurt. The representative who examined his head, agreed with him! Despite all this excitement, the party carried on with the true Kelly spirit, and great was the mortality among the fish over Xmas. I report this fact concerning the fish, only at second hand, as nary a fish did I see or taste.

Leo Rand, W2JAC, who is maritime mobile on the "Pioneer Glen," paid another of his five monthly visits to VK5 and was active on 28 Mc. from Fort Adelaide during his stay. This fact gave an unexpected fillup to that band and quite a scamper took place among the fraternity who had almost forgotten just where their coils for their receivers really were. Doc 5MD, John 5EH and Lea 5LC were among the lucky ones. Leo is active on this band at all times whilst in Australian waters and now that he has official permission to work the rig whilst in port, he should be heard more often. Last heard he was en-route to VK7.

SOUTH EAST AREAS

SCH has been doing a little on the v.h.f.'s, but as Claude is busy building himself a new shack, there is some excuse for the momentary inactivity. STW has been keeping his skeds on the v.h.f. frequencies, but aside from this, Tom has nothing to report. SMS has been keeping his skeds on 40 mx and also chasing any new ones that may show up on 20 mx. Stuart is finding the new ones becoming further and further apart. SJA has again gone into smoke and no news is available from John for this month. SKU having lowered the beam for alterations, finds it very difficult to hear any signals let alone work any stations. Erg, of course, always has the glider hobby to fall back on, but the weather for this time of the year is not very co-operative. Is that right Erg? 5FD is another one who is missing from the scene of activities this month, and it is quite remarkable that the only two stations from this area, named John, always go out of circulation together. 5CJ is plodding along as usual, and apart from the usual skeds, Colin is having a quiet time. He tells me that the questionnaire from the VK5 Division that was sent out to all country members, caused a lot of interest in the S.E. areas, and it is hoped to hold a monthly get-together to hear the tape of the W.I.A. meeting.

WOOMERA RADIO CLUB

Most of the members of the club were away for the Xmas break, but Ray Farmer and Max Newell always seemed to be around whenever Ron 5FY happened to be there. The gang really enjoy the Sunday morning contacts with the boys in "civilisation" and are particularly pleased with the reports on the 30w. modulator. They managed to maintain communication with their President, Len 5OC, whilst he was in the city and were pleased to hear his XYL on the air at various times. Glad, has been in hospital for a while, but now sounds as if she is coming good rapidly. Ray Farmer's XYL has been confined to bed also and he has been busily engaged in looking after his two harmonics and hopes that it will not affect his coming A.O.C.P. exam.

The Sunday QSO with Les 5AX is still number one priority and he certainly puts in a solid signal up that way. Ted 5JE has now moved into a house in the area and will probably be heard pushing the key from his QTH ere long. I have heard Len 5OC from his QTH in the city lately, and seem to detect a slight touch of embarrassment in his voice when he alludes to the call sign of Woomera (5WC). Don't let it worry you Len, remember the famous words of one of my fraternity, "A rose with any other name would smell as sweet." What's that Len? Oh well, I was only trying to help. I see what you mean!!

The members of this esteemed club seem to think that they would like to hear the voice of the President of the VK5 Division occasionally via 5WI, and wonder if he speaks like he writes. They also wonder if he has a spilt personality, a sort of "Heckle and Syde," the scribe section battling with the President section. Well, strange as it may seem, this wish to hear the President talk on 40 mx has been expressed by quite a number recently, and if it can be managed with the minimum of expense and energy, the "voice" may be prevailed upon to do his stuff. However, his inherent modesty and shyness, coupled with his love of quietness and solitude, to say nothing of his purity of thought and action, may prevent this momentous event from taking place. Lower the blinds Jeeves, the light from that small star in the North East corner of the sky is blinding me!

Believe it or not, but I cannot help thinking of the dear editor and the fatal step he is about to take. You know Tom, you won't know yourself, just think of coming home from work at the close of the day and finding your slippers put out, the dinner merrily cooking on the electronic stove, the sweet kiss of welcome, and after dinner, the relaxing in the shack. What do you mean? Not you of all people, dishes before DX! Well I give up, even the pedestal has fallen with you. Why, look at me, my wife does everything for me, why we even have a lace cover over the drip bucket in the sitting room, the sink in the kitchen always clean for me to wash in, and even rat traps set in the bedroom, but do I put dishes before DX? I'll say I do not. "Yes dear, I'm coming, I was just talking to my palsy-walsy Tom about being sure to help with the dishes when he gets married." "You sit down dear, I am sure you are tired, I'll wash and wipe." Wouldn't it!!

UPPER MURRAY AREA

The monthly meeting for January of the Upper Murray boys was held at the QTH of Hughie 5BC and quite a number of visitors came along headed by Eric Halliday, of D.C.A., himself a one-time active Ham. The principal item of the

night was the re-playing of the tape recording taken at the Adelaide meeting of the lecture on v.h.f. and the weather conditions. Hughie handled the recorder and Tom 5TL did the explanatory work from the notes accompanying the tape. Although the mathematic side of the lecture made fairly heavy going to the boys they all appeared to absorb the lecture so much so that many correspondents' notes this month are mostly pertaining to the v.h.f.s, and you know what will happen to me if I so much as dare to mention the v.h.f.s. in this column. Therefore for any further doings of the gang please read the v.h.f. notes in this magazine compiled by Professor Bowen, M.U.G.

Tom 5TL tells me that he had a visitor this month, none other than ZLAJA, who is in VK on what could be called a walking holiday, with a companion. He has travelled as far as Cairns by "hitch hike" and other means of locomotion, and is carrying a list of all his VK contacts and their QTH. He has tried to meet up with as many of them as he could and called in Remark on his way to VK3. Both he and his friend are science students at home and hope to take their degrees this year.

Associate member Wolfgang Wuttke was missing from the meeting but bobbed up at the Adelaide meeting, and as he is now residing in the big city will be a welcome member at all general meetings in future. Remark's loss is our gain. Alex 5XO has closed down his shack preparatory to removing to Loxton. I may be wrong, but I think that he is the first and only representative of the W.I.A. to live in Loxton. Am I right Jack 5LR?

The next meeting for the boys will be held at the QTH of Fred 5MA and any visitors in the vicinity are more than welcome. It does not seem so, but Tom 5TL tells me that he has been sending down to me the monthly doings of the gang for a year now, and possibly there will be another volunteer for the job by the next month. If so Tom, thanks a million, and I will miss your cheery letters. You will get your reward in Heaven, that's what they tell me anyway. Thanks again Tom. Oh, by the way! They won't let you ride "Rattling Salvation" in Heaven!

I have it on the best of authority that in the Upper Murray areas there is a certain young man, who shall remain nameless, who is inclined to favour being an artist rather than being an active Ham. Anyway he spent quite a lot of time and care on the production of an oil painting representing a cow grazing in a field. He showed the finished product to one of his fellow Hams, who said, "The ship is not bad, but you have painted the sea much too green!" The painter will be heard on 40 mx much more frequently from now on!

By the way, fellows, book up for the tape that will be recorded at the February meeting on Radio Sonde. Gordon 5XU is personally taking the recorder out to Parafield and will get information right on the spot. There is some talk of the President accompanying him and making a personal trip up in one of the balloons, but the President declines to comment. In fact he was verbally silent!!

THE ANNUAL VK5 PICNIC

A very representative gathering of members and families of the VK5 Division came along to the Annual Picnic which was held at the Gorge Recreational Grounds on Australia Day. Due to the fact that I was busily engaged in keeping the wolf from the door, and incidentally, his growls have been getting louder, and louder lately, I was not able to attend what apparently was the most successful outdoor gathering held for some time by the VK5 Division, but several members of my espionage department were there in full force, and I am able to chronicle the happenings of the day without resorting to the padding for which I have achieved Commonwealth reputation. All right, all right, I'll get on with it.

The weather was kind to those who came along, and all present managed to have a good time. Those who did not, and I should say they were definitely in the minority, only had themselves to blame and will drop out of this description forthwith. The prize list among the youngsters looks like a "who's who" of Amateur Radio in VK5, and so as they may see their names in print for once, I will give the prize list in detail:

Footrace winners were—6 years: Rob Coulter (5JD); 8-7 years: Rosemary Bowers (5XU); 8-10 years: Wendy Bowers (5FM); 10-12 years: John Watson (5JW); ball in the bucket: Mrs. T. Davies (5TD); threading the needle: John 5JW; ladies' wheelbarrow race: Miss Joan McAllister (5JO); gents' ditto: Rex 5KY; men's race: Howard 5KA and Joe 5JO tied; and the ladies' race was won by Jean Baker. Prizes were donated by Mrs. Hewitt, Mrs. McAllister, Frank 5MZ and as usual, Gerard and Goodman. The committee who were responsible for the success of the picnic are to be congratulated for their efforts and Frank 5MZ, Arch 5XK and Gordon 5XU are to be congratulated for the way

they threw themselves into the task of entertaining the kiddies all the afternoon, both big and little. This Picnic was arranged with the main idea of getting the XYLS and the kiddies out into the open and giving them a good time, to show everybody that once the average Ham could be lured out into the open air he was as normal as any other family man, and finally to try and get the members' families to mix together and become better acquainted with the various people who, most of the time, were only a voice heard through the shack speaker. To say that the Picnic succeeded in these intentions would be to make a definite understatement. Nice work everybody.

One of the highlights of the Picnic was the "grudge" cricket match between the c.w. boys and the phone boys, referred in some quarters as the brass pounders versus the tonsil twisters. The scores are no indication of the entertainment provided by the players and finished up as B.P.'s six wickets for 100 defeated the T.T.'s all out for 85 runs.

It was evident as the two captains, Gordon 5XU (T.T.'s) and Arch 5XK (B.P.'s) entered the ring accompanied by the referee, that there would be bad blood between the two teams. As the referee was warning them not to hit in the clinches, etc., Arch slyly kicked Gordon in the shins and the crowd roared their appreciation of Gordon's impromptu dance of the upended drawing pins.

The teams ran to the oval bouncing the ball to the accompaniment of cheers and jeers from the assembled multitude. Expecting the c.w. boys to be exhausted after the B.E.R.U. Contest over the week-end, 5XU craftily batted first and sent his heavy battlers into the fray, to wit, 5JO, 5XX and 5LD, 5XK, as captain of the c.w. gang, with great sagacity, nursed his bowlers, to wit, 5FO, 5RR, 5JG with 5HW in reserve. So successful was this nursing that they all fell off to sleep without a murmur, although 5GL was assisted with a dummy. 5AW and 5LD had quite a battle in the cheering section with 5LD winning by a short neck, mainly because he used a couple of coarse words in the right place. 5ON missed the hat trick by 37 runs, one dropped catch, three wickets, and two non-l.b.w. appeals, whilst 5OC, 5DO, 5TD and 5DK collected ducks and had them for dinner the next day.

5MZ, when run out, threatened 5JO regarding a "???" l.b.w. appeal, and 5RB complained that he had sustained a broken leg after getting out of his running lane and colliding with somebody's gig. 5MD started in the cricket match but finished in the tennis championships, much to the annoyance of the cricket players. Reg 5RR kept leaving the field, going behind a tree, pulling his pants up to his knees, and then sneaking into the ice cream queues and taking an ice cream under false pretences—and he the VK5 Secretary!!

As the sun sunk slowly in the West, and the tired but happy members wended their way homewards, the soft voice of Arch 5XK could be heard faintly wafted on the evening breeze, sweetly reminding the tonsil twisters that they had no answer to cricket or c.w., because it was an art! The groans and moans from the phone boys to this libel, must remain for ever a secret between the editor and I.

Everybody that I met after the picnic said to me "be sure to give Joe 5JO a mention in the notes for all the good work that he did for the picnic." I took the liberty of pointing out that if I mentioned Joe in the notes every time he did some good work for the VK5 Division, then he would never be out of the magazine, and he would run the risk of being called one of the clique. When I had a talk to him regarding the picnic, all I could get out of him was to be sure to mention all the names of the gang who worked so hard to make the picnic such a success. What hope have I got of getting any news, anyway I got so fed up that I decided to make no mention of Joe, nor will I tell you that he is always to the fore when the hard work is being done, nor will I tell you that he has been that way for so long that when anyone mentions the VK5 Division they automatically think of Joe. In fact I refuse even to mention his name.

A deep sense of gloom and impending disaster permeates the VK5 Division this month. Many members are wearing black bands on their sleeves and the sound of stifled sobs can be heard whenever the boys gather together, in fact the news of the impending doom which threatens the VK5 Division has become the sole topic of the day. The President, well aware of the feelings of the members toward him, is attempting to laugh without a catch in his voice, to greet the gang with that baring of the teeth, which has passed for a smile for so long now that even new members no longer wince, in fact to do anything rather than let anybody see just how much the relinquishing of the Presidency was affecting him. However, there is a ray of sunshine for the despondent members. The President, with his usual unselfish motives has arranged with the incoming

President to bring along his schoolmaster's cane when he assumes office, and has also offered to point out any of the members who might profit by its application. Vive-Barbier!! Six handers, I hope!

WESTERN AUSTRALIA

The February notes usually show the effects of the slowing down which takes place during the Christmas holidays. There is one method by which several columns could be filled, and that is to relate something absolutely incorrect about many of the stations' activities and the result would be an overwhelming rush to point out the inaccuracies and thereby provide quite a lot of information.

With the opening of the schools some of our members return to duty and will come on the air again at their own QTH. 6RT and 6BO to whit. 6WZ from Geraldton paid a flying visit to Perth, but as it was over the week-end little was seen of him.

The following are the members of the Wireless Advisory Committee for the current year: J. Hoar, VK6OR; H. T. Mulder, VK6MK; D. E. Graham, VK6HK; J. Rumble, VK6RU; and F. C. Lambert, VK6FL. The chairman is Mr. T. J. Jewell.

6MR, mobile marine, has been heard working week-ends and holidays, mostly from the vicinity of Rottnest Island. VK6LJ, our worthy Secretary, seems to have completed all preparations for the Queen's visit, as far as communication channels are concerned, and has "returned to duty."

It seems that conditions this year make it essential that the W.A. News be put on 80 as well as 40 mx. It is so late in the year now that probably it will continue during the rest of the summer. Severe hydrodyne interference was in evidence a week or so ago on the 40-mx transmission from 6WL. Sabotage cannot be entirely ruled out.

Two new members were elected at the December meeting, namely Mr. W. W. Jacobs, VK6WJ, and Mr. S. J. Smith, VK6SJ. A country and a suburban licence respectively.

The January lecture was given by 6MK, his subject being "Modulation."

TASMANIA

NORTH WESTERN ZONE

Sorry for the lack of notes the last couple of months, but owing to pressure of work and sickness, the correspondent has not had much of a chance. Believe 7KB has given up radio temporarily to experiment with high powered cars, though guess as soon as the bands come good he will be back at it again. Some very good experimental work has been done of late by 7SF and 7WA in connection with antenna design and matching which should prove very beneficial to radio in general. 7Gills has built an antennascope which is capable of indicating whether the aerial is properly matched to the feed line and appears to be very useful in tuning a beam. Murray 7MR has moved his QTH some few miles. Guess you will be out of the noise area now Murray and the DX should just roll in. A recent event was the arrival of a junior op. to associate K. Hancock, and it was duly celebrated at our last monthly meeting. Congratulations Ken.

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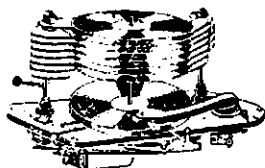
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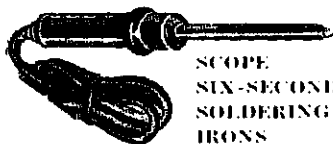
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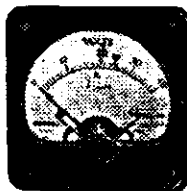
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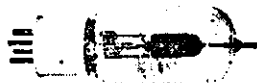
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6C6	7/6	12SR7	10/-
6C8	10/-	807	10/-
6F5	10/-	809	50/-
6F6	10/-	813	60/-
6F8	10/-	815	50/-
6G6G	10/-	832	50/-
6H6	5/-	866	20/-
6J5GT	10/-	956	10/-
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WI BROADCASTS

All Amateurs are urged to keep these frequencies clear during, and for a period of 15 minutes after, the official Broadcasts.

VK2WI: Sundays, 1100 hours EST, 7146 Kc. and 2000 hours EST 50 and 144 Mc. No frequency checks available from VK2WI. Intrastate working frequency, 7125 Kc.

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EDITORIAL



ARE CONVENTIONS NECESSARY?

Usually at this time of the year Federal Executive and your Federal Councillors are busy preparing the Agenda for the Convention, which in the past has been held at Easter each year.

Federal Council in its wisdom decided at the 1953 Convention that a Convention would not be held in 1954, unless urgent or important matters warranted a change of plans. The reasons being the high cost, lack of important items and the closer liaison now existing between the Federal Councillors and the Federal Executive.

Your Federal Executive has faithfully carried out the policy laid down at the 1953 Convention and in addition has found time to work on a number of projects which include bringing to fruition the plans to produce an Australian Amateur Call Book.

Certainly, Conventions are necessary. They enable the problems of the Divisions to be aired in an atmosphere that overcomes the difficulty experienced in interpreting the written word; however, there is no doubt

that the present method of inter-changing ideas on paper as the problems arise clears the deck so that when a Convention is held the Delegates will have only a limited number of contentious items to consider. Thus enabling them to give full consideration to each item instead of having to rush in order to accommodate all the minor items and "evergreens" included in past Agendas.

Conventions are also necessary when major changes in policy are contemplated.

Your Federal Councillor has a very important task—keep him fully informed of your local problems; make him work all the year round; do not assume that he only comes to life when a Convention is held.

Unity in strength. Maintain the integrity and stability of your Institute by supporting the Federal Council, thereby ensuring that the Amateurs' cause and achievements receive the fullest recognition from both authorities and public alike.

FEDERAL EXECUTIVE.

THE CONTENTS

The Complete Amateur—Final Tank Circuit	3	Old-Timer Passes	11
Short Wave Receiver Selectivity Problems and the Double Crystal Filter as the Answer—Part One	4	DX Activity by VK3AHH	12
1953 VK-ZL DX Contest Results New South Wales North Coast Floods, 1954	9	Prediction Chart for April	12
	10	Fifty Megacycles and Above	13
		Federal, QSL, and Divisional Notes	15
		Correspondence	20

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1-5U4	1-6SJ7
1-6SN7	1-6SA7
1-6SL7	

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6L7	12/6
807	25/-
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830B	60/-
VR150/30	22/6
954	7/11
12A6	12/6

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Containing Valves:—

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2-6AG7	6-717A
2-6L6	

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Range 3 (H.F.): 500-200 Kc.

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200 watts input. VFO 200 Kc. to 10 Mc. Complete with valves. Power required: 1,200v. 200 Ma.; 250v. 50 Ma.; 6.3v. 6 amp. Easily converted to crystal control. Ideal for ships, fire control base stations, amateurs, etc.
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AR8 RECEIVER

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10 Valves, five bands. Range 1 freq.: 18.5-7.5 Mc.; range 2 freq. 7.5-3 Mc.; range 3 freq. 1500-600 Kc.; range 4 freq. 500-250 Kc.; range 5 freq. 200-75 Kc. Dual ratio dial calibrated for all bands. Easily converted to operate from 240v. A.C.

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Available Melbourne only.

THE COMPLETE AMATEUR

BY TOM ATHEY,* A.I.R.E.

SECTION THREE

Final Tank Circuit

Panel: 19" x 6 Units

Chassis: 17" x 10" x 3"

The final tank circuit has been designed around the old standby—the 807. Other valve types can be used such as 804, 814, 813, and the usual run of pentodes. Do not use pentodes in push pull for a reason which will be expounded later in this script. For the purpose of simplicity, the author advises any newcomer to adhere to the 807.

The grid input is capacity coupled to the output of the multipliers. Protective bias is used, the bias being obtained by the voltage drop across the 20,000 ohm resistor. However, if the drive should fail, the cathode bias will be sufficient to hold the valve at a safe level and so avoid damaging the valve.

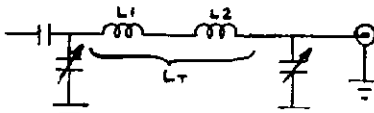
Between the plate of the 807 and the final tank coil, a small spurious harmonic filter is used.

The h.t. is shunt fed to the plate of the valve. This enables the gang and the coil to be at earth potential, thus eliminating extra care in isolating the gang condenser from the chassis.

The output circuit consists of a tank coil utilised as a pi network, the output of which can be coupled either direct to the antenna by means of co-axial feeders having an impedance in the vicinity of 75 ohms. Actually, 52 ohms cable or 70 ohms cable can be used.

The pi network substantially consists of two coils, the first coil being the coil for the operating frequency and which is tuned by the 65 pF. condenser. This condenser must have suitable voltage ratings—approximately 2½ times the input voltage to the plate.

The second half of the tank coil is really that portion which would act as a matching device to match the first portion to the aerial. This is then tuned with the broadcast gang as the voltage at this point is low. Essentially, this is how it looks—



However, this double coil is taken care of in the coil specifications. The coil has been tapped to permit ease of tuning from 80 metres through to 10 metres without coil changing. At the conclusion of this section, the formulae will be given so that pi network calculations may be made if you desire.

Two meters are included in the circuit, one indicating maximum grid drive and the other the plate milliamp. so that the resonant dip may be found.

Should a t.v. harmonic filter be decided to be incorporated, provision may be left for such a circumstance when the known t.v. channel will be made

available. Until then, the unit should be omitted.

You will notice that two fixed condensers have been incorporated in the tank circuit. This is to increase the capacity and thus improve the Q of the circuit when the 80 metre band is in operation.

Both the 0.002 uF. mica coupling condenser and the 150 pF. mica must be of high rating—in the vicinity of 2½ times the input voltage, but the 400 pF. need only be a p.t. type.

R.f. output is taken to a co-axial connector to enable a co-ax lead to be taken either direct to the aerial or to the aerial tuning unit.

Wiring, as in all other chassis, should be strong and neat.

Reference was made in the introduction of this article to the fact that one band switch could be made possible. This can be achieved by coupling the switch on the final panel with a chain drive from the switch on the multiplier chassis. Layout in components would assist in this method. However, should this prove to be hard to manage, no great loss will be experienced in the simplicity of tuning.

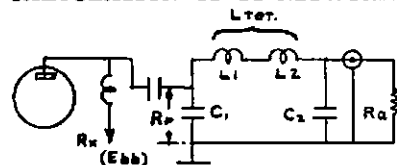
The plate of the 807 is fed with approximately 500 volts which, at 100 Ma., will place your input at 50 watts—well within the allowable amount permissible by the P.M.G. Regulations.

Coil Construction

Former: 2½" diameter; 38 turns 16 gauge enamel, 4" in length, tapped at

6t., 8t., 10t., and 25t. These taps may be varied according to the circuit requirements.

CALCULATION OF PI NETWORK



Note.—In above diagram "Rx" should be "Rdc."

$$Rdc = \frac{Ebb}{Ib}$$

$$Rp = \frac{Rdc}{2}$$

$$XC1 = \frac{Rp}{Q}$$

$$XL1 = \frac{Rp}{Q}$$

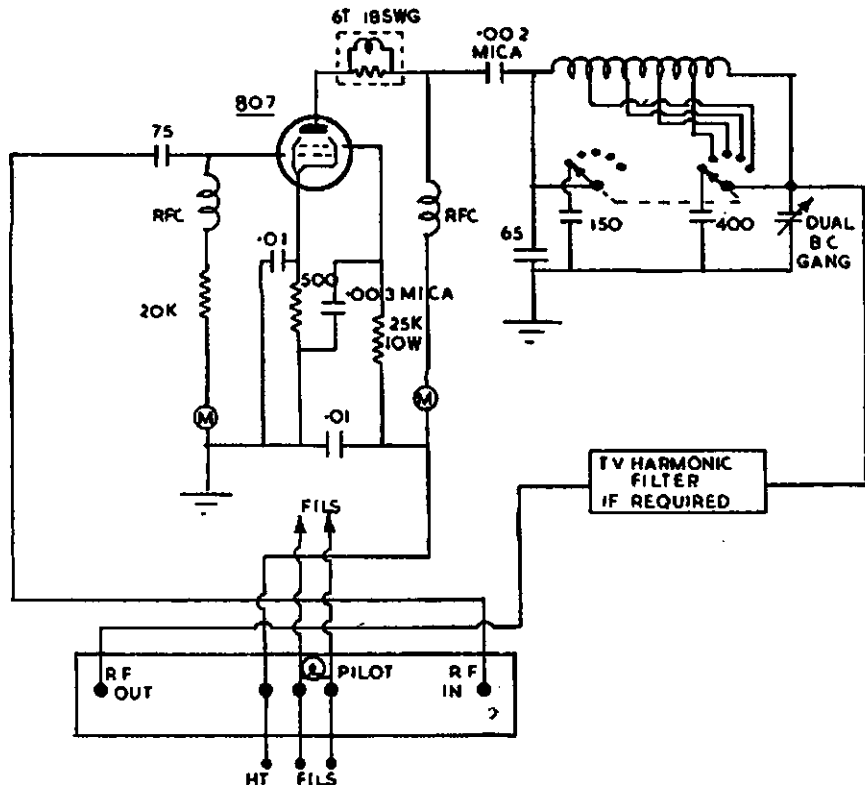
$$XC2 = Ra \sqrt{\frac{Rp}{Ra(Q^2 + 1) - Rp}}$$

$$XL2 = \frac{Ra \times C2}{Ra + C2}$$

$$XL \text{ Tot.} = XL1 + XL2$$

$$Q = 15.$$

If it is desired to use plug-in coils in lieu of the pi network, any reference book will assist in their calculation.



* Ex-Instructor Qld. Division W.I.A. Classes; 41 Mountford St., New Farm, Brisbane.

Short Wave Receiver Selectivity Problems and the Double Crystal Filter as the Answer

PART ONE

BY H. F. RUCKERT,* VK2AOU

INTRODUCTION

The designer of short wave receivers has mainly to deal with two problems—the sensitivity and selectivity. This article is a discussion of selectivity questions as far as Amateur Radio is concerned.

We so often hear words nowadays like Q5-er, magnetostriction mechanical filter, crystal filter, single sideband reception, double and even triple conversion, that it doesn't look as if we would be in the position to build a "home brew" receiver which would enable us to compete in DX contests, or to get a set from disposals which would be good and modern enough for our purposes. One of those 500 dollar receivers which seem to be ideal if the outstanding features as advertised are true, is also beyond most purses.

We will explain several points which are important, and make some proposals for the home-made receiver, showing that the Ham still can build his own receiver which may suit his job better than any other receiver he may be able to buy for a lot of money. He needs some technical know-how and a grid dip meter, but should have both any how.

T.R.F. Receiver

Looking 25 years back, we tried to fix the selectivity problem with a regenerative detector. It is true that we got quite good selectivity near the resonance frequency. We could receive a 1 uV. signal well, but if a 10 uV. signal was even 100 or more Kc. away, we had QRM because the response curve had only a sharp peak close to the resonance frequency, and the impedance of our tuned circuit was, even for very far off resonance frequencies, great enough to give the necessary amplification for a 60 to 80 db attenuated signal.

If the regeneration was not properly (critically) adjusted, we never got stable and satisfactory conditions. An r.f. amplifier stage did improve the far off resonance selectivity to a certain degree, but any tuned r.f. circuit suffered from the same effect just described. So a great number of tuned r.f. circuits would have been necessary, which was impractical.

Sharp Filters

We tried audio frequency tuned filters and resistance-capacity phase networks to improve the selectivity close to the resonance point, but these methods had the same drawbacks as the crystal filter with a single quartz has, because the bandwidth was too small (20 to 100 c/s) for phone reception, and for c.w.

All kinds of interference and noise also caused a loading of this low loss circuit and so even the shortest pulses of background noise and QRM appeared much longer than their actual pulse duration really was. The noise silencer method used in some receivers in front

of the high selective circuit was a help to a certain degree if the noise amplitude was sufficient to cut out the i.f. amplifier and if the tuned circuits before the limiter had a low Q, but usually they were not successful enough compared with the technical effort and the cost.

Image Selectivity Problem, Cross Talk, etc.

The superhet principle offers a convenient way to get any selectivity required. But this turned out to be not so simple as a new-comer might think at first. A highly selective i.f. amplifier can never do the selectivity job alone, so that we may not only receive the station our dial is tuned to. For example, even three good aligned high gain tuned r.f. circuits are not sharp enough on the 20 mx band to prevent local signals from overloading the first mixer stage even if they are about 100 Kc. apart from the receiving frequency. The mixer works no more in the linear range and we get cross talk, which the best i.f. or a.f. filter set-up can never prevent or cure. Harmonics of our own superhet receiver oscillator (not so-called subharmonics of the received transmitter) may be at the mixer grid as a result of insufficient shielding. So we can hear strong 20 mx stations, 40 and 80 mx too.

The response to image signals is another typical superhet trouble. Other signals than those tuned in may be at a frequency which is twice our i.f. value on the other side of the tuned r.f. as our local oscillator lies. If these signals pass the r.f. stages and have a chance to get on to the mixer grid, we will not be able to stop them from passing the best i.f. and a.f. amplifier, because they develop the same i.f. as the desired signal. All these typical superhet troubles gave those old-timers a certain right in saying that the old t.r.f. receiver was not so bad.

Before we blame radio stations for being in the 20 mx Amateur band, it is advisable to have a listen on the 19 mx broadcast band. If we do find this station also on its legal frequency, then we only get this QRM because our 455 Kc. i.f. and not good enough r.f. stages reproduced the image frequency, which shows our receiver is at fault.

We are often after 0.5 uV. Amateur stations, and 1 Mc. or so higher we find radio stations with 50 mV. signals. To get not more than just the equal signal strength at our first mixer stage from the strong radio station compared with the weak Amateur signal which we have tuned in, the attenuation of the image frequency should be in the order of 100,000 or 100 db. So as not to hear the undesired signal, we need 60 db more image rejection. A rotary beam may often help, but it still looks hopeless if our "famous communication type receiver" promises on 14 Mc. 500, and

on 28 Mc. only 50, as the image rejection ratio.

The single conversion superhet made by Telefunken 10 to 15 years ago, type E52 (Koeln) has an image rejection of 50,000 at 14 Mc. using five tuned r.f. circuits, and a 1 Mc. i.f. Many Ham receivers may show at about 29 Mc. the same station repeated again, which in fact is working at 28.1 Mc. So the simple superhet was not very satisfactory at solving one problem, but giving several new ones in its place.

At frequencies above 10 Mc. the selectivity and effectiveness of the r.f. stages are dependent on the input impedance of the valves used in these stages, not effectively by-passed cathode capacities, inductances, and high gm values are the reasons. Also we know that a mixer stage is producing about four times the noise the same valve would if used as a pentode amplifier. On the other hand the mixer pentode has about four times the input impedance compared with the same pentode used as an amplifier. Valves 6AC7 and EF50 represent only 7,000 ohm input impedance at 30 Mc., so we have to connect the grid to a tap of the coil of the tuned r.f. circuit so as not to lose more gain and selectivity and also to help the signal-to-noise ratio (sensitivity). With not enough gain and noise of its own in the r.f. stages, the mixer would then determine the total receiver noise and sensitivity. This would be absolutely wrong because a good receiver always allows us to hear the noise picked up by the antenna which is especially true at frequencies below 50 Mc.

The Multi Conversion Superhet

The next step forward in receiver design was then the double conversion superhet with two different i.f. frequencies. This method is still only used by a few commercially manufactured receivers, and these receivers are a very popular necessity at Amateur stations.

We can use any frequency as the first i.f. which is high enough to put the image frequency far away from the received frequency to be sure of sufficient image rejection. But this first i.f. should not be so high that we can't build good selective first i.f. amplifiers. This is a point which is too often overlooked. With a wide-band first i.f. at about 5 Mc. to 10 Mc., with less than six tuned circuits and a 50 Kc. second i.f., we will get more image frequencies in our receiver than with a simple single conversion superhet. If in this case a signal appears $2 \times 50 = 100$ Kc. apart from the point where the tuned in r.f. signal is, it will go easily through the first i.f. amplifier and first i.f. stages, so we can be sure now about the image signal mixed in the second mixer where we can never remove it. I.f. crystal filters or a.f. filters do not change these conditions.

* 119 Evaline Street, Campsie, N.S.W.

With harmonics of the two local receiver oscillators we can expect to get a lot more trouble and undesired signals than we had before if we don't select suitable i.f. and oscillator frequencies. We also should select a first i.f. where no commercial station works, and we should make the second oscillator adjustable to be able to tune commercial stations out if they still come through in one or the other way described above.

For the 85 to 105 Mc. high fidelity f.m. receivers, which are very popular in U.S.A. and Germany, 10.7 Mc. is a standard i.f. value. This frequency is also used by Hams for v.h.f. superhets. 2 to 5 Mc. may be a range where we can always find a suitable frequency for the first i.f.

The same thoughts indicate that we have to use triple conversion if we want to operate with a 35 to 100 Kc. Q5-er. First i.f. 3.2 Mc., second i.f. 455 Kc., and third i.f. 50 Kc. This is the way to overcome the image frequency problem, and we have to use more than three tuned circuits at all these i.f. ranges. If we have a.v.c. on this amplifier we must not use i.f. filter capacitors with less than 50 pF. so as not to detune the filter circuits too much by the grid-cathode capacity which varies by the movement of the space charge as a function of the a.v.c. voltage.

Stages of a Modern Communication Receiver

With this basic knowledge and experience, our image-frequency-free Ham superhet may have the following stages:

1. Two r.f. stages with low noise valves which also should have a high input impedance like the type 6AK5. Valves like acorn types or, on the other hand, a 6AC7, EF50, etc., only fulfill one of the two important requirements, that is why they are outmoded.

The gain of the r.f. amplifier must be so high that the receiver noise is only determined or limited by noise of the first r.f. valve mainly, and by the way of matching and coupling, plus tuning of the first tuned circuit and antenna. That also means that we can now use any number of frequency conversions we want for selectivity reasons without effecting the receiver noise figure or sensitivity, provided we do not operate stages regenerative (or nearly oscillating) or with more gain than is useful.

We must not have so much gain in any of the i.f. amplifiers that we hear the noise of the first or second mixer; this does not improve the sensitivity, but increases only noise and signal and is not nice to listen to. The same applies to excessive a.f. amplification.

So as not to affect the noise figure we should only use a.v.c. at the r.f. stage if S9 plus signals are coming in, which may cause cross talk or, on the other hand, if the mixer may be overloaded, and then one-third of the a.v.c. voltage applied to the r.f. stages may be enough to achieve the desired results.

The r.f. selectivity must be good enough not to let through 50 mV. signals on the image frequency of the first i.f. Three high Q, well shielded, and accurately aligned tuned r.f. circuits should do the job satisfactorily if each coil has an iron slug and a parallel ceramic disc-type trimmer with a positive temperature coefficient of capacity.

Other trimmers are usually not mechanically stable and climate proof enough.

2. The first mixer may have a separate oscillator and usually no a.v.c. for stability reasons. Too much a.v.c. at the front end reduces the mutual conductance of the valves, increases the valve noise and even strong signals may be received with a background noise of the receiver in this case. It is important to have the right oscillator voltage to get enough mixer gain and to operate this stage with not too much noise. Pentagrid converters may be used if the highest frequency is about 30 Mc. and two good r.f. stages are employed.

3. The first i.f. should be between 3 to 5 Mc. to help the rejection of second i.f. images. We need one amplifier stage in front of the second mixer and two filter groups of three to four tuned circuits each critically coupled and very well shielded so that the signals can't bypass them. These should give sufficient selectivity so as not to let through image frequencies of the second i.f. which will go easily through the r.f. tuned circuits.

The gain of this stage should be just as high as to compensate for the coupling losses in these filters. Shielding is more effective if we keep the signal low until we have highly selective circuits. A.v.c. should be used to 100% here as explained earlier (not too small filter capacitors).

4. The second mixer and oscillator may be designed similar to the first one. The oscillator frequency may be adjustable to set the dial at the correct value if necessary or to shift a few kilocycles if a station should appear on the first i.f. Care should be taken by selecting the right i.f. and oscillator frequencies, providing good shielding, and most importantly, operating the oscillator with a not-too-great harmonic output so that strong combination frequencies are not generated by the two oscillators, causing other image frequencies inside the receiver.

5. The second i.f. amplifier may have two valves with variable mu and not less than 9 (3 x 3), better 12 (3 x 4) tuned circuits. For c.w. reception, the circuits may be critically coupled and working on the same frequency, whilst for phone reception, staggered tuning and closer coupling may be advisable to get the required bandwidth. The usual simple i.f. filters have neither the required selectivity, nor the desired flat top of the resonance curve.

There are three ways known now to achieve the requirements outlined:— (a) Q5-er, (b) mechanical electrostriction filter, or (c) the double crystal filter.

We will compare the three methods later and see which way is the most convenient for those of us who are going to build their own receiver for c.w. and phone reception. The well known single crystal filter is no longer the best answer to our c.w. reception problem as described earlier.

6. A 35 to 100 Kc. third i.f. amplifier, also called "Q5-er", is not much different as the amplifier just discussed. We need an additional third mixer and about two stages with another 3 x 3 or 4 x 4 i.f. tuned circuits. The signal amplitude is already so high that noise

questions are no longer to be considered. We also should keep in mind that the reduction of the bandwidth by a factor nine reduces the amplitude of the noise by a figure three. That means we can use now three times the amplification to get a stronger signal and the noise will not be higher than it has been before the reduction of the bandwidth. The other stages of the receiver have no influence on the sensitivity or selectivity, therefore we will not discuss these at the moment.

Correct Frequency Response Curve

In about two years we will come closer to the next maximum of sun spot activity and we can expect a vast increase of powerful phone stations, mainly as the result of more effective antennae. To be still among those who can enjoy our hobby, we must now build our receivers so that we have nearly the well known ideal rectangular shaped i.f. response curve.

It has already been mentioned that we require for c.w. only about 100 to 200 c/s bandwidth and not less, but a detuning from one of the response curve corners of about 1 to 2 Kc. should result in a signal attenuation of something like 80 db on both sides.

We know that our old filter with a single crystal cannot fulfil these requirements. The peak bandwidth will be too small so that the crystal probably will tend to ring and the maximum c.w. speed has to be reduced. Also the response curve may not be steep enough on one side. To reduce the trouble with QRM and to make it easier to have 100% phone contacts, we have only one alternative, that is to make the response curve of the receiver so that we receive the carrier close to one corner of the response peak and only one sideband. To change over from one to the other sideband to get away from interference, the curve should have a flat top—flat within 2 db for about 3 Kc.

This would allow a high quality phone transmission with only 3 Kc. bandwidth. The selectivity should be adjustable for phone reception down to 1 Kc. and for c.w. reception to about 200 c/s.

The receiver gain should be constant so that a readjustment of the S meter and volume control may not be necessary when varying the bandwidth.

Most of the popular Q5-er's are also not very suitable to do this job. Their resonance curve may have quite sufficient steep skirts, but there is usually only one peak in the centre of the band-pass and no flat top. In this case, we still tune the station in according to the S meter reading, that means the carrier is in the centre and we have again double sideband reception with a twice wider receiving band for the same readability. The possibility of interference is much greater because we tuned both sidebands in and we cannot choose one sideband which may have less QRM. If we reduce the bandwidth we will have difficulties in understanding the phone transmission, and we will lose the higher tones of the modulation a good DX modulation should contain. We cannot tune our oscillator on such a receiver so as to receive only one sideband because the carrier would be too much attenuated, probably 10 db down or more. The voice would then sound like that of a heavily overmodulated

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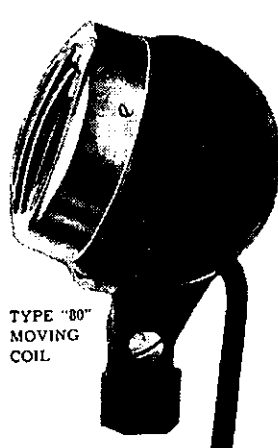


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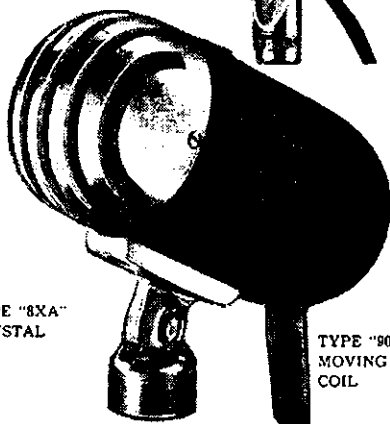
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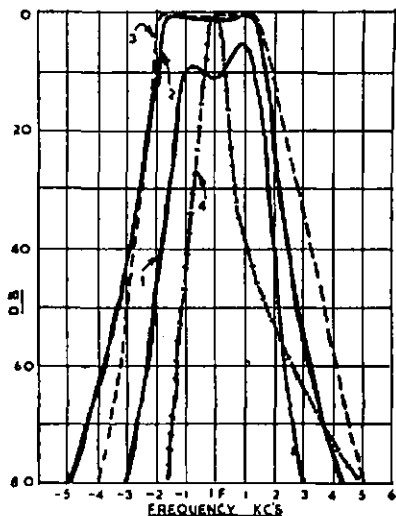
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transmitter. Even with a lot of tuned circuits and several valves, it is not easy to get near enough to the desired effect.

Special Method

An interesting but quite complicated and costly way out of this problem was described in "QST," March, 1953, p. 23. The third i.f. amplifier or Q5-er was divided in a carrier narrow band amplifier for c.w. only and an additional sideband (single sideband) channel. The sideband could be selected by changing the crystal oscillator. The sideband amplifier had a saddle of about 6 db and only 2 Kc. bandwidth. The combined bandwidth of both channels was about 3 Kc. for one sideband plus carrier. The graph shows the response curve of the sideband amplifier alone as curve No. 1.

Response Curves of Different I.F. Amplifiers



1. Nine tuned circuits at 50 Kc. "QST," March, 1953. A.R.R.L. design, sideband channel.
2. Magnetostriction filter at 455 Kc. Collins 75A III. "QST," February, 1953.
3. Double crystal filter. 3.5 Kc. flat top at 352 Kc. i.f. Position wide, a.v.c. on.
4. Double crystal filter, 0.4 Kc. at 352 Kc. Position sharp, a.v.c. on.

This Q5-er, built by A.R.R.L., had the same skirt selectivity as the best commercially made receivers we know about. The disadvantages of this receiver type are that the bandwidth is not continuously variable. The carrier and sideband gain has to be adjusted separately, and similar difficulties occur with the a.v.c. Six i.f. amplifier valves and 20 tuned circuits at 50 Kc. had been used, which does not look like an easy way to solve our problem.

Many of us got a different opinion about what a good modern receiver should be able to do when Collins offered the mechanical magnetostriction filter. There was the rectangular response curve we had been looking for for so long. The curve No. 2 of the graph shows the frequency response of the Collins mechanical filter, built in the 75A III. Amateur band receiver.

This double conversion superhet has a bandwidth of close to 3.1 Kc. at 455 Kc. second i.f. The receiver uses only a not-too-complicated double conversion superhet and not more than one additional valve to compensate the loss in gain the filter causes. But also, this filter does not allow us to vary the bandwidth unless we can plug in a 1 Kc. or 800 c.p.s. filter. This is not convenient, rather costly, and for us anyhow, out of the range to get or to build it at home.

Quartz crystal lattice filters are quite common in single sideband receivers and excitors. But how to get so many special crystals? And if we can obtain the required crystals, we will find soon that many recommended circuits have one or the other drawbacks we men-

tioned before. Usually the well known communications receivers do not use these methods.

(to be continued)

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1953 VK-ZL DX Contest Results

The extremely poor DX conditions due to low sunspot activity is reflected in the small number of logs received for this year's VK-ZL DX Contest. According to the experts, however, conditions should start to improve rapidly from now on and we can look forward to very much more activity for next year's Contest.

A lot of confusion still appears to exist, particularly among overseas stations as to the correct method of scoring and making out logs. Very few of the logs received—VK, ZL and overseas—were correctly filled in, the majority of stations not bothering to work out their scores. Had the committee stuck strictly to the rules and disqualified these entries, there would not have been enough left to make a Contest, so all logs submitted were completed and scores calculated. This necessitated a tremendous amount of work which should not be necessary.

Last year the top scorers in ZL and VK were within a few points of each other, but this year the ZL boys really worked hard and are to be congratulated on their magnificent effort. ZL1AH, the top scorer, operated for eighteen hours to make 272 contacts for 22,576 points in the c.w. section, an average of four minutes per contact—7, 14 and 21 Mc. bands being used. No contacts were recorded by any station on the 28 Mc. band.

AUSTRALIA

C.W. SECTION

Open—

Points		Points
VK2GW .. 9408	VK3PG .. 570	
VK3XK .. 2952	VK4FJ .. 493	
VK4RT .. 2794	VK3ANJ .. 360	
VK5FO .. 1792	VK5WO .. 116	
VK3AHH .. 999	VK2JY .. 40	

7 Mc.—

Points		Points
VK2GW .. 954	VK3ANJ .. 180	
VK4XJ .. 650	VK3AHH .. 104	
VK3XK .. 224	VK2YC .. 72	
VK5FO .. 198		

14 Mc.—

Points		Points
VK2GW .. 2511	VK5RX .. 253	
VK2AHH .. 900	VK3AHH .. 221	
VK3XK .. 882	VK3ANJ .. 180	
VK3AZW .. 665	VK4SF .. 160	
VK5FO .. 663	VK2ACN .. 112	
VK3PG .. 320	VK3PL .. 15	
VK2IC .. 275		

21 Mc.—

Points		Points
VK2GW .. 242	VK3PG .. 30	
VK3XK .. 84	VK5FO .. 6	
VK3AHH .. 42		

PHONE SECTION

Open—

Points	
VK4SF .. 925	

14 Mc.—

Points		Points
VK4KS .. 3510	VK5LC .. 351	
VK5MS .. 1898	VK3XK .. 112	
VK4SF .. 924	VK5WO .. 24	
VK2AOU .. 405		

21 Mc.—

Points	
VK4SF .. 1	

NEW ZEALAND

C.W. SECTION

Open—

Points		Points
ZL1AH .. 22576	ZL3JA .. 3421	
ZL1MQ .. 10985	ZL3GQ .. 2860	
ZL1BY .. 9786	ZL1HY .. 450	
ZL1ADX .. 7980	ZL4JA .. 374	
ZL1AIX .. 6720		

3.5 Mc.—

Points		Points
ZL1BY .. 63	ZL1MQ .. 12	

7 Mc.—

Points		Points
ZL2BJ .. 3168	ZL1ADX .. 403	
ZL1BY .. 1992	ZL4JA .. 234	
ZL3JA .. 825	ZL2IQ .. 209	
ZL1MQ .. 490		

14 Mc.—

Points		Points
ZL1BY .. 6903	ZL4GA .. 1728	
ZL1MQ .. 3040	ZL3CP .. 672	
ZL3JA .. 2310	ZL4JA .. 140	
ZL1ADX .. 2190		

21 Mc.—

Points		Points
ZL1BY .. 828	ZL1ADX .. 448	
ZL1MQ .. 560	ZL3JA .. 286	

PHONE SECTION

Open—

Points		Points
ZL1MQ .. 1800	ZL3GQ .. 12	
ZL1AIX .. 1760		

7 Mc.—

Points	
ZL1MQ .. 16	

14 Mc.—

Points	
ZL1MQ .. 696	

21 Mc.—

Points	
ZL1MQ .. 144	

OVERSEAS

C.W. SECTION

North America

Points		Points
Open—	7 Mc. (Cont.)—	
W6BYB .. 2025	W5TFD .. 341	
W8JIN .. 924	W2EQS .. 40	
W2WZ .. 799	14 Mc.—	
W6ATO .. 752	VE3ADM .. 4	
W2ICE .. 24	W6NZW .. 288	
W2CVW .. 9	VE7AEU .. 273	
7 Mc.—	21 Mc.—	
W6MUR .. 648	W5OLG .. 4	

Europe

Points		Points
Open—	Open (Cont.)—	
PA0UN .. 1116	DL3SZ .. 42	
PA0VB .. 120	DL9RK .. 30	
PJ2AJ .. 12	F9RM .. 48	
SM5ANY .. 330	7 Mc.—	
G15RI .. 1292	DL9TJ .. 24	
OK3MM .. 570	9S4AX .. 4	
OK1MB .. 216	14 Mc.—	
YO3RD .. 30	SM3AKM .. 306	
YO3RF .. 20	SM5BGS .. 224	
HE9RD .. 171	SM7AVA .. 147	
HB9MU .. 152	SM3HC .. 105	
DL1DX .. 544	LA4KD .. 60	
DL7AA .. 507	OH2MQ .. 216	
DLIFE .. 288	OZ1PH .. 3	
DL7BA .. 242	OH1PW .. 98	
DL6DF .. 120	DL7EK .. 20	
DL7DF .. 104		

Asia

Points		Points
Open—	14 Mc. (Cont.)—	
JA1CR .. 385	JA2AB .. 160	
VS2DQ .. 432	JA1CJ .. 150	
14 Mc.—	JA2AB .. 140	
VS1CZ .. 460	JA1DM .. 84	
JA3BB .. 430	JA1AL .. 78	
JA8AA .. 330	JA1KF .. 4	
JA2WB .. 280	21 Mc.—	
JA1FA .. 232	JA1DM .. 102	
	JAICO .. 54	

South Africa

Points	
Open— ZS1H .. 160	

South America

Points	
14 Mc.—CE3RE .. 252	
21 Mc.—TI2TG .. 50	

Oceania

Points		Points
Open—	14 Mc.—	
FK8AO .. 1206	FK8AC .. 119	
	KH8LJ .. 531	

PHONE SECTION

Europe

Points		Points
14 Mc.—	14 Mc. (Cont.)—	
PI17 .. 147	SM5WL .. 48	
PA0NU .. 48	SM6VY .. 1	
ON1PN .. 2	F9RM .. 1	

South America

Points		Points
14 Mc.—	21 Mc.—	
YV5AP .. 5	TI2TG .. 15	
HC1MB .. 270		

Asia

Points		Points
Open—	14 Mc. (Cont.)—	
VS1EV .. 552	JA1AL .. 68	
JAICO .. 60	JA1FA .. 40	
KA7RC .. 639	JA1KF .. 28	
14 Mc.—	JA1CJ .. 24	
JA2WB .. 162	JA1DM .. 4	
JA8AA .. 147	VS1CZ .. 270	

Oceania

Points	
14 Mc.—KR6CA .. 324	
VR3RJ .. 324	

India

Points	
14 Mc.—VU2RC .. 12	

LISTENERS' SECTION

Austria

Points	
OE5-403 .. 455	
OE6-196 .. 253	
OE3-117 .. 160	
OE1-519 .. 45	

Sweden

Points	
SM5-2591 .. 24	

New Zealand

Points	
ZL-105 .. 1120	
R. W. Gray (ZL3) .. 2418	

Australia

Points	
N. L. Dash (VK2) .. 2212	
BERS-195 .. 1048	

CHECK LOGS

Check logs were received from GI4RY, G69, and K6AFH.

New South Wales North Coast Floods, 1954

Amateurs on the North Coast of N.S.W. have on a number of occasions since 1948, provided communication during floods when normal circuits have failed due to flood damage to the telephone and telegraph lines. They have been instrumental in providing links to the outside to arrange relief for communities in distress and supply the first news of devastation and loss of life.

In February of this year they recorded their greatest achievement when Radio Amateurs in a wide-spread operation performed the most extensive emergency net working ever recorded in the Commonwealth.

The damaged area extended from the Queensland border south to Newcastle, a distance of over 350 miles. Twenty-three lives were lost and damage will cost many millions of pounds to repair.

Stations from many locations in the stricken area operated for periods from 4 p.m. on Saturday, 20th February, to 10 p.m., Tuesday, 23rd February.

Amateurs relayed the first information of devastation and requests for relief from five centres that were extensively damaged—Tweed Heads, Murwillumbah, Casino, Lismore and Kyogle. Some stations were active for longer periods relaying messages from "ducks" providing relief in the area.

The whole operation reflected great credit on the operators participating, and the hobby in general, and authorities within Australia and New Zealand co-operated with Amateur Stations to ensure the effective operation of the nets.

The whole operation was so extensive and so many channels were in use at different times that it was difficult to obtain a complete story of the proceedings.

Traffic was handed mainly on the 7 Mc. band by day, and the 3.5 Mc. band by night, from the flooded areas via the W.I.A. Emergency Net and VK2WI and to various other Amateurs in Sydney and Newcastle.

One net ran practically continuously on 7002 Kc. handling traffic to and from VK2AA—official P.M.G. station—at Middle Head, Sydney. The G.P.O. emergency frequency of 5390 Kc. was also in use.

A considerable amount of traffic handled was passed cross-band from 3.5 and 7 Mc. to 6915 and 3252 Kc., the N.S.W. Police Department's emergency frequencies and VKG Sydney and VKG3 Newcastle. In other cases Amateurs operated exclusively on these Police frequencies in areas where suitable xtals had been left with the local Police authorities.

Propagation conditions during the operation were poor and skip caused interference at times. The low level of static on 3.5 Mc. during the evenings did assist the net operation.

Stations operating from the affected areas included Bill Campbell VK2ZY, Norm Carpenter VK2RK, Murwillumbah; Steve Grimsley VK2VK, Tweed Heads; Charlie Miller VK2ADE, Ron Martin VK2AHL, Casino; Allan Simpson VK2ASO, Kyogle; Dr. Tom Hewitt VK2LH, Lismore; Roy Berry VK2NY, Peter Rudder VK2TB, Terry Spence VK2AJS, Bill Allwork VK2OE, Bob

Wilkins VK2WQ, Geoff Switzer VK2SR, of Grafton; Jack Gerard VK2ADN, Bill Grant VK2AWG, Coffs Harbour; Noel Hansen VK2AHH, Kempsey; Peter Alexander VK2PA, Port Macquarie; Bill Eagling VK2AEY, Taree; Alex Goldie VK2TG, Bellingen; and Crieff Retailick VK2XO, Raleigh. Some of the above stations operated for long periods, others were focked off the air by floods, while the unfortunate few were so badly flooded that they could not operate at any period.

Messages were handled for dozens of public utilities, while most of the traffic covered Police messages, P.M.G. telegrams, and Press.

The operation commenced at 4 p.m. on Saturday when VK2ADE, of Casino, opened on 7 Mc. requesting a link with Sydney as normal communications were affected.

For some hours previously Amateurs on the North Coast were heard checking their equipment as it was anticipated that official circuits would be affected.

The request was relayed to VK2WI by telephone by Graham Hall VK2AGH and Andy Kerr VK2AX. Jim Corbin VK2YC then opened VK2WI, official W.I.A. station, to provide the Sydney link for clearing traffic. Soon afterwards VK2LH, of Lismore, joined the Net as normal communication to the town had been disrupted.

BY WM. MOORE, VK2HZ

Syd Smith VK2APS, of Tamworth, also opened as Police Headquarters for the flooded area is located in that town. These stations assisted by others, at one stage ZL2HV, handled many graphic and important messages.

The frequency was changed to the 3.5 Mc. band in the evening and Dr. Alex Dan VK2ABU took over the operation of VK2WI assisted by State President VK2YC.

At 11 p.m. VK2LH lost the local power and as he had lent his mobile equipment to Alf Webb VK2UC, to use in another part of Lismore, he was forced to close. During the many black-outs experienced during the evening traffic from Lismore was diverted to Casino by telephone and relayed by VK2ADE.

At 2 a.m. Sunday the city end of the Casino link was taken over by Police Station VKG. VK2ADE operated on Police frequencies at one period but later returned to the Amateur bands.

On Police frequencies were also Port Macquarie and West Kempsey. These stations were in fact Peter Alexander VK2PA and Noel Hansen VK2AHH, the North Coast W.I.A. Zone Officer of Kempsey. They were using their own Amateur equipment on Police frequencies and covering vital points.

VK2PA was assisted at times by Lew Smith VK2AWS.

On the Sunday morning activity increased on the Amateur bands. At one stage three channels—7002, 7020 and 7050 Kc.—were in use. VK2AJS, of Grafton, was active passing important railway traffic via VK2AYP in Sydney, later he handled some P.M.G. traffic.

Also operating from Grafton at various times were VK2NY, VK2OE, VK2TB, VK2SR and VK2WQ, but power failures were frequent in the town and VK2NY's and VK2TB's homes were flooded.

VK2AA, official P.M.G. station at Middle Head, was busy on 7002 Kc. directing telegrams to VK2AHL, at Casino, who operated up to 20 hours per day taking and relaying traffic. At one stage when power failed he operated using batteries.

VK2XO from Raleigh was badly flooded but was active with 2 watts to a Type A Mk. III, and handled traffic to Sydney. At one stage he was reported to be pushing a bull away from the verandah

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CANTERBURY, E.7,
VICTORIA

with a broom. The bull was swimming around the house.

In Bellingen, VK2TG was transmitting at times but lost the town power supply early in the operation. He and Percy Sara VK2QV then placed a No. 11 on the band.

From Coff's Harbour VK2ADN and VK2AWG appeared at various intervals, as did "Dorrigo," the latter transmitting messages to VK2ASJ in Newcastle for relay to VKG3.

Ballina was represented by "VK2N" an operator who obtained a transmitter from some local authority and operated it on Police and Amateur frequencies. Before closing he transmitted a message of congratulations to the W.I.A. Emergency Net for the assistance rendered.

The first news of the devastation in Murwillumbah was transmitted by VK2RK, the town had been out of communication with the outside for 18 hours. Norm passed press to Max Sobels VK2OT of Newcastle who brought a reporter to the shack from a Newcastle paper. Later he handled considerable traffic from VK2AA. Previously VK2ZY of Murwillumbah was also active but was isolated from the town proper by flood waters. He was operating with six inches of water over the shack floor.

VK2VK transmitted the first news of Tweed Head's damage in a press message to VK2AGH in Sydney. It was the initial information supplied from that town.

VK2LH of Lismore was again active on the Sunday evening but his medical duties did not permit any extensive operating.

From Kyogle first information was broadcast on the Monday by VK2ASO, who also handled a large number of P.M.G. telegrams.

VK2AEY of Taree, at the farthest point south, was active on both Amateur bands and Police frequencies.

VK2PA was also operating on Amateur bands and directed weather information via VK2EL Sydney for relay.

Valuable work was performed by many stations in keeping the emergency frequencies clear.

In New Zealand this work was performed on the 3.5 Mc. band by the N.Z. A.R.T. Emergency Corps, after an official request was made to monitoring station ZL4OA. Jim Edge VK2AJO was also officially requested to act as guard station in view of his excellent signal on the 3.5 Mc. band.

The last net operating VK2ADE/VK2APS/VKG was officially closed at 2200 hours on the Tuesday, when VK2AJO relayed from VKG to the two N.Z. guard stations then operating, ZL2IJ and ZL3JT, a message to the N.Z.A.R.T. from the Police Department thanking them for their assistance in keeping 3725 Kc. clear.

Chas VK2ADE then, as he termed it, "pulled the big switch," after nearly 78 hours of continuous emergency working, a fine record of public service.

Although it is difficult to differentiate between the valuable working of so many stations, it is felt special mention should be made of the service rendered by Chas Miller VK2ADE and Ron Martin VK2AHI, of Casino; Tom Hewitt VK2LH, of Lismore; Steve Grimsley

VK2VK, of Tweed Meads; Norm Carpenter VK2RK, of Murwillumbah, and Stan Simpson VK2ASO, of Kyogle, who all handled considerable traffic from the worst affected area.

As mentioned previously, many stations assisted, it was impossible to record all calls, but some stations heard were as follows: VKs 2AVG, 2WT, 2AX, 2AGH, 2ACP, 2AJO, 2AQH, 2QQ, 3BH, 3TO, 2PQ, 2ARG, 2ZX. Assistants in the various shacks played an important part in some cases. Police officials were continuously on duty.

Several valuable lessons were learnt from the operation. One was the need for transmitters to be flexible enough to operate on any possible frequency, on or around the 3.5 and 7 Mc. bands. Another was the need to limit the degree of final relay of messages, too many listeners were telephoning messages heard and causing confusion. Messages should only be relayed if they are directed to stations and then by the station concerned.

If the message heard is in the form of a general broadcast, then, and only then, should action be taken.

Publicity for the work of Radio Amateurs in the emergency was very limited in the daily press.

A.B.C. and Commercial Broadcasting Stations did mention the efforts in their news sessions.

The A.B.C. presented an excellent review of the nets' operation on the following Saturday.

The work of the North Coast Amateurs in this emergency can be added to the already long list of public service rendered by Radio Amateurs in this country, and operators throughout the Commonwealth congratulate them on a job well done.

OLD-TIMER PASSES

During the winter of 1932-33, Radio Amateur K7UT, in Alaska, was in contact with another Amateur in New Zealand. Unnoticed by K7UT, a small coke stove began to fill the room with deadly carbon monoxide gas fumes that insidiously and slowly dimmed his consciousness into lethargy, then torpor. The New Zealander, operating from a lonely lighthouse, was alarmed to notice the Alaskan's signals falter and finally stop. Sensing trouble he called, in a vain hope, for any other Amateur station that might be on the air in Alaska.

The fates were kind that night and he contacted another station, resulting in K7UT being found unconscious by the rescue party who arrived in time to save his life. The K7UT in that now famous episode was Clyde de Vinna (W6OJ), chief cinematographer with the M.G.M. motion picture expedition encamped in Alaska for the filming of "Eskimo," and whose death was announced recently in America.

His "White Shadows of the South Seas" secured an Academy Award for cinematography, and "Trader Horn," "Treasure Island," and "Eskimo" were outstanding films of the period that saw W6OJ "operating on location" under such call signs as FK6CR, FK6BAM and K7UT.

Several old-timers in VK will remember Clyde, and also it will serve to remind the new Hams that, believe it or not, Ham Radio in those days was as exciting and romantic as it is today—v.h.f. notwithstanding. Attention Gordon VK5XU. You beaut!!

—VK5PS.



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DX ACTIVITY BY VK3AHH†

DX HIGHLIGHTS

Mawson, base of the 1954 Australian Antarctic Expedition, has recently been established. Its Ham Radio representation by Bill Storer, VK1EG, can be expected soon.

ZD9AB is active on 14,310 Kc. on phone (thanks 3ATN).

Dave Laing, ZC3AB, will continue to operate from Christmas Island until April, 1954 (thanks BERS195).

It looks as if Afghanistan is offered with YA1AA on 14 Mc. phone (thanks 2AHH).

BAND CONDITIONS

3.5 Mc.: Short-path openings to Europe were observed around 1830-2000z, while W-land was workable between 0745 and 1300z. In addition the Far East broke through around 0900-1100z. Macquarie Island reported long-route conditions to Europe (0800z) early in the month.

Chas IAC reports European signals via the long path, and Pete 2PA QSOed W7*, W8*, followed by Frank 2QL who heard all W districts (except W1), KL7, ZK1, KH6, KP4KD, VE7, VP8BDA. Neville 2AFL adds VE7AKO and W6, while Lance 3ZA listened to all W districts (except W8 and W9) and JA1CJ. Col 7LZ lists VK9OK* (Norfolk Island), ZK1BG and Ws. On Admiralty Islands Frank 9WZ managed to contact W7* and ZK1* in spite of noise which must be pretty strong up there. 3AHH worked VE3IG*, a series of W9* in many districts, and heard JA1CJ, VP8BDA, G6GN, SM5AQW plus other Europeans.

7 Mc.: During the month conditions were such that this band could well be called the at present only reliable DX band. Signal strengths were often good to excellent from most parts of the globe. The best period for South and Central America was from 0700 to 1200z, while W/VE conditions prevailed over the short path (0630-1600z) with some long path break-throughs around 2000-2200z. Europe and, occasionally, North Africa were well represented via both routes (S.P. 1800-2100z and L.P. 0700-0930z). South and Central Africa were erratically audible around 1600-2100z, with the Middle East from about 1300 to 1900z. South

†10 Belgravia Ave., Box Hill North, E.12, Vic.

East Asia and the Far East could be contacted between 0900 and 1600z.

Disregarding common c.w. contacts with W-land, Pacific Islands, etc., 2PA reports FK8AE*, followed by 2QL with LU, ON4, GW, VS9AS; and Noel 2AHH who spoke to JA1GV* and JA6BC*. Laurie 2AMB continues the flow of good ones: VP5SC*, HS1D*, LU8FBH* and MB3CA. 2AFL listed JA3AB*. Bill STX, using low power to a piece of wire as temporary aerial, mentions CT1SS*, common Europeans; and F9HR*, F3RW*, KL7AKC/KG6*, MP4BED* were the month's results for 3ZA, while Noel 3ZO QSOed JA1CB*, KP4CC*, XE3AM*, HL1AA*. Up comes Don 3ADJ with a phone QSO with JA6BC*. Also enjoying phone DX-ing on this band was Ray 3ATN: all W districts' KH6*, KG6*, KJ6* and VE7*. Aussie 4TN spoke to HP3FL* and Les 4XJ listed DU7SV. This month's W.A. representative is David 6WT who QSOed HL1AA*, ZK1AB*, OQDZ*, ON4AU*, DL2RO*, ZS5PL*, ZS6CH*, LZ1KAC*, HS1D*, KG6*. Col 7LZ worked JZ0KF*, VP5SC* (1200z), G5RI*, G3DCU*, KB6*, VS6*, KR6AA*, SM5DW*, 457NG*, HL1AA*, VR3D*, KX8* and heard KR6AZ, DU7SV, TI2TG, VS1YN, LUS, JAS. 9WZ reports HL1AA*, and Alan 9YY keyed with VS8AS* (1900z). Eric BERS195 heard DU7SV, KB6, KC6AA, KG6, VQ4AQ, VS6, VU2CS, ZC4RX, 4X4GD and Europeans. 3AHH logged a number of Gs*, CO2WD*, CO8AQ*, CT1DJ*, VR3D*, ON4UT* and PY8CK, DU1NL, KZ5CR XE2LA.

14 Mc.: This band displayed poor conditions to various continents. The majority of reports emphasises its eccentricity during February. Europe broke through between 1000 and 1500z, and North America was workable between 0300 and 0900z (short route) and around 1800-2200z (long path). During 0400-0700z 14 Mc. opened erratically to Africa. Times for sporadic conditions to South America were 0330-0500z and around 2200z.

QSOs with North America and the Pacific Islands being commonplace, this month's activity is shown by:

On C.W.: 2PA worked JZ0KF*, KC8AA*, KA/JA*, VS2*, KR6*, and 2AHH adds G14*, F5*, FN8AD*, KR6*, G*, Z51BB*, OH*, CR8AF*, PA0*, OD5LY*, LZ2KAC*, VU2*, 2AFL heard OQ5V* followed by Bud 2AQJ (ex-2ABP) with JZ0KF*, SF*, JA*, F*, FBKX*, DL*, VS1*, VU2JG*, KR6*, ON4QX*, DU1CV*, YU*, Alan 3CX reports MP4BBL*, KV4S*, DU7SV*, HS1D*, KG6*, VR3D*, ZC4GF*, a series of Europeans* and ZS*, ZK1BI*. Al 8KB logged VR3D* F5*, OH*, LA*, DL*, F18AT*, PJ2AQ*, ZS*, HB* and OY3GU. Ken 3KR keyed with 457RA*, OH*, Gs*, OZ*, SM*, DL*, 4X4FW*, F5*, while 3ZA adds VR4AE* and Europeans*. Mac 3ADM mentions HS1D*, OH*, ZK1BI*, FK8AE*, VS6*, G*, DU1CV* was QSOed by Dave 3ADW. Ray 3ATN helps out with OK*, DL*, G*, SM*, HB*, ZS*, ON*, and Syd 4SE/M lists Gs*, SM*, OH*, SF*, OK*, EA*, PA*, and 4XJ reports JZ0KF*, ZB1JY* and the more common ones. John 5HI keyed with ZS5*, OK*, KAs*, HS1D*, VP9BM* (long path), YU*, ZK1BI*, ET2WW*, OZ*, followed by Rob 5RG: DL*, JA*, KR6*, F18AE*, and Ray 5RK: OK*, G*, VS2*, KR6*. 7LZ's log shows F18AE*, HS1D*, FW8AB, 9WZ adds JA5*, ZS*, LU*, YI*, SU1*, OD5*, VU2*, FB8*, SM*, Gs*. BERS195 heard CE4BX, DU1JL, ET2US, F18AE, FK8s, HC1FG (2200z), HS1D, LU3DEV, OD5, VR3D, VR4AE, XZ2OM, ZK1BI, ZSs, VQ2DI.

On Phone: 2PA spoke to VS1*, JA*, VR4AE*, and 2AHH reports I*, F*, KR6*, DLs*, OH*, 2AQJ adds KR6* and a series of KAs*. Stan 3TE worked Gs*, DLs*, KA/JA*, KZ2KN*, HB8*, F5*, KM6MZ*, KR6*, VSs*, VU2RC*, ZM6AP*, and Gerry 3AGQ contacted MD5DO*, DLs*, G*, GW*, F18AR*, F18AT*, ZK1BI*, KZ2KW*, MP4BBL*, 4X4BT*, KL7ZG*; and Ray 3ATN is the next in line with FI*, G*, DL*, VK1PG*, CT*, KT*, ZS*, GM*, OQDZ*, ZE*, PY*, KG6IG* (Bonin Island), HP*; while 4TN comes forward with VR4AE*, PY2AHS*, ZM6AA*, KR6*, KC6AG*, 457FG*. Mac 5CE presents a good list including ABIUS* (Formosa), C3AR*, VR3C*, OE13AA*, MP4BBL*, 457*, OD5*, HZ1*, KG6IG*; while 5HI spoke to HC2JF*, VU2CM*, VS2*, KA*, and Doug 7DZ mentions Gs*, DLs*, 5Ms*, GD4FRV*, MD6DO*, ZSs*.

21 Mc.: European openings (1000-1130z) early in the month were followed by a rather dead period. The band demonstrated the usual unstable and erratic conditions. Times for the American continents were around 2300-0200z with the Far East and South East Asia between 2300 and 0900z.

Norm 2ALJ heard VR2CB and said that 21D worked KH6* and Ws*. Quentin 8IM adds KR6OH*, KR6LJ*, CP3EK*, and Percy 8PA reports ZC4RX*, DL7AP*, HB9LO*, VB1FE*, H1AU*, VS6AE*, W* and HS1D. 3ATN spoke to

VR2*, KR6*, and 4TN mentions HC1FS*, CP5AB*, CP5EK*, HC1MB*, OA4C*, VR2CB*, HP3FL*.

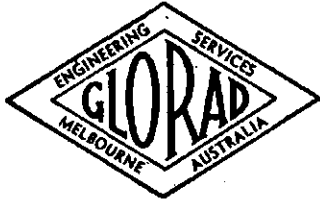
27 and 28 Mc.: Rare openings to W-land and the Pacific Islands were the only ones reported for February.


Aub 2AFE listed KJ6BA*, and heard two W5 stations (22/2/54) on 28 Mc. 2ALJ reports W3JIY/MM*, and Les worked HP3FL* and heard W6VAD, W3JIY/MM and KJ6BA.

GENERAL NEWS

The first Phone and C.W. sessions of the A.R.R.L. DX Competition have taken place during February. This ever popular contest again brought many Hams out of their fox holes—at least showing "commercials" whom the bands belong to!

Although these notes are not the place for a detailed description of activity of VK2/VK4 Emergency Nets during the recent disastrous floods, we feel entitled to offer a word of appreciation for the excellent work our fellow Hams have done in the areas affected. Ham Radio has again been proved to be of invaluable assistance to the public in cases of emergency. It is regretted that some water has to be poured into what looked like a good DX drink.





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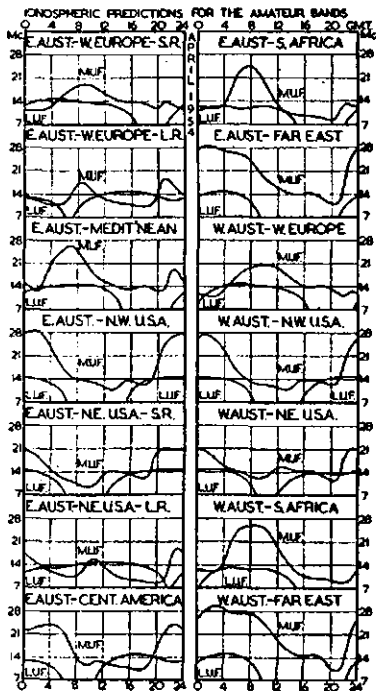
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FIFTY MEGACYCLES AND ABOVE

NEW SOUTH WALES

The usual monthly meeting was held on 5th February, but owing to the fact that the date of the meeting coincided with that of the State Ball given in honour of Her Majesty, traffic conditions made attendance barely possible.

On 31st January the V.h.f. Group held their Country Field Day which was originally scheduled for October. Despite the very bad weather conditions early in the day, eight parties took the field. Furthest from Sydney was 2JW at Mt. Canobolas, 2AJZ was at Mt. Piddington, 2HL and 2ATO were at two different spots at the Summit, 2ANF went to Mt. Tomah, 2ABO went mobile to Mt. Grey but was unsuccessful and came back to Mt. Gibraltar, 2QW and 2OA went to local spots around Sydney. Complete scores are not yet available. However it would appear that 2AJZ made the greatest number of contacts by a station more than 55 miles from Sydney, and 2ANF, by working 2GU in Canberra, made the longest distance contact. During the evening the v.h.f. 2WI broadcast was made from Mt. Tomah on 144 Mc. by 2APQ per medium of 2ANFP picked up by 2AGY in Newcastle, relayed to the Newcastle area on 50 Mc. 2HE did the same thing for the Sydney area. Reports on the broadcast were received from as far west as Orange, thus giving the 2WI v.h.f. broadcast probably its largest coverage ever.

On 16th February the Group conducted a nocturnal hidden tx hunt within the confines of the metropolitan area. The tx was located at Black Charlie's Hill (near Bankstown Aerodrome). As was to be expected, first in was 2HL. He was accompanied by Charlie 2NP. Second in was 2AJZ and 2AJA who advanced on foot, blazing a trail for 2WJ in the Holden. At various intervals five other parties arrived.

2HL has bought 2AH's tower and Harry 2AJZ has bought the tower and beams sported by Jack Challenger. Roy 2HO has found it impossible to make any contacts from Hart's Hollow without his three-over-three at its customary height. Bill 2ABR is back on the air again after changing his QTH and came very close to sending out distress calls recently when the Georges River broke its bank and flowed under and around his shack. Arch 2GU, of Canberra, has now worked quite a number of the Sydney stations and is at present playing around with discriminators. 2ADT has migrated from Newcastle to Inverell ("half way between every-

where"). His move has left a gap in the Newcastle v.h.f. circles. Newcastle has also lost 2OT at least during the week days, Max having been transferred to the Technical College at Peter-sham.

The first reported use of transistors among the v.h.f. population is by Con 2LZ. Con is using a pair of them in a two stage preamplifier which is of midget dimensions. Con also reports that he cured r.f. feedback troubles—which were severe—by bypassing the input circuit. Quite a few of the v.h.f. shacks have been visited by Bob 5PU who has been voted by the Sydney gang a real v.h.f. man.

VICTORIA

Notes this month are compiled by the V.h.f. Group first emergency scribe, 3LN, due to the unavoidable absence of Jim 3ABA in temporary retirement whilst the new QTH is under construction, and Jim will be back as soon as the writing room has been completed. The February meeting took the form of a 288 Mc. night and with the attendance of 32, it can be considered one of the most successful evenings for some time. 3IM brought in his 288 Mc. tx and described it in detail to the meeting. 3MB and 3PL gave descriptions of their gear on 288 Mc. 3LN spoke on co-axial lines for 144 and 288 Mc. rx's.

The first 1954 V.h.f. Field Day found 3ADU at Altona, 3YS at Macedon, 3LN Kellor, 3VF Pretty Sally, and 3JO at Arthur's Seat, which is a better muster of portables than the two previous occasions.

The February C.D.E.N. night, for the first time, took the form of a Fox Hunt. Two "hounds"—3YS and 3ADU—each made two catches of the "fox" car 3LN. It proved extremely interesting and there are more stations for the March hunt. Keep 11th April available; it's the V.h.f. Field Day for April and all portables are very welcome to participate.

From 3ED we hear that 288 Mc. is going great guns with 3MB, 3PL, 3ED, 3GQ, 3ALY, 3YM, 3AFJ, 3ALK, 3ALH, 3AHC, 3AAF, and 3ATK all very active. 3ED and 3ALY have changed the p.p. 7183s for p.p. 6J6s with considerable improvement in output; both stations are using eight half-waves in phase.

On 2 mxx, 3AEB has just finished a 60 ft. tower at Macedon, a stacked array is to take pride of place on top. Ray 3ATN reports many excellent openings on 6 mxx to VK4 and reports 4BT at S7 when mobile with an input of three-quarters of a watt.—3LN.

SOUTH AUSTRALIA

I notice that "CQ" has reintroduced a better and more elaborate "V.h.f.-U.h.f. News." Along with the general jottings of Ham activities, the section now contains much useful technical information. The Cubical Quad receives honorable mention in January, 1954, issue—using the folded dipole technique with a double turn of No. 12 gauge copper and a reflector 9 inches behind it. According to the authority it "has excellent front-to-back ratio characteristics which make it ideal for d.f. work on 2 mxx."

Hughie 5EC has his 16 element facing Adelaide, so far with gear from Tom 5TL. On Saturday, 27th February, Hughie called 5RO on 6 mxx and having established contact, then changed over to 144 Mc. A report from 5RO indicated that a very weak carrier could be heard by both Col 5RO and Keith 5MT. About half an hour later, at 2130 hours, Bill 5HD appeared and, with much better signal (c.w. by the way all of this) reported S3. Unfortunately at the River end, Hughie and Tom were trying with indifferent success to devise a means of "keying" the SCR522 tx, finally resorting to the on/off switch! However, it was sufficient for identification purposes. During the same weekend, Hughie was able to confirm the contact by further efforts, but the best received from Adelaide was "carrier S4."

Tom remarks, "seemingly, therefore, Renmark is not such a good place for reception;" with 10 watts and a bi-directional beam the Adelaide hills provide an excellent shadow. Apparently there is a higher noise level at Renmark than at 5RM and Tom thinks that he will have to be content with local working, not having yet been heard in Mildura. The Murray gang are rather puzzled about it, but the fact remains.

Further reports on triode stages on 144 Mc. indicate that a well designed r.f. stage using triodes still seems to give better results than the well known cascade providing that neutralisation is perfected. Capacitive neutralisation seems to be the most satisfactory method and hence I should think that the double triode 6J6 type would be the best to use. Perhaps we can prevail on our Editor to reprint the interesting technical sections for us.

3RR proposing a trip into the ranges and is looking for VK5s, so folks get the portable gear ready for Mt. Lotty.—5XU.

ZL3JA is at present not in a position to carry out his planned trip to Tokelau Island (see "A.R." 12/53). Nevertheless, Harold will keep the project in mind. Further details will be published in these notes as they become available.

VR3A is exVR3D. Ray's call sign has officially been changed as from 1/3/54. QSL cards may be sent directly or via VK3OM (see "A.R." 3/54) (thanks 3CX, 3OM). VS9AS is ex-G2BMU and ex-GC2BMU. LUS3L is looking for VK contacts on 3.5 Mc. around 0830-0900z (thanks ZL1CI). Chas 1AC reports that he now is also active on 21 Mc. HS1D operates 7, 14, 21 Mc. FB8XX represents Kerguelen Island (thank 2AQJ, 3ATN). The operator is ex-FB8ZZ (1851-52).

Christmas Island has been kept on the map by Dave Laing ZC3AB, who is ex-VK4DL and ex-VK2DE. After arrival last year, Dave used ZC3AA, John Marsland's call sign, until his own call sign was issued. 3AB will leave Christmas Island in April, 1954, and will not return. His station uses 40 watts input to an 815 the modulator being another 815. A full-wave antenna across a sky wire. Dave is officer-in-charge of the Island's communications as well as the commercial station VSM. All QSOs will be confirmed by QSL cards. (thanks BERS 185 for the above information).

QTH's of Interest:
ZC3AB—Dave Laing, Radio VSM, Christmas Island, via Malaysia.

HL1AA—230 Chungindong, Seoul, South Korea.
HS1D—M/Sgt James D. Fry, M.A.G. Box "E", A.P.O. 74, C/o. P.M. San Francisco, Calif., U.S.A.

ZK1BI—Ray Lowry, Rarotonga, Cook Islands.
KC6AA—Dick Hatcher, Radio Station, Yap Island, Western Carolines.

SUIHS—Via W4TO.

5A3TR—Via W6FYB.

5A3TU—Via W6PCS.

Rare QSLs arrived at 2AHH: SP2KAA, 4X4BR, 5A4TG, XW8AA, 48YXG, 3CX, ET2NG, YK1AH; 8ATN: CR8AH, TF5TP, W2ZXM/MM; 5CB: ZC5SS, ZC5VR, IIRC/Trieste, KG4AO; 5HI: DU7SV, VU2BH, OQ5GN, FA3VV, CN8CS; 7DZ: VK1HM, MP4QAH, MP4KAC; BERS185: ZC3AB, FA9VN, HB1JJ/HE, KV4BB; 3AHH: HH2FL, F18AT, VE3IG (3.5 Mc.).

This month's thanks go to s.w.l. BERS185 and VKs 1AC, 2PA, 2QL, 2AFE, 2AHH, 2ALJ, 2AMB, 2APL, 2AQJ, 3CX, 3IM, 3KB, 3KR, 3PA, 3TE, 3TX, 3ZA, 3ZO, 3ADI, 3ADM, 3ADW, 3AGQ, 3ATN, 4SE/M, 4TN, 4XJ, 5CE, 5HI, 5RG, 5RK, 6WT, 7DZ, 7LZ, 8WZ, and 9YY. Good hunting till next month!



VK7WI STAND AT THE HOBART EXHIBITION

The three c.r.o. tubes on the right show respectively the carrier, the audio and the combined or modulated signal. The small cabinet in the centre of the desk is the tuning control and speech circuit to the receiving post over the 144 Mc. link. The HRO receives the 144 Mc. sig from receiving post via a crystal controlled converter. The c.r.o. on the desk is the transmitter monitor.

HAMS

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896-9	8,000, 10,000	2, 3.7, 8, 12.5, 15	1	30-15,000	15	P.P. 6V6Gs, A or AB1 to V.C.	62/6
897-9	8,000, 10,000	100, 125, 166, 250, 500	1	30-15,000	15	P.P. 6V6Gs, A or AB1 to Line	62/6
763-9	3,000, 5,000	2, 3.7, 8, 12.5, 15	1	40-20,000	15	P.P. 2A3s, A or AB1 to V.C.	62/6
809-28	500	2, 3.7, 8, 12.5, 15	1	50-20,000	15	Line to Voice Coil	42/6
870-26	10,000	2 or 8	1	*20-20,000	**6	P.P. 6V6Gs or 807s as Triodes	57/6
871-9	10,000	2 or 8	1	*20-20,000	12	P.P. 6V6Gs or 807s as Triodes	81/-
872-9	10,000	3.7 or 15	1	*20-20,000	12	P.P. 6V6Gs or 807s as Triodes	81/-
891-22	6,600	83, 100, 125, 166, 250, 500	1	50-12,000	35	P.P. 807s, AB1 to Line	82/6
892-22	3,200	50, 62, 83, 125, 250, 500	1	50-12,000	55	P.P. 807s, AB2 to Line	97/-

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FEDERAL MEXICO

The Liga Mexicana de Radio Experimentadores announces the availability of its "50F-50W" Diploma to any Amateur who submits satisfactory evidence of having worked 50 different countries using not more than 80 watts input to the final amplifier tube(s). Operation may be on any frequency allocated to Mexican Amateurs, and c.w., phone, or both may be used. Minimum signal reports allowed are R4 S3 for phone, and RST 439 for c.w.

Amateurs in Mexico and elsewhere on the North American continent are required to send confirmations from the three Mexican zones, making a total of 52 cards necessary. Amateurs in other continents are required to submit only one card from Mexico to be included in their 50.

A letter from a local radio club attesting that the applicant has operated with not more than 50 watts input is required with each application for 50F-50W. Where no club exists, two local Amateurs may submit the certification. In cases where the nearest Amateurs reside more than 100 kilometers from the applicant, the applicant is permitted to sign a sworn statement that he has used no more than 50 watts.

Cards representing contacts with the 50 countries should be sent to L.M.R.E., A.C., Liverpool No. 195-A, Mexico 6, D.F. Mexican Amateurs must submit \$1.00 with their applications. Amateurs in other countries should send 50 cents, or equivalent I.R.C., for return postage for cards and certificates.

ITALY

An international convention on communications is being planned in Italy as part of that country's celebrations in honour of Christopher Columbus. To tie in with the convention, the Columbian Institute of the City of Genoa has established several awards to be presented to Amateurs who, by 1st September, 1954, have made outstanding progress in the technical field and those who have provided the most exceptional public service.

Two gold medals and diplomas will be awarded to those two Radio Amateurs, one of whom Italian, who establish two-way communication at the greatest distance on v.h.f. and u.h.f. from their home stations. The 145 and 420 Mc. Amateur bands may be used.

For the purpose of compensating for propagation differences, and to allow for comparison of the records obtained on the two bands, the distance obtained on 420 Mc. will be multiplied by three. In case of equal distance reached on both bands, preference will be accorded to that obtained on the higher frequency.

Additionally, a gold medal and diploma will be presented to the Amateur who is judged to have rendered the most outstanding service for the safety of human lives or who will have given, in any way, proof of human solidarity. Furthermore, diplomas of honour will be issued to those who are judged second and third place winners.

The competition is open to all Radio Amateurs. Applications should be sent via registered mail to the Civico Istituto Colombiano, Sezlone Concorso Radio-amatori, Palazzo Tursi, Genoa, not later than September 1, 1954. Members of I.A.R.U. societies competing for the public service award should apply directly to their I.A.R.U. societies.

AMATEUR'S DAY

The Radio Club de Chile suggests that it would be a fine idea to name an I.A.R.U. Amateur's Day. They comment, "The actual day could be of any course, or some special day commemorating a great achievement by Amateurs. We think that possibly one of the following might be suitable:—

- Foundation date of the I.A.R.U.
- Date of the Atlantic City Conference.
- Some other great milestone in Amateur Radio made by any one Amateur, or group of Amateurs.

The I.A.R.U. Headquarters believes it would be well to await the comments and suggestions of member societies prior to placing this subject before the membership for action. If you have any comments, forward them to Federal Executive.

FEDERAL QSL BUREAU

RAY JONES, VK3RJ, MANAGER

Cards from HL1AA are dribbling through. Only QTH shown is: H. S. Chong, Seoul, Korea. He states under date of 13th February, 1954, "The Korean Ham Radio has begun firstly

since we have been independent and it is expected to be developed in the future."

The following comes from the Radio Club of Chile: "Jorge Bernain, CE3DG, left Valparaiso on Saturday, 9th January, on the S.S. "Pinto," a Chilean Naval transport, for Easter Island. Jorge will there instal station CE0AC for Dr. Dario Verdugo, who will remain on the island for a year. This 40-watt station with a 876 rx will preferably be used on phone on approx. 14100 Kc. Another station will also be installed by CE3DG on Easter Island for the Chilean Air Force. It will be a BC610 which will mainly be used for meteorological reports and its operators will also work on Amateur bands as CE0AD, both c.w. and phone. All QSLs to be sent to Box 781, Santiago, Chile." If any station worked CE0AA they will have worked with Jorge, while making the installations.

Harry ZL4JA had a fine eight weeks tour of VK2, 3, 4 and 5 during the eight weeks ending 18th February. Harry made many Ham visits in the above districts.

The new QTH of the VE7 QSL Bureau is: Henry R. Hough, VETHR, 2318 Trent Street, Victoria, B.C. Canada.

My old reliable correspondent Treb of BERS 195, informed me that the Swedish call book contains full data on licensees, as does the new Jap call book, mentioned in these notes. The Swedish publication has been going for years. Any station dipping out on a QSL from ZM6AF should write to Percy Rivers, 41 Wellington Street, Auckland, C.I., N.Z. Percy may have a few blank ZM6AF cards left. Eric Handley, CPIAT, advises that he is not the original CPIAT and has been licensed only since 1950. He will not recognise any claims for QSOs prior to that year.

At the end of 1953 there were 12 licensed LZ stations: LZ1AA, 1KAB, 1KCA, 1KDP, 1KNB, 1KPR, 1KPZ, 1KSA, 1KSI, 2KAC, 2KFP, 2KSK. All others are pirates. There are no licensed Albanian Amateurs and no organisation of any kind exists.

Roy Baxter, VK4FJ, and G. Cairns, VK4CF, graced Melbourne with their presence over the week-end, 6th to 9th March. Both are members of the touring Brisbane City Temple Salvationist Brass Band. The band, which is a first-class combination, will after leaving Melbourne, visit Ballarat, Geelong, Mt. Gambier, Adelaide, Bendigo and Albury. The band flew from Brisbane to Melbourne, travelled by motor coach to the other places mentioned and will return by train from Albury to Brisbane on 21st March. The bandmaster is a brother of VK4FJ. While in Melbourne and other centres, Roy will endeavour to contact as many Hams as time and the band's itinerary will permit. He is accompanied by his XYL and two juniors.

SILENT KEY

It is with deep regret that we record the passing of:—

Ex-VK7CS—Cecil Scott, died February, 1954.

NEW SOUTH WALES

The January meeting of the N.S.W. Division consisted of a lecture by Vaughan Wilson, 2VW, on suggestions for the design of a High Frequency Receiver for Amateur use. At the February meeting, Vaughan answered questions and three other members—Hans 2AOU, Norm (an ex-G), and Bob 2OA—put forward their pet ideas in opposition to those of 2VW's. It was a most interesting night and 70 members present learned a great deal about receivers. In Hans 2AOU, the Division and "A.R." have acquired one very thoroughly versed in receivers and other aspects of Ham Radio. VK2s are looking forward to his article in "A.R."

Any blame attached to late arrival of the VK2 notes for February lies squarely on the shoulders of the Hon. Editor, one Tom Hogan, and Mrs. Hogan, who must now share Tom's blames—you know, "better or for worse." They arrived at the N.S.W. President's QTH in time to do the washing up. (VK5 scribe please note. We gave him your para. to read afterwards.) VK3, we can assure you Mr. and Mrs. 3HX successfully defended Victoria against all comers and a very enjoyable night was held at 2YC's. If only we had known you were coming Tom, what an opportunity missed. 2YC reckons Tom trained at 3RJ's, his repartee on

VK2 was so good. At the time of writing, the two of them are "in smoke" again—or lost in the wilds of VK2. It was good to see Tom looking so very f.b. Who's next on "A.R." to come to VK2? "We send 'em back alive!"

WESTERN SUBURBS

Recently I blamed square dancing for the silence emanating from 2AGG, but it since appears that this is only half the reason. It appears that the YL is the cause of it all. Shirley, please let him go on the air. Now this name Shirley crops up again. It seems one of the boys has been dreaming of another Shirley, far, far away. Sleep tight Kenneth.

The new Ham in Concord is Phil 2AQO who has been heard here on three bands so far. Alan 9YY (ex-2AIR, of Enfield) you may be interested to know has shifted into a new house at Lae and now sports a ground plane. Tom 2HX has moved from Five Docks to Ryde. 2QL has now settled down somewhere in the area but don't know where. He was at Homebush but I think he has since moved as his signal is a lot weaker.

HUNTER BRANCH

The Hunter Branch monthly meeting was held on 12th February with 15 members and two visitors in attendance. Johnny 2DZ chaired the meeting and Varley 2SF acted as Secretary for the last time as Varley will not be standing for re-election at the Annual General Meeting in March.

Max 2OT, who has been acting as Class Manager for the Branch, in conjunction with a class he had organised at the Wood Street Technical College, asked if a successor had been found. After much deliberation, the Branch decided to inform the College authorities that it deeply regretted being unable to supply a teacher to carry on the Radio Class at the College.

The lecturer for the night was Chris Cowan, 2PZ, who lectured on "The Latest Developments in Class B Amplifiers." The number of questions asked and the discussion which followed indicated the great interest with which the members followed the lecture. A vote of thanks to Chris was moved by George 2AGD and seconded by Harold 2AHA.

On Saturday, 13/2/54 a number of the Branch members went to Redhead to erect antennae for the National Field Day. These included Harold 2AHA, Ernie 2FP, Norm 2ANA, Neil 2XY, George 2AGD, Les 2AOR and Associate Rodney Prout. The place selected for the installation of the portable tx was an old concrete blockhouse, originally housing radar equipment, situated on one of the headlands at Redhead.

On Sunday, Harold 2AHA and Ernie 2FP were chief ops., but during the course, of the day various members of the Branch made the trip up the hill to lend a hand, if necessary. Among these were Bill 2XT, Max 2OT, Norm 2ANA, George 2AGD, Les 2AOR and Leo 2QB. The results obtained in the Field Day were considered satisfactory, especially when Ron "Golden Voice" Stewart, 2ASJ, broke his silence on the air and had a QSO with the boys. We all hope it won't be long now, Ron, before we hear you on regularly.

Activity on the Ham bands in the Hunter District has been very low lately. Bill 2AXM, a regular on 7 Mc., hasn't been heard lately. Neil 2XY and Charlie 2ARV work some DX on 7 Mc. c.w., as well as crosstown QSOs. 2QB heard on 7 Mc. occasionally and has popped back on 144 Mc. using 3 over 3 beam and putting out a 5 and 9 signal. Harry 2AFA still using his "flop over" beam to advantage on 20 mc.

Peter 2PA called on Ron 2ASJ and was very interested in his responder v.h.f. tx. Max 2OT received some publicity in the local press for his fine effort in relaying messages during the recent North Coast floods. Now that Jack 2ADT has been transferred to Inverell, it looks like Dave 2BZ will have to come up to 7 Mc., the distance is a bit far for 144 Mc., Dave, Associate Jack Hamilton was successful in winning £200 on a recent Commercial Radio programme and his intention is to buy a radio-gram to give to the crippled children. A very fine gesture, Jack, please accept our heartfelt congratulations.

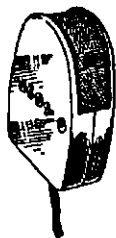
SOUTH WESTERN ZONE

Stewart 2PL at Griffith reports that two members of the Griffith Radio Club were successful at the last exam. in passing the theory and regulations, namely, Evan Savage and Ted Druitt, congrats. There has not been a great deal of activity in the zone lately. 2APZ at Leeton is heard now and then; have not heard the Tumut boys for weeks. Lyn 2AQE at

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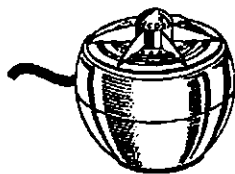
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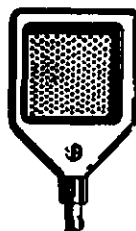
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TYPE	DESCRIPTION	DIMENSIONS	RESPONSE	CODE	PRICE
MIC.3-2	General Purpose	1½in dia. x ¾in thick	20db Peak at 2500 C.P.S.	Mona	£1 19 3
MIC.3-5	" "	" " " " "	12db " " " "	Mervyn	1 19 3
MIC.3-6	" "	" " " " "	5db " " " "	Myrtle	1 19 3

MIC. 6 SERIES

TYPE	DESCRIPTION	DIMENSIONS	RESPONSE	CODE	PRICE
MIC.6-4	General Purpose	2 1-32in dia. x 19-32 thick	20db Peak at 2250 C.P.S.	Margie	£1 19 3
MIC.6-6	" "	" " " " "	5db " " " "	Maudie	1 19 3
MIC.6-11	" "	" " " " "	12db " " " "	Mandy	1 19 3

MIC. 14 SERIES

TYPE	DESCRIPTION	DIMENSIONS	RESPONSE	CODE	PRICE
MIC.14-5	General Purpose	1 7-16in dia. x 11-32in thick	20db Peak at 3500 C.P.S.	Maxie	£1 19 6
MIC.14-11	" "	" " " " "	12db " " " "	Mitchell	1 19 6
MIC.14-12	" "	" " " " "	5db " " " "	Malcolm	1 19 6
MIC.15	Hearing Aid	0.9in dia. x 0.155in thick	30db " " 3000 "	Marlene	1 19 6
MIC.17	" "	15-16 in sq. x 7-32in thick	30db " " 3500 "	Maggie	1 19 6
MIC.18	General Purpose	1 7-16 in dia. x 9-32in thick	20db " " " "	Maisie	1 19 6

MIC. 23 SERIES

TYPE	DESCRIPTION	DIMENSIONS	RESPONSE	CODE	PRICE
MIC.23	General Purpose	1 8-16 sq. x ¼in thick	20db Peak at 3000 C.P.S.	Maureen	£1 19 3
MIC.23-3	" "	" " " " "	5db " " " "	Margaret	1 19 3
MIC.23-4	" "	" " " " "	12db " " " "	Milton	1 19 3
MIC.32	High Quality	1 13-16 dia. x 9-16in thick		Martin	2 15 6

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Coolamon also finding it hard to get in much time for Ham Radio. Alf 2BW and Stan 2AID at Wagga also must be snowed under.

By the time this is read we should have the zone rag-chew on Wednesday evenings in full swing again; conditions on 80 mx are rapidly improving, so there should be no excuse on the score of QRN.

There has been enrolled at Coolamon a new Associate Member, namely, Jock Ashley. Looks like later on some QRM for 2AJO, hope so anyway, Jock.

On behalf of the South Western Zone I would like to congratulate all the boys in the North Coast Zone for a mighty job, well done, in the recent floods.

NORTH COAST

The outstanding event on the North Coast for February was the severe floodings which took place from the Hunter River right through to the Queensland border, the very northern areas being by far effected most. One could even say devastated. Shining right through the misery and destruction is the magnificent efforts made by many Amateurs in advising the outside world of the plight of their fellow citizens and obtaining the help and assistance so necessary at such times.

The history of Amateur operations during the flood, I understand, is being compiled by 2HZ for publication elsewhere in this issue, and so I will not go into details in these notes. I cannot, however, let the occasion pass without extending on behalf of all the North Coast boys in flood bound towns our thanks to all the various operators, both Amateur and Professional, who at some time or other helped us get a message through. On the other hand, as Zone Officer, I must congratulate the North Coast chaps on a magnificent effort.

As many of you know, a number of North Coast Amateurs have been authorised by the P.M.G.'s Dept. to operate their transmitters on frequencies used by the Police transmitters, VKG Sydney and VKG3 Newcastle, in times of emergency and for periodical testing. One stipulation, however, is that the Amateur's call sign is not to be used. No reason is offered (yet) for this. I would like the opinions of fellow Hams on the subject so that the matter could be taken up with the Department to use our call signs instead of "West Kempsey Emergency Control Centre." It is not that one is after personal acclaim, but merely wishes to retain his identity as an Amateur associated with the W.I.A. It is worthy of recording that the Department has recognised the necessity for Amateur Nets in such times, and the granting of official licence to operate on Police frequencies is most assuredly a step in the right direction.

The next important event for the North Coast is the Annual Convention at Urunga. When you read this there will not be much time left so if you have not made your reservations, DO IT NOW, by writing to 2AHH, Kempsey, and enclosing 30/- deposit!

A welcome addition to the zone is Jack 2ADT who is now established at Inverell. Jack's new QTH is surrounded by beams—three I believe in less than 200 yards. Have to work out a scheme to stack them Jack. That's about all for now chaps, so I best try and get dry now. Had 4 inches rain since the flood!

VICTORIA

What with the pressure of business and the cancellation of the March meeting the notes for this month will, of necessity, have to be rather brief.

The only outstanding event that really requires comment was the National Field Day. Very few portable stations were heard in VK3, and not very many in the rest of VK. Did the change of date help? Personally I don't think it made one iota of difference. Those stations heard were the same as can be heard whenever any form of portable operation is on.

As I see it, the trouble lies more with the lack of interest by home stations, with special emphasis on the habitués of 80 mx. They just ignore the calls from portable stations. 3LN probably thinks the same about the 20 mx gang. During the afternoon Len spent considerable time calling on 20 for zero results, although we did hear stations calling him. I'm not trying to excuse the 20 mx gang, because those that did co-operate made a very small proportion of the stations on the band. If anybody has any ideas on how to increase the interest of home stations in these events, pass such ideas on to Council. Don't suggest 100 watt portable permits—they're out—although that may encourage more interest from those who can't copy a signal under "10 db over 9." After all this moaning must take a brighter view of the whole business and thank those who did co-operate. They gave us something to offset the effects of a hot, windy morning, the flies, the dust, the tree climbing, and the soaking

we all got during the afternoon. All in all, we did enjoy ourselves.

The April meeting may or may not see a new Council. I hear tell some will not stand for re-election. What about some of the young 'uns, without family responsibilities, having a go.

Did you see Mr. E. W. Tipping's comment on the VK5 earthquake? "City of Lurches!" Must put that chap on my pay-roll.

VKS TWO-BAND SCRAMBLE

A Two-Band Scramble will be held on Sunday, 11th April, 1954. To live in the bands up, it is decided to commence operations at 2 p.m. and finish at 4.30 p.m. E.A.S.T. To simplify matters, no multipliers or bonus systems will be employed. Don 3ALQ will be the control station and he will start the Scramble off at the appointed time.

The rules are as follows:—

1. Any two bands may be used, but you can work the same station on both bands once only.
 2. Scoring will consist of time, signal report, given and received, and one point for each contact.
 3. Contacts may be by phone or c.w.
 4. The highest number of points scored will be the winner.
 5. Logs to be sent to the office, 101 Queen Street, Melbourne, not later than 30th April, 1954, and please mark the envelope "Scramble."
- If the Scramble is a success, and there is no reason why it should not be, the Division will arrange others on a more elaborate scale.
- This one is a "trial scramble," so chaps be in it, if you possibly can.

STOP PRESS—MARATHON TX HUNT

The Marathon Transmitter Hunt was held on Sunday, 14th March, under ideal weather conditions. Although the number that took part was disappointing, the Hunt was a great success, and thoroughly enjoyed by all present.

Four locations were chosen, namely, Deer Park, Kellor, Sunbury, and Gisborne.

The winner was Jack 3VZ, with Alf 3IE, Bill 3TX and Don Seedsman. The time taken for the four transmitters was 2 hours 16 minutes.

Second place went to Len 3LN. His time was 2 hours 25 minutes. The distance for the course was 45 miles. Congratulations to the winners.

CENTRAL WESTERN ZONE

A recent welcome visitor to the zone was Lin 3ARL who spent a few days relieving in Horsham. Lin was formerly of Stawell, so still has a great interest in the zone. One evening was spent with Merv 3AFO where he took part in the zone hook-up, the other evening was at Byron's 3TA, where he was able to have a rag chew with Charlie VKIAC on Macquarie Island. Speaking of Charlie IAC, lately he has been putting a S9 sig on phone here into VK3. 3TA has a regular evening sked at 1900 hours on 20 mx with him, so keep that in mind chaps, he especially looks forward to contacts from his old zone, so do your best to give him some news, plenty of QSOs and then you'll be doing your bit to break the monotony down on Macquarie Island. Charlie's latest bit of excitement came when a gale parted their 1,500 ft. long wire and Chas. had to climb the 170 odd ft. mast and rectify things. This taking place during the gale.

Dick 3RR unfortunately had to return to hospital for another operation, but now is hard at it, back at work. Saw Trev. 3ATR the other day passing through Horsham en route to Portland for three weeks' holiday. Had Lynette and harmonic on board, a caravan in tow, but—oh! the shame of it all—no portable Ham gear. Bob 3ARB has left the zone for Melbourne so uncrate the rig Robert and I'll watch for you on 40 mx. Better still, wind some 80 mx coils and join in the zone hook-up on Wednesday nights at 8.30.

Jim 3SV is putting in a consistent signal on hook-up nights. Sorry we missed you on one or two nights, clean forgot you were rock bound down the low end. Of interest, especially to Herb 3NN, is the fact that Charlie IAC heard one of our recent zone hook-ups on 80 mx and your signal was outstanding. Herb. Some nights the commercial GRM is terrific on 80, otherwise he would have no trouble listening to the hook-up. Well no more news for the present so until next Wednesday night at 8.30 on 80 mx, I'll be seeing you.

SOUTH WESTERN ZONE

Activities in the zone have not been great so far this year, but are picking up now. Early in January ZLJA and friend John paid a surprise visit to Warrnambool and were 3ANQ's guests for three days; plenty of earbashing and some beautiful color slides of ZL shown by John. 3AKE, 3BU, 3ALP, 3AEH, 3AWZ and other Geelong chaps have been active amongst themselves. 3AKR (Air Marshal) now finding out how to fly, in a small way, the latest model planes and radio controlled. He went to Hamilton but the weather forgot he arrived in that

city. The Hamilton boys will be heard again now the Royal visit is over. Tim (George to you) 3TW reports he has blown a power tranny, maybe he will call here now as he has often threatened. 3MC Coleraine back on c.w. so Neil 3HG has some opposition again. 8EQ was in VK5 and had portable gear with him. Returned to VK3 by boat. 3BI is the only Ballarat rep who comes in on the hook-up held every Sunday at 1000 hours. 3JX on phone every now and again, but Jack 3II thinks the key is it. 3YW on holidays, talking high antenna, perhaps this time it's "dinkum." 3ACD heard talking 144 Mc., so looks like something in the air. When you start John, I will tell you about v.f.o.'s, so there will be no break-in stations. 3NA has been listening on 40 mx, still some hope Doc. The next Convention of the zone will probably be held at Hamilton on 10th and 11th April. Full details can be heard on the weekly 3WI broadcast.

NORTH EASTERN ZONE

Doug 3JX seems to be established on 6 mx now where Jim 3JK is also thought to be heading, with some help from Syd 3CI, Alan 3JU and Peter 3AFP have been fairly quiet lately. Murray 3HZ was mentioned in the provincial news-sheet report on the making of arrangements for the Royal visit to Shepparton on 5th March, and this was probably greatly interesting to Rex 3UR with the Benalla arrangements. Alex 3AT has not been heard of lately, but Keith 3JC is reported specialising on 20 mx to good effect. It will be a fair assumption that Tom 3TS temporarily abandoned Amateur Radio around 1st March, although George 3GD may not have left the fold in that direction, in spite of the temptations reported in that neighborhood. Les 3ALE appeared on the February zone hook-up, but Stan 3AGT and Johnny 3ACK were sadly missed.

We were early in following the lead of the South Western Zone in approaching Frank 3ZU, who regretted that he was unable to comply, to run us a Convention. Howard 3YV is in good health and very busy, and Gordon 3XU also has his hands full in his commercial field. We extend a hearty welcome to 3AKC and hope he can turn to some Amateur Radio soon. Henry 3HP and Des 3BP are quiet at the moment, although Chas. 3ACW is constantly mentioned in the local news-sheet. Des 3CO and Vic 3ABX are the last ones who have not been heard of for a time, but Hugh 3AHF and Col 3WQ have taken the opportunity of expressing their sentiments on the zone hook-up, but Jack 3PF had unfortunately found it necessary to travel Interstate again at that time.

It is hoped that all zone members and, of course, any visitors will be able to attend the Annual Convention at Wangaratta on 4th April next. That necessarily includes our three Associates in Cobram, and Jim Harrington, J.F., from Miepoll, to mention a few names at random.

QUEENSLAND

ANNUAL GENERAL MEETING

FRIDAY, 2nd APRIL

Royal Geographical Society, Ann Street.

ANNUAL DINNER

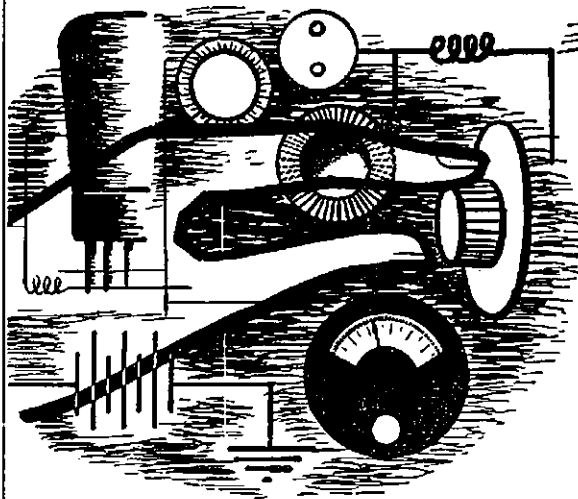
SATURDAY, 3rd APRIL

Anzac House, Gregory Terrace.

SOUTH AUSTRALIA

The monthly general meeting of the VK5 Division was held at the Clubrooms on the night of 9th February to the usual representative gathering of members. The actual meeting night was something of a "thumb and pea" act on the part of Council, because at the conclusion of the general meeting, the annual general meeting was opened and concluded. The reason for this deception on the part of Council was to ensure that members would not be frightened off the meeting because it was an annual general meeting. The VK5 boys are no different to any other VK boys and can smell annual general meetings a mile off and all manage to dig up imaginary previous appointments to avoid listening to what they think will be dreary President, Treasurer, and various other boring annual reports. The notice of the monthly meeting was printed in large type and the annual general meeting in decidedly small type, and a bumper audience turned up.

The guest speakers were Mr. Reg Shinkfield, of the Parafield Meteorological Branch, and Mr. Max Hylton, Senior Radio Observer, also at Parafield. For the benefit of the VK3 and VK4 scribbles, Parafield is the best and most up-to-date aerodrome in VK, bar none. The subject



Radio Accessories

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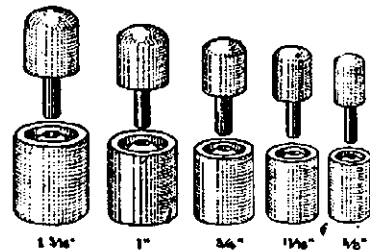
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of their lecture was "Radio-Sonde," together with plenty of working models and illustrations of all equipment at present in use in various parts of the world. Both gentlemen knew their subject perfectly and were thus able to talk to members in the language that all understood, and it can be safely said that the end of the lecture arrived far too soon for their interested listeners. The various bits and pieces of radio gear associated with radio-sonde, which were passed around to members, were the cause of much interested comment, and as it was announced at the commencement of the talk that all tubes in the display were duds, it goes without saying that all returned safely to the hands of the two gentlemen!

Question time found members decidedly active, and the two gentlemen were bombarded from all parts of the room by the type of question that clearly indicated just how much interest the lecture had aroused in the minds of all present. Brian SCA proposed the vote of thanks to the lecturers, and the applause from the members showed their agreement with his well chosen remarks. A tape recording was taken of the lecture, and the day before, Gordon 5XU and Hal 5AW took the tape recorder out to Parafield and recorded all that took place at the launching of the radio-sonde balloons, with the result that a detailed and comprehensive recording is available for country members or groups should they require it.

Among the welcome visitors were Messrs. N. Wallace (5GW), C. Schick (5JP), W. Rowse (2AWR), E. Allen and R. Sherwood. Wolfgang Wutke, who recently moved down from the Murray areas, came along to the meeting and was welcomed by the President and one or two visitors came in a little late and did not sign the visitors book. To these latecomers we say that we are sorry that we did not have the opportunity to give you a welcome in our usual manner, but we hope we will see you again at our future meetings.

Little need be said regarding the annual general meeting which followed, because if the boys don't like hearing this type of meeting, they won't want to read about it. The President gave his annual report, the Treasurer gave his annual report, the annual questions were asked and answered in the annual manner, in fact it would seem that it is just as well that it is an annual event otherwise the membership would dwindle down to those few who are able to sleep despite external noise. Nevertheless, and not withstanding, should any member, country or otherwise, desire to listen to the pearls of wisdom that fell from the President's ruby lips, or to hear the gems of oratory that issued from that wizard of things financial, Jim 5FO, then there is a tape recording of both speeches available to members complete with ear muffs and headache powders. All in all, the two meetings in the one night was a huge success, and whilst one or two members passed audible remarks concerning the fact that the President had rung the changes on the unsuspecting members, the majority seemed to take it in good part. Possibly they were semi-conscious, or semi-quaver, or something, from so much verbosity in one night, and were past caring.

UPPER MURRAY AREAS

The monthly meeting for February of the Upper Murray boys was held at the QTH of Fred 5MA and was attended by 5BC, 5RE, 5TL and naturally 5MA. 5KW was working, 5KO was too busy at Loxton, and 5CF had other duties to attend to, which was the reason for the small attendance. Among other things, a tape recording of the last city meeting lecture was played back and much appreciated by those in attendance, although the mention on the tape of Tom's (5TL) name, and answer to a query that he had submitted, brought forth loud protests of favouritism from all present. All present reported that they were receiving some of the Sunday morning official broadcasts on various bands, except Tom who could not even hear a whisper, and all were hoping that conditions would improve before long, as this W.L.A. broadcast is looked forward to by all the boys in this area.

5RE has been busy pruning, cincturing, watering, dispensing a certain amount of justice on behalf of Her Majesty's photographing, sound recording, as well as a little cornering, which only means that Hurler has not had much time for any activity on the air this month.

5BC has spent all of his spare time in making a beam for the unmentionable bands, and from all reports down here, Hughie has been decidedly active on the aforementioned bands. Why don't you jokers give me a break? you know those bands are taboo to me. 5MA and his XYL were lucky not to be figuring in the silent keys this month. Fred was tilling the soil with his mechanical monstrosity when it became entangled with a fence and tank stand and the lot bit the dust. The tank which was sitting on the stand held about 200 gallons of water and when the lot crashed around the

heads of the tiller of the soil and his wife, well, need I say more. You would both probably be safer in the shack, Fred!!

5KW was expected on the air ere this, but the tx proved unsatisfactory under tests and is being modified. If Harry goes v.h.f., then these notes will be sunk; here's hoping that the modifications need modifying. 5XO is expected on the air from Loxton in the near future, if only testing, Alex being the first and only Ham ever to be in Loxton need not worry about any b.e.i. trouble, the locals won't know what it is when they hear it; maybe! 5CF has had a Pakanastani visitor at his place of toil. It seems that this chap is in the district under the Colombo plan to observe and absorb. He knows little of radio but has been very informative on matters concerning his country. It is not known just how much of the language Murray can speak, yet, but CQ and DX should not prove too hard.

5TI has by popular "duck-showing" been appointed the scribe for the district for another twelve months. Tom, you will never get rid of the job, it's yours for life. Anyway it's the old, old story, if you do a good job of anything, everybody remains satisfied and never suggests a change. Sometimes they are not satisfied and want a change, but are too busy criticising to find time to have a go themselves. 'Twas ever thus.

It is unnecessary to report that at the conclusion of the monthly meeting, Mrs. Fred 5MA entertained the boys in right royal style with a toothsome range of goodies. It will also be unnecessary to report that the said goodies were disposed of in record time by an appreciative gathering of what appeared to be starving Armenians. Boys, boys, don't address me with your mouths full, tut, tut.

I notice in the report of the meeting that it was suggested by Hugh 5BC that due to the rising costs of technical magazines that they be purchased collectively instead of individually. The idea was well received and only the decision of what magazines to buy will hold the idea up. It is only when we read of ideas like this that the city slickers realise that the country boys cannot take a walk down North Terrace to the lending library and borrow anything that they require. Thinking along these lines, perhaps the country lending section of the library on North Terrace would include technical magazines in their service. It shall be looked into and reported upon. My fee will be a couple of whopper watermelons fresh out of the garden of the soil-tiller!

WOOMERA RADIO CLUB

Eight members plus the committee of the above club met at a general meeting this month and just prior to the meeting the worthy President, Len 5OC, contacted a KA2 and the Patron of the Club had the unexpected pleasure of having a chat with some real live DX.

At this meeting, Ted 5JE was elected to the committee replacing Don 5FP who has returned to VK3. The recently referred to certificate of affiliation was on display and a vote of thanks to the artist (the charming and beautiful daughter of 5RR) was proposed amid scenes of unparalleled enthusiasm from all present. Also it was decided to hold the monthly general meetings of the club on the second Thursday of each month. A couple of amendments to the constitution were proposed and accepted, and when the Supt. Range gives the green light, then they will be OK.

The Patron of the Club, GP/Capt. Pither, addressed the meeting and said how pleased he was to see that the Club was going ahead and hoped that it would continue to do so in the future. The meeting closed on an enthusiastic note and all present are looking forward to the next.

Ray Farmer slipped up on the Morse in his A.O.C.P., but will be pressing on and hopes to clear this hurdle at the next examination. Don't let it throw you Ray, better men than you have found this part of the exam. quite an obstacle.

Len 5OC, the President of the Club, has plans afoot for a rotary two-element beam on 20 mX and it would appear from this that 5WC will soon be a force to be reckoned with. No, subtlety is far from my pure thoughts!

So far the printer has not replied to 5WC as to the cost of QSL cards, but the energetic Secretary, Ron 5FY, wishes to advise that as soon as the cards are ready from the printer they will be despatched post haste to all who have contacted 5WC.

A certain VK5 Ham, who shall remain nameless, has been forced to spend all of his pocket money this month in buying gloves for the two fellow Hams who called the other night to take him to the general meeting. It appears that he was dozing in front of the radio when they crept into the sitting room, at the invitation of his XYL, and they both planted a noisome and decidedly moist kiss on his brow, to his eternal embarrassment and their hysterical amusement. I believe that he intends to

take any further cat-naps underneath his umbrella. You beaut!!

SOUTH EAST AREAS

5TW has temporarily deserted his usual frequencies in favour of the unmentionable regions. I never thought that Tom would become one of Gordon's (5XU) mob. 5CH has also signed allegiance with the untouchable ones, and if all is to be believed, Claude has really been bitten this time. Something will have to be done to stop the impending rot setting in. 5JA has now lost any chance that he might have had of getting back on the air. John has had a visit from the stork who left him a son and heir to keep him away from the tx. 5KU is still building and hopes to have the shack finished in about six weeks. Erg, who is one of my mob, will come back to the job of chasing the elusive ones with renewed enthusiasm after the enforced slow down due to the building activity. 5FD is still decidedly elusive as to news of his activities and I can only assume that he is deciding which mob to sign up with before taking the plunge. I hope that John will not let the fact of Gordon being the new President influence him in his decision.

5MS who has been heard on 40, 20 and 2 mX, thus puts himself in the position of owing allegiance to neither side as yet. Stuart has had quite a bit of worry lately on account of one of his daughters being an inmate of the hospital. It is with pleasure that we note that she is improving slightly, at the moment of writing, 5CJ, aside from keeping a few skeds, has nothing to report. No mention of the frequencies on which the skeds have been kept is mentioned, but I fear the worst. Colin has always showed a leaning toward the unmentionable regions, and now that I no longer hold the reins of the VK5 Division, I cannot crack the whip. Seven Hams in the S.E. areas, three for Gordon, three for me, and one in hiding. I must saddle the camels and leave for Mount Gambler immediately. What's that? Make sure that I wear a hat so as the boys down there will know which is the camel! Well, how rude can you be.

The VK5 Council, as was forecast last month, remains practically unaltered except for a new member in Rob 5RG (ex-IRG) who takes the place of Dave 5DH because of his being too busy these days to give his usual time to the duties of Council. There were only a couple of minor changes in the executive positions, which is all to the good because it shows that everybody must be content with their various duties, and it is also to the good because it will not be necessary to break in anybody to a new job, which is all the better for the efficiency of Council. Gordon 5XU becomes the new President, John 5KX is now Vice-President, Jim Paris the Minute Secretary, and Warwick 5PS is now Past President. If that Warwick should confuse you, Pansy is the name!

Bumped into Doc 5MD the other day and he told me that the VK3 Division had given Ray 3RJ and Ron 3RN a "lifer." I was tickled pink to know that two of my biggest obstacles in VK3 had been put away for ever, but you can imagine my disappointment when Doc patiently explained in words of two syllables that they had been given a life membership in their Division. Wouldn't it? What have they got that I haven't had longer? Just goes to show, without me at their head the VK3 Division comes all over sentimental. Off the record chaps, nice work and congratulations, the honour is well merited, nothing makes me jealous!!

Doc 5MD suggested at the March Council meeting that it would be a good idea if all present tossed in, and a wedding gift be sent to Tom 3HX as a small indication of their feelings toward him. The idea met with an enthusiastic reception and the matter was put in motion immediately, although some complaint was made concerning the difficulty in carrying away the empty bottles, three stamps, a torn postal note, and the sixpenny piece with a hole in it which still had traces of Xmas pudding, the lot generously being the shamefaced donation of the Past President, to wit, money-bags Parsons (5PS).

The coming Call Book is creating a lot of interest in VK5 and the same as the proposed cover met with everybody's satisfaction. The VK5 Division circularised all members, city and country, and enclosed a printed order form for convenience. Judging by all the comment from members, the first issue should be a sell-out, and the premier Division in the Commonwealth extends to all the hard-working gang who will be responsible for its publication, their appreciation for a job which has all the appearance of a best-seller.

I have been asked to draw the attention of all Associate Members to the slow Morse transmissions that are now available to them. Tom 5TL transmits each Thursday night from 7-7.30 p.m., Reg 5RR from 7.30 to 8.0 p.m. on Monday, and Gordon 5XU 7.30-8.0 p.m. on Wednesday. The frequency is 3504 Kc.

No reports of any damage to Ham shacks, etc., have been received as yet from the earthquake that hit Adelaide and suburbs on Monday morning, 1st March, at 3.40 a.m. It was quite a new experience to most of us, and one that need not be repeated. Whilst it was generally admitted that something would happen when the President vacated his office at midnight on 28th February, nobody in their wildest imagination expected such an upset. The ex-President was as surprised as anybody else and is still trying to figure out which trembled the most, the house, his wife, or himself! He has been looking a little white about the gills since it happened.

WESTERN AUSTRALIA

In view of the Easter holidays, the Annual General Meeting will be held on 27th April. The QSL Bureau has had a very successful year, and it has been decided to halve the cost of cards to overseas destinations: i.e. one sticker instead of two.

The March meeting was held on 18th and consisted of a lecture and demonstration of Fire Brigade Mobile Equipment, and was given by VK6BG, Peter Pigford. An outline will be available for the next issue.

The allocation of overseas stations in Amateur bands adversely affects Amateur activity, but in many cases one country has little or no jurisdiction over such frequency assignments. Any allocation of a frequency within the Amateur bands in Australia assigned to a non-Amateur activity should be viewed by the Institute and all similar bodies with alarm. When Amateurs are asked to log and submit cases of overseas commercial stations working in the Amateur bands it would be ironical if Australian authorities granted licences to other than Amateurs in these same bands.

The Perth Technical College has instituted T.V. Classes for a two-hour weekly course covering two years. The first year to radio that leads to T.V. and the second year to circuitry, service, etc., of receivers and transmitters. The fee is nominal and classes were to start early in March.

The Radio Society of Western Australia has instituted the A.O.C.F. Classes with a paid instructor. It will start off with a class of 15. As the W.I.A. rely on the Radio Society to conduct such classes, every assistance should be given to that body, who have, since the inception of the original club, i.e. The Subiaco Radio Society, provided the only classes in W.A. devoted to the work. There is hardly room for both radio bodies in W.A. to conduct classes and it has been done (with little thanks I am afraid) for the benefit of the W.I.A. All licence holders of the Radio Society are members of the W.I.A. and many old hands received their A.O.C.F. through the efforts of that Society.

We hear that 2BN has paid a visit to VK6. Eastern States visitors are always welcome in VK6, so do not make your presence known the day you leave for home. Let us give our red carpet an airing, so advise of your visit in advance.

6DW is on a visit to the big city. I hear he has a cold and lost most of his voice. What a calamity that is for a Ham among Hams. The recent rough weather has found the weak spots of beams, masts, etc., and it is quite often one hears a casual remark that indicates a catastrophe not yet repaired.

In the absence of 6GH, the W.I.A. news session has been conducted by 6WT. Dave takes to the session like a duck to water, and with his typical 6WT style puts over the news, etc. with a pleasant smoothness, and a good grip of the subject matter. As usual, the transmissions have to be re-transmitted on 144 and 3.5 Mc. Only by use of the three frequencies can all members in W.A. within a radius of 500 miles hear the news. We have a few members away in the Northwest and Kimberleys who are outside the scope at present. Perhaps 14 Mc. would be the only means.

TASMANIA

The March general meeting was held in the Club Rooms on Wednesday, 3rd, and was fairly well attended. Owing to the absence of both the President and Secretary, Vice-President Bob O'May occupied the chair, assisted by Joe Brown as acting Secretary. Lecture for the evening was a description of the remote receiver tuning set-up as used at the recent Science Exhibition.

An attempt was made to get some idea of the number of southern members who would be able to attend the Annual General Meeting which is being held this year at the Northern Zone headquarters. The response was not all that was expected, although it was realised that a number of members who were absent would be going along. This is the first time

that the Annual Meeting has been held away from Hobart and it is hoped that the experiment will be a success—time will tell.

I must apologise for the absence of Divisional Notes in the March issue, my only excuse being loss of memory brought on by an acute attack of Royal touritis—when I finally did remember the deadline was well past, so I'll try to make up for it this month.

I passed a very pleasant evening in the TLZ shack recently, with the conversation ranging from politics to VK3s on 50 Mc. Col recently made a number of VK3 contacts on 50 Mc., making his v.h.f. log book very pretty and Col very pleased. Incidentally, I met the other end of one of the contacts in the person of 3XM who was very busy playing about with picture-grams during the Royal visit. He was just as pleased as Col, as it seems that VK7 contacts on 50 Mc. are rather scarce.

The rumour that TK6 has given up radio and sold up all the gear is unfortunately quite correct, although I think the bug is only lying dormant. When I dropped in on Len recently he was busy shining up a magnificent Jaguar Mark VII—watch out Launceston, she will be run in by the Annual Meeting.

Regatta ship-to-shore communications were supplied again this year by the Institute, operators being Don TKX, Don TSD, "Ack" TDA, and Ken TKM. Frequencies used this year were in the 2 m band which proved much more successful than the lower frequencies used previously.

The partition across the end of the club room has now been completed, thus forming a fine room for a workshop and shack. It is intended to hold a working bee shortly to instal benches and cupboards, etc., the completing of the tx is in the capable hands of TBJ.

The wheels are turning to produce something really good in the way of QSL cards to send to stations contacting TWI at the Exhibition. By the time these notes appear in print the cards should be ready for distribution.

Great fun and games are being had by the Northern Zone this year with 2 mx tx hunts, next hunt to be held will be a night time affair which seems to me to be an excellent idea. This is something that we in Hobart could well copy. Len TL5 and family in Burnie recently to see the Queen. He tells me that things are very quiet in Queenstown although TBR expects to be on the air soon. TBQ has acquired an Eddystone "680" rx and now has a formidable stack of parts after wrecking the old set-up. I believe that an interesting afternoon was had by Len and Athol 7AJ aligning the new set.

This month's notes close on a sad note with the passing of old timer JCS, Cecil Scott, who died late in February. JCS was a foundation member of the Institute in Tasmania when it was incorporated in Launceston in 1925. He was not active during recent years and will probably be remembered mostly for his work during the floods of 1929 and his Sunday morning broadcasts on 200 mx in Hobart.

NORTHERN ZONE

Since Xmas there has been a monthly tx hunt on 144 Mc. two being held on Sunday afternoons, and one in the evening. The first held in January proved to be a difficult one to find and was located at Relbia, several miles outside Launceston. Those acting as the hares were TXW and Geoff Crompton. TXW dressed in naval attire and to complete the disguise borrowed a different car of older vintage. Those in the hunt were TBQ, TRK, TPF, TGM and TCA, also Ron Rich and friend—the latter, last mentioned but not least as they were the first home. Ron's XYL contributed a great deal to the success too, we believe. The next two in were the TGM and TRK combination.

February's hunt proved too tough for all concerned, although Chris TXW had a hard time explaining why a piece of cab tyre was buried as an underground cable to a "battery charger."

March's hunt was held in the evening and this time we believe TGM, with hotted up rx gained the honours.

TTE has joined the ranks of the P.M.G.'s. Dept. TLZ is just back again from a trip to Melbourne, whilst TBQ has purchased a new rx from TK6 who is "giving the game away"—only for a while we hope lan.

CORRESPONDENCE

50 Mc. DX REPORT

43 Yanko Ave., Waverley, N.S.W.
Editor "A.R."
Dear Sir,

A report has reached me today, after a period of six years. This card comes, via U.S.A. direct to my address, from one Dimitir Sibirsky, 69 Gladstone Street, Sofia, Bulgaria, an "Iron

Curtain" country. It has evidently been handled by an American intermediary; the postmark being Proctorville, Ohio, dated 30th January, 1954.

The Bulgarian's report says, "Receiving report from the countries of progress to radio VK2NO. Tnx fer ur 50 Mc. v.h.f. test on 8th May, 1947, at 1715 G.M.T. RST 4/4 f.b. Receiver 0-V-1, LZ Sniper antenna folded and Window."

Looking up my log of 50 Mc. activity at that period, I find that at 8 p.m. on 7th May, 1947, I called CQ DX on 50.4 Mc. c.w. This does not check with the Bulgarian's reported time of reception, but I am wondering? Evidently it has taken all this time to get the card to me, and in view of the intense world-wide activity on 50 Mc. at that time I would be loth to pooh pooh the report. There seems to be no reason why it should not be genuine, especially as I have been completely inactive on v.h.f.s. since the end of 1948.

I have, also, vivid memories of that classical instance when my 56 Mc. phone was reported accurately from North Wales in the 1930's. It was never disproved although there were people in U.K. who decried the report, saying that the man concerned, a Mr. Mellanby, of Fwlheli, couldn't have received me because he "only had a super-regenerative receiver!" We certainly know better than that today. At that time, upon enquiry, the U.S. Bureau of Standards advised me that ionospheric conditions were such that multiple-hop reflections would occur.

Maybe this Bulgarian got his times mixed. His report certainly comes as a belated surprise.
—DON B. KNOCK, VK2NO.

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SELL.—New "Dynamike," 813 and socket, pair 830B, 807, odd valves, pair Selsyns, Bendix Azimuth Dial (beaut. beam indicator), 600v. 250 Ma. Transformer, late copies "CQ," "QST," U.S.A. Call Book. McRitchie, Box 107, Whyalla, S.A.

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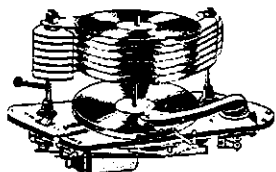
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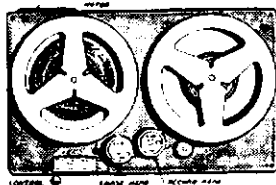
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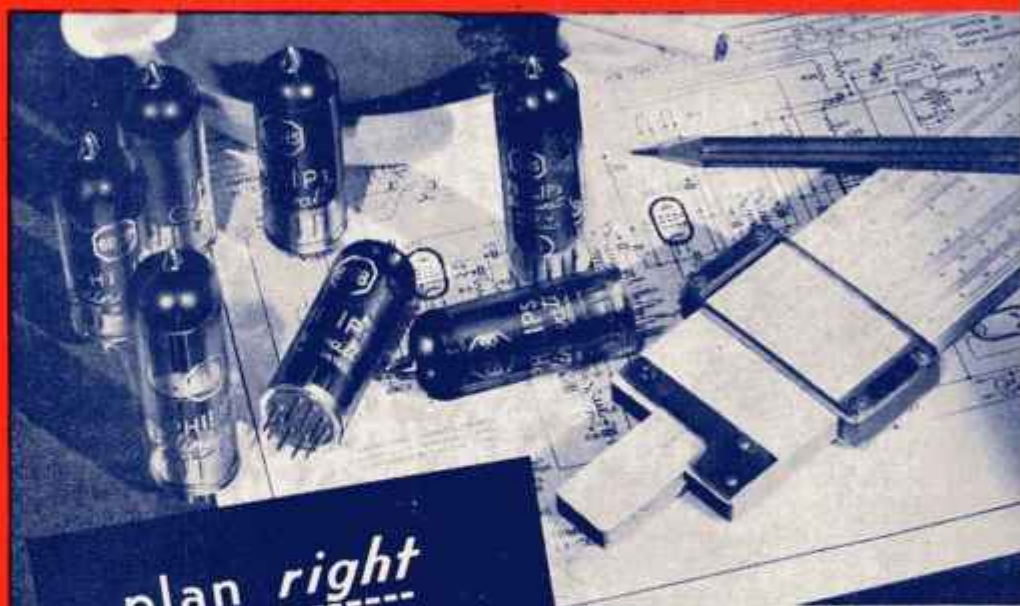
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2X2	10/-	7G7	10/-
3A4	10/-	7N7	10/-
3Q5	10/-	7W7	10/-
5R4GY	20/-	7Y4	10/-
5U4	12/6	12A6	10/-
6A3	10/-	12AH7	10/-
6A8	10/-	12C8	10/-
6AC7	10/-	12J5	10/-
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VK6WI: Sundays, 0930 hours WAST, on 7146 Kc. No frequency checks available.

VK7WI: Sundays, at 1000 hours EST, on 7146 Kc. and 146.5 Mc. No frequency checks are available.

EDITORIAL



"RETROSPECTIVE THOUGHT"

Back in January, 1926, when a majority of present-day Hams were probably neither interested in Amateur transmitting nor out of swaddling clothes, some important events were taking place which have effected our very existence today—more than twenty-five years later.

A few years before that almost "forgotten age," broadcasting on the bands now accepted internationally as the Broadcast Band for Commercial and National entertainment, was just acquiring its maximum momentum and sweeping everything before it. The 200-metre Amateurs had been "broadcasting" for some time and their transmissions were commencing to interfere with the public's new entertainment field. Since little was known of Amateurs by the layman public in those early years, the sudden knowledge that such people existed was an excuse to lay the blame at their feet for every form of squeal, static, line noises and any other problem that interfered with the broadcast listeners' receivers.

By dint of arduous representation at Radio Conferences, the Amateur established himself in his own right as "the man who pioneered the frequencies beyond the broadcast band" where officialdom said nothing could be transmitted. Awakened to this fact, the sitting members at the various Radio Conferences exhibited respect for the organised Amateur movement and such phrases as "Now that the Amateurs have shown us how to operate on short waves . . ." and "These Amateurs can give us valuable information on the performance of radio waves on the higher frequencies . . ." were commonly heard from the mouths of the hundreds of experts who came in with broadcasting.

It was at this time in 1926 when the Amateur was recognised at Radio Conferences as one of the most important factors in the field, and things respecting short waves in those days were just not done without consulting the Amateurs. We can safely say then, that it was about this time that the Amateurs all over the world really became recognised, and although the general experimental side of the science has passed from the hands of the Amateur movement to the back-room-scientist and Government and National research laboratories in many respects, the Amateur himself still continues to represent the movement by virtue of his "high place" in the many and varied posts embraced in the radio and electronic field today.

But what factors gave such eminence to the Amateur and his knowledge in those early days? Perusal of records of the early Amateurs brings to light three major reasons for this—the Amateurs' contributions to the art; his high and absolutely fair standard of conduct in his public relations; and his policy of complete reasonableness in his negotiations with the public and the powers that be.

It was said then that these were policies that had always paid, and always would pay. The past twenty-five years has not only proved this to be an indisputable fact, but has given greater eminence in modern guise to the Amateur movement as each year has passed into history.

It is the personal problem and responsibility of each and every one of the present-day Amateur fraternity to carry this banner of eminence ever forward to eternity. It is as important as the Amateurs' Code itself.

FEDERAL EXECUTIVE.

THE CONTENTS

Short Wave Receiver Selectivity Problems and the Double Crystal Filter as the Answer—Part Two	2	An Easily-Built Frequency Meter for the Audio Range	13
Amateur Bands Available	5	Amateur Call Signs	13
DX C.C. Listing	5	DX Activity by VK3AHH	14
The Complete Amateur—Aerial Tuning Unit and Power Packs	7	Ross A. Hull Memorial V.h.f. Contest 1953-54 Results	15
21 Mc. on the BC348 Receiver	9	Fifty Megacycles and Above	16
Hints and Kinks	11	Federal, QSL, and Divisional Notes	17
		Obituary	19

Short Wave Receiver Selectivity Problems and the Double Crystal Filter as the Answer

PART TWO

BY H. F. RUCKERT,* VK2AOU

THE DOUBLE CRYSTAL FILTER

The question now is, is there a way at all for the Ham who has to build his own modern receiver, who cannot spend a fortune for his hobby, and who does not want to give up in the race against QRM and for better selectivity? Yes, there is a way—the double crystal filter, which gives nearly the same performance as the mechanical filter and has some advantages compared with all the other methods which make the double crystal filter very convenient.

The curves No. 3 and 4 show the result the writer measured on his home built receiver using the Bendix BC221 frequency meter on 80 metres, a logarithm calibrated vacuum tube volt meter and a signal generator with an attenuator which was calibrated in neper. Everyone who can align a superhet in the proper way should be able to get this filter going, and no special equipment is necessary to do this job with good results.

This is the other extremely important point. The circuit works equally well and with only some difference in skirt selectivity and maximum bandwidth at any i.f. from 100 Kc. to 2 Mc.

That means that even a single conversion superhet could take advantage of the performance this filter can give when an i.f. of 1.8 Mc. has to be used to get enough image rejection. Of course it is still safer to use double conversion as described earlier and to operate this double crystal filter with the second i.f. at 300 to 1,000 Kc. We do not need triple conversion with Q5-er or audio filter of any type, because this filter gives all the selectivity we need for phone and c.w. reception. We need only two valves like 6AU6s in the second i.f. amplifier or three valves of the type 6SK7 with reduced screen voltage, plus the mixer as in any double conversion amplifier.

Pot type iron core coils and bobbins are available here, so that it is easy to wind the special coils with the necessary taps. The four-gang condenser with about 7 to 15 pF. capacity with insulated rotors and stators can be replaced by small ceramic capacitors and a ganged shielded switch for several selectivity grades. Some v.h.f. variable capacitors may be suitable if two two-gang condensers can be ganged. The four capacitors must be such that two have increased and two decreased capacity when the capacity is changed to get different selectivity grades. If it is not possible to obtain the right variable condenser, then fixed capacitors for two phone and two c.w. selectivity positions may be sufficient. Again fixed capacitors should be switched in such a way as indicated by the arrows in the circuit to get the same effect as if the rotors of variable condensers are 180° in opposite positions.

It is not costly to get two i.f. filter crystals which should be ground within 100 c/s. to the same frequency as series resonators. We see from the diagram that we can adjust with this filter, as it was built by the writer, with the variable four-ganged condenser, any bandwidth continuously from 0.5 to 4 Kc., which is a great advantage over any other method described above.

The Telefunken receiver E52 allows us to vary the bandwidth from 200 c/s. to 10 Kc. at an i.f. of 1 Mc., but at the wider bandwidth the top of the response curve is not as flat as is desirable. Note also that the gain of the second i.f. amplifier remains constant at any selected bandwidth. It is not necessary to combine a cathode bias potentiometer with the bandwidth control as is usually done with Q5-er's, so the S meter readings are always true. There is practically no difference in the effective bandwidth with the a.v.c. on or off, as many superhets with less selectivity show, where it is necessary to switch the a.v.c. off to get maximum selectivity.

The flat response curve is ideal for the reception of the carrier and only one sideband as was outlined above, and is the best way to cope with the QRM problem. One sideband or the other may be selected as desired or necessary. As a matter of fact it is general practice to use only one sideband, setting the bandwidth to 2 to 4 Kc. to have the

necessary good readability for phone reception. Even in the sharpest position, the small but flat top of the curve shows that this double crystal filter will not tend to ring, so we have the full advantage of the right selectivity.

With the b.f.o. on for c.w. reception we always have excellent single beat note reception without the necessity of trying to adjust the phasing condenser to the right spot, because here the phasing condensers are only once tuned and set to a fixed value to get the right maximum bandwidth and flat top with sharp skirts. The b.f.o. may be connected behind the last crystal filter as is usually the case.

How Double Crystal Filter Works

There is no difference to the well known crystal filter with only one quartz in principle. We have again the bridge circuit with the phasing condenser of 10 to 80 pF. The size depends on the position of the coil taps and the crystal holder capacity. We also can adjust in this circuit the neutralisation of the crystal capacity with the phasing trimmer so that we get a pole (anti-resonance point) close to the resonance point (peak) and at the low or high frequency side of the resonance frequency. We have used this effect so far to reject QRM c.w. stations, but now this is also used to get such a steep skirt that we can reject one sideband. The attenuation is 60 db or more per kilocycle detuning.

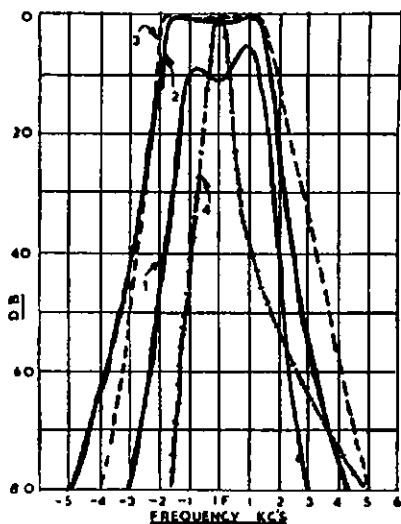
The second filter may be tuned so that the other pole appears at the other side of the response curve. With the taps for the plate, grid and crystal, it is possible to match the Q of the crystal in such a way to the tuned circuit that no sharp peaks of the crystal response appear which would not give the desired flat top. It is therefore not difficult to get a flat top on the resonance curve by making small adjustments with the phasing trimmers and the slugs of the i.f. filter coils.

The selectivity control works in the same way as described in the A.R.R.L. handbook for many years as it is at the ordinary crystal filter arrangement.

The crystals are damped to a certain degree when the tuned circuits are tuned on the crystal frequency and the function of the sharp selectivity of the crystal is more pronounced when the parallel circuits are tuned off the crystal frequency. The smaller bandwidth results when two circuits are tuned to the higher and two to the lower side of the crystal frequency. If all four circuits were tuned to the same side, we would get two peaks, one from the crystals and the other formed by the many equally detuned i.f. circuits.

It is quite possible that even better results may be achieved than the writer obtained at this stage when a few more different taps can be tried out. This may be important when the Q of the crystals is not the same as it seems to

Response Curves of Different LF. Amplifiers



1. Nine tuned circuits at 50 Kc. "QST," March, 1953. A.R.R.L. design, sideband channel.
2. Magnetostriction filter at 455 Kc. Collins 75A III. "QST," February, 1953.
3. Double crystal filter, 3.5 Kc. flat top at 352 Kc. i.f. Postion wide, a.v.c. on.
4. Double crystal filter, 0.4 Kc. at 352 Kc. Postion sharp, a.v.c. on.

* 119 Evaline Street, Campsie, N.S.W.

be in my case, so we did not get the same sharp attenuation of both side frequencies as desired.

It should be understood that we no longer tune the stations in for maximum S meter reading because there is no clear peak as our old receiver showed. By tuning close to the sideband of a phone station we get at first one sideband more or less in, and we hear the voice distorted because the carrier is very much attenuated and the higher modulation frequencies appear very much overmodulated. The S meter is unstable being only affected by the sideband (speech). Tuning two kilocycles further, for example, brings the carrier within the i.f. filter channel where one upper corner of the response curve is, and now the reproduction of the voice is perfect as far as the receiver is concerned and just as good as the transmitter is modulated. Tuning the carrier more to the centre of the passband, the S meter reads the same strength because the response curve has the flat top. We amplify both sidebands more. Since the whole channel has only a flat top of about 4 Kc., there are now only sideband frequencies reproduced which are below 2 Kc. (and that is not very good for voice transmission). Twice the audio response range with only one sideband was better to read. Going again 2 Kc. further, we have set the carrier now close to the other corner of the response curve. We have changed the sideband, and the other sideband will be reproduced alone. The S meter still reads the same signal strength. For c.w. reception, it may be mentioned that we will not get any beat note at all if the b.f.o. is tuned too far off frequency.

There have been several types of widely used communications receivers built by Telefunken in Germany with this double crystal filter over the past 15 years. The high degree of selectivity makes temperature compensation important, or drift of oscillators, or i.f. filters would cause too great a loss in

sensitivity and selectivity because the proper alignment would be lost. That is why these receivers use ceramic capacitors for temperature compensation of all tuned circuits.

A radio compass receiver uses this filter at 130 Kc. The medium wave receiver Type C works with the same crystal filter at 352 Kc. and the Type E52 has this filter at 1 Mc. This 15-valve receiver has five ranges and was built with 370 capacitors, most of which are ceramic. Similar effects have been achieved with this filter circuit by using crystals at 1875 Kc.

Aligning The Filter

If we are not lucky enough to own an r.f. voltmeter and a signal generator, this by no means stops our plans. We connect a variable condenser to the b.f.o. which can be calibrated with any broadcast receiver, or our grid dip meter to tune the b.f.o. over the i.f. (crystal frequency) ± 20 Kc., and we have all the gear we need.

Instead of the v.t.v.m. we can use the S meter or any 5 Ma. meter connected between B+ and the plate current lead of one of the valves that is connected to the a.v.c. line, forming an r.f. volt meter (indicator).

Make a connection from the plate of the b.f.o. with a shielded cable via 10 pF. to the grid of the last i.f. valve, and replace the grid circuit of this stage by a 10,000 ohm resistor as a grid leak. The last i.f. filter is now tuned in the usual way. The one circuit of the last filter, which is not tuned, may be damped by a 10,000 ohm resistor if the coupling is tighter than critical.

The ceramic filter capacitor may be changed so that the required tuning range is available by tuning the iron core (slug) only.

Now we can connect the b.f.o. in the same way on the grid of the second i.f. valve, and the second Q-filter is connected back to the grid of the last i.f. valve which is the third valve of the

second i.f. amplifier. By tuning the b.f.o. we soon will see the S meter rise upwards when tuning through the frequency of the second crystal, and we use this frequency for alignment.

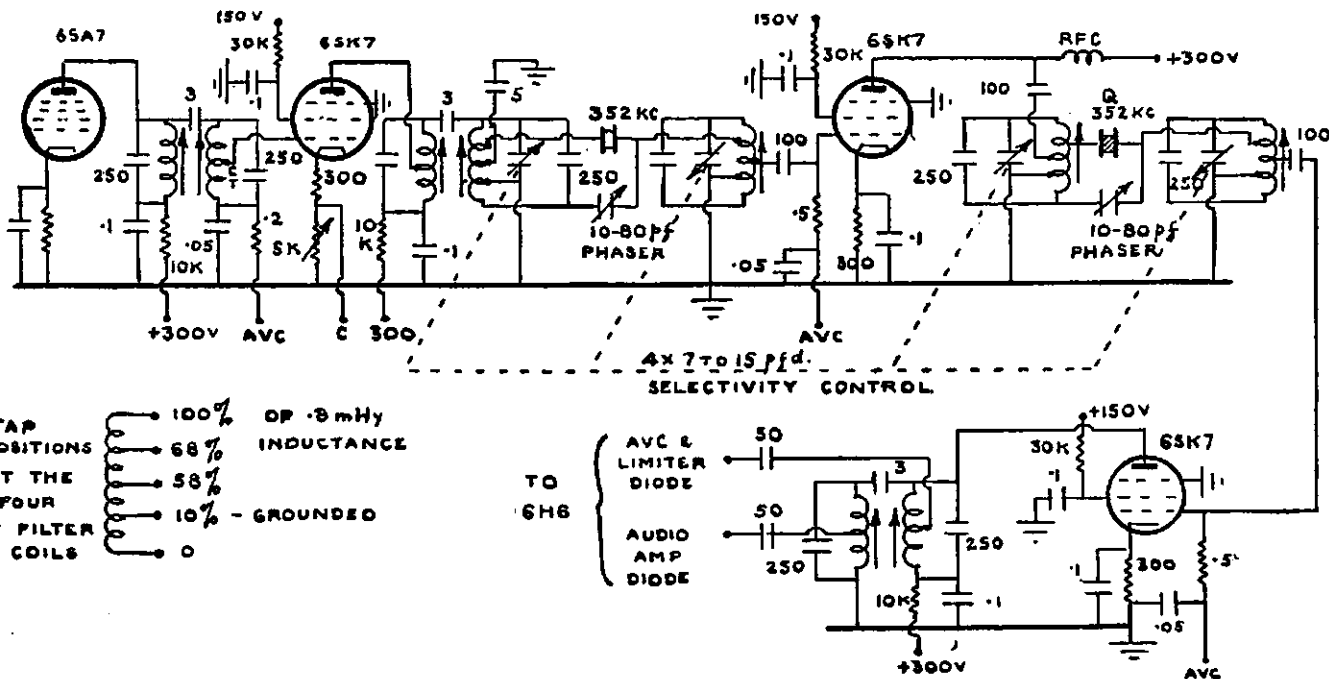
The LC circuits at the second crystal have to be adjusted for maximum S meter reading in the common way. The second phasing condenser (trimmer) is at about centre position. We will get now a fairly sharp single resonance point. Then we tune carefully the second phasing trimmer as we used to do with our old crystal filter set-up. Set the pole close to one side of the resonance frequency where the crystal holder capacity is nearly neutralised by the phaser. Tuning the b.f.o., we will now have on one side the desired sharp skirt of 60 to 80 db attenuation with 1 Kc. detuning of the b.f.o. Repeat the same procedure with the first crystal filter.

It may be now necessary to reduce the signal input from the b.f.o., which could be done with a simple resistor or capacitor voltage-divider.

The next step in alignment of the first crystal filter is easiest done by replacing the second crystal with a 10 to 20 pF. capacitor which should have the same capacity as the crystal plus holder. A grid dip meter may be used to check the capacity. The phaser may be adjusted now in such a manner that the pole occurs at the other side of the resonance frequency of the crystal compared with the second filter already aligned.

During the tuning of the LC circuits at or close to the crystal frequency, the bandwidth control should be set in the following way: No. 1 in 15 pF., No. 2 out 7 pF., No. 3 in 15 pF., No. 4 out 7 pF. Any capacitor type with about 7 to 15 pF. capacity variation may be used.

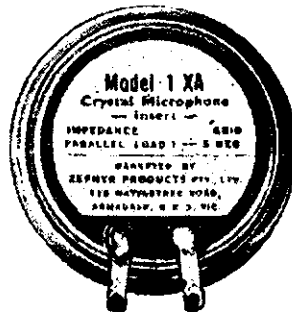
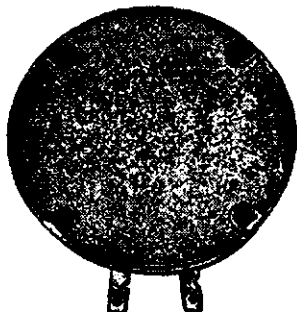
If it is not possible to obtain the four-gang capacitor with insulated rotors and



MODEL "1XA" CRYSTAL MICROPHONE INSERT



AUSTRALIAN MADE — — FOR AUSTRALIAN CONDITIONS



FITTED WITH PLATED REAR SHIELD TO ELIMINATE HUM PICK-UP

- Patented crystal unit guarantees outstanding efficiency and performance.
- Protected against ingress of moisture with approved moisture sealed crystal element.
- Small — compact — lightweight — durable.
- Will not blast from close speaking.
- Precision engineering ensures realistic reproduction and high output with long life and dependable operation.
- The only unit available with a genuine sintered metal filter.
- Good high frequency response ensures excellent speech reproduction.
- Aluminium diaphragm mechanically protected and frequency controlled by "Zephyrfil" filter.
- Australian made throughout.
- Only carefully selected cements used throughout, to suit Australian climatic conditions.

TECHNICAL DETAILS

Rochelle salt crystal microphones are perhaps the most widely used for all types of service where quality speech and music reproduction at high output levels is a requirement. They are dependable in performance and when fitted with the appropriate "Zephyrfil" filter, their frequency response may be adjusted to suit any application or requirement.

This crystal microphone requires to be terminated with a high value parallel load of the order of 1 to 5 megohms for best results.

The mass of the moving parts is small, hence the sensitivity is high and a high efficiency is achieved.

Light gauge solder lugs are provided so that excessive heat in soldering will not be transmitted to the crystal element.

When mounted in a microphone cage, it is recommended that the insert be suspended in rubber, to eliminate shock and vibration.

One of the connecting lugs is directly connected to the case and care should be taken to solder the metal shield of the microphone cable to this solder lug, keeping the unscreened portion of the centre conductor as short as possible to eliminate hum pick-up.

All crystal elements are mounted on high grade suspension pillars, being fixed thereto with a good quality cement, thus ensuring stability and long life.

Case $1\frac{1}{2}$ " diameter (rear), $\frac{3}{8}$ " thickness, 1-13/16" overall diameter (front) with filter fitted.

Frequency Response = 60-6,500 c.p.s.
 Output Level = -45 db (0 db = 1 volt/dyne/cm²)
 Impedance = Model 1XA Grid 1 — 5 megohms.



Approximate Frequency Response Curve

AVAILABLE FROM ALL LEADING TRADE HOUSES

ZEPHYR PRODUCTS PTY. LTD. 58 HIGH STREET, GLEN IRIS, VIC.

stators plus the possibility of setting two rotors in 180° position to the others, then the circuits may be changed in the following way: We may have only two separate two-gang variable capacitors where only the stators are insulated. It may be possible to gang these in a simple mechanical way. The insulated stators have to be connected as is shown in the circuit. The uninsulated rotors are set in such a position that one of the two-gang capacitors is at minimum and the other on maximum capacity. The rotors should be able to turn freely through the full circle. The rotors can be connected to the tap of the four coils which is at zero i.f. potential.

In this case, the a.v.c. voltage is brought to the grids of the last two i.f. valves via 1 megohm resistors and using 100 pF. coupling capacitors between the grids and the tuned circuits.

The plate voltage of the second i.f. valve could reach the plate via a 2.5 mH. choke and a coupling capacitor.

The circuit will not be affected by using these alterations.

After setting the phasing trimmers a slight retuning of the connected i.f. is necessary. Then connect the b.f.o. to the second mixer grid as described before with the resistor as grid leak. The second oscillator may be put out of action. We can now align the first i.f. filter as we did before with the last filter.

By small adjustments of the phasing trimmers ($\pm 1-5$ pF.) and by detuning of one to three tuned i.f. circuits, we will get the desired maximum bandwidth of three to four Kc. and also the flat top. The detuning of the filters should be within 4 Kc. only. This last job is a matter of patience. Tune the b.f.o. as the signal generator again and again over the i.f. band and do the retuning very carefully and always alter only one slug or trimmer at a time so as not to get confused. Watch each time the S meter reading to see if the response curve already shows the flat top. When this is achieved and the S meter reads a nearly constant strong signal (within 2 to 4 db) over a certain tuning range of the b.f.o., the trimming is finished.

The skirt selectivity should be at least as good as the curves of the graph indicate.

If we have provided a few extra taps on the coils for connecting the crystals at different impedance points, we may get a better skirt selectivity and a flat top of the desired bandwidth may be obtained.

The two phasing trimmers remain now in a fixed position, which is in contrast to the old single crystal filter set-up. If we want the effect of the old phasing method, we simply tune the main dial so that the received station comes close to one of the corners of the response curve so as to attenuate the undesired signal in the same way.

Results

Since the writer uses this filter in a home-made 20 valve double conversion superhet which is tunable on Amateur bands only, he does not like to work

with the old receiver (16 valves double conversion with normal single crystal filter), which was quite a good receiver, 80 per cent. of all phone QRM has disappeared and there is also a lower noise figure now.

There are only a few more i.f. filters and one additional i.f. valve incorporated than before. When other stations often say, "sri QRM, pse QSY, etc." we just tune the carrier and the not interfered sideband in, and with very slight adjustment the QRM station will very often be brought under control.

It is surprising that such a fine circuit has not yet found more use in Amateur radio receivers since the industrial manufacturers had such excellent results in this way for a long time. The main thing is that, no longer should the QRM situation force us to give Ham Radio, and especially phone, away.

If our first and other oscillators work with the necessary stability, we can use the same receiver also for reception of single sideband transmissions. If both sides of the skirt have extremely high selectivity (steepness), it will be difficult to receive n.b.f.m. stations by tuning them on the slope of the resonance curve if we do not have a n.b.f.m. adaptor to do this job properly.

Remarks

The writer built the filter at first with only one i.f. valve on a piece of bakelite to try out the method of alignment. This work has to be done in a clear way as outlined above. It is absolutely hopeless to solder the last component in the receiver, plug the antenna in, call CQ DX and tune the dial in the hope we might get a good signal through. The only safe and quick way is to do the aligning work systematically. Those who would like to build this circuit and may have further questions, may contact the writer whenever they hear VK2AOU on 20 metre phone, or on Mondays at 5.30 p.m. at 7.06 Mc. or 3.7 Mc.

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AMATEUR BANDS AVAILABLE

*1.84—	1.86 Mc.	†288—	296 M.c.
3.5 —	3.8 "	†576—	585 "
7 —	7.15 "	1,215—	1,300 "
14 —	14.35 "	2,300—	2,450 "
21 —	21.45 "	5,650—	5,850 "
26.96—	27.23 "	10,000—	10,500 "
28 —	30 "	†21,000—	22,000 "
50 —	54 "	†30,000 Mc.	and
144 —	148 "		Above.

* Available for emergency network purposes only. Normal Amateur activities are not permitted in this band.

† Temporary allocations.

DX C.C. LISTING

PHONE			
Call	No. Ctr.	Call	No. Ctr.
VK4HR	12 172	VK4RT	22 124
VK3BZ	3 188	VK4WJ	17 122
VK4FJ	21 164	VK4JD	8 114
VK3EE	10 183	VK4DO	20 112
VK6RU	2 160	VK5MS	24 109
VK3JD	1 155	VK4CB	28 109
VK4KS	9 152	VK3WM	29 109
VK6KW	4 150	VK3HO	25 103
VK3LN	11 141	VK2ADT	13 102
VK3AWW	14 140	VK2AHA	15 102
VK3JE	7 139	VK6PJ	19 101
VK4WF	16 137	VK3IG	5 100
VK3ATN	26 136	VK3GG	18 100
VK4RW	23 127	VK5LC	27 100
VK6DD	6 126	VK3AUP	30 100

C.W.			
Call	No. Ctr.	Call	No. Ctr.
VK3BZ	6 214	VK5FH	31 134
VK3KB	10 200	VK4RF	11 125
VK4HR	8 195	VK3YD	27 123
VK3FH	15 191	VK3EK	3 122
VK4FJ	29 191	VK3JT	25 118
VK4EL	9 175	VK3HT	37 117
VK3CX	26 160	VK3PL	38 117
VK5RU	23 159	VK3UM	12 116
VK2EO	2 152	VK7LJ	24 114
VK3CN	1 151	VK4DA	7 113
VK2GW	16 151	VK7LZ	17 112
VK6RU	18 150	VK4RC	13 107
VK6SA	26 150	VK9XK	41 107
VK5BO	33 150	VK6KW	40 104
VK4QL	38 146	VK2YC	34 103
VK3XO	43 144	VK3APA	14 101
VK3VW	4 143	VK3NC	19 101
VK2LQ	5 142	VK2OA	32 101
VK4DO	20 141	VK7RK	22 100
VK3XK	30 138	VK2AEZ	35 100
VK3JE	21 137	VK3RJ	42 100
VK3YL	39 135		

OPEN

Call	No. Ctr.	Call	No. Ctr.
VK3BZ	4 224	VK7LZ	23 116
VK4HR	7 210	VK3VQ	46 116
VK4FJ	32 206	VK2ASW	53 116
VK3JE	12 198	VK3JA	43 114
VK6RU	8 196	VK2ADT	14 113
VK2NS	16 195	VK3HO	38 111
VK3HG	3 181	VK3PG	47 111
VK4EL	10 175	VK3MM	49 111
VK6KW	13 171	VK4RC	21 110
VK2DI	2 170	VK3ZB	34 110
VK3KX	1 167	VK9XK	54 109
VK4KS	24 167	VK2ZC	25 108
VK4DO	15 165	VK3KR	56 107
VK3AWW	45 150	VK2YL	11 106
VK9GW	48 150	VK3AWN	36 106
VK3LN	29 144	VK6WT	56 106
VK5FL	28 143	VK2VN	18 104
VK4WF	40 141	VK4UL	27 104
VK3MC	5 139	VK6PJ	44 104
VK3OP	19 137	VK6PW	50 104
VK6DK	42 137	VK2HZ	17 103
VK4RW	52 137	VK1KB	30 103
VK6DD	22 136	VK2TI	37 103
VK3HT	41 135	VK3YS	57 103
VK2ADE	26 133	VK7RK	31 102
VK2AHA	9 128	VK7RY	35 102
VK2AHM	20 125	VK5HI	51 101
VK3JT	33 119	VK2ACK	51 101
VK5LC	55 118	VK2TG	39 100

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MARCONI COMMUNICA- RECEIVERS—Type 1155

10 Valves, five bands. Range 1 freq.: 18.5-7.5 Mc.; range 2 freq. 7.5-3 Mc.; range 3 freq. 1500-600 Kc.; range 4 freq. 500-250 Kc.; range 5 freq. 200-75 Kc. Dual ratio dial calibrated for all bands. Easily converted to operate from 240v. A.C.

£25

RADAR LORAN CATHODE RAY INDICATORS

Containing the following Valves:—

1—5GP1 cathode ray tube with full length mu-metal shield.

8—6H6
15—6SN7
3—6SL7
1—6J7

£25

I.F. TRANSFORMER STRIP

Frequency 18 Mc. Ideally suitable for use with television. Containing five EF50, one EA50 and one 6SN7GT valves. £7/10/-.
Post. & Pack.: 8/-; Interstate 10/6

VALVES

Brand new in original Carton

1H6	7/6
1K7	10/6
6AC7	15/-
6B8	15/-
6F6	12/6
2051	22/6
6K6G	12/6
6L7	12/6
807	25/-
813	60/-
830B	60/-
VR150/30	22/6
954	7/11
12A6	12/6

2050, 22/6. This valve is suitable for use with Photo Cell Relay Unit, as per June, 1953, issue of "Radio and Hobbies."

The above valves are only obtainable from Melbourne Branch.

MAGNAVOX

Two valve, inter-phone Amplifiers. Complete with filter, choke and output transformer.

£3/10/-

U.H.F. MIDGET HOMING RECEIVERS

Frequency range 234 to 258 Mc. Can be operated from either 12 or 24 volt internal changeover switch. Manually tuned dials. Calibrated in frequency.

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TRANSMITTER TUNING UNITS

Type TU10B
10000 to 12500 Kc., £2/10/-
Type TU9B
7700 to 10000 Kc., £2/10/-
Type TU26B
200 to 500 Kc., £2/10/-
Type TU6B
3000 to 4500 Kc., £3/10/-

TRANSCEIVERS TYPE ATR/2B

Crystal controlled, 12 watt output 3-7 Mc. All standard Valves. Complete with crystal. Air tested. 12 volt operation. Can be converted to other frequencies. Crystal controlled or M.O. tuning.

£45

RELAYS

200 ohm resistance, one make, operating on 12v., new 15/- each
75 ohm resistance, two make, two break circuit, operating on 12v. 16/6 each
1500 ohm resistance, one make circuit, very sensitive, operating on 4½v. £1/10/- each

RADAR RECEIVER

American, Type CPR46AAT
Containing Valves:—

1—955 1—6AG7
3—956 1—83V
4—6AC7 1—2X2
and 24v. switching motor.

£6/19/6

SYNCHRONISER UNITS Type 1155

Containing following Valves:

6—6SN7 1—6H6
3—6L7 2—6AC7
2—6AG7 6—717A
2—6L6

Brand new, £12/10/-

A.W.A. TRANSMITTING CONDENSERS

25 pF. to 375 pF.
22/6

TRANSMITTERS TYPE G09

VFO control. Freq. 3-18 Mc., 300-600 Kc. All switches and condensers, coils and valve sockets are mounted in porcelain. All controls can be locked. Two RF output meters 0-9 amp.; two 0-100 Ma. meters for quick current reading, and one 0-15 Ma. meter. Unit relay controlled. Power output 180 watts. New.

Valves—

Intermediate Freq. Transmitter:
801—Master Oscillator.
807—Intermediate Amp.
803—Power Amplifier.
High Freq. Transmitter:
837—Master Oscillator.
837—Intermediate Amp. or Frequency Doubler.
803—Power Amplifier.

Rectifier Unit:

523—Low Volt. Rectifier.
Two 1616—High volt. Rec.
£37/10/-

MARCONI RADIO TRANS- MITTERS—TYPE 1154

For use with 1155 Receiver. Frequency ranges:—

Range 1 (H.F.): 10-5.5 Mc.
Range 2 (H.F.): 5.5-3.0 Mc.
Range 3 (H.F.): 500-200 Kc.

High Power Transmitters
200 watts input. VFO 200 Kc. to 10 Mc. Complete with valves. Power required: 1,200v. 200 Ma.; 250v. 50 Ma.; 6.3v. 6 amp. Easily converted to crystal control. Ideal for ships, fire control base stations, amateurs, etc.
£12/10/-

BENDIX RADIO COMPASS RECEIVERS, Type MN26H

12v. input. Frequency ranges 200 to 410 Kc., 550 to 1200 Kc., and 2.9 to 6 Mc. Complete with 12 valves and genemotor. Valve line-up:

2—6N7 1—6B8
1—6F6 1—6L7
2—6J5 5—6K7

£24/17/6

AT5/AR8 TRANSCIVERS

AR8 RECEIVER

11 valve twin channel Receiver, using standard 6.3v. octal valves. Six bands. Complete coverage 140 Kc. to 20 Mc. Dial calibrated for all bands.

£23/17/6

AT5 TRANSMITTER

A high power unit using two 807s in final. Covering 140 Kc. to 20 Mc. with provision for six crystals and V.F.O.

£9/17/6

Junction Box and Cables, £5. Aerial Coupling Unit, £3/10/-.

RECEIVER UNITS, V.I.F.

Contains double bank polystyrene six-position rotary coil turret, two EF50, and two RL18 valves. £5.
Post. & Pack.: 5/6, Interstate 7/-.

TRANSMITTER UNITS, V.H.F.

Contains single bank polystyrene six-position rotary coil turret, two VR135 valves and one 2050 thyratron valve. £5.
Post. & Pack.: 5/6, Interstate 7/-.

SIGNAL GENERATORS Philips 161C

Operates from 6v. DC to 240v. AC. 100 Kc. to 30 Mc. Air tested. £32/10/-.

THE COMPLETE AMATEUR

BY TOM ATHEY,* A.L.R.E.

SECTION FOUR

Aerial Tuning Unit

This unit is to be mounted in the shack, but as far away from the transmitter as is convenient to the operator.

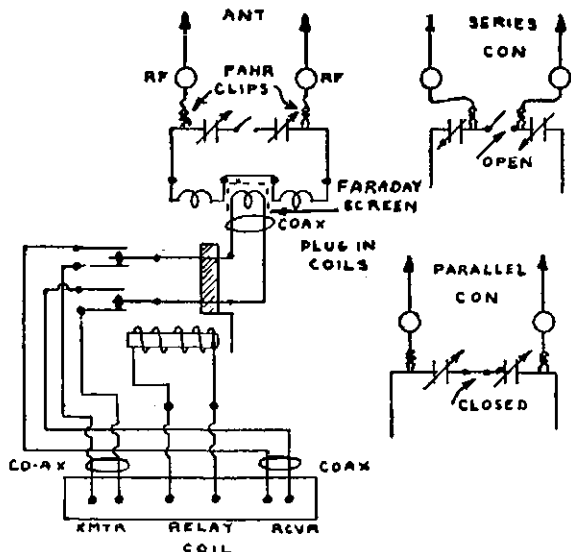
The unit consists of a balanced coil with the link input swinging between a Faraday screen. Thus any unwanted harmonics may be effectively cancelled before they are passed on to the aerial via the feeders.

Provision has been made for the use of either series or parallel tuning, by means of small alligator clips, as is self explanatory in the diagram.

Any type of double-pole double-throw relay can be operated as an aerial change over switch. I have procured an a.c. relay with a 110v. rating, ex disposals, and it is ideal for the job. Without excitation, the aerial is connected to the receiver, but immediately the transmitter is switched on, the aerial changes over to the transmitter.

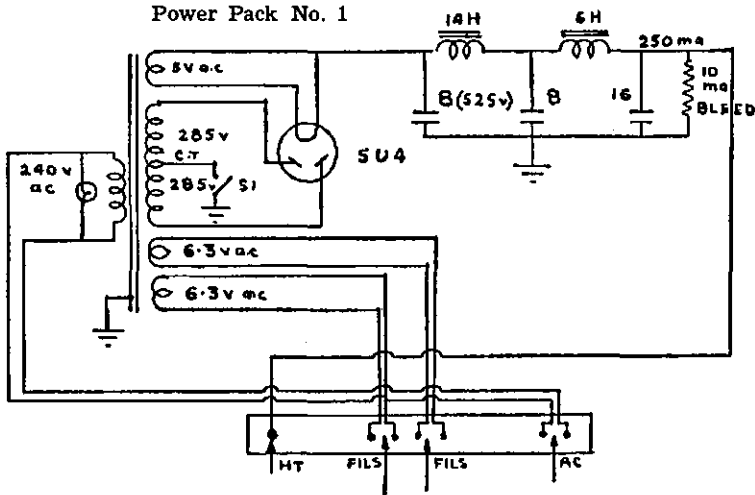
Switching of coils would result in some loss here, so plug-in coils are used. If the unit is placed near the operating position, very little inconvenience would result. R.f. indicating meters would look nice, but ordinary pea lamps in each leg of the feed line are quite suitable, provided they are shunted by wire of a suitable resistance so that only a small portion of the r.f. is passed through the lamps.

*Ex-Instructor Qld. Division W.I.A. Classes; 41 Mountford St., New Farm, Brisbane.



Aerial Tuning Unit

Power Pack No. 1



SECTION FIVE A

Power Pack No. 1

Chassis: 17" x 10" x 2"
Panel: 19" x 5 units
Valve 5U4G or 5Z3

This is a standard power pack, having a somewhat better filtering system than normally encountered. The transformer should have adequate ratings, and have two filament windings as well as one for the filament of the rectifier. As this pack has to supply high tension for both the multipliers and the speech amplifiers a transformer having a rating of not less than 200 Ma. should be used, even if the rating is subject to I.C.A.S. conditions. There is no need to have a high voltage rating as no voltage required is greater than 250 volts d.c. Any transformer from 285v. to 315v. either side of centre tap will suffice. A pilot

lamp across the 240 a.c. input will indicate that the pack is alive and should not be touched in that condition.

This pack uses a hard valve, so condenser input is satisfactory.

SECTION FIVE B

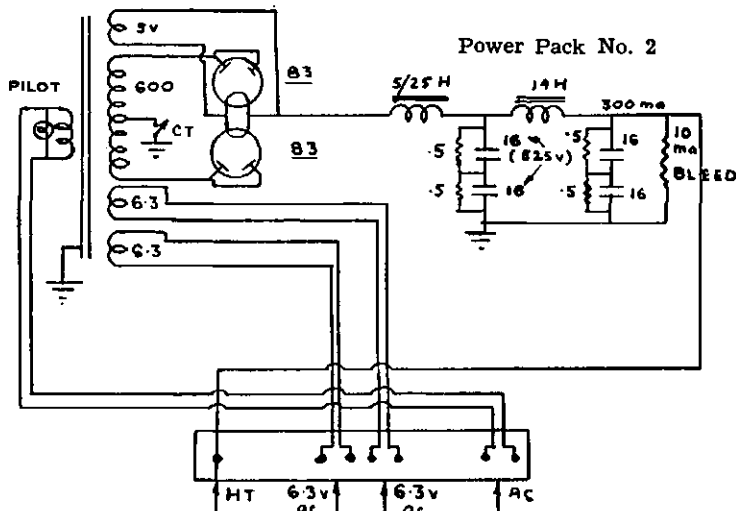
Power Pack No. 2

Chassis: 17" x 10" x 2"
Panel: 19" x 6 units
Valves: Two 83s

This pack has to supply the high tension to the modulator plates and the final valve. Consequently the regulation must be of reasonable consistency. Therefore, choke input has been decided upon, using a swinging choke in the first stage of the filter circuit.

The transformer will be required to provide 100 Ma. to the final 807 and

(Continued on Page 9)



[When the centre tap of the transformer is opened as shown, it is advisable to also break the electrostatic shield connection to ground at the same time to avoid insulation breakdown. This can be done by connecting the electrostatic shield to c.t. on the transformer.—Tech. Ed.]



The inspection of Mullard picture tube gun assemblies.



SEEN but not HEARD

VOLTAGE AMPLIFYING PENTODE EF86

Low-noise pentode primarily intended for use in high-gain R.C. coupled A.F. voltage amplifier stages.

CHARACTERISTICS

V_b	6.3	V
I_h	0.2	A
C_{out}	5.5	μF
C_{10}	4.0	μF
C_{g1-g2}	0.025	μF
V_a	250	V
V_{g2}	140	V
I_a	3	mA
I_{c2}	0.55	mA
V_{g1}	-2	V
V_{g3}	0	V
g_m	1.85	mA/V
r_a	2.5	$M\Omega$
μ_{g1-g2}	38	

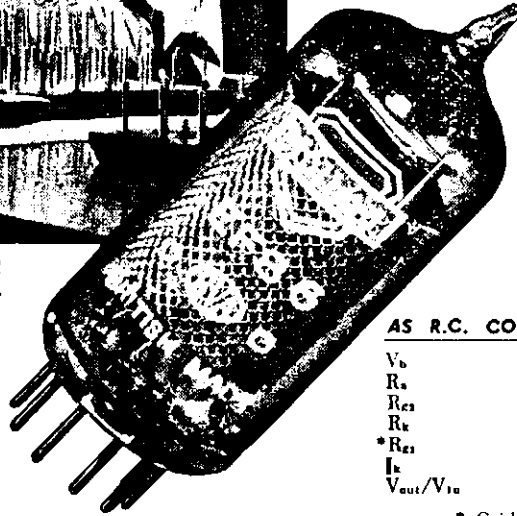
OPERATING CONDITIONS

AS R.C. COUPLED PENTODE A.F. AMPLIFIER

V_b	250	250	V
R_a	$\dagger 0.1$	$\dagger 0.22$	$M\Omega$
R_{c2}	$\dagger 0.39$	$\dagger 1.0$	$M\Omega$
R_k	$\dagger 1.0$	$\dagger 2.2$	$k\Omega$
* R_{g1}	330	680	$k\Omega$
I_a	2.05	0.95	mA
V_{out}/V_{in}	112	180	

* Grid resistor of following valve.

† Values $\pm 10\%$.



The Mullard EF86 is an all-glass, low noise valve, with the universally accepted single-ended 9-pin technique. The total generated noise expressed in terms of an input to the grid is less than 5 micro volts.

Incorporating the best features of the earlier low noise, low hum, low microphony types, the Mullard EF86, like the picture tube, is truly a valve that is seen but not heard.

Mullard-Australia Pty. Ltd.

35-43 Clarence St., Sydney. BX 2006
592 Bourke St., Melbourne. MU 2366

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RADIO RECEIVING AND TRANSMITTING VALVES — TELEVISION PICTURE TUBES — ELECTRONIC PHOTO-FLASH TUBES — HEARING AID VALVES
X-RAY TUBES AND ACCESSORIES — GEIGER COUNTER TUBES — CATHODE RAY TUBES — PHOTO CELLS — IMAGE CONVERTERS
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COLD CATHODE TUBES — MEASURING INSTRUMENTS — SCIENTIFIC APPARATUS — RADIO RECEIVERS — COMMUNICATIONS EQUIPMENT
ULTRASONIC GENERATORS — PERMANENT MAGNETS — MAGNETIC MATERIALS AND COMPONENTS, ETC.

MR3-53

21 Mc. ON THE BC348 RECEIVER

BY L. ELIASON,* VK3ALE

THE 21 Mc. band can be covered on the tuning range of a BC348 by converting the present low frequency end of the tuning. The 200-500 Kc. range is of very little use, so by changing the coil coverage, another Amateur band can be made available at the flick of a switch.

Before any work is carried out, it is a good idea to have a complete picture of how the coils and associate components are arranged in the circuit. For those who do not have a circuit, a careful study of the 20 metre coils in each box will show exactly how to go about the job.

Fig. 1 gives a picture of circuits involved for each coil. L1 is the grid coil, L2 is the plate coil, and L3 is used only on the oscillator for the purpose of injection. C1 is the band-set, C2 limits the minimum capacity of C4, C3 limits the maximum capacity of C4, and C4 is the main tuning condenser.

OSCILLATOR

The oscillator coil box was tackled first, here the old coil was stripped and carefully note how the windings are used. The former, it will be noted, is the same as those used in all the other coils in this box. The hot end of the grid winding starts from the terminal on the right, near the mounting hole when looking down from the open end of the coil former. Next to this is the terminating point for the cathode coupling winding. On the left of the mounting hole is the termination of the plate winding; on the open end of the former to the left is the HT+ terminal and on the right the a.v.c. or cold end of the coil.

Using wire of about 18 gauge, wind on six turns, spaced to $\frac{3}{8}$ ". Now as per Fig. 1, close-wind four turns of about 30 gauge wire, spaced about $\frac{1}{16}$ " from L1; one end is terminated on the cold end of L1, the other goes down the inside of the former to the centre lug.

Over the cold end of L1 wind some insulating material, then wind over this three turns of No. 30 gauge wire. This completes the new oscillator coil.

C3 in the old set-up will be found to be a fixed condenser of 80 pF. and a 3-30 pF. trimmer. Clip these out, do not try to use a soldering iron in the boxes as heat makes the insulation of the wires peel back at a fast rate of knots. In their place, solder a small 25 pF. condenser, also solder a 20 pF. condenser across the present C1. This completes the oscillator box, except for putting the combination to the right frequency.

DETECTOR AND R.F.

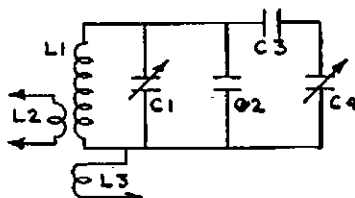
To re-wire the detector and r.f. boxes, it will be found that all the present wiring associated with the coils and trimmers (50 pF.) will have to be removed. The new set-up calls for 25 pF. trimmers. If replacements are not

on hand, just remove four rotor and stator plates and you will have the required capacity.

Both coil formers are useless for 21 Mc. and new single-hole mounting formers will have to be obtained. The author used some from the oscillator sections of a TA12. L1 has six turns of No. 18 gauge, spaced to $\frac{3}{8}$ ", and L2 has four turns, close wound over the cold end of L1. Once again a close inspection of band six coil and wiring will show it all.

On the switch wafer nearest the open side of the boxes, it will be noted that the first three lugs go to the original coil. Short the second and third one, the lead from the second one going down to the lowest wafer has to be snipped out and a 15 pF. condenser soldered in. Across the new condenser C1 (25 pF.), solder a 40 pF. condenser. Snip out the extra length of lead that was used to take one end of the 2 pF. coupling condenser back to the plate switch.

If your wiring checks with that of band six, all should be well in the two boxes.



- C1—25 pF. Three required.
- C2—40 pF. Three required, 20 pF. in osc.
- C3—15 pF. Three required, 25 pF. in osc.
- C4—Main tuning condenser.
- L1—Osc.: 6 turns $\frac{3}{8}$ " long, $\frac{1}{8}$ " diam., 18 gauge. R.F.: 7 turns, $\frac{3}{8}$ " long, $\frac{1}{8}$ " diam.
- L2—Osc. and R.F.: 4 turns close wound over cold end of L1, 30 gauge.
- L3—Osc. only: 4 turns close wound 30 gauge, $\frac{1}{16}$ " above L1.

ANTENNA COIL BOX

Now for the antenna coil box. A study of this will show that the general layout is somewhat different to the other two r.f. boxes, for a start. Band five band-set trimmer is on the rear wall, but a mounting position was in place next to band-six trimmer in the author's receiver, so to bring this box in line with the other two, a bit of re-arrangement was carried out.

Band five trimmer just made it to the front of the box, band three trimmer then went to where the band five one was. Now mount a new 25 pF. trimmer where band three was; this makes the placement of all band-set trimmers in the three r.f. boxes identical. The rest of the wiring is as for the other two r.f. boxes, except that the coil is only a single winding.

ALIGNMENT

After installing all the boxes, a check with a g.d.o. will put you on the band. Using a signal generator or your v.f.o., set 21 Mc. on the low frequency end of the scale. Peak up the coils and hear the signals roll in. If you cannot hear

anyone, call CQ, you will most likely get an answer. If not tune up above 21.450 Mc., which falls around 410 Kc. on the scale, and listen for commercial short wave signals. None there, oh well the band is certainly dead.

The above modifications were carried out on the author's BC348R receiver and the first contact was with VK9 with a strength nine signal—a fair haul, especially as a quick change back to the original crystal controlled converter did not bring the signal up at all.

The writer will gladly supply any additional information to users of a BC348 receiver who may contemplate the conversion.

THE COMPLETE AMATEUR

(Continued from Page 7)

about 180 Ma. max. signal for the modulators. This means that at least a transformer having an I.C.A.S. rating of 250 Ma. be used.

Again two 6.3v. filament windings are necessary although only one is used. The h.t. secondary should have 600 volts a.c. either side of centre tap. The use of two 83 valves safeguards the output of the valves as each valve is capable of handling over 300 Ma. with ease if the plates of each valve are tied together.

By coupling two 16 uF. electrolytic condensers in series and shunting them with small resistors of a high ohmage resistance, adequate capacity at a high peak voltage rating is provided.

Provision to isolate the h.t. from each pack is included by the inclusion of switches in the centre tap return to each wire.

Both packs have a 10 Ma. bleeder incorporated in the filter circuit. This is to ensure that at no time will the packs be without some load should the h.t. be inadvertently removed from the rig.

Good insulation is an essential factor in both packs, but particularly in Pack No. 2. Wiring should be in accordance with other chassis, keeping all r.f. leads away from filament leads or a.c. leads.

Two-pin outlet plugs will assist in wiring your rig and will simplify the removal of various chassis without the necessity of undoing numerous bondings.

HEARD THIS EXPLANATION?

A vacuum tube goes west when excess voltage is applied to the filament because under these conditions the electrons are set going at such an enormous rate of speed that a breeze is created in the tube, which blows out the light of the filament, thereby causing the tube to go "west."

The above was doped out by members of the San Isabel Radio Club, Pueblo, Colorado.—"QST."

* 72 Orr Street, Shepparton, Vic.

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1636-3E	200-220-230-240	300	80	2 x 6.3v-2a; 5v-3a	42/6
1332-8E	200-220-230-240	300	120	2 x 6.3v-2a; 6v-3a	53/3
1386-3E	200-220-230-240	400	150	6v-3a; 2.5v-5a; 6.3v-4a	70/-
1371-8	200-220-230-240	500-600-750 850-1000	300		150/-
1400-19	200-220-230-240	365-500-425	250	2 x 6.3v-3a; 2 x 2.5v-3a; 5v-3a	110/-
1643-23	200 or 230	—	—	6.3v Tap 5v-2a (500v insul.)	17/6
1525-21	200-230-240	—	—	2.5v-10a (1000v insul.)	47/6
1305-22	200-220-230-240	—	—	2.5v-10a (3000v insul.)	75/-

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973-21	30	20		80	370	500	25/9
1012-1A	36	20		120	430	1000	35/3
967-1A	36	20		150	200	1000	46/-
956-1A	30	20		200	160	1000	57/5
1011-1A	30	15		250	160	1000	58/6
*983-1A	25	20/5		30/300	90	1000	65/6
986-1A	15	10			60	1000	62/6

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HINTS AND KINKS

MATCHING LOW IMPEDANCE PHONES

Numbers of Amateurs purchased low impedance ear phones during those brief and all too short years of cheap disposals gear. These phones have an impedance of about 75 ohms and require under normal conditions a transformer to match them into audio plate circuits.

Many Amateurs, of course, did not bother to use any form of impedance matching and secured, it is true, reasonable results.

There is, however, a very simple method of impedance matching which requires no additional components.

The cathode of a valve is a point of low impedance and by simply lifting the cathode by-pass condenser of the appropriate audio valve from ground, and inserting a self closing jack in series with the condenser to ground, the phones are then in a circuit where the impedance mismatch is negligible.

It also happens conveniently that if the speaker is operating at a comfortable listening level, then it will be found on inserting the phones that they too are at a comfortable audio level. How many times have you plugged in phones to a plate circuit and had your ears ring for hours later?

There are several ways in which a speaker may be silenced in response to the XYL's demands, when phones are then the order for the day. Some Amateurs open the voice coil with a switch. This practice should not be carried out since the output valve is then working into infinite load and valve damage can occur. It is recommended that the primary of the speaker transformer be shorted with a switch. Under these conditions the valve is working into zero load, and no valve damage can be caused.

—"Break-In," Feb., 1954.

OVERTONE CRYSTALS

If you wish to know if a crystal will work on one or several overtones, you can easily check this with your grid dip oscillator.

Wind a two-turn coil of fairly heavy gauge insulated wire, diameter suitable to slip over the coils of your g.d.o., and attach this to the crystal with crocodile clips. Plug in the coil of the g.d.o. which will check the fundamental frequency of the crystal. You will get a very good dip on the meter.

Now replace this coil with one that will give you the overtone required, e.g. 3:5:7, etc., and of course slip over the g.d.o. coil the two-turn coil with the crystal attached. Tune the g.d.o. slowly. If the crystal is working on that overtone, not on the 3rd, 5th or 7th harmonic, but slightly lower in frequency, this is the overtone frequency.

Usually the higher the overtone, the less pronounced is the dip and the sharper the tuning on the g.d.o.

Amateur Radio, May, 1954

TO PREVENT METAL FATIGUE IN BEAM ELEMENTS DUE TO WIND VIBRATION

Tie the ends of the elements to each other, using nylon fishing line. If the boom is made so that it projects beyond the furthest elements, the fishing line may then be "v'ed" in from the outer elements and the whole structure made rigid.

Pack the elements with sawdust; this tends to dampen out most of the vibrations without increasing the weight too much. The ends of the element should be plugged with wooden dowels or something similar.

Nylon or similar synthetic rope may be used to support vertical dural or aluminium poles carrying parasitic arrays. The supporting ropes of this type may pass between the elements without affecting the performance of the array as they have good insulating properties and are non-hygroscopic.

DRILLING GLASS

Another method of drilling holes in glass is by using triangular files in place of twist drills. Old files are broken up into suitable lengths. The pieces are ground at the narrowest ends and on the flat surfaces until one has a sharp three-cornered point.

Drilling is done in the normal way, but the glass should be reversed to keep the sides parallel in the finished hole. This should be done as soon as the point breaks through the bottom—this will ensure a neatly finished hole. The method was, and may be still, used in the glass trade. The lubricant, and/or cooling fluid, is water.

CLEANING AND KEEPING THE IRON CLEAN

A very useful item for this is that popular article of the kitchen, the pot scraper, which is usually made of steel wool.

Two or three are tucked into a small tin. The tin is then screwed to a piece of timber for support. The iron is inserted into the tin, a couple of twists and the iron is clean. Probably best done while the iron is hot.

CAPACITY CHECK

We all have capacitors, fixed and variable, of unknown capacity, but it is quite simple to check them with a grid dip oscillator once you have done a little calibration on the g.d.o. dial, or, if it is a dial marked in degrees, then graph out the result.

Take any solenoid type of coil from the junk box and across the coil place a capacitor of known value. Now check the frequency of this parallel tuned circuit with the g.d.o.

If the coil is too large it may be outside the range of your g.d.o. With a bit

of experimenting you will find a coil that will give you readings on the g.d.o. On a piece of paper log the capacity of the known capacitor used, also the coil number and the dial reading of the g.d.o. The more known values of the capacitor used the better. You may now either mark the g.d.o. dial, if it is graduated in frequency ranges, with various capacities obtained or you can have a graph for each coil of the g.d.o.

When you have a capacitor of unknown capacity clip it across the coil and use the g.d.o. to obtain the frequency this circuit tunes to, then either read the capacity direct from the g.d.o. dial or check against the appropriate graph.

BINDING MAGAZINES

Magazines may be bound into tidy volumes by the use of Cellophane (Scotch) Tape. One copy is placed face downwards, the other face upwards. With the backs edge to edge, place two or three strips of tape across the copies. Reverse the copies and repeat the process. Each succeeding copy is bound to its preceding copy in a similar manner. In this way one has a neat volume at the end of the year. An index can be drawn up from the contents page of each copy. Cheap, but handy!

STICK SOLDER

Stick solder as used by the tinsmith is cumbersome and unwieldy when used for soldering in radio work, especially when used with the average iron used by radio enthusiasts. Handy sticks can be made by drawing a very hot iron, in contact with the stick solder, across an old file or other metal surface.

—"Radio ZS," Jan., 1954.

SUPPRESSION OF GENERATOR WHINE

Many cases of generator whine may be suppressed or eliminated merely by adding a coil and a capacitor to the generator circuit. The coil, close-wound with 20 turns of No. 12 enamel wire and having a diameter of $\frac{3}{4}$ inch, should be inserted in series with the generator output lead right at the output terminal of the generator. A 0.01 uF. condenser should then be connected between the output-lead side of the coil and the case of the generator. This method of noise suppression seems to be much more effective than does the system which employs only capacitance for filtering.

RE POWER SUPPLY FOR THE BC221 FREQUENCY METER

It should be noted by BC221 Frequency Meter users who get their necessary 105 or 150 volts from 300-volt supplies and VR tubes, that the BC221 by-pass condensers rated at 200 volts will be endangered if VR tubes or VR-tube connections were to fail.

—"QST," Oct., 1953.

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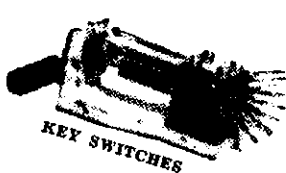
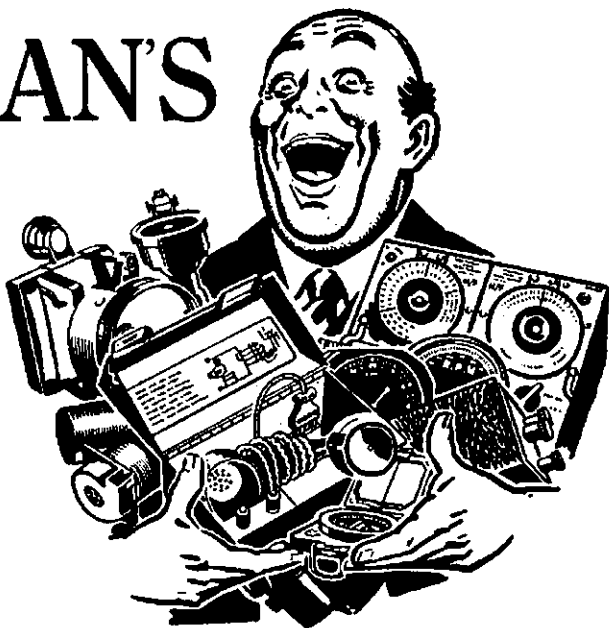
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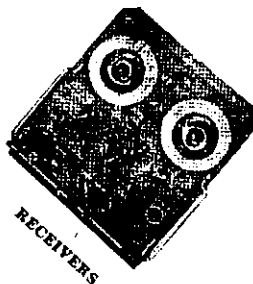
If our price is acceptable to you, carefully pack and forward the equipment to us, carriage paid. The equipment will be inspected immediately on arrival and you will be advised accordingly. In the event of the equipment not conforming to the description we will carefully repack and return same to you, carriage paid.



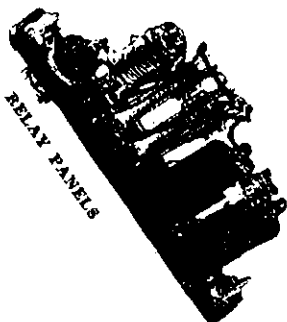
KEY SWITCHES



TRANSMITTERS



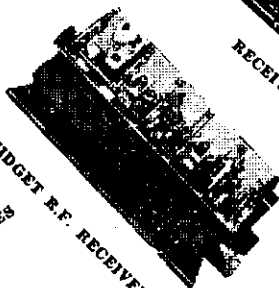
RECEIVERS



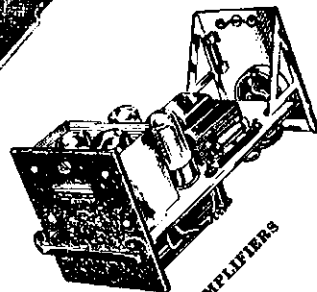
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AN EASILY-BUILT FREQUENCY METER FOR THE AUDIO RANGE*

AMATEUR CALL SIGNS

FOR MONTH OF FEBRUARY, 1954

The following amendments for February have been made in the current issue of the Call Book.

• If you have ever had a need for quickly measuring an audio frequency below 10,000 cycles to a reasonable degree of accuracy, here is the gadget for you. You couldn't ask for anything more simple and foolproof than this little direct-reading frequency meter.

IN recent years there has been an increasing need for accurate frequency measurement within the Amateur bands. Among the reasons for this increasing need are: (a) the rapidly growing concentration of stations within certain band segments; (b) the increased use of network operation occasioned by civil defence and other traffic, and (c) the advent of s.s.b. techniques.

The circuit presented here provides in a very simple manner a sufficiently accurate comparison of frequencies for normal network and single-sideband activities. It is the function of this circuit to provide a linear indication on a calibrated meter of the heterodyne beat frequency existing at the output of any normal communications receiver. Thus, by use of this simple instrument, the procedure of manually adjusting a standard frequency meter to zero beat is replaced by a direct reading on a meter dial of frequency error compared with a preselected frequency setting. Two ranges are provided: 0 to 10 Kc. and 0 to 1 Kc. Thus, the frequency displacement can readily be read to within 100 cycles if the heterodyne is above 1,000 cycles and to within 10 cycles if below 1,000 cycles.

As shown in Fig. 1, the circuit includes a single 6AU6 tube connected as a square-wave limiter. The heater and plate voltages may be derived from the receiver. The square-wave audio output from this tube drives a double-diode counter circuit using two 1N38A germanium diodes that provide sufficient current to operate the 0-1 milliammeter.

Calibration adjustment for the full scale readings of 10,000 cycles and 1,000 cycles are by means of variable shunts R4 and R5, which may then be replaced by fixed resistors. The adjustment holds for long periods of time and the meter calibration below the full-scale values is quite linear. Either the 500-ohm or the 8-ohm output transformer tap on a communications receiver is satisfactory for the input signal to the circuit. The entire circuit can be housed in a small inclined-front meter cabinet.

For those unfamiliar with a "counter" circuit, a little study of Fig. 1 may be in order. A sine-wave signal of any frequency (and of any amplitude above the limiting threshold) appears in the output of the 6AU6 as a constant-amplitude square wave. This square-wave voltage is applied to C2 (or C3, depending upon the range in use). Charging current to the condenser is carried in one direction by the lower diode—in the other direction the charging current passes through the meter and upper diode. The indicated current is proportional to the frequency (number of cycles per second—hence the name "counter"), to the accuracy with which the capacity of the condenser, and the amplitude of the square wave, remain constant. It is only necessary to calibrate the meter at 1 Kc. and at 10 Kc. to have accurate readings throughout the scale without further calibration.

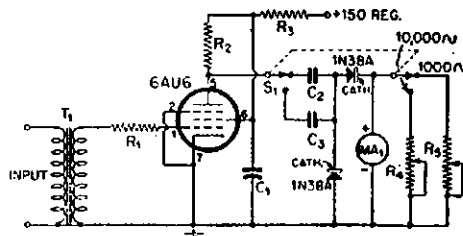


Fig. 1.—Wiring diagram of the simple beat-frequency meter.

- C1—8 uF. 250 volt electrolytic.
- C2—0.01 uF. mica.
- C3—0.0011 uF. mica.
- R1—0.51 megohm.
- R2—10,000 ohms.
- R3—1,000 ohms.
- R4—10,000 ohm potentiometer.
- R5—1,000 ohm potentiometer.
- MA1—0-1 Ma. meter.
- S1—D.P.D.T. switch.
- T1—Microphone, pick-up or line to one grid transformer.
- Crystals—1N38A or GEX44.

When the meter is used to measure the frequency error of a network station, the receiver is first tuned to zero beat with the frequency standard (or a station known to be on the correct frequency). The off-frequency station will give an audible beat that can be measured by the meter (in the absence of other signals). Whether the off-frequency station is higher or lower must be determined, of course, by retuning the receiver to zero beat with the signal being measured. If the frequency standard is one with signals at 10 Kc. intervals, the usual care must be exercised to make certain which of the standard signals is beating against the signal being measured. The receiver selectivity is usually used to reject the undesired standard signals.

ADDITIONS

- VK—New South Wales
- 2APC—E. W. Nowill, 100 Crinan St., Hurlstone Park.
- 2AQV—G. B. Moore, 33 Richmond St., Ryde.
- Victoria
- 3LR—F. W. Cropley, 7 Dean Ave., Hawthorn, E.Z.
- 3AWV—G. C. R. Waters, 405 Bridge Rd., Richmond.
- Queensland
- 4JS—H. W. Glocker, C/o Cairns Regional Electricity Board, Tully Falls.
- 4PS—A. P. Stephenson; Station: 9 Little Street, Belgian Gardens, Townsville; Postal: 117 Flinders Street, Townsville.
- 4SC—C. H. A. Armstrong, 2 Harlin Rd., Ipswich.
- Territories
- 9EB—K. S. Mullan; Station: C/o A.W.A. Aviation Service Depot, Lae, T.N.G.; Postal: P.O. Box 13, Lae, T.N.G.

ALTERATIONS

- VK—New South Wales
- 2CD—Flat 2, "Brooklyn," 88 Milson Road, Cremorne.
- 2KW—387 Western Road, Wentworthville.
- 2OR—Boronia Avenue, Cheltenham.
- 2RN—Station Street, Whitebridge, Newcastle.
- 2VP—323 Kissing Point Rd., Dundas, Sydney.
- 2ZT—1 Stuart Road, Cardiff.
- 2ABH—52 Horton Street, Yagoona.
- 2ACI—1560 Pacific Highway, Wahroonga.
- 2AGZ—Broken Hill Technical College, Broken Hill.
- 2ALI—3 Nyora Street, Cooma North.
- 2ALN—48 Darling Avenue, Cowra.
- 2AQG—15 Robinson Street, Kogarah.
- 2ASQ—13 Diane Street, South Tarnworth.
- Victoria
- 3FY—High Street, Kangaroo Flat, Bendigo.
- 3TF—73 Nicholson Street, Footscray, W.11.
- 3UF—"Coonambly," 127 Riversdale Road, East Camberwell.
- 3APT—Flinders Road, Tyabb.

South Australia

- 5FQ—12 Queens Avenue, Burnside.
- 5VK—7 Parkhouse Ave., Gleneagles, Adelaide.
- 5XO—C/o. Loxton Co-operative Winery, Loxton.
- Tasmania
- 7BR—47 Preston Street, Queenstown.
- 7CF—51 Clutton Street, Queenstown.
- Territories
- 9RM—Wau, T.N.G.

DELETIONS

- New South Wales: VKs 2EB (now operating under VK9EB), 2UO, 2VB, 2VJ, 2AEB, 2AIC (now operating under VK4JS), 2ADC, 2AVA.
- Victoria: VKs 3IA, 3QB, 3AES, 3APQ (now operating under VK2APC).
- South Australia: VKs 5OB, 5WV (now operating under VK3AWV).
- Tasmania: VK7SA (now operating under VK45C).
- Territories: VKs 1JC, 1RF.

50 Mc. W.A.S.

Call	Certificate Number	Additional Countries
VK2WJ	13	4
VK2VW	9	3
VK4RY	2	3
VK4HR	4	2
VK5LC	1	1
VK6DW	3	1
VK3PG	5	1
VK3RR	6	1
VK3HT	7	1
VK2AEZ	10	1
VK3XA	11	1
VK3GM	12	1
VK3ACL	14	1
VK3ZD	16	1
VK2HO	17	1
VK2ABC	8	1
VK2WH	15	1

* Reprinted from "QST," October, 1953.

DX ACTIVITY BY VK3AHH†

DX HIGHLIGHTS

F08AJ/MM, Clipperton Island, operates on 7 and 14 Mc., both c.w. and phone (from 4TN).

VK1DY, Heard Island, keeps schedules with FB8 neighbours at 1400z (from 3CX).

AC4NC, Tibet, uses the following frequencies: On c.w.—14011, 14014, and on phone—14120, 14160 (from 9YY).

There is c.w. activity from Saudi-Arabia in **HZ1HZ** (from 3KR, 3ADM).

VP8AZ is supposed to be active on 14005 Kc. (from 3CX).

BAND CONDITIONS

8.5 Mc.: The first half of the month produced reasonably strong signals from Europe via the short path around 2030-2100z. North-America was well represented between 0800 and 1400z, particularly during the A.R.R.L. contest weekends.

Charlie 1AC reports Ws* on c.w. and phone; and Peter 2PA worked W6*, W7*, followed by Dick 8DG who also worked W6* with his low-powered rig. Col 3WQ spoke to VK9OK* and Ray 8ATN phoned with Ws*. Len 9OK reports many QSOs with VK* stations while Alan 9YY managed QSOs with W6*, 8AHH worked a long series of Ws*. In many districts and heard FT5HP, YU2BJK, JAs.

7 Mc.: General conditions on this band remained quite good during March. Europe and North Africa were workable over the long and the short paths, times being 0900-0900z and 1800-2100z. The Middle East and South East Asia broke through around 1700-2000z. The period for South American conditions was 0730-1100z with Central America 0900-1300z.

Our W friends were well represented between 0600 and 1500z and sometimes around 2000-2130z via the long path.

As usual, common c.w. contacts with North America are considered commonplace.

1AC is the first on the list with KL7AWB*, G8BKF*, G2HXX*. 2PA reports JZ0KF*, VR2AS*, KH6s* and long path Ws*. Laurie 2AMB mentions JAs*, CT1DJ*, SM5AQR*,

†10 Belgravia Ave., Box Hill North, E.12, Vic.
* Call signs and prefixes worked.
z—zero hour—G.M.T.

KL7FAI*, FK8AO* and VU2CS, SP2GS. Neville 2APL is the next in line with KL7AKC/KG6, XE2LA. Ivor 3XB worked CN8EL*, while Fred 8YS mentions ZM6AR*, G3BCC, and G3HVD. KC6AA. Lance 3ZA presents an excellent list with G6FUR*, F9HR*, VS9AS*, KR6AB*, VE1ZZ*, DU1NL*, FK8AE*, FA8SB*, KA2AS*, JAs* and KV4BB, 5A2FA, MP4EBD, ZB2AB, EA4CH, VP6EB, F9VNV, JA0AK, FA8DA, SM5CO. G. John 3AGD enjoyed a long series of W* contacts on phone during the contest; followed by Kevin 3AKR, who reports a long list of W* phone contacts and JAs*, CO7GH and KC8UZ. Eric 8ANQ spoke to Ws*, KC6AA*, while Ray 8ATN added VE*, XE*, HP*, CO*. Aussie 4TN worked on phone F08AJ/MM*, LU6KE*, Ws* and heard CT1FL, CM2BU, 9YY QSOed OZ8DX*, DJ1JE*, DJ1JO*, plus JAs* and heard AC4NC. Eric BERS195 heard F9VNV, JA0BD, K6B, KZ5CR, T12PZ, VS9AS, Y1ZAM; Don Grantley, of St. Albans, Vic., added 11JCE, Y1ZACD, UA1HB9K. 8AHH's log shows: KL7FAI*, CT1DJ*, G3BAK*, G6XQ*, G3FZC*.

14 Mc.: Conditions on this band showed some improvement, particularly during the second half of the month. W conditions existed over both the long and the short paths around 1100-1500z, 2000-2200z and 0200-0700z (short path). Towards the end of March long path breakthroughs to Europe and Africa were observed between 0400 and 0800z, besides short path openings 1100-1400z. Times for Central and South America over the short route were between 0400 and 0700z. South East Asia came through around 0800-1300z.

Considering W and Pacific Islands contacts as normal, activity on c.w. is displayed by: 1AC with VR4AE*, 457XG*, KR6OC*, VS1*, VS6*, PY6FT*, CE3AG*, CE3DZ*, LU3DEV*, LU4HU*, LU4UU*, YV5*, JZ0KF*, HR1AA*, Europeans*, and 2PA added Y1ZAM*, VS6*, JZ0KF*, Europeans*, and CN8MI. Noel 2AHH QSOed OQ5PU*, AP2C*, 854AX*, LA3CD*, EI2Q*, EI5C*, F18AE* and common Europeans*. Bud 2AQJ follows with VS6*, P1IKM*; Alan 3CX continues the series of good ones with ODSAV*, VR3A*, ZS5MP*, VK1PG*, VK1DY*, ZK1*, VE*, PJ2AC*, VS2*, FJ2AA*, ZB1U*, V1Z* and common Europeans*. Ken 3KR mentions HZ1HZ*, HR1AT*, FK8AB*, HS1VR*, KZ5CP*, PJ2AA*, ZK1BI*, plus Europeans*. Lee 8XO reports VS1*, CR7*, FJ*, DU*, HR*, VS6* and Europeans*. Lance 3ZA heard ZS5MP, ZK1AB, VR3A. Mac 8ADM keyed with HZ1HZ*, PJ2AA*, EA9DF*, plus Europeans* who were also worked by Ray 8ATN. And from South Australia we have John 6HI with PJ2AA* and long-path Ws*; and Ray 5RK with JAs*. 9YY has an impressive log with ET2NG*, G14RY*, CO7AH*, UA3KA*, ZS5MP*, ODSAB*, ZS1JA*, ZK2BI*, 4X4FW*, VQ4EG* and common Europeans*. The following call signs found their way into our s.w.l's. rx's—BERS195: AP2C, DU1CV, HR1AT, JZ0KF, VR4AB, XZ2OM, Y1ZAM, ZS3B, 457LE, 5A2FA. Don Grantley: FA8AE, AP2CR, VE, JAs. 8AHH worked KR6AA*, HH2FL*, JZ0KF*, VE8CJ*, KZ5GH*, PJ2AQ* and Europeans*.

On phone: 1AC spoke to KR6MW*, KR6AZ*, JAs*, followed by 2PA with DU1CV*, VR3C*, VR4AE*, and 2AHH with CN8MM*, VU2CW*, VK1DY*, ZC5VR*, ABIUS*, Europeans*. 2APL reports ZS5DE* and 2AQJ phoned with KR6OH* and VS1*. 3KR spoke to KG4AT*, and 3AGD to HR1AA*, followed by John 8AKO with FK8AO*. 8ATN sends another good log including OA*, ZS*, F1*, YA1AA*, ABIUS*, HR*, EA8DE*, VP2KB* (Leeward Island), KP4*, YV5*, ZE* plus Europeans*. 4TN mentions Europeans while John 6HI spoke to F18A*, T13LA*, T12EL*, YV5AB*, KG4AT*, OA8AJ*, and 6KJ added Europeans* and heard XZ2OM, VU. Doug 7DZ contacted VS6*, VR3C*, ABIUS*, T12EL*, Europeans*, and Pat 7PM phoned with VK1PG*, VR3C*, VR3A*, AP5*, XZ2OM*, PY2ANS*, T13LA*, CN8FB*, HP3FL*, ABIUS*, ZC5VR*, YV5AB*, XW8AA*. BERS195 heard KJ6FAA, XZ2KN, ZC5VR, and Norman Clarke heard KL7ALN, ZM6AQ, KR6, KAs.

21 Mc.: This band also showed a marked improvement in March. There were few European openings during the first half of the month, but conditions to North America, Central and South America were more consistent between 2230 and 0300z.

2ALJ's report mentions that 21D worked Europeans* and Ws* who were also QSOed by 2AFE. Quentin 8IM contacted KR6LJ*, JA1CO*, KR6OH*, YU3BC*, SM5CO*, ZM6AP*, JA3BE*, Ws*; while Percy 3PA added ZM6AP*, VS1S*, VS1EK*, KH6s*, DU7SY*, Ws*. 457XG* and Europeans. Frank 3ZJ heard KH6s* as did Kevin 3AKR and Len 3ALD. 8ATN QSOed KR6*, T12RC*, KH6s*, Ws*; while 4TN contacted KP4TA*, KR6OH*, Ws*, VE7*. S.w.l's. Norman Clarke, of Ivanhoe, N.S.W., and Jim Hunt, of Frankston, Vic., heard a long series of Ws*.

27 and 28 Mc.: These bands revealed relatively good conditions to North and Central

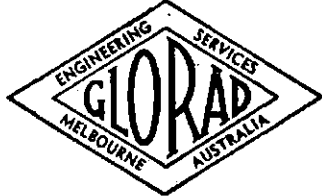
America and even a European contact was reported. The openings occurred towards the end of the month, the first having been observed in Bundaberg on the 22nd March. During the last few days of the month the band displayed an excellent opening.

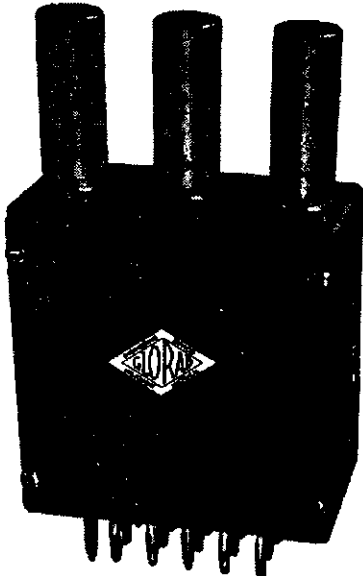
Norm 2ALJ worked W6s* and KH6s*, and Les 4XJ QSOed 25 Ws* (in W4, W5, W6, W7 and W0), T13LA*, KH6s*. Les says that 4HE worked EA2CQ* on 30th March on phone. Jim Hunt heard a long series of Ws (in W4, W5, W6, W7 and W0).

GENERAL NEWS

This year's A.R.R.L. DX Contest concluded with its final c.w. and phone sessions in March. ABIUS is a M.A.R.S. station on Formosa (from 7DZ). ISLV runs 25w. to a multiband antenna and operates c.w. and phone on all bands (from 9YY). The following stations are active in Saudi-Arabia: HZ1HZ, 1TA, 1SS, 1AM, 1NA, 1SA (from 3YS). Stations at present active on Samoa are ZM6AA, 6AP, 6AQ and 6AR (from 3ALD). Sarawak is represented by VS4BA on 14080 Kc. FB8X is available after 1530z on 14039 Kc. (from 9YY).

VK9OK and VK0RH keep Norfolk Island on the Ham Radio map. VK0GM has now left





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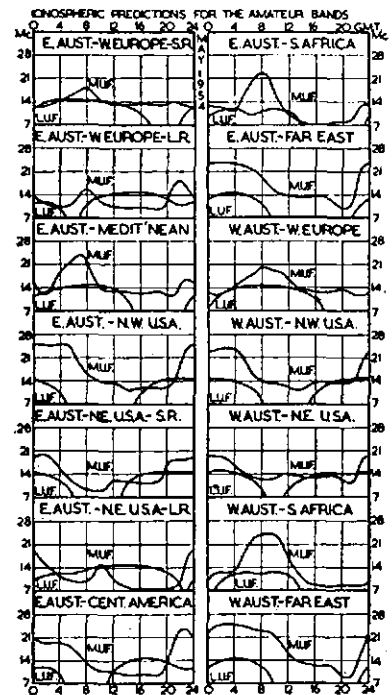
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PREDICTION CHART, MAY, 1954



the island (from 90K). QSL cards from JZ0KF are now on their way to VKs (from 9YY). Overheard on 7 Mc. was a comment that a ZM6 Ham may soon be on the air from ZM7-land (from 3YS). T19AA was D19AA operating from Cocos Island. D19AA is the call sign of the "Xarifa," carrying a German underwater photography expedition in Central American waters.

A rather loud station with a T4 to T7 signal on 14 Mc. uses the doubtful call sign X1NP and claims to be on a yacht off Australia—well!

QTHs Of Interest

AB1US—A.P.O. 63, C/o. Postmaster San Francisco, California, U.S.A.

HR1AA—S/Sgt. Jack Overton, U.S.A.F. Mission, C/o. U.S. Embassy, Tegucigalpa, Honduras.

9S4BS—Gerd Bauernfeld, An der Trift 34, Saarbruecken 3, Saarland.

VS4BA—Richard A. Haskins, Kiching Airport, Sarawak, via Singapore, Malaya.

ET2NG—Lee Grant, P.O. Box 262, Asmara, Eritrea.

MB9CA—Franz Kardash, Unterbergen, Kaernten, Austria.

MP4BEN—Dukhar Airport, Qatar, Persian Gulf.

VU5AB—R.A.F. Detachment, Nicobar Islands.

C/o. R.A.F. Changi, Singapore 17, Malaya.

T12BX (ex-CPIBX)—Ted Westlake, C/o. U.S. Embassy, San Jose, Costa Rica.

QSLs from rare countries landed at 2AHH: YK1AH, TAJAA, SV0WE, YV5AL, FQ8AP, ZS1FX, ZS5KA, OZ7EJ/MM, 2AMB: VK9WZ, G1SHZ, C07AH, MP4BBD, Y04CR, 3ALD: OZ7EJ/MM, 3ATN: OQ0DZ, AC4NC, 5HI: TF6SV, HC1LO, F1AAB, MP4BBD, ZP5CF, VS1AA, 7DZ: KTIWX, 9YY: ODSAB, VS1ES, ISLV, XW8AA, VQ2GW, F18AE, F18AZ, BERS 195: MP4BBD, 3ABE: FB8ZZ, Y12AM, XE2LA, VR4AE, VP5SC, KA0LJ, SM5AQV (3.5 Mc.).

This time the monthly thanks go to VKs 1AC, 2ID, 2PA, 2AFE, 2AHH, 2ALJ, 2AMB, 2APL, 2AQJ, 3CX, 3DG, 3IM, 3KR, 3FA, 3WQ, 3XB, 3XO, 3YS, 3ZA, 3ZJ, 3ADM, 3AGD, 3AKO, 3AKR, 3ALD, 3ANQ, 3ATN, 4XJ, 4TN, 6HI, 5RK, 6KJ, 7DZ, 7PM, 9OK, 9YY, and s.w.l.'s BERS195 (VK3), Norman Clarke (VK2), Don Grantley (VK3), and Jim Hunt (VK3).

Good Hunting!

ROSS A. HULL MEMORIAL V.H.F. CONTEST 1953-54 RESULTS

Congratulations to Rollo VK6BO for winning the Ross A. Hull Memorial V.h.f. Contest for 1953-54. Rollo's score of 3,348 points reflects the hard work he put into this Contest.

A 50 Megacycle DX Contest is not like any other Contest. It extends over a period of two weeks and band openings are not easily predictable. They are haphazard and sometimes only last for a few minutes. This means that a contestant has to spend many hours listening, but when the band does open, he is really busy as he has to cram as many contacts as possible into a period which may be ten minutes or ten hours, and during these periods QRM is as bad as 40 or 20 metres.

Conditions on the 50 Mc. band appear to vary from year to year, and we have not yet had enough experience to be able to predict them with any degree of accuracy.

This year the skip appears to have been longer than usual and this is reflected in the scores of VK4, VK5 and VK6 entrants. Openings in VK2 were well below average, particularly to VK3 and New Zealand.

Two VR2 stations were active and were worked by quite a number of Australian stations.

Entries for this year's Contest were rather disappointing. Only 42 logs were received, and many of the regular customers are missing, although most of them were active at one time or another during the Contest.

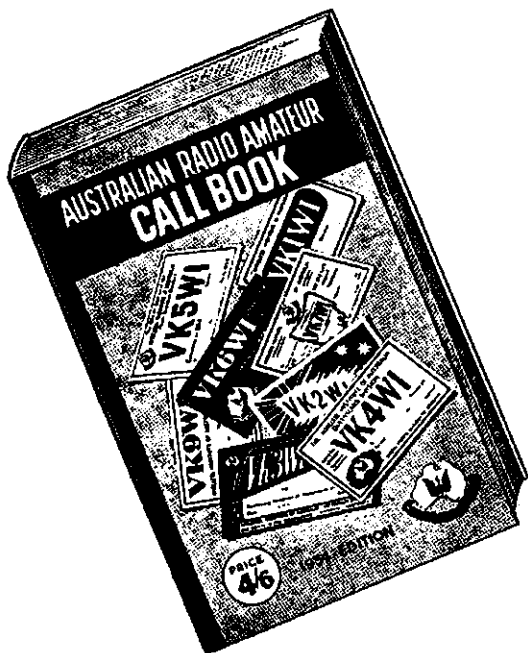
SCORES

Ross Hull Trophy—VK6BO, 3,348 pts.

New South Wales	Points	South Australia	Points
VK2ADT	1422	VK5MT	1553
VK2XO	1229	VK5AX	122
VK2WH	1220	VK5NL	110
VK2HE	500	VK5JO	80
VK2VW	416		
VK2JX	267	West. Australia	Points
VK2AAJ	199	VK6BO	3348
VK2AMV	89	VK6HK	3019
VK2ADS	10	VK6WG	1836
		VK6GB	1138
		Tasmania	Points
		VK7LZ	744
		VK7AB	21
		New Guinea	Points
		VK9KB	685
		New Zealand	Points
		ZL2AGD	475
		ZL2KT	290
		ZL2DS	271
		ZL2BJ	105
		ZL3NE	833
		ZL3GS	608
		ZL4DU	326
		Queensland	Points
		VK4BT	2534
		VK4NG	1746
		VK4TY	1529
		VK4PQ	1308
		VK4MT	67

Check Logs were received from VK2ABC, VK3GE, and ZL3FX.

—Federal Contest Committee.



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FIFTY MEGACYCLES AND ABOVE

NEW SOUTH WALES

During March there was quite a lot of activity on 144 Mc., both in the field and various shacks. The debate "F.M. v. A.M." was fated not to take place for after two postponements, it was to have been the feature of the March meeting of the V.h.f. Group, but at the last minute two members of the a.m. team had business duties to attend and could not take part, however a very interesting discussion on the merits of n.b.f.m. for v.h.f. bands was given by Bob 20A and John 2ANF. John described the diode modulator he uses and made several very good points in explaining the operation and advantages of that system, so much so that Vaughan 2VW, the only member of the a.m. team present, admitted that the f.m. system as described by John had very definite advantages. The summing up of the discussion was made by Fred 2PF in an able and judicious manner and all agreed that although the debate would have been the better way of dealing with the subject, the discussion cleared a lot of queries regarding f.m. which has a lot to commend it.

The March outing was in the form of a fox hunt. John 2ANF and Ess Griffiths, with Boy 2HO and Fere 2APQ as ballast, were the fox. The final location was between Werrombi and Silverdale, and after covering the car and placing the antenna out of sight, proceeded to boll the billy and await the arrival of the hounds, comprising Bob 20A, Cliff 2LG and party, Jack 2AGT with Leo 2KS, Ted 2ABO and party complete with 3 over 3 rotary bear on top of the car, and Eric 2AFM. The first to arrive on the scene was Bob 20A who in a cloud of dust flashed past, but did not see the location. Twelve minutes later, Cliff 2LG, followed by Bob 20A, who met Cliff coming along the road in the opposite direction, found the location. They were followed by 2AGT, 2KS, 2ABO and 2AFM. After the usual ragchew and lunch, the fox went to earth in a very poor location at Weatherill Park, but was not found within the time limit. It was voted an excellent day with perfect weather.

There have been several individual mobile efforts. Ted 2ABO, after his successful trip through the Blue Mountains where he maintained continuous contact with Sydney stations, decided to go south and after contacting Adrian 2HE from Bowral and Moss Vale, proceeded through Kangaroo Valley to Cambewarra Mt. where a tree wrecked the 3 over 3 antenna on the car. Cliff 2LG made the round trip through Katoomba, Mt. Victoria, Mt. Tomah on Sunday, 28th March, and had 28 contacts on the trip. A really good signal from 6w. to a 6J6.

Contacts with the west were made by John 2ANF with Hugo 2WH, Norm 2JW and Don 2ALX, who was using a 522. Bill 2ABZ mastered the controls of his new rx and he also heard 2WH but although Hugo reported hearing Bill, they did not make contact.

Of the stations north of Sydney, Major 2RU at Gosford is the only one being contacted. What has happened to the Newcastle gang? Several of the Sydney chaps look for signals from the north every night from 7.30 to 8.30 p.m., but it was not until the 31st that Dave 2BZ was heard with a good signal. 2ATO, 2HO, and 2ANF contacted him. 2LG, 2KS, 2HE and 2APQ also were copying and called, but Dave must have pulled the big switch.

The results of the Field Day, held on 31st January, were: Section 1 (greatest number of contacts by a portable station over 55 miles from Sydney)—1st, 2AJZ, 19; 2nd, 2HL, 10; 3rd, 2ATO, 7. Section 2 (longest distance worked by any portable station)—1st, 2ANF-2GU, 154 miles; 2nd, 2JW-2WJ, 138 miles; 3rd, 2AJZ-2JW, 78 miles. Section 3 (greatest number of contacts by any portable station)—1st, 2ANF, 33; 2nd, 2AJZ, 19; 3rd, 2HL, 10. A total of 34 stations took part, but only seven logs—the minimum required to enable the contest to be judged—were received.

A feature of the day was John 2ATO using a walkie-talkie running 0.8w, worked 2WJ over a distance of 89½ miles. Max 2ARZ hopes to be putting a signal on 144 Mc. soon using an 832A in the final and a cascade rx.

On the April agenda is a lecture by Mr. Bert Sinfield on the Voltohmyst, and a direction finding field day. The lecture for May will be on Noise Generators by John 2ANF. Finally, words of appreciation to Boy 2HO for the work he has done in acting as scribe for the V.h.f. Group. At the March meeting the task was passed to yours truly, 2AFQ. Roy has other demands on his time. Thanks Boy for your efforts and we will endeavour to keep the v.h.f. gang informed of the activities on the bands and in this regard I would appreciate any information on proposed mobile excursions, DX skeeds, 50 Mc. activity and other items of interest for insertion in the notes.—2APQ.

VICTORIA

The usual monthly meeting of the group took the form of a lecturette by 3JO and 3OJ on the virtues of their 4 over 4 over 4 beam for portable work. Then Jack 3AIK demonstrated his beam which was certainly an ingenious device, offering even the facility of horizontal or vertical polarisation. The meeting concluded with a review of the March Field Day when 3ADU went to Mt. Koriot, 3YS Kingleake, 3LN to Mt. Dandenong where he completely disturbed the natives by arriving on top of the mount with a 10 ft. boat on the roof of the car. Noah wasn't in it, but rough weather had caused a change of location from seaside to the hills. Next to come under review was the Fox Hunt which proved very successful for the mobiles at the first run; 3ADU and 3YS dead-heated in the event. In the second run, the fox, 3LN, managed to evade the hounds for the whole time, but on the third run, 3YS was successful, 3ADU second with 3ALY in the immediate vicinity, but had not caught the fox before time was called. Three more mobiles are under construction for hound cars on the next run.

The highlight of 288 Mc. this month is the breaking of the State record during the Field Day when 3AFJ and 3AAF put the record up to 65 miles. 3AFJ was using a 3 element beam at Arthur's Seat and 3AAF used a 6 element Yagi at Mt. St. Leonard's, near Healesville. Congratulations Ken and Bert.

3YS, 3BQ and 3LN have kept a close watch on the south this month with the hope of a break through to VK7, but as yet no contacts have been reported. 3CP is very pleased with 50 Mc. results with his 144 Mc. beam—a city slicker 4 stacks 8 driven half-waves and it gives 2 to 3 S points back to front, and Athol has worked all VK and ZL this summer.

The rarest DX on 144 Mc. was the appearance of the Technical Editor on the band for ten minutes, and 3CP worked 3VZ in the exclusive. Let's know when the next 10 minute burst is to take place Jack and we'll have a 20 mx dog-pile to make contact.—3LN.

SOUTH AUSTRALIA

"QST" is running a series of articles on v.h.f. equipment for the novice and they are particularly well illustrated with photographs of the finished articles. The 12AT7 tube is well to the fore and the latest February issue carries a description of a 220 Mc. tx using two of them to reach 220 Mc. from a harmonic osc. using an 8.15 Mc. xtal. The p.a. uses another 12AT7 in a p.p. neutralised circuit. A 5 x 3¼ inch chassis, 2 inch deep, contains the works! It is an article for the beginner and in service language, all the "g-g" is there.

Talking about beams, and which v.h.f. enthusiast isn't, can anyone in VK land better a 100 ft. tower with a 40 element 144 Mc. array perched on top? Have a look at the "50 Meg. and Above" pages Tom; it should be the answer to your problems up there—but it always pays to send the XYL up the tower first! When tuning an array or even a simple mobile antenna, don't forget to use the grid dip osc. Particularly with the smaller power input to the final in many mobile rigs, it is difficult to get a significant rise in the plate current, to indicate that the antenna is loading correctly. With mod. osc. the loaded conditions can actually occur along with a drop in plate current due to reduced feedback to the grid circuit.

Wally SDF at Pt. Lincoln sends information on the efforts of the local boys to get on 2 mx. A visit from Les 5AX, complete with a 2 mx rx, failed to make the dead line of 1000 hours on Sunday morning when an attempt to hear the relay of 5WI was to have taken place. However, the visit and the sight of the gear has left more inspiration in the hearts of Wally and Jack 5VJ. Another attempt using their own gear is to be made soon. Anyone in the foothills should have no difficulty in getting a signal across the drink. Another visitor this month was Lance 5XL, accompanied by XYL and harmonics, whose "stay was short and sweet," and as far as is known didn't get away with anything. Somehow or other, I think that "the little fishing village" must have something besides fish Wally! I'll have to come and see for myself. Perhaps I can home on your d.f.! (very funny); 6PS please note that the disease is catching.)

Hughie 5BC now has the 2 mx beam aloft and is getting good results from Adelaide, working 6 and 2 mx cross-band. Maybe by the time this gets to print, the tx will be full of ergs too. Don't let him put it over you Tom, one of the wheels from "rattling salvation" would make an excellent "halo" antenna!

This month we lost a regular v.h.f. Ham from our ranks with the death of Boss Harris, 5FL. Boss was one of the pioneers with a c.c. tx on 2 mx, using a converted 1143A tx to c-

gether with a 3-tube variable osc. converter feeding into the 10.9 Mc. channel of the 1143A rx. I always found Boss a willing helper and a very good friend to those who came to know him well. Our sincere sympathies go out to his wife and family.

I presume that the S.E. Hams have been doing some local work on 2 mx, by the superior tone of last month's VK5 Div. Notes, but from reports here and elsewhere, that excellent 50 cycle signal of Tom's (5TW) is getting out further than his 144 Mc. one! What's your verdict Claude? Sometimes hear 5MS on 40 mx working the city.

Pirie and Whyalla Hams have excellent opportunities for contacts in all directions, including an excellent water path down the Gulf to Lincoln. The rise between Pirie and the Murray Valley may prove to be an obstacle, but I should say that it is worth a go.

For DX'ers, VK1HM (ex-VK6MH), located on Cocos Island, will be listening regularly each evening on the 50 Mc. for contacts. He will be there for several months, so pour the coals on ye faithful ones. Hurry up and get going Charlie 5ON, you may make that 615 earn its keep yet. Don't let "Doc" or Joe beat you to it—lay off Ron 5MK.—3XU.

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FEDERAL

APPOINTMENT OF FEDERAL EXECUTIVE FOR 1954-55

The Victorian Division, as the Headquarters Division responsible under the Federal Constitution to appoint the President, Vice-President and Secretary to the Federal Executive, has advised the appointment as follows for the year 1954-55:—

PRESIDENT: William R. Gronow, VK3WG, 2 Anthony Street, Glen Iris, S.E.6.

VICE-PRESIDENT: Harry Kinnear, VK3KN, St. Leonard's Court, South Yarra.

SECRETARY: G. Maxwell Hull, VK3ZS, 22 Dryden Street, Canterbury, E.7.

[Max 3ZS, who has carried out the duties of Federal Secretary for almost four years now, has tendered his resignation from the office of Federal Secretary as from June this year although he is prepared to carry on long enough to assist the new Secretary to settle down to the duties required of the office. The Headquarters Division is at present looking for a suitable man for the job and will advise all Divisions when the new appointment takes place.—Ed.]

The Federal Executive, responsible to appoint all further officers to the Executive, has appointed the following:—

TREASURER: G. A. C. ("Rick") Ewln, VK3AGC, 55 Dendy Street, Brighton, S.5.

ASSIST. SECRETARY: John Rice-Oxley, VK3AKO, 38 Victoria Ave., Canterbury, E.7.

PUBLICITY OFFICER: George Glover, VK3AG, 54 Watt Street, Box Hill, E.11.

George, in retiring from the Presidency of the Executive, does so with two years of hard work behind him and a job well done for the Federal side of Institute affairs. During those two years George never missed presiding at one meeting of the Executive and showed a keen interest in the business side of affairs in between meetings.

Bill Gronow, in taking the chair, does so with past experience of the office to assist him right from the start, and his ability to deliberate on the problems before the Executive from time to time fits him admirably for the office of President of the Institute. With the same team gathered together again, with the prospect of two new offices being created very soon to cope with the increased duties, the Institute can look forward to another year's hard work from its Federal Executive to ever improve the value of the Wireless Institute of Australia to the Australian Amateur and to continue to maintain and better the privileges available to him.

"DUPLEX" WORKING

There still appears to be some doubt about this business of "DUPLEX" and "BREAK-IN" operation of Amateur transmitting stations, judging by a recent report that an increasing number of stations are working a form of "Duplex" on the Amateur bands assigned below 50 Mc. You are reminded that "Duplex" operation is not permitted except on 50 Mc. and higher bands; on these bands it is not referred to in the Regulations as such, but as a form of "Break-In" operation where the carrier is permitted to run unmodulated. BUT ON THE BANDS BELOW 50 Mc. YOU MUST CUT YOUR CARRIER COMPLETELY OFF DURING PERIODS OF LISTENING. The relevant Regulation reads thus:

Paragraph 111 of the Handbook for Operators of Amateur Wireless Stations: "Subject to the requirements concerning station identification as set out in Part VI. of this Handbook, break-in systems of operation (definitions of which appear in Part I of this Handbook) may be used by Amateur Station Licensees. The stipulation regarding modulation made in Paragraph 110, above, must be rigidly observed; that is proper provision must be made to cut the carrier during each period of listening."

Paragraph 110 of the Handbook for Operators of Amateur Wireless Stations: "Except for brief tests or adjustments or in the authorised Amateur frequency bands from 50 Mc. upwards, an Amateur Station Licensee must not cause a carrier wave to be emitted from his transmitting equipment unless such wave is subjected to intelligible modulation. Prolonged tests or adjustments in the authorised Amateur frequency bands below 50 Mc. must be made on an artificial aerial."

We have suggested before in these columns that an occasional revision of the Regulations governing the operation of your station is a good idea because the best of us forget sometimes. With the winter months approaching,

it is a good time to spend one evening reading through the Regulations.

FOUR NEW CERTIFICATES AVAILABLE

Whilst it is proposed to publish a complete and up-to-date list of all world awards, this may not take place for a little while yet. But to keep readers up with current events, the four following new awards may prove of interest to those of us who are really keen certificate hunters.

The Hilo Amateur Radio Club of Hawaii announces the availability of its Hilo Radio Club Certificate. Any Amateur submitting proof of contact with 15 club members is eligible for the award. All contacts must be made after September 1, 1953, with 15 of the following H.A.R.C. members: KH6s AE, AFQ, AFR, AFS, ARKX, AQE, AQP, ARN, ATQ, ATT, AU, AUB, AUC, GE, GW, IN, UO, and WH6s ATY, AUA, AZL, BAD, BAL, BAQ, BAR, BAW. Confirmation should be sent to the Hilo Amateur Radio Club, P.O. Box 1658, Hilo, Hawaii. The club also has an "Aloha" Committee that takes care of all visiting Hams!

Any Amateur who contacts ten Key West Hams is eligible for the Conch Net Certificate. Applications should be sent to Key West Amateur Radio Club, Box 210, Key West, Fla., U.S.A. K.W.A.R.C. formerly issued coconuts for such work, but discontinued this practice when the cost of postage became prohibitive.

The Greater New Orleans Amateur Radio Club takes pleasure in announcing the availability of an operating achievement award upon receipt of satisfactory evidence of two-way communication with 25 Amateurs in the Greater New Orleans area. Correspondence for the WA-75 Award should be addressed to the Greater New Orleans Amateur Radio Club, P.O. Box 1057, New Orleans 4, Louisiana, U.S.A.

The York Amateur Radio Club is sponsoring the White Rose Award, available to any Amateur who furnishes proof of contact with ten stations in the Greater York (Penna.) area. Cards or confirmations should be sent to Royal M. Gibson, W3LUD, 219 Wynwood Road, York, Penna., U.S.A.

SILENT KEY

It is with deep regret that we record the passing of:—

VK3ED—D. O. Jones, 7/4/54.

VK5FL—R. C. Harris, 31/3/54.

Ex-VK6BN—Bert Stevens, 29/3/54.

FEDERAL QSL BUREAU

RAY JONES, VK3RJ, MANAGER

Victorian Hams were pleased to see Geoff Warner, VK9GW, during the latter end of March. Most of us were envious of Geoff's good fortune in having a trip to Europe. It is probable that on his return he will be heard under a VK2 call sign. We wish him pleasant traveling and safe home.

The QSL Bureau for Austria is: O.V.S.V., Klerlingerstrabe 10, Klosterneuburg, Austria. PJ2AA, ex-PJ5RE, who spent some time in VK during the war period, sends his best wishes to Australian Hams. He was one of the PA boys up in PK land as a commercial operator at the outset of the war. Later he was at Parafield and other parts of VK. Nowadays he operates aeradio for the Shell Company in P.J. Details of the Swiss H22 Contest, which was staged from March 20 to 21, did not arrive in time for prior publication. Any Hams who worked H2 stations during the Contest should send logs to H22 Contest Committee, Box 1203, St. Gallen, Switzerland.

Details of the Brazilian Society L.A.B.R.E. Annual Contest and lists of countries necessary for the W.A.A. Award may be obtained on application to this Bureau.

In a despatch to this Bureau from Mawson, Antarctica, dated 18th February, Bill Storer, VK1EG, states that the set-up there is not too bad, but a little bleak. It is situated on solid rock and there is a score of small islets close by. With the aid of weasels, they unloaded 500 tons of stores in five days. At time of writing, it was light up to 2200 hours, enabling work to proceed to a late hour. He is awaiting the installation of the 15 kva's, before getting the rig out of its box. To while away the time before the Kista Dan departed, Bill stamped over 22,000 letters. He gives the bearings of the location as approx. 67.36 South by 62.53 East, and sends his best wishes to all and hopes to make hundreds of contacts later.

NEW SOUTH WALES

The March general meeting of the N.S.W. Division, held on 28th March, was spoilt by a general black out in Sydney, extending from 5.45 till after 7.30 p.m. Consequently only 58 members turned out to hear Don Lindsay lecture D.M.E. (Distance Measuring Equipment). Mr. Lindsay is no newcomer to the N.S.W. Division, being one of the leading executive members of the W.I.A. Council around 1927 and 1932, before work at A.W.A. gave him enough radio. It was very nice to see the "old 2DY" once more "back in the Institute." As with all lectures given by Ham to Hams, it was very interesting and only regret was that our numbers were so small on that particular night. It did show the power the KYL still has over the OMs in VK2.

At the conclusion of the lecture, there was a little time left for general business and the President explained the idea behind the taking of an expression of opinion "by ballot on the proposed amendments to our articles." To date the figures seem to show a big majority in favour, but as in election figures, the early ones may not be the last ones. The next meeting will be the Annual General Meeting and it is hoped that the VK2 Division will be thoroughly discussed and the new Council be given a line of policy to follow during the year. As shown in the Annual Report, the present Council have acted on each matter set out in the policy published in its first Bulletin last June.

SOUTH WESTERN ZONE

Geoff 2BQ, at Tumut, active on most bands experimenting with 144 Mc. tx and rx for mobile operation. Ross 2FN also experimenting with 144 Mc. gear. Don 2RS, at Albury, has his new all-band p.a. together, using QRP for the time being, has a good sig on 80 mx from new QTH. Hope the tomatoes ripen. Don, Stewart 2PL, at Griffith, heard occasionally on 80 mx and 40 mx; has been busy building additions to QTH. Lyn 2AQE, at Coolamon, active on 80 and 40 mx, has been revamping an 155 rx; should be a good asset to the shack Lyn.

Ray 2APZ, at Leeton, not heard for ages; what's the trouble Ray? Looks like too much other work, for Ham Radio. How about coming on the band and letting us hear the cheery voice again? John 2AQF, at Dentilquin, has been experimenting with 144 Mc. and has a beam approx. 60 ft. high. John is building up a 144 Mc. tx. We are looking forward to the day when we work you on 144 Mc. at Coolamon. John. Art 2EW, at Albury, heard on 40 mx; hear you have been after the DX on 20 mx Art. We have signed up another associate at Coolamon, making two in all, latest being Stan Abbey.

Don't forget fellows, the zone hook-up at 1930 hours on Wednesday evenings on 80 mx.

HUNTER BRANCH

The Annual General Meeting of the Hunter Branch W.I.A. was held on Friday, 12th March, at the Tighes Hill Technical College. The President, John Clark, opened the meeting with 18 members in attendance including the State President, Jim Corbin, 2YC.

The main business of the night was the election of officers for the ensuing year. The officers elected were as follows: President, Lionel Swain, 2CS; Vice-President, George Lee, 2AGD; Secretary, Charles Archbold, 2ARV; and Bill Hall, 2XT, was re-elected Treasurer. A motion of appreciation for the sterling services rendered by the retiring members was moved and carried by acclamation. The election of an Auditor was stood over until the April meeting. A Social Committee was elected, comprising Jim 2ZC as Social Secretary, and Harold 2AHA, Les 2AOR, Lionel 2CS and Frank Stobbs (associate). Les 2AOR was also re-elected zone officer.

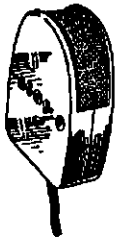
A meeting of the Branch Management Committee was held on 16/3/54 to discuss matters relating to the Branch station, 2AWX, also to organise a Hunter Branch hook-up one night a week, and to arrange a syllabus of lectures and films for future Branch meetings. The Hunter Branch hook-up was arranged for every Monday night at 7.30 p.m. on 7140 Kc. Another meeting of this Committee was held on 25/3/54 to run through two tapes so as to arrange sketches, circuits, etc., to use in conjunction with these tape recorded lectures. The Committee's good intentions were shattered, however, when they discovered that double track tapes do not play back at all well on a single track machine. Before the Committee members departed, a recording of a few words from each was made and ended with Lionel 2CS giving his impression of the exploding of a H-bomb.

The last two Hunter Branch hook-ups have been successful, with many members partici-

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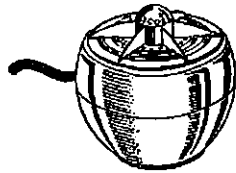
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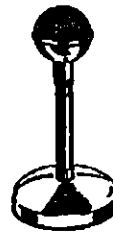
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MIC.3-2	General Purpose	1½in dia. x ½in thick	20db Peak at 2500 C.P.S.	Mona	£1 19 3
MIC.3-5	" "	" " " " "	12db " " " "	Mervyn	1 19 3
MIC.3-6	" "	" " " " "	5db " " " "	Myrtle	1 19 3

MIC. 6 SERIES

TYPE	DESCRIPTION	DIMENSIONS	RESPONSE	CODE	PRICE
MIC.6-4	General Purpose	2 1-32in dia. x 19-32 thick	20db Peak at 2250 C.P.S.	Margie	£1 19 3
MIC.6-6	" "	" " " " "	5db " " " "	Maudie	1 19 3
MIC.6-11	" "	" " " " "	12db " " " "	Mandy	1 19 3

MIC. 14 SERIES

TYPE	DESCRIPTION	DIMENSIONS	RESPONSE	CODE	PRICE
MIC.14-5	General Purpose	1 7-16in dia. x 11-32in thick	20db Peak at 3500 C.P.S.	Maxie	£1 19 6
MIC.14-11	" "	" " " " "	12db " " " "	Mitchell	1 19 6
MIC.14-12	" "	" " " " "	5db " " " "	Malcolm	1 19 6
MIC.15	Hearing Aid	0.9in dia. x 0.155in thick	30db " " 3000 "	Marlene	1 19 6
MIC.17	" "	15-16 in sq. x 7-32in thick	30db " " 3500 "	Maggie	1 19 6
MIC.18	General Purpose	1 7-16 in dia. x 9-32in thick	20db " " " "	Maisie	1 19 6

MIC. 23 SERIES

TYPE	DESCRIPTION	DIMENSIONS	RESPONSE	CODE	PRICE
MIC.23	General Purpose	1 3-16 sq. x ¼in thick	20db Peak at 8000 C.P.S.	Maureen	£1 19 3
MIC.23-3	" "	" " " " "	5db " " " "	Margaret	1 19 3
MIC.23-4	" "	" " " " "	12db " " " "	Milton	1 19 3
MIC.32	High Quality	1 13-16 dia. x 9-16in thick		Martin	2 15 6

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bating. During the hook-up on 29/3/54, the stations operating were 2AHA, 2XT, 2AGD, 2ADS, 2ARV, 2ASJ and 2AWX. Also listening but not operating were 2CS, 2XY, 2AFS and others so far undetected.

The Hunter Branch will not be well represented at Urunga this year. So far Syd Daniels and Les 2AOR and XVI are the only ones known to be definitely going. So it looks like the prizes will go to some of the other zones for a change.

Jim 2ZC has taken some portable gear as well as fishing gear with him to Forster and has been consistently working the Newcastle boys. The "grape vine" has it that Jim has a fishing line in one hand and a mike in the other, and has a liquid lunch through a straw. Ron 2ASJ, "the man with the golden voice," gave everyone a pleasant surprise by coming on 7 Mc. on Monday night 29/3/54 and wishing the boys best 73. Thanks a lot Ron, the gang appreciated those few words from you after such a long time and we are all waiting the day when the Doctor gives you the "all clear." Activity on all bands has been at a minimum over the last month, especially at night, but the hook-up on a Monday night might encourage the boys to extend their activities to other nights in the week.

Arrangements are in hand for the next Hunter Branch mid-winter Social and the Social Committee can be trusted to come up with some novel ideas to make this Social as big a success as last year.

The next meeting of the Hunter Branch will be held on 14th May at 8 p.m. at the Tighes Hill Technical College, the lecturer for the night will be Jim Cowan, 2ZC, and his lecture, "Building a V.F.O." This should create much interest, so keep this date in mind, the 14th May, for the next Hunter Branch meeting.

NORTH COAST

There are two main topics on the North Coast at present—floods and Urunga. The true story of Amateur activities in flood time will probably never be related, but I'm sure everyone realises the value of such activities. Each flood seems to bring forth complications which did not exist in previous floods and as is to be expected, some action takes place soon after to combat the new problem. The last series of floods inundated a much larger area than previously and as a result a far greater number of Hams were necessary to cope with all the essential traffic that has to be passed at those times. This in turn caused a crowding of frequencies which was very evident to anyone monitoring flood activities, and suggests some revision of frequencies available for this purpose—possibly a daylight and night time frequency for each of the major towns. Any reader with some ideas may care to write and let me have his views.

At Grafton recently a conference was held among the North Coast broadcasting station managers and I believe some scheme was worked out for inter-town communication by those stations. Unfortunately I do not know the details of the conference. Another conference took place at the shack of Doc 2LH of Lismore among district Hams and P.M.G. representatives. 2LH covers this in his section of the notes.—Ed.] A welcome letter from Alan 2ASO, of Kyogle tells how he struggled home from Armidale, by car, foot, and finally hitch-hiking to do what he could for his home town. In all, Alan passed some 103 messages to their various destinations (making my 18 look insignificant, hi!) by way of 2ASA in Wyong, 2AA, 2WI, 2ADE, and 2AHI, with quite a few others standing by in case.

Our friend, Crief 2XO, has been rather ill of late and spent a few days in Bellinger Hospital, but I'm pleased to say he is up and about once more and looking forward to a rag-chew at Urunga. From Grafton, I believe that Roy 2NY had 12 inches of water in his house, whilst Terry 2AJS had but six inches to go. So much for floods.

Peter 2PA is very active on 80, 40 and 20 mx from Port Macquarie and has the place to him-

SUBSCRIPTIONS

• Please pay your Subscriptions PROMPTLY when due. Failure to do so may result in the loss of valuable issues of "Amateur Radio." High costs of production make it necessary to limit the number of extra copies printed each month.

OBITUARY

ROSS HARRIS (VK3FL)

Members of the W.I.A. throughout VK will read with regret the call sign in Silent Keys this month of Ross Harris (VK3FL). Ross was a keen Ham for many years post-war and his signal was heard on most bands with phone and c.w. regularly until his unfortunate illness took charge. His call sign was early in the open DX C.C. for VK5, and his operating procedure was a model for all to emulate. During the last war, he joined the R.A.A.F. and rose to the rank of Flight Lieutenant in the Signals Section, seeing active service in the N.E. area, being wounded by shrapnel. He was a keen member of the VK5 Council and was for a time acting as Assistant Secretary, retiring from the Council during 1946-47 when outside activities did not permit him giving his usual attention to Council duties. At the time of his death he was Adelaide Manager for A.F.I. Cables and Insulation Pty. Ltd., and was one of the few business men who could do a fellow Ham favour and make him feel as if it was a pleasure. To his parents and his sorrowing wife and child, we extend our deepest sympathy and understanding, and say without hesitation that Amateur Radio is the poorer for his passing.

DAVID JONES (VK3ED)

Deep regret is expressed throughout Amateur circles at the untimely death of Mr. D. O. Jones, better known as David VK3ED, on the 7th April, 1954, at the age of 38 years. As a full member and a past councillor of the Institute he devoted himself wholeheartedly to the interests of Amateurs in general and investigations in the very high frequency part of the spectrum in particular. His efficiency and natural courtesy gained for him the highest goodwill and respect from his acquaintances.

In addition to his Amateur activities, David was a member of the staff of the Defence Research Laboratories, Maribyrnong, holding an appointment as Sectional Draughtsmen Electricity Section.

The sorrow of his passing is measured by the widespread sympathy extended to his widow and two young children, Elizabeth and Ian.

The funeral at Fawkner Crematorium was attended by a large number of friends and colleagues.

self as Lou 2AWS is holidaying around Bundaberg with Vic 4BJ, and Doug 2SH is rebuilding ready for the next Remembrance Day Contest—2AHH.

Further information of the activities of Amateurs in this area has come to hand following a meeting in Lismore on 28th March. It appears that the energetic "Blue" 2AEU was the principal organiser of this meeting. Its object was to discuss aspects of the recent flood emergency network with representatives of the P.M.G.'s Department. The Amateurs present at the meeting comprised nine from Lismore, Kyogle, Murwillumbah and Casino. They were 2LH, 2UC, 2AEU, 2ASO, 2RK, 2ZY, 2ADE, 2AHI and 2SL. Also present were several other gentlemen, not Hams, and three officers of the Department. The matters discussed at the meeting are beyond the scope of this column, however it is consoling to say that the effort of the Amateurs is greatly appreciated by the P.M.G.'s Dept.

Charlie Miller provided the link from Casino and Lismore to Police Radio in Sydney for flood emergency traffic. This untiring work and operating ability merits our praise. He was ably assisted by Ron 2AHI who handled telegraphic traffic for the Post Office from his own location. Tom 2LH bore the brunt of initial emergency in Lismore and operated a low power tx from a petrol-driven alternator. We must acknowledge the fine effort of "Blue" 2AEU, who performed his duty as a Post Office technician admirably and made known to Postal Officers the service Amateur Radio could provide in the emergency.

Unfortunately Len 2LR was a flood victim, several feet of water entered his house and some of his equipment was damaged. We hope Len the damage is repairable and you will be on the air very soon.—2RK.

VICTORIA

The Annual Meeting was held on the 7th April at the Radio Theatre, Melbourne Technical College, approximately 80 members and visitors being present. The meeting started late, due no doubt to the interest in the Call Book. A few advance copies were available

and very few of those in attendance did not produce the necessary 4/6—or did they? On second thoughts, most of them produced "folded" money." How come these gentlemen have so much cash so late in the week?

All the usual reports were submitted, adopted, received, confirmed or what-have-you to everybody's satisfaction. No ballot was needed for Council, as only sufficient nominations were received to fill the vacancies. Your Council now comprises Messrs. Manning, Dennis, Ball, Duncan, Albrecht, Lemming, Hodge, Marsland, and Daniel. These fellows will not be heard very much on any band during the next twelve months owing to pressure of business.

It appears nobody wishes to be President of the VK3 Division—the old story of the willing horse. The VK3 gang will please restrain SPS. However, Council in their wisdom will overcome this minor problem.

Somebody suggested that the Institute's technical equipment should be sold. This suggestion brought forth much discussion and, for the time being, the equipment will be retained. Steps will be taken to make the borrowing of this equipment easier. After all, who wants to lug a modulator and associated power supply into the rooms and possibly spend a couple of days trying to make the damned thing work when it can be done more conveniently on their own bench, where they can make as much mess as they wish without having to consider anybody else.

Our membership continues to grow; five associates and full members being admitted this month. The Secretary read the names too quickly for me to copy, but the usual welcome is extended to them all.

The Librarian is greatly concerned at the number of magazines and books that have not been returned during the last few years. At present 180 magazines are missing, so naps go through your books and return those you have with the W.I.A. stamp on them.

Certificates have been awarded to J. Duncan, A. Seedsman, W. Tregear and L. Moncur for their performances in the recent Marathon Tx Hunt. Wash out fellows, or you'll be placed behind scratch.

The following appointments have been made by Council:—President: Mr. G. Dennis; Secretary: Mr. Gibson; Treasurer: Mr. G. Manning; Asst. Treasurer: Mr. J. Marsland; Asst. Secretary: Mr. Leeming; Qualifications Committee: Messrs. J. Duncan, G. B. Hodge, QSL Inward; Mr. G. Roper; QSL Outward: Mr. F. O'Dwyer; Magazine Committee: Messrs. Hogan, Marsland, Duncan, Higginbotham, Sewell, Fisher, Head, Pincott; Communications Secretary: Mr. D. Daniell; Publicity Officer and Sub-Editor of Magazine: Mr. K. Pincott; Class Manager: Mr. G. Manning; Class Instructor: Mr. D. Dewhurst; Class Code: Mr. J. Lancaster; Script Writer: Mr. G. Manning; Technical Advisers: Messrs. H. Albrecht, F. Ball, R. Henderson, L. Jackson; Contest Committee: Mr. D. McKenzie; Awards Committee: Messrs. G. Dennis, B. Hodge; Disposals Committee: Messrs. G. Dennis and R. Bradshaw.

The next Hunt is scheduled for 2nd May. Full details will be broadcast by VK3WI.

The May meeting will be held on the 5th when the Swap Night will be held.

All members of the VK3 Division, and the V.H.F. Group in particular, were stunned to learn of the untimely and tragic death of David 3ED on 7th April. We extend to his family our sincerest sympathy on their sad loss.

Ron 3ARV is keen to contact anybody interested in astronomy. He can be contacted at 18 Madden Grove, Burnley, E.I.

Jack Kling, 3AJQ, was admitted to the Alfred Hospital in the early hours of the morning of 31/3/54 with haemorrhage from duodenal ulcers and has had blood transfusions amongst many other things. He is the way to recovery and it is hoped that the time you read this he has returned home.

The late news for this month concerns the Two-Band Scramble on Sunday, 11th April. From what I hear there was very little activity on any band but 40 mx. It may be permitted to pass a few comments, the activity on Sunday afternoons is quite good, but during

CHANGE OF ADDRESS

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the evenings the bands are virtually deserted. Why not have the Scrambles from say eight till ten (2000 to 2200 hours if you prefer)? The commercials could use a little competition anyhow.

The scribe in the City of Urgers—sorry Lurches has been very quiet during the last few months. The 7193s must have got the better of him. As for the Parafield dust bowl—no comment. Of course there is one good thing to be seen in VK5's Melbourne Express. Alright Tom, put the red pencil away.

CENTRAL WESTERN ZONE

Along with a big improvement of conditions on 80 mx has come a likewise improvement of zone hook-up attendances. Now the cooler weather has reached us, conditions should remain ideal and we can look forward to some really good Wednesday night ragchews.

As in the past, with the coming of autumn, we revert back to the earlier commencement of the zone hook-up, i.e. 1930 hours, so as from next Wednesday, 5th May, we will start at 1930 hours instead of 2030.

It is pleasing to note that both Dick 3RR and Herb 3NN are really well once again. Last heard, Herb was sinking a few holes in preparation for a shack to end all shacks. Bill 3AKW now has his mobile gear working f.b. in the boot of his car and should have a pretty good work-out with same down at the S.W. Zone Convention. Charlie, formerly 3IB, now 1AC on Macquarie Island, is still putting a consistent signal here into VK3. He seized the rare opportunity to send some snaps back when a ship made an unexpected call a few weeks ago and now we know one thing he did forget to take south with him—a packet of razor blades, hi. The beard appeared to be about two inches long in four months, should be a real hill-billy special when time is up, Chas. Incidentally, some of the boys QSP these notes on to Chas, so I'd better behave myself. Best regards from the gang Chas and may your hot water bottle never stop sorry freeze up.

Lin 3ARL has a much improved signal with the new antenna, a half wave on 80 mx fed with 300 ohm line. Trev 3ATR still wrapping the S meter around there, even with a couple of bottles out of the final, hi. Next month I hope to have a little more news as most of the last month was spent out of the zone on holidays, etc., so until then, cheers.

EASTERN ZONE

Our regular journalist, Leo 3SG, being laid up, following a duel with a rotary hoe, 3AEK has kindly volunteered to do this month's notes. Graham 3QZ and XYL are at present on a holiday cruise to New Guinea and Graham was there during the war—but this time he had to pay his own fare, hi! David 3DY has been in camp again, a sturdy lad now—M. & V. must agree with him! Jack 3FK is busy building a new tx, having discovered—the hard way—that an AT5 on 80 mx is a cert for b.c.i.

Len 3LV now kid whacking in Moe, is a regular on the Sunday hook-up with a first-class signal. 3AOD and 3ZD keep Warragul on the air. Norm 3ANC at Toora is doing a spot of movie operating at the local theatres, but manages to put the rig on the air occasionally. Ron ("Grid Drive") Jardin, 3PR, still has the hottest signal in the zone—a miserable 90w. I am told by SWE that the visit of a certain R.I. to a certain mountainous area caused such a rush on b.c. licences that the P.M.G. Dept. will soon be reducing postage to a penny again, because of increased revenue! Associate Alf Mackrell, who is also President of the Sale Sub-Branch, got married in March. We all wish them luck, but remember Alf, as a portly person, says, "DX Before Dishes!"

By the time you read this Keith 3SS and self will have paid a visit to VK2 per caravan. If all goes well, we shall have had a very good trip. Leo should be on the job for next month, so send all notes to him.

NORTH EASTERN ZONE

The North Eastern Zone Annual Convention for 1954 has come and gone, leaving the locals very pleased to have seen the roll-up of visitors at the event, which included some of the senior officers of the Institute.

Jim Herd, 3JK, was elected President for the ensuing year as Jack 3FF must have firmly declined nomination for re-election, and Rex Anderson, 3UR, and Hugh Fogg, 3AHF, are Jim's Vice-President and Secretary respectively. The rest of the offices were farmed out as follows: Zone Correspondent 3FD, Communications Officers were Ken 3KR and Col 3WQ, and the Emergency Co-ordinator is Henry 3HP.

Pressure of work stopped Alex 3AT, Stan 3AGT, and Les 3ALE from getting as far as Wangaratta. 3AKC was right on the job showing us over the local b.c. station. Howard 3YV was in good form and Keith 3JC was detailing activities on 20 mx. Alan 3UI apparently follows 8 mx, where he keeps skeds with Peter 3AFF and Syd 3CL.

Des 3BP entertained the gathering with the aid of Henry 3HP and his patent aerial raiser. Lex, our Associate in Benalla, would like to exchange on loan "Radio and Television" for copies of "CQ" and "QST." Doug 3IJ is now living out at the Mangalore Airport, where Chas 3ACV could be heard working on the Convention day. Murray 3HZ is busy on his commercial interests. Des 3CO has hopes of building a progress Ham shack on day soon.

The address of George 3AHN has been overlooked so it is not known if he is in the North Eastern Zone. George 3GD was missing, as was Tom 3TS, but George has been heard on 20 mx lately. Gordon 3XU was noted at the Convention as was Ron 3AQQ, Frank 3ZU has been landed, tentatively, with the next Convention in Euroa. Associates Clarry Garrett and Vern Wyatt came down to the Convention from Cobram, and Jim Harrington took the XYL and family up from Miepoll.

QUEENSLAND

Sorry for no notes last month fellows, I thought a reminder of the two annuals more to the point, but how was I to know "A.R." would be late hi! The Annual General Meeting saw the conclusion of business for the year. To most, an unsatisfactory year with conditions as they are; to the Division, financially an improvement, a slight loss in membership, mainly associate and student members, but our greatest loss is in the attendance at our monthly meetings by the local chaps. Looking back over the year we have had members attending from Bundaberg, Rockhampton, McKay and Townsville, etc., and yet a lot of Brisbane members haven't been present in years.

John 4WJ, of Gulpie, and Bob 4NG, of Rockhampton, were present at the Annual, and the visitors included Frank 4RAAE, who was given a nice welcome by the boys who had added another country by his activities. Frank informs me he is on his way to the Urunga Convention at Easter and will be seeing the VK2 boys (VK5 scribe please note).

The Council was elected "en bloc" so till it meets, I will not be able to list your Council as individuals and their tasks, but there are a few changes in the personnel. The President unfortunately kept his report for the Annual Dinner, being misled by previous reports, but fortunately gave a good resume of it.

The Contest Committee requests all logs for the VK4 Intrastate Contest to be in by the end of May. So if you want your points tallied, please be prompt.

The Annual Dinner was the best attended function we have had this year, and with guests some 40 odd were in attendance. One and all had a most enjoyable night. The speeches were varied, though short, which was all to the best, that it shortened proceedings somewhat. Among the guests were Mr. Conroy, from the Wireless Branch; Vern Kenna, from Wireless Technical Branch; Howard McGregor, from the C.S.I.R.O., and of course an address by Mr. George Glover, on tape from F.E. which amused Mr. Conroy somewhat, being referred to and not knowing by whom.

Mr. Conroy presented the certificates to those present who had gained them in past contests. The outstanding certificate was for Vince 4VJ for an outstanding clean sheet on s.s.a.c. Our old friend, Joe, was there with his selection of jokes. Jim 4FR presented "Don Pedro" after winning the necessary regalia. I'm told Shakespear isn't one of Jim's favorite writers. By and large, the night was most enjoyable. Did hear one chap ask the R.I. did he think he was getting out as the people next door could hear him on their b.c. rx.

THE PRESIDENT'S REPORT

As presented at the Annual Dinner, 1954— "It is my privilege and pleasure tonight to present a report on the activities of this Division for the last financial year 1953-54. Though the total of enrolled members has dropped, due to the curtailment of student classes, owing to the difficulty experienced in obtaining the services of an instructor, this has resulted in the possibility of thirty or so members less on our rolls. However, the Division has admitted to full membership several new members during the year.

"Finance.—Mr. Charlie O'Brien has continued his expert handling, and financially the affairs of the Division are quite sound. It was found necessary during the year to purchase a typewriter for correspondence and stencils for 'QTC.' But this, in conjunction with the duplicator, is an asset and will last for many years.

"QSL Service.—The QSL service is a free service to members of this Division and has been handled in an excellent manner by Mr. Jack Files (incoming cards), and Miss Clara O'Brien (who despatches our outward cards): "QTC."—This has appeared on schedule throughout the year due to the willing services of the various editors, Messrs. Paul Green,

Jim Baker and Tom Athey in forwarding m.s. to our printer, and despatcher, Mr. John Pickles. Mr. John Ross was responsible during John Pickles' absence in January.

"Library.—The Library service has been handled by Mr. Bill Faber, and has been fully availed of by library members, enquiries for books have come from both country and VK9 members.

"The Technical Library has been attended to by Mr. John Pickles and this is another free service by this Division, equipment being available on application to the Secretary. At the present time further equipment is being constructed, thereby widening the range of test equipment held by the Division.

"Contests.—The Contest Committee is functioning smoothly with Mr. Aussie Harris as chairman, and Mr. Neville Jones its Secretary. Other members are Messrs. Clive Cooke, Jim Hope and myself. Much thought has gone into framing the various contests and their rules. The country member is always considered when framing any contest and its rules.

"VKAWI.—Station VKAWI has presented the weekly news service to members every Sunday morning on two bands. Thanks are due to the previous managers in Mr. Jim Baker and Mr. Aussie Harris; myself being the present Station Manager. Items of news and of general interest are always needed and welcomed for inclusion in these broadcasts.

"V.h.f.—The V.h.f. Group was initiated under the chairmanship of Mr. John Ross and it aims to facilitate exchange of information on v.h.f. equipment, to centralise v.h.f. testing of equipment, and to promote interest in v.h.f. communication.

"Country.—Our country representative, Mr. Tom Hewitt, has continued his work, and has brought many matters dealing with country members to the Council, except when shift work intervenes, Tom is always there with the Sunday hook-up. Thank you Tom for your work.

"Federal.—The position of Federal Councillor has been carried out very efficiently by Mr. Arthur Hurton, who is the liaison between this Division and Federal Executive.

"Student Classes.—These classes for the last year were conducted by Mr. Tom Athey, now in Townsville. Mr. Ray Lewis, who has gone to Darwin, Mr. Jim Hope, a Vice-President, is continuing the tuition until the conclusion of the course.

"To all Council members I would like to express thanks for the many continued hours of work behind the positions occupied. To the new Council, I wish you success in Council and Divisional affairs. The retiring Council has always had the welfare and progress of this Division and the Institute before it in all of its activities.

"I appeal to all members to support the Council and to recruit new members, where possible and to back the W.I.A. to their fullest extent.

"In concluding, Regulations have been issued for the Amateur in his operating, I urge members to comply with these and so allow our organisation and the Amateur himself to receive the continued confidence and consideration which we have received from the Post-Master General's Department."

—John A. Weddell, VK4FT, President.

SOUTH AUSTRALIA

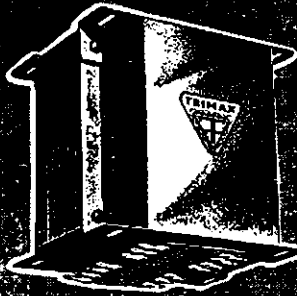
The VK5 monthly general meeting for March took the form of a "Buy and Sell" night and would have also introduced the new President to the members. I say would have, because for some reason or other, the new President failed to turn up and the chair was occupied by the old President, much to the annoyance of several persons in the front row who had been telling him rather forcibly to get out of the chair, to stop "hogging" the Presidency, to "wake up" to the fact that his days as President were numbered, and lastly to make way for a better man.

Nonchalantly banging the table with his fist in lieu of a gavel, the same having been handed to the new President at the last meeting, the "old" President declared the meeting open and with Machiavellian cunning, introduced one or two debatable subjects into general business with the idea of prolonging the business side of the meeting to make up for the unexpected lack of radio gear to buy or sell. Council has been waiting for something like this to happen, because under the law of averages the time had to come when everybody said to themselves, "What's the good of bringing along some gear, there is always more than they can sell." Yes, believe it or not, there was only enough gear brought along to just keep the night going.

The auctioneers, Dougal 5BY and Boss 5LW, with their usual canny summing up of the situation, managed to introduce enough horse-play and funny ha-ha's into the proceedings to

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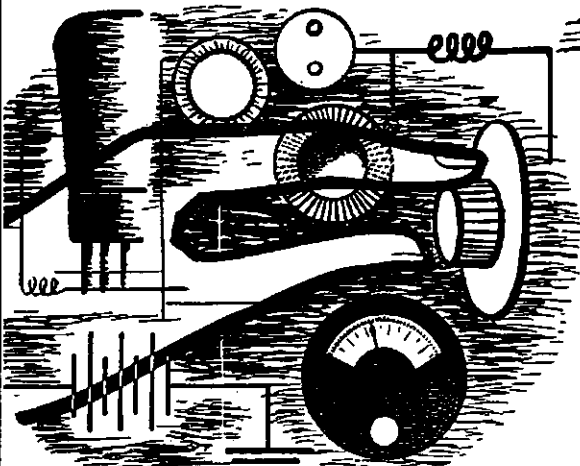
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make a very entertaining evening for all present, but it was a touch and go. Nevertheless, the applause that greeted their efforts at the end of the meeting was a sure indication that once again the VK5 Division had come through a doubtful situation with flying colors. All present will now stand with bared heads whilst the President leaves the room! "All right, all right, it's my last chance to get into the limelight!"

The particular item of business that was introduced with Machias-Machica-Mackalk—well anyway, what I said before, cunning, was just what was to be done regarding the trophy that was won by the reigning v.h.f. champion, Mr. Warwick W. Parsons (5PS) for his excellent work on 288 Mc., and re-donated back to the VK5 Division with his usual open-hearted generosity. Loud cheers and yells of Vive Fanny, Vive Fanny. Quite a lot of suggestions were received from members present, but none seemed to quite suit the bill until that master of sagacity and perspicacity, Les 5LC, suggested that it be awarded to the highest scorer for VK5 in the 1954 Remembrance Day Contest. It was seconded and passed before anybody had time to even wake the President up, and everybody agreed that when it comes to hitting the nail on the head, then Les has just what it takes!

The President took the opportunity of wishing Eric 5LV and Ron 5LF, two brothers, an enjoyable trip to England and hoped that they would again some day be present at the VK5 meeting, and also that they would keep up their contact with their home State whilst away by having the magazine sent to them in the "Old Country." Among the very welcome visitors were George 5GH (6WI), our regular visitor with the same name as the old President (2AHS/MM), and Messrs. B. Jellet, L. Whyatt, and one or two whose signatures looked as if they had been signed with the pen held between their big toe and the side of the table. To these gentlemen we say come again and we hope that you all enjoyed yourselves. The meeting closed at the somewhat early hour of 10.45 p.m., but it was not until much later that the last member was tactfully thrown out into the street. The President for the night made himself a little more obnoxious than usual by openly boasting after the meeting that even an earthquake couldn't move him out of the chair for VK5, and was last seen being forcibly thrown out of the back door of the clubrooms by several irate members who could take no more of the heifer-dust!

Both 3BG was over in the premier State this month, covering the Royal Visit for his paper, and managed to squeeze in a couple of visits to the local boys that he has contacted at various times. He rang the B.B.S.S. and had a chat with one of the back-room boys of that station, although for some reason or other he did not attempt to ask me for my opinion on the International situation or my reactions to the state of Denmark. Jealousy I suppose! Of course, it could be self-preservation!

Received a letter this month from Wally 5DF, but as it contained mostly details about the v.h.f.s., I was forced to reluctantly pass it on to Gordon 5XU. Anyway thanks for the thought Wally, and my regards to Jack 5VJ and the rest of the gang. Before you read this, I will have been over and met you all personally, I hope.

SOUTH EAST AREAS

Well it's on again, down comes the notes from the S.E. and all they mention is the v.h.f.s. curse it. Now I will have to take a packet and a half of nerve tablets and whip up my imagination (Not too much—Ed.) to fever heat. Here's hoping that I succeed! 5CH has purchased a 522 tx and it is expected that he will be heard on 144 Mc. c.c. signal; Claude is making good progress in the construction of his new shack. 5TW has had a fairly quiet month, but has been heard on 20 and 40 mx at odd times and also another band which I will not mention. Funny thing, Stuart, I hear you at peculiar times coming from peculiar directions, but never for long. I have not contacted you since I left Henley Beach. 5JA has as usual not been heard for the month. 5KU hopes to be in the new shack before these notes are printed and it goes without saying that Erg will show a decided increase in activity on the air.

5CJ has had rather a busy month, but not with radio. Having shifted into a new home (that's how I look after my espionage agents), Col is finding plenty of reasons why he is still not on the air as yet. He has succeeded in taking over one of the rooms in the house for a shack, but he is not over confident as to how long he will remain in possession. Col has high hopes that the new location will be much quieter than the last, but as he has not erected the aerial as yet, it is still in the clouds. Aren't I a wit? I could have sworn I said wit. My new teeth!!

Another visitor to the fair city of Adelaide this month was John Moyle (2JU) and, of

course, it goes without saying that he paid a visit to the B.B.S.S. I happened to be on duty the afternoon that he arrived and was able to extend to him the official welcome to the City of Churches and also to the Best Broadcasting Station in the State. In the excitement of swapping fairy tales as to DX, etc., he forgot to offer me double the salary paid to me by "A.R." but no doubt he did not want to commercialise our first meeting, and anyway, I know the magazine would not release me from my contract, signed in a moment of weakness. (Less padding or you may not have a contract.—Ed.) Applications for the new call sign book have exceeded all expectations in VK5 and should be a sell out as far as we are concerned. Everybody is anxiously awaiting the date of publication and take their hats off to the gang who are doing all the hard work. By the way, everybody has praised the proposed design of the cover, especially the position of the VK5 card. However what I want to know is the QTH of my fellow scribes in VK1 and VK9. Sorry to be so hard to get on with.

Quite a peculiar position exists in VK5 regarding the new Limited A.O.C.P. It would appear from the official information released in the magazine that the matter is well in hand and that it is only a matter of time, although a number of associate members seem to think that a little "gee-up" could be employed with advantage. Several outsiders even have gone as far as to suggest that a small hydrogen bomb underneath those higher up might help. Whatever the answer to the problem may be, it should be found, because the Divisions must be losing face with both sides. The local Authorities know nothing about it, and the Division knows too much. All of which adds up to an embarrassing position for Ham Radio, and one which plays right into the hands of the few who do not want to see any good in having an Institute to represent the Radio Amateur in VK. (The Authorities are awaiting Canberra to change the W.T. Act.—Ed.)

In VK5 we have an official publicity officer, whose duty it is to put the W.I.A. on the map and keep it there. The VK5 publicity officer is one of whom the Division is particularly proud, and one who is a hard and busy worker for Ham Radio. I realise that the Division has a high regard for my ability, but was bitterly hurt this month when Tom 3HX posted me a personal letter addressed to the Best Broadcasting Station, Adelaide, South Australia. The reason for my wounded feelings was that I eventually received the letter, re-addressed from the ABC, and thanking me for the compliment I had paid them. I am wearing a false beard these days whenever I am in the vicinity of the ABC studios, and am waiting for the appointment of a new Divisional publicity officer. Such is fame!

During the Royal Tour rehearsals for broadcast, it was the practice each morning to have a quick run-round the various broadcasting points as a technical line-up to see that all the gear was OK. Naturally the commentators would not be able to come down to the level of speaking on the microphones to a non-existent audience, and the technicians acted as stand-ins. As they announced their particular location and name, it sounded more like a line-up of Amateur Radio in VK5. Nice work fellows.

UPPER MURRAY AREAS

The notes for the Upper Murray for this month inform me that the news revolves principally about 144 Mc., which, of course, the signal for, me to gracefully fade out of the picture. Nevertheless, it takes more than a lack of news to stop me writing, if I get my back up, and therefore I am going to carry on, news or no news!

The monthly meeting for March was held at the QTH of Murray 5CF at Berri and the gang were favoured with no less than five Interstate visitors, 3GZ, 3TI, 3AJU, an unidentified VK3 to whom my scribe humbly apologises, and last but not least 2AHM, who brought the boys along from Mildura in his Jaguar. A four wheeled one, not a two wheeler like mine! The reason for their friendly visit was mainly to assure the Upper Murray boys of their continued support in endeavouring to contact on 144 Mc. (that dreaded word!) Efforts to contact on 7 Mc., 144 Mc., plus letters, plus telephone calls, has only confirmed the opinion that apart from smoke signals, there was no other means possible to ensure reliable contacts between the boys and therefore they all came along to see just what the VK5 boys looked like. They were somewhat staggered to find the amazing resemblance between them all. Harry 5KW took the opportunity of propounding some of his theories into the ears of 3GZ, and I have been advised that if Harry could be persuaded to put them on paper, they would be more than suitable for the magazine. What about it OM?

Hurtle 5RE has steadfastly refused to be roped in for the job of local spy, thus giving Tom 5TL a rest for a year. Hurtle says that his writing could not be read by me, and when Tom

suggested a hammer and chisel and a block of stone, Hurtle said that he did not think that I would react too well to a load of rocks arriving every month at my QTH. You might have something there OM. Tom 5TL at last received his missing relay per medium of 5KW and thinks that he got his money's worth despite the length of time that he was in getting it and the time that he took to pay for it! Fred 5MA reports that he has not a tx in workable condition, although he did not amplify this remark. Incidentally, Fred, are you all clear on that article that you sent me for the magazine? I told Laurie 5SL to pass on to you that I had despatched it to VK3, but you know these city slickers!

Murray 5CF, due to domestic arrangements, has had to remove all of his gear from the room where it was housed, and it now reclines in the passage, disconnected but for once nicely cleaned and dusted, thanks to the XYL. Rumour has it that he now fishes for fish and not DX. The two tapes played at the meeting, the President's report and the lecture on Radio Sonds, were well received by all present and favourably commented upon by the visitors, especially the honeyed words of the President. Ho Hum!

Hughie 5BC, being a dyed-in-the-wool v.h.f. man, only gets a mention in these notes because he piloted the Interstate visitors from his QTH to the meeting, and also for the fact that I knew him when he was proud to be heard on "twenty"! The reports on the reception of 5WI from this area seem to indicate that conditions are patchy, although a couple of contacts with the station have been reported after the official broadcast. The news from this area closed with a back-handed compliment by saying that the Upper Murray boys are pleased to see that the VK5 Council is endeavouring to keep the country boys abreast of the current developments by means of tape recordings, or should it be that they are enabling them to catch up in the things they should have had before! Tom, how could you be so brutal? I hope Rattling Salvation strips her gears and bends her connecting rods!!!

Not bad for no news above 6 mx eh? They don't call me "Padder Parsons" for nothing! OK, OK, I know that I should have said below 6 mx, but it depends upon the way you look at it. After all, the bottle can be half empty or half full, which ever way one sees it.

Well, twelve months has come and gone, and once again I will have to twist Doc's (5MD) arm to make him write the notes for next month, as well as the weekly column in the daily paper. He puts on a great show of reluctance, but he fairly rushes this opportunity of getting his own back, as well as grasping with both hands the chance of putting the spotlight on the foibles and weakness of the VK5 scribe. To put a spoke in his wheel, I take great pleasure in announcing that I became a grandfather this month, and Associate Member Bob Turner became a father. The lucky boy is named Christopher Warwick, and if anybody dares to tell him that his grandfather is called "Pansy," then I will become as wild as wild and start tearing up sheets of paper. Incidentally, to all those good friends who have been ringing me up with wheel chairs to sell, making rude suggestions as to beards, crutches, and old age pensions, etc., I can only refer them to the "Merchant of Venice," in which a certain gentleman said: "Why should a man, whose blood is warm within, sit like a grandire out in alabaster? Grandire I may be, but thank heaven, my blood is still warm within!"

Or to put it more in my normal manner: A woman is as old as she looks, but a man is only old when he stops looking. Oh well, it is nearly sunset and time I said my prayers and took my teddy bear to bed. It's been a busy day!!

WESTERN AUSTRALIA

As it was expected at the last general meeting, the lecture and demonstration by Peter Piggford provided an interesting and instructive hour or so. It is on rare occasions that the Ham with his nose well into ham gear gets the dope on the commercial use of equipment he finds such pleasure in constructing, tearing to bits, and using the bits to start on something else. The lecture dealt with the radio network of the Fire Brigade, the base equipment, and portable sets fitted to fire engines (I think they call them by other names now). The gear is f.m. on 70 odd megacycles and is compact and efficient, but jibbed a bit when used the umbrella of a broadcast radio mast; lack of earthing, etc., would be the cause. When Peter gave a call to the Control Station there was no turn out of the Brigade because the operator on duty would know Peter's voice. The technical section of the talk was well handled, and just the amount of detail required by Hams was given. A number of questions concluded the talk.



Four Tasmanian Council members (left to right): Messrs. T. Evans, K. Johnston, L. Edwards, B. O'May. Mr. L. Edwards is holding the Sesquicentenary Medal presented to Tasmanian Division, W.I.A., for their part in the Exhibition in Hobart during January. Block by courtesy of "The Examiner," Launceston.

VK3 has lost one of its earliest exponents of early radio, i.e. Bert Stevens, who under the call 8BN was prominent in W.I.A. activities as Secretary and several other positions as Secretaries in early days had to be. Bert died on 29th March after a long illness, and had not been active for many years. All old Hams who knew Bert, extend their sympathy to Mrs. Stevens and family.

6GS has forsaken his call sign and Western Australia to transfer to the P.M.G. experimental lab. in Melbourne. Blake Horrocks first started his Amateur activities in Harvey in the south west, and from 40 to 6 metres he went on to t.v. experiments with the scanning disc with no small amount of success, particularly as he had a wobbly d.c. town supply to operate with. He then joined the P.M.G. Department and moved to 6WA and his present occupation, on looking back to early days, could be described, as they do in the press, "Harvey boy makes good." We all wish him a fruitful stay in VK3, and a return to the West.

Two pieces of equipment have been submitted by members for the trophies this year. A video sweep unit from 8EC, Eric Cornelius, and a grid dip meter from 6OR, Jack Hoar. By the way, 8EC is looking for a 5EP7 tube to help him along with his t.v. experiments, so if any member has one in his bottom drawer, bring it out.

Winter conditions has set in and the use of 80 mx for the W.I.A. broadcasts seems to be more suitable than 40 mx.

Jim 6JT has just gone on his inspection trips again, as Communications Superintendent Aeradio, it takes in Cocos Island as well. Jim is well known by VK3 of days gone by, and wireless is as persistent as malaria—it never leaves one. 6GH, who for a number of years, with breaks on leave, etc., has conducted 6WI has done a very good job. Country members for whom the news is conducted owe a debt of gratitude for the consistent effort and job done by George.

Your scribe, who accepted this office to fill a gap, has found the gap an extended one, and will be looking for another VK3 to carry on with the notes, bigger and better, for next year.

TASMANIA

The Annual General Meeting was held at the 7EX Theatre in Launceston on Saturday, 26th March, and was very well attended, 42 members being present. This was the first meeting to be held at Launceston and organised by the Northern Zone, and I'm sure all present will agree that it was a complete success and a

credit to those who organised it. All zones were about equally represented, which is as it should be for an Annual Meeting.

Members elected to the various positions for the coming year are as follows: Patron, L. Crooks; President, L. E. Edwards; Sec., W. G. Tait; QSL Manager, R. Calvert; Traffic Manager and Broadcast Officer, R. O'May; Auditors, G. Richardson and A. Finch; Publicity Officer, L. Edwards; V.h.f. Officer, C. Wright. Council members elected were Messrs. R. O'May, T. Evans, R. Fulton, J. Brown, K. Johnston, L. Edwards, and T. Allen.

After the meeting, those present adjourned to the Criterion Hotel for the Annual Dinner, which turned out to be excellent fare washed down with the cup that cheers and served up by pretty waitresses—who said pretty? Was it 7FM? The festivities continued until well into the following morning, ending up on the footpath outside the 7LZ shack, so I'm told, much to the disgust of the neighbours. By the way, the photograph which appeared in the local rag was taken during the meeting, not after the Dinner, in case you didn't know. Somehow I think the photographs got mixed with those from the Chicago safebreakers' Convention, but I'm not sure of this.

I paid a visit to Stanley recently and found 7RL working with vegetables and sausages, etc., instead of knobs and dials; good luck in the new venture Reg. I hope you can still find time to thrash the ether occasionally. Bert 7BC is now also residing at Stanley and looking around for accommodation so that he can import the wife and kids. Should be plenty of opportunity for DX on 144 Mc. up there Bert.

And while on the subject of 144 Mc., it looks as if the band may liven up in the south soon with 7OM, 7MY and 7RM building up crystal converters. It will be interesting to see how 7MY is received in the city from his location at Sandford, but Alan says he will put a repeater on Mt. Mather if he can't get through direct. I must put the twinlead back on my beam. Forty mx got quite a shock the other Sunday when 7BJ came on after a silence of many years. I believe the S meter at 7AL also got a shock. Better watch out Tom, Joe has put up a half wave end fed for 7 Mc.—trying to outdo the 7ZFD I think.

NORTHERN ZONE

Last month we were privileged to be able to hold the Annual General Meeting and Dinner up here, and we all thoroughly enjoyed having other zones and the Tasmanian Division members present. The North Western gang had a good force and amongst the nine members, 7KB, 7SF were noticed, as well as 7EJ, now doing well on the bush pastures of the N.W. coast.

The Southern gentry from "way down south" put in a representative force, and faces seen belonged to 7FJ, 7OM, 7FM, 7LE, and 7RX can be remembered from the dozen or so members amongst that force.

During the week-end, visits were made to the Railway Workshops, broadcast studios, tx's, and aeradio installations, as well as a visit to the new Trevallyn hydro electric project. The party finally dispersed later Sunday afternoon and we here felt there should be more of such annual get-togethers.

7KW is still hiding 144 Mc. tx's and causing much consternation if not anything else. This time our champion, Ron Rich, was not present and 7GM crawled the last 50 yards or so into the night, practically on all fours, to gain honours.

NORTH WESTERN ZONE

Activity has been very restricted here for some time now, owing to atmospheric conditions with only occasional break throughs on all bands, and the most common being VK2 and VK3 with a few ZLs on 80 mx.

The last few days have been spent in preparing for the first Burnie Industrial Exhibition where the N.W. Zone have a stand, exhibiting examples of mobile and station equipment including a display of various types of components and a large range of valves varying in length from half an inch to twelve inches. Working exhibits are two oscillographs, a heterodyne frequency meter, and amplifier, and photo cell light relay unit.

Our regular meeting was held recently and a visitor, Mr. C. Terlin, was welcomed, also Mr. R. Nicols who has been an associate member for some years, but has been unable to attend meetings.

HAMADS

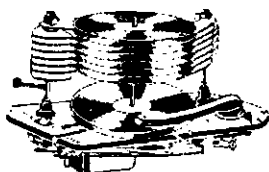
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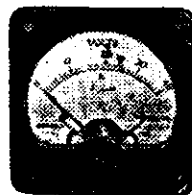
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All Amateurs are urged to keep these frequencies clear during, and for a period of 15 minutes after, the official Broadcasts.

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VK6WI: Sundays, 0830 hours WAST, on 7140 Kc. No frequency checks available.

VK7WI: Sundays, at 1000 hours EST, on 7140 Kc. and 146.5 Mc. No frequency checks are available.

EDITORIAL



THE WHEELS OF CANBERRA

In May, 1953, we informed you that the Postmaster General's Department had agreed to the issuance of the Technician License, or as it is now known, the "Amateur Operator's Limited Certificate of Proficiency."

In December, 1953, we recorded our disappointment at the delay in completion of machinery necessary to fully implement the scheme.

Now, we are happy to announce that "the wheels of Canberra" have completed their slow revolutions and every last cog has been fitted into its assigned place. The result may be read in "Amendments to the Wireless Telegraphy Regulations CSR 1954 No. 50."

The self same document also requires future applicants for both "A.O.C.P." and "Limited A.O.C.P." to pay one pound examination fee.

An imposition that we know will not in anyway dampen the enthusiasm of the genuine candidate.

To turn to the bright side of the picture, we remind A.O.C.P. candidates who failed in Morse Code only since January, 1953, that they are now eligible for Limited A.O.C.P. and should make immediate application.

Many technically capable enthusiasts who lacked morse qualifications now have the opportunity to show their ability and keenness. Undoubtedly in the near future the v.h.f. bands will become densely populated by a new race of keen experimenters. It is from the ranks of these men that the C.D.E.N. will draw most of its personnel in future national emergencies. So give them every encouragement chaps!

FEDERAL EXECUTIVE.

THE CONTENTS

The Complete Amateur—Speech Amplifier and Modulator	3	Amateur Call Signs	12
A Great Circle Nomogram	4	DX Activity by VK3AHH	13
Getting the Most Out of Your Receiver	7	Fifty Megacycles and Above	14
National Field Day 1954 Results	9	Prediction Chart for June, 1954 ..	14
VK-ZL Contest Correction	9	Federal, QSL, and Divisional Notes	15
Trade Review — Geloso Signal Shifter	11	Silent Keys	15
		Obituary	20
		Correspondence	20

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65	Radio Designs Manual	3/9
	Magnetic Tape Recorder	5/3
	Engineers' Reference Tables	2/3
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103	Master Colour Code Index for Radio & Television	2/3
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- 5Z3—Low Volt. Rectifier.
- Two 1616—High volt. Rec.

£37/10/-

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10 valve Marconi Aircraft Communications Receivers. Five bands—Range 1 freq.: 18.5-7.5 Mc.; range 2 freq.: 7.5-3 Mc.; range 3 freq.: 1500-600 Kc.; range 4 freq.: 500-250 Kc.; range 5 freq.: 200-75 Kc. Dual ratio dial calibrated for all bands. Easily converted to operate from 240v. A.C.

£45

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R.F. end. Two models, ZB1 and ZB3, frequency 234 to 258 Mc. Can be operated from either 12 or 24 volt internal change-over switch. Manually tuned dials, calibrated in frequency.

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Post. & Pack.: 6/-; Interstate 8/6.

TRANSCEIVERS, Type ATR2B

12 watt output, 3-7 Mc. All standard valves. Air tested. 12 volt operation. Can be converted to other frequencies. Crystal controlled or M.O. tuning.

£47/10/-

RELAYS

200 ohm resistance, one make, operating on 12v., new 15/- each
75 ohm resistance, two make, two break circuit, operating on 12v. 17/6 each
1500 ohm resistance, one make circuit, very sensitive, operating on 4½v. £1/10/- each

SYNCHRONISER UNITS Type 1155

Containing following Valves:

- 6—6SN7
- 3—6L7
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- 2—6L6
- 1—6H6
- 2—6AC7
- 6—717A

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THE COMPLETE AMATEUR

BY TOM ATHEY,* A.I.R.E.

SECTION SIX

Speech Amplifier and Modulator

Audio Output—35-40 Watts

Class B Zero Bias, Cathode Coupled

Chassis: 17" x 10" x 2"

Panel: 19" x 5 Units

Type of Modulation: Plate and Screen

As this unit is where the readability of your signal commences, good care in the beginning will help you in getting out a sharp, clear, intelligent signal.

The microphone is fed into a 6SN7 twin triode valve, each unit acting as a triode driver. Some people prefer to use a high gain pentode here, but I have found that low gain triodes in cascade give more stability and yet provide the same gain. Gain is controlled in the second stage. The output is then fed to a voltage driver stage which has a high frequency cut control included in the plate circuit. This is a simple means of lopping off the highs in the speech peaks and yet dispensing with the building of a clipper circuit.

The output of the driver is transformer coupled to a pair of 6M5 valves (6V6s will do). This transformer has a turn ratio of 5 to 1 and is a single ended primary to push pull secondary. This will provide sufficient lift to the power drivers. These valves are used as

triodes and the cathodes have a high resistance of 150,000 ohms in each leg of the cathode return.

Adequate voltage will be provided to feed the screens of the EL34 valves. You will notice that the EL34 grids also are connected to this source through 20,000 ohm resistors. It is perhaps as well to obtain two resistors of equal tolerance here to ensure a balanced feed.

The plates are connected to the modulation transformer and have a load match of 4,000 ohms at 375 volts on the plates. The cathodes of the modulation valves are earthed, consequently no bias is needed.

Decoupling networks are included in all speech amplifier h.t. supplies to ensure minimisation of hum or cross modulation.

The secondary of the modulation transformer has a splatter suppressor valve included. This is to suppress negative peak distortion and will assist in delivering higher audio content to the modulation of the final and resulting in higher output to aerial. Actually only 25 watts of audio are needed for 100% modulation, but by the inclusion of the splatter suppressor it is possible to "turn up the wick" without risk of causing splatter on adjacent portions of the band being used.

Switching details come under a separate section, consequently that function will be described in detail in that section.

A word here about wiring. Keep your filament wiring as close to the corner of the chassis as practicable. Hum

in a speech amplifier is most objectionable, but if great care is taken much of this nuisance can be avoided. Make all your grid leads short and shield them in the early stages, particularly in the microphone input circuit.

The values in the circuit are self explanatory and may be varied slightly without any serious loss.

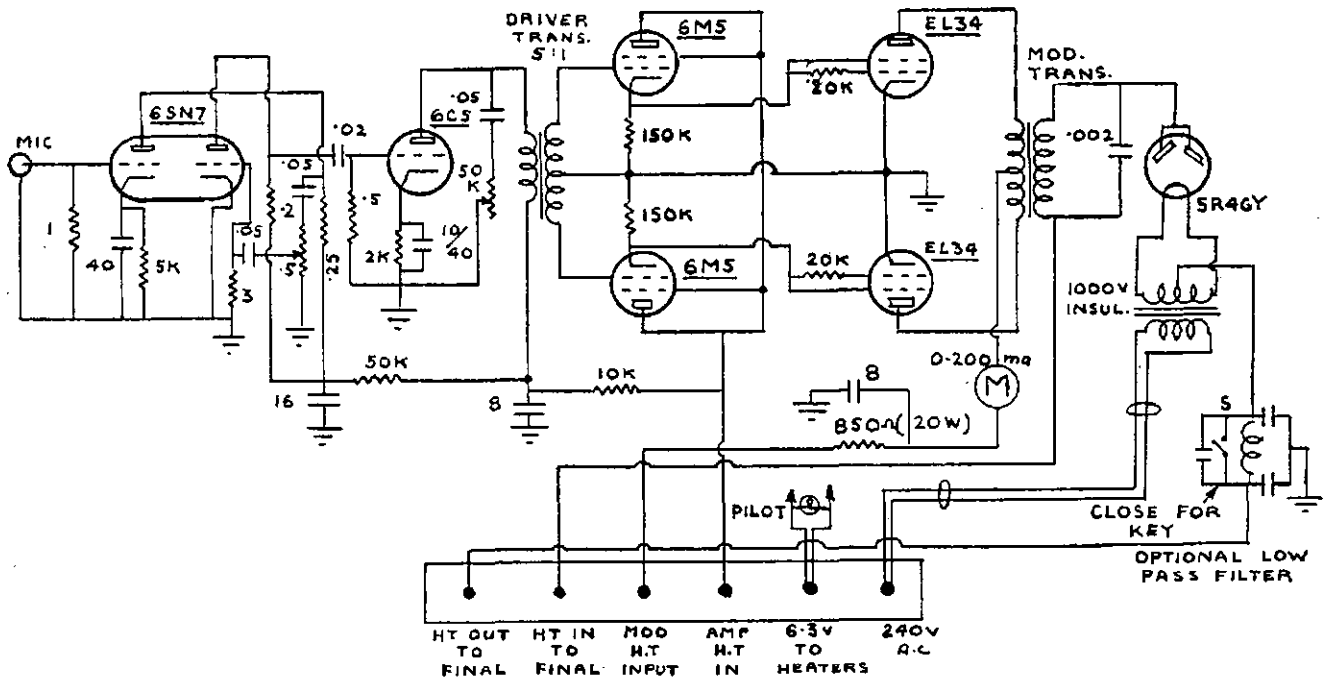
A meter in the plate lead will give indication of voice swing and should be included as a must. Any meter indicating 0-200 Ma. will do and a mark can be made at which over modulation occurs and which should not be then exceeded.

The transformer for the splatter suppressor valve must have a high DC voltage insulation rating—say 1,000 to 2,000 volts. This transformer has the whole of the DC final supply impressed on it together with the audio peaks. Consequently it must be able to handle the high voltage without risk of breakdown.

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* Ex-Instructor Qld. Division W.I.A. Classes; 41 Mountford St., New Farm, Brisbane.



A Great Circle Nomogram

BY A. K. HEAD,* VK3AKZ

If you have not got a great circle map centred on your locality, then the need may arise to calculate the great circle bearing and distance of various places round the globe. A very good description of how to do this by trigonometry is given in the R.S.G.B.'s Amateur Radio Handbook. If you are not up on trigonometry, then here is a nomogram for doing the same thing.

Since it needs to be large for accuracy, instructions are given for drawing it yourself rather than printing a not-so-accurate one. Even if you are up on trigonometry, this nomogram will do it faster than you can calculate. In the R.S.G.B.'s Handbook it is estimated that it takes about 100 hours to do a complete great circle map. Most of this time would be spent in calculations. You could do it in about 10 hours if you use this nomogram, a more practical proposition.

CONSTRUCTION

The only materials you need are a ruler, pencil, and a sheet of graph paper. An ideal size for the graph paper is one on which you can draw a 10 inch square. This size will enable you to read the scales to one or two degrees. The more common foolscap sheet of graph paper will restrict you to a seven inch square, but this should be accurate enough for most purposes.

Anyhow, on the graph paper, draw the largest square it will take. The two sides and the top of the square will be the three scales of the nomogram. Then calibrate these by using the accompanying table. For the top side, start with 0 degrees at the left and work across to 180 degrees on the right. The table tells you where the calibration marks go as a percentage of the length of the side of the square.

For example, with a 10 inch square, the 60 degree mark will be 2.5 inches from the left hand corner, 90 degrees at 5 inches, 120 degrees at 7.5 inches, etc. Having gone from 0 to 180 degrees, you now put the alternative calibrations on each of the marks. As a check, notice that the two calibrations on each mark always add up to 360 degrees.

The left hand edge of the square is calibrated in the same way, using the same table, starting with 0 degrees in the top left hand corner, coming down to 180 degrees in the bottom left hand corner, then working back up to 360 degrees. The right hand edge of the square is calibrated the same as the left hand edge with 0 and 360 degrees at the top right hand corner and 180 degrees at the bottom right hand corner.

This completes the construction of the nomogram and it should now look like Fig. 1 (but with more calibrations, of course).

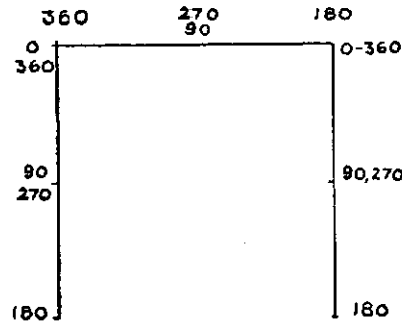


Fig. 1

HOW IT WORKS

First you need to know your own and his latitude and longitude. These only need be to the nearest degree. Next turn the latitudes into co-latitudes. This is simply the number of degrees from the North Pole, whereas latitude is the number of degrees from the Equator. So for latitudes South of the Equator, add on 90 degrees to give the co-latitude. For latitudes North of the Equator, subtract the latitude from 90 degrees to give the co-latitude.

Having calculated your and his co-latitude, add them together and mark the corresponding point on the right hand scale. Then subtract the smaller of the two co-latitudes from the larger and mark the corresponding point on the left hand scale. Join these two marks with a straight line or just lay the ruler across them.

Next you work out the difference in longitude between yourself and him. If you are both in the same hemisphere (East or West), then you subtract the smaller longitude from the larger. If one is in each hemisphere, then add the two longitudes. Locate the corresponding point on the top scale, run straight down (using the lines of the graph paper as a guide) until you come to the ruler, then run sideways to the right hand scale and read the answer. This is his great circle distance from you. The answer is in degrees, but as each great circle degree is 69 miles, a simple multiplication gives you the answer in miles. Notice that since there are two calibrations to each mark you have two answers. Both of these are correct, the smaller being the short way round, the larger, the long way round.

Next we use the same nomogram to calculate his great circle bearing. You have just found the great circle distance (the short way round). Leave this in degrees and look up your co-latitude again. Add one to the other and mark the answer on the right hand scale. Subtract one from the other and mark on the left hand side. Join these two points with the ruler.

Then mark his co-latitude on the right hand scale, go sideways from here across

to the ruler and then straight up to the top scale, which tells you the great circle bearing. Once again you have two answers, but unfortunately only one is right. The bearing is given on the 360 degree system with North 0 or 360, East 90, South 180, West 270. Common sense will tell you which of the bearings is the right one. This ambiguity is not really the fault of the nomogram as exactly the same thing happens when you work it out by trigonometry.

AN EXAMPLE

A picture is worth a thousand words, so here are two for good measure.

We will work out the great circle bearing and distance of Los Angeles (latitude 34N longitude 118W) from Melbourne (latitude 37S longitude 145E). First the co-latitudes. As Los Angeles is in the North latitude, its co-latitude is 90 minus 34, equals 56. Melbourne is South latitude, so its co-latitude is 90 plus 37, equals 127. Add these two co-latitudes together, giving 183 and mark this on the right hand scale. Subtract one co-latitude from the other giving 71, mark this on the left hand scale. Join 71 to 183 with the edge of the ruler.

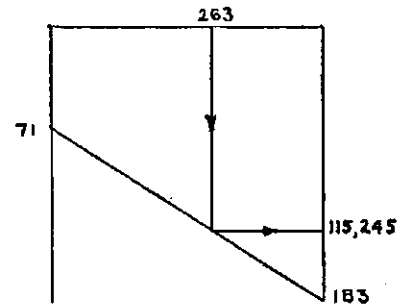


Fig. 2

Next we need the difference in longitude. As one is West and the other East, the difference in longitude is 118 plus 145, equals 263. Start at this point on the top scale, come down to the ruler and across to the right hand scale. The great circle distance is 115 or 245 degrees. Fig. 2 shows the lines on the nomogram. Turning these distances into miles, the short way round is 7,935 miles and the long way round is 16,905 miles.

Figure 3 shows the lines which are drawn in calculating the bearing. Add the co-latitude of Melbourne to the short great circle distance, 127 plus 115, equals 242, mark this on the right hand scale. 127 minus 115, equals 12, mark this on the left hand scale. Join 12 and 242 with the ruler. The co-latitude of Los Angeles is 56, start at this point on the right hand scale, come across to the ruler and up to the top scale where you read the great circle bearing as 65 or 295 degrees. Since Los Angeles is North East from Melbourne, the bearing to take is 65 degrees.

* Assistant Technical Editor, 3 Annadale Street, Kew, E.4, Victoria.

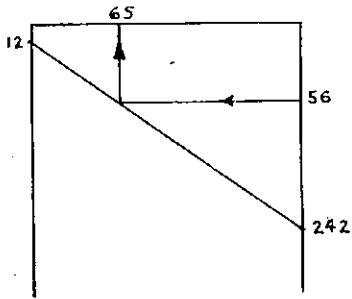


Fig. 3

THE GREAT CIRCLE MAP

The following advice on constructing a great circle map is adapted from The Amateur Radio Handbook, which is now unfortunately out of print.

Instead of calculating the data for specific towns, the entire graticule of the lines of latitude and longitude should first be constructed. This is done by calculating the bearings of the points at the cutting of the "tens" of longitude with the "tens" of latitude, i.e. 10, 20, 30, etc., East or West with 10, 20, 30, etc., North or South. A simplification could be made by the use of lines 20 degrees apart, but the choice lies with the reader and depends on the size of the map required. Using the 10 degree spacing, some 800 or 900 points would have to be calculated. By trigonometry this would take 80 or 90 hours, but can be done much quicker by the nomogram. For instance, one timesaver is that the distance calculations for the 36 points on each parallel of latitude can be done without shifting the ruler.

For the choice of a scale on which to base the map, 1,000 miles to the inch will give a map about two feet in diameter, which is a useful size. A good stout drawing paper should be used and mounted on a drawing board. A pair of beam compasses should be borrowed from a draughtsman, or made up from Meccano or wood. Draw the large circle

which is to contain the map and outside it another circle with say a half inch larger radius. Between these circles mark the points and degrees of the compass with the aid of a protractor. The usual scheme of having North at the top is probably the best.

The next step is to construct a scale about 13 inches long with a drawing pin at one end on which the scale will pivot about the centre of the map. The scale should be of stout material and it should be graduated uniformly from 0 to 180 degrees, starting at the drawing pin and finishing at a distance from the pin equal to the radius of the map. By the use of this scale the values of the distance can be plotted directly on the map without conversion to miles. Care should be taken to ensure that the edge of the scale forms a radius of the circle. The edge will have to stop short of the centre of the map to allow for the drawing pin, but it should be so constructed that the edge, if produced, would cut the centre of the drawing pin exactly.

The outer end of the scale can then be placed on the appropriate bearing calibration and the position of the point marked from the 0-180 degrees distance scale. It is advisable to do all calculations before starting to plot and then to plot the whole of one meridian of longitude and to connect up the points before proceeding to the next meridian, as the apparently strange positions of some of the points may otherwise cause some confusion.

Having constructed the graticule, the interesting part of the work is reached in the insertion of the outlines of the various continents and countries. An ordinary school atlas will supply the necessary information and the outlines can be followed from meridian to meridian or parallel to parallel as they may run. As an additional check, the positions of special capes, towns and other features can be calculated individually.

It is not expected that many Amateurs in South Eastern Australia would be interested in constructing a great circle map as published maps are available. But with VK land ranging from Cocos to Antarctica and up to New Guinea, it is felt that there are some who would be prepared to make this useful accessory to Amateur Radio. The writer would be pleased to hear from those who try, how long it actually takes to construct a map, and will answer any queries you may have.

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*1.84— 1.86 Mc.	†288— 296 M.c.
3.5 — 3.8 "	†576— 585 "
7 — 7.15 "	1,215— 1,300 "
14 — 14.35 "	2,300— 2,450 "
21 — 21.45 "	5,650— 5,850 "
26.96— 27.23 "	10,000—10,500 "
28 — 30 "	†21,000—22,000 "
50 — 54 "	†30,000 Mc. and
144 —148 "	Above.

* Available for emergency network purposes only. Normal Amateur activities are not permitted in this band.

† Temporary allocations.

50 Mc. W.A.S.

Call	Certificate Number	Additional Countries
VK2WJ	13	4
VK2VW	9	3
VK4RY	2	2
VK4HR	4	2
VK5LC	1	1
VK6DW	3	1
VK3PG	5	1
VK3RR	6	1
VK3HT	7	1
VK2AEZ	10	1
VK3XA	11	1
VK3GM	12	1
VK3ACL	14	1
VK3ZD	16	1
VK2HO	17	1
VK2ABC	8	
VK2WH	15	

DX C.C. LISTING

Call	No. Ctr.	Call	No. Ctr.
VK4HR	12 172	VK4RT	22 124
VK3BZ	3 168	VK4WJ	17 122
VK4FJ	21 164	VK4JP	8 114
VK3EE	10 163	VK4DO	20 112
VK6RU	2 160	VK5MS	24 109
VK3JD	1 155	VK4CB	28 109
VK4KS	9 152	VK3VM	29 109
VK6KW	4 150	VK3FO	25 103
VK3LN	11 147	VK2ADT	13 102
VK3AWW	14 140	VK2AHA	15 102
VK3JE	7 139	VK6FJ	19 101
VK4WF	16 137	VK3IG	5 100
VK3ATN	26 136	VK3CG	18 100
VK4RW	23 127	VK5LC	27 100
VK6DD	6 126	VK3AUP	30 100

C.W.

Call	No. Ctr.	Call	No. Ctr.
VK3BZ	6 214	VK5FH	31 134
VK3KB	10 200	VK4RF	11 125
VK4HR	8 193	VK3YD	27 123
VK3FH	15 191	VK3EK	3 122
VK4FJ	29 191	VK3JI	25 118
VK4EL	9 175	VK3HT	37 117
VK3CX	26 160	VK3PL	36 117
VK3RX	23 159	VK3JM	12 116
VK2EO	7 152	VK3YJ	44 115
VK3CN	1 151	VK7LJ	24 114
VK2GW	16 151	VK4DA	7 113
VK6RU	18 150	VK7LZ	17 112
VK6SA	28 150	VK4RC	13 107
VK5BO	33 150	VK8XK	41 107
VK4QL	36 146	VK6KW	40 104
VK3KO	43 144	VK2YC	34 103
VK3VW	4 143	VK3ABA	14 101
VK2QL	5 142	VK8NC	19 101
VK4DO	20 141	VK2OA	32 101
VK3XK	30 138	VK7RK	22 100
VK3JE	21 137	VK2AEZ	35 100
VK3YL	39 135	VK3RJ	42 100

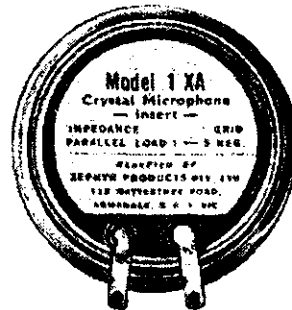
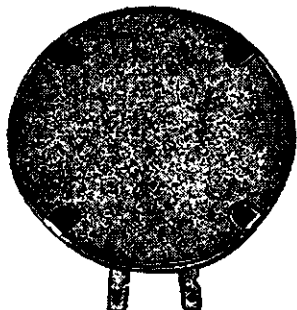
OPEN

Call	No. Ctr.	Call	No. Ctr.
VK3BZ	4 224	VK7LZ	23 116
VK4HR	7 210	VK3VQ	46 116
VK4FJ	32 206	VK2ASW	53 116
VK3JE	12 198	VK3JA	43 114
VK6RU	8 198	VK2ADT	14 113
VK2NS	16 195	VK3HO	38 111
VK3HG	3 181	VK3PG	47 111
VK4EL	10 175	VK3MM	49 111
VK6RW	13 171	VK4RC	21 110
VK3DI	2 170	VK3ZB	34 110
VK3XK	1 167	VK8XK	54 109
VK2EO	24 167	VK2ZC	25 108
VK4DO	15 165	VK3KR	55 107
VK3AWW	45 150	VK2YL	11 106
VK6RW	48 150	VK3AWN	36 105
VK3LN	29 144	VK6WT	58 105
VK5FL	26 143	VK2VN	18 104
VK4WF	40 141	VK4UL	27 104
VK3MC	5 139	VK6FJ	44 104
VK3OP	19 137	VK6PW	50 104
VK6DX	42 137	VK2HZ	17 103
VK4RW	52 137	VK7KB	30 103
VK6DD	22 136	VK2TI	37 103
VK3HT	41 135	VK3YS	57 103
VK2ADE	28 133	VK7RK	31 102
VK2AHA	9 128	VK4TY	35 102
VK2AHM	20 125	VK5HI	51 101
VK3JI	33 119	VK2ACK	6 100
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This crystal microphone requires to be terminated with a high value parallel load of the order of 1 to 5 megohms for best results.

The mass of the moving parts is small, hence the sensitivity is high and a high efficiency is achieved.

Light gauge solder lugs are provided so that excessive heat in soldering will not be transmitted to the crystal element.

When mounted in a microphone cage, it is recommended that the insert be suspended in rubber, to eliminate shock and vibration.

One of the connecting lugs is directly connected to the case and care should be taken to solder the metal shield of the microphone cable to this solder lug, keeping the unscreened portion of the centre conductor as short as possible to eliminate hum pick-up.

All crystal elements are mounted on high grade suspension pillars, being fixed thereto with a good quality cement, thus ensuring stability and long life.

Case $1\frac{1}{4}$ " diameter (rear), $\frac{3}{8}$ " thickness, 1-13/16" overall diameter (front) with filter fitted.

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Getting the Most Out of Your Receiver

A Few Hints on Proper Handling

ALTHOUGH Amateur Radio is generally considered to be a friendly hobby, one good way to get a punch in the nose is to tell a Ham he does not know how to get the most out of his receiver. In no uncertain terms he will tell you (before or after the punch—this varies with the individual) that he has had a Ham ticket for x years, and that if anyone can squeeze the last bit of usefulness out of the receiver, he can. Then he is likely to go on and say that there are some things that are wrong with his particular receiver, because it is a real dog that was designed by some self-styled engineers who were in reality idiots studying nights to become morons.

This article assumes that there are still a few non-belligerents who might be interested in getting the most out of their present receivers at no great cash outlay.

DESIGN FAULTS

Let's take a very common case, the one where the owner criticises his receiver because it has too much warm-up drift. (Actually, receivers are getting better in this department every year, but you still hear the criticism). A very simple dodge is to prop up the lid an inch or so, with a match folder or other convenient spacer, to provide for better air circulation. The maximum operating temperature will be reduced, and so will the warm-up drift. This is true, of course, of only the solid-cover receivers—you won't improve the circulation much by propping up a cane-metal cover.

Another fault easy to find with a receiver is the location of the tuning knob—it's either too low or too high. The solution is simple if the knob is too low for you—prop up the receiver with books or a shelf of the proper height. (A shelf leaves a convenient cubbyhole under the receiver for log-book, call book and scratch pad.) If it's already too high, there isn't too much you can do, although some operators drop the rear of the receiver into the table so that the panel is sloping.

Some receivers come through with tuning knobs that are too small, but anyone who suffers with this very long isn't thinking down the middle—it's easy to replace the knob with a larger one of your choice.

Frequency calibration is something that two-dial (bandset and bandspread) receiver owners worry about unnecessarily (in our opinion). It is, of course, quite difficult to set up the bandspread dial to read accurately by setting the bandset dial to some predetermined mark, but it's a cinch to do it if you have a 100 or 1,000 Kc. standard around the shack. At least it's a cinch to set it up for the band edge you're working closest to, and that's all you have to worry about during any particular operating period.

If the receiver design is such that the bandset knob can get knocked out of adjustment (a frequent complaint), put a dial lock on it. Then when you set up the receiver on a band edge and lock the bandset knob, you have a well-calibrated receiver for that part of the band. If you do not want to drill any additional holes in the receiver panel, it is sometimes possible to mount the lock on a strip of metal that is fastened to the receiver by screws under the bottom of the receiver or under the locknut on the dial shaft bushing.

There are so-called design faults that can be overcome by digging into the set and changing it over, but this should be done only if you have experience and confidence with receivers. Even

as the tuning indicator. Leave the tuning alone and just touch up the i.f. trimmers for maximum S meter reading.

Many two-dial receivers can be improved in performance by aligning the front ends in the middle of the Ham bands, letting the performance degrade if necessary outside these bands. All this means, of course, is peaking the r.f. and mixer stages while the receiver is tuned to a Ham band, and the instruction book will tell you where to find the trimmers. Use the capacity trimmers if the Ham band falls near the low-capacity end of the bandset condenser, and the inductance trimmers if the Ham band falls at the high-capacity end of the bandset condenser.

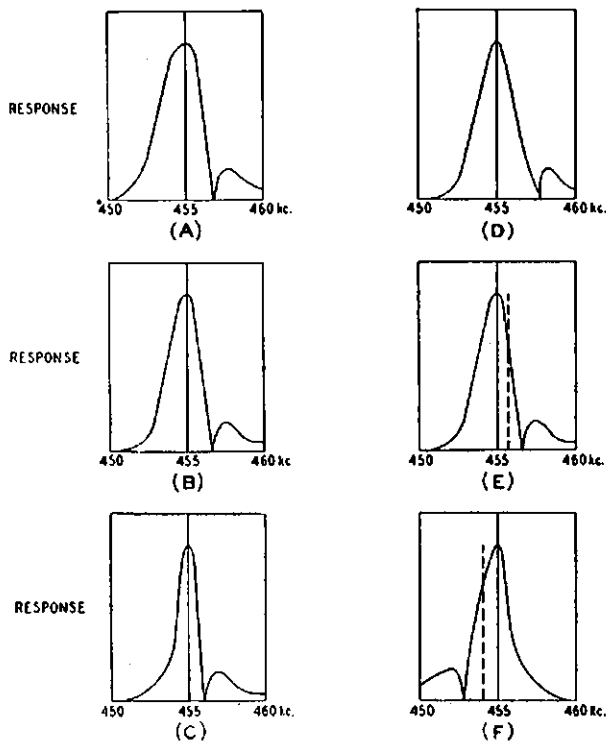


Fig. 1.—showing how the selectivity of a crystal filter changes with the setting of the selectivity and phasing controls. As the selectivity is changed, the pass-band is made narrower, as indicated in A, B and C. The phasing control changes the position of the notch, as shown in D, E and F (selectivity same as in B). The relative location of the b.f.o. frequency is shown by the dashed line in E and F.

then an owner is often justifiably reluctant to work over a receiver because he is afraid he might impair its resale value in some way. But one thing that can be done without endangering its turn-in value is to make certain that the receiver is properly aligned, and peaked on the Amateur bands. The i.f. alignment should be checked to be sure that its peak coincides with the crystal filter frequency, but just touch up the i.f. trimmers and not those associated with the crystal filter (the modern ones are tricky and you can foul them up in a hurry). You do this by first tuning in a steady carrier (b.c. or frequency standard) with the crystal filter in the sharpest position and with the S meter

SELECTIVITY AND OVERLOAD

Now let's get down to some of those ideas we had at the start, when we got that punch in the nose. One big operator fault is in not knowing the limitations of a receiver, and as a consequence unjustifiably criticising a transmitted signal for a crime it didn't commit. Any superhetrodyne has limitations of selectivity and signal-handling capability, and you can't call yourself an operator unless you can recognise them.

Take front-end selectivity, for example. Unless you realise that your receiver can have "images" in the higher frequency ranges, you may be one of those who will tell us to get that blank-

• Reprinted from "QST," January, 1954.

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BRIGHT STAR CRYSTALS are manufactured to pass the enacting conditions required by the P.M.G. regulations for Amateur and Commercial use. All Crystals are chemically etched to insure that the frequency, once set, is permanent.

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ety-blank short wave b.c. station out of the middle of the 14 Mc. band, which investigation will show to be a powerful station around 15 Mc. riding through as an "image." (It has happened on several occasions, so don't think we are pulling this example out of the air.) You can identify these images easily by switching on the receiver for single-signal c.w. reception—an image will come in on the "wrong" side of zero beat. (If you don't know how to set up the receiver for single-signal reception, we'll get to it a little later.)

If you are troubled with images, do not add any more tubes ahead of your receiver, for reasons to be mentioned in the next paragraph. Your best bet is to get some more tuned circuits between the antenna and the receiver—often a simple antenna coupler (as described in the Handbook) will improve the image rejection quite noticeably.

Perhaps you have been criticising a powerful local Ham station for "birdies" throughout the band, when investigation would show that it is caused by overloading of your receiver in the front end or in the first i.f. stage. Check on the "birdies" by using a small receiving antenna and backing down on the "gain" control. We know of instances where some of the older receivers that had two r.f. stages ahead of the mixer were greatly improved by removing one of the r.f. tubes and plugging in a small (5 or 10 pF.) coupling condenser from grid to plate at the empty socket. The strong local signals cleaned up as if by magic, and one could copy signals a lot closer to them (frequencywise) than before.

In a case like this, where you are trying to copy a signal near a really strong one, you are usually forced to resort to manual gain control, since the a.v.c. system just can't handle the situation adequately. This is especially true if the interfering signal is pulsing or syllabic in nature, like c.w. or s.s.b. An ideal receiver would have all of the selectivity between the antenna and the first tube, but of course it just can't be built that way with present techniques. Another approach would be to use transmitting-type tubes as linear amplifiers up to the high selectivity portion of the receiver, but this hasn't found too much favor yet. It is therefore mandatory that you keep the signal levels down to some low value until you can get into the selective circuits of the i.f. amplifier. In any event, try handling strong signals with the manual gain control, and don't rely on a.v.c. under all circumstances when copying a.m.

C.W. SELECTIVITY

Some c.w. operators like selectivity, and others prefer to depend upon their ears. We aren't going to make an effort to change anyone one way or the other, but if you are one who doesn't use his crystal filter because he doesn't know how to—and you aren't alone, believe us!—we heartily recommend that you spend a little time with it. All selectivity does for you is to make the selectivity "window" quite a bit narrower, so that fewer signals can get through with any one tuning-dial setting. The crystal "notch" (adjustable through the "phasing" control) is used to increase

1 "Let's Listen," "QST," March, 1953.

National Field Day 1954 Results

All sections of this year's National Field Day Contest were won by Harold White, VK2AHA, operating portable from Readhead, seven miles south of Newcastle, with a power input of eight watts. Harold is one of our keenest and most consistent operators of portable equipment and his score this year shows what can be done with relatively low power equipment.

A new system of scoring was tried out this year in an endeavour to encourage the use of low power equipment. An examination of the logs submitted indicates that this was quite a successful experiment. Quite a number of stations operated with powers of under five watts and nearly all were under 10 watts. The corrected scores showed that the use of the inverse multiplier had the effect of equalising the scores of the higher scorers.

The change of date from the Australia Day week-end was apparently successful although it was unfortunate that the day selected clashed with the A.R.R.L. Contest. The date was decided on long before the announcement of the A.R.R.L. Contest was received and could not be changed at short notice.

Logs are still very much below standard and this makes the job of the Contest Committee harder than necessary. In an endeavour to assist contestants submitting logs for future contests the following faults are taken from the N.F.D. logs:—

- ★ Several contestants did not indicate whether contacts were made on phone or c.w. All were placed in open section.

the rejection on one side of zero beat, so that a c.w. signal tunes from a high beat note down to zero and comes up very weakly, if at all, on the other side. This is called "single-signal reception." If the b.f.o. is set improperly you will not get it well. The "selectivity" control selects a crystal-filter bandwidth for you, from a broad one to a sharp one, and you use the setting you like or that conditions call for. But you must remember one thing—the more selectivity you use, the more carefully you must tune, because a signal won't occupy as much space on the tuning dial with selectivity as it will without.

While listening to a particular signal, you can reject an interfering one by readjustment of the phasing notch if you care to, or by switching to a more selective setting and retuning the receiver a bit, to put the interfering signal "out of the window." A common error is to reserve the crystal filter only for times when you run into QRM, but unless you know your receiver well, you run the risk of losing the desired signal when you switch in the crystal filter, and it is advisable to do all of your tuning with the crystal in and set for single-signal reception.

PHONE SELECTIVITY

The use of selectivity (crystal-filter and other) in phone reception is a whole article in itself, and it will be discussed at some later date.

★ Most of the contestants did not take the trouble to work out their scores.

★ None of the logs submitted by multiple operator stations showed which operators made the actual contacts. Rule 18 allows Certificates to be awarded to each operator provided he made at least 25 per cent. of the contacts. As the logs did not contain the necessary information, these Certificates cannot be awarded.

We are now at the end of our Institute year and a new Contest Committee will be taking over. The job is not an easy one, but you can help them by following a few simple rules when making out your log.

- ★ Read the rules of the Contest carefully and include in your log all the information required.
- ★ If possible use the standard Institute Log Sheet.
- ★ Put your Call Sign, Name and Address on the first sheet of the log.
- ★ Total up your score and summarise the results on the last sheet.
- ★ State which section of the contest you wish to enter.

RESULTS

Open Section

VK2AHA	33.54	points
VK2ASW	29.8	"
VK2AMV	25.16	"
VK3AID	17.25	"
VK3ACE	6.3	"

Phone Section

VK2AHA	30.4	points
VK4TN	19.17	"
VK3LN	16.8	"
VK3RN	11.25	"
VK3YS	4	"
VK4SF	3.72	"
VK5JO	3.65	"
VK3DY	1.8	"
VK3JO	1	"
VK3SS	1	"

C.W. Section

VK2AHA	3.146	points
--------	-------	--------

Fixed Stations

VK5RG	75	points
VK7DR	40	"
VK2ABT	35	"
VK5XK	25	"
VK2HZ	20	"
VK3GE	10	"

Check Log

VK2ALG/P

VK-ZL CONTEST CORRECTION

It has been noted that an error has been made in the scores published in the April issue. VK4RT was shown in third place in the Open C.W. Section with 2794 points. This entry should have been in the Open Phone Section with this score. VK4RT is now the winner of this Section with VK4SF second. Apologies are extended to both competitors.

—Federal Contest Manager.

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Geloso Signal Shifter

One of the problems which beset the Amateur is that of providing drive to his final amplifier on the 80, 40, 20, 15 and 10 metre bands. The most popular method of doing this has been to use a doubler string and couple the final amplifier to the one required. This method works quite well, but requires a large number of valves; if a v.f.o. is used to drive the string, say three tubes for the v.f.o. and a minimum of four for the doublers, making a total of seven in all. Apart from the expense angle, the additional valves take up quite a bit of space.

In the Geloso Signal Shifter we see an entirely different approach. Here we have sufficient output available to drive an 807 to full ratings on all five bands, and in addition, v.f.o. control as well, and best of all three valves do the whole job, which means a big saving in space and cost.

The physical layout is shown in Fig. 1 and the circuit in Fig. 2. Taking the physical layout first, the chassis dimensions are depth 5½", width 4¾", chassis turndown 2¼", and dial width 8¾".

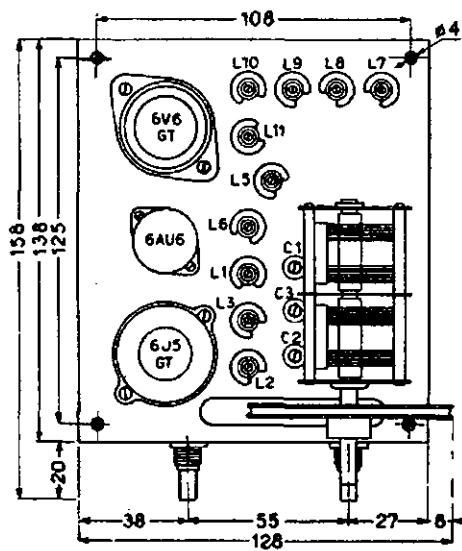


Fig. 1.

This means that as the dial spindle is centrally located in the dial escutcheon, but to the right hand side of the chassis, a space is available to the right of the condenser for an 807, plate tank, and plug-in coil, to be mounted on an auxiliary chassis. It can be seen that a very compact five-band 50 watt r.f. unit can be built which would not be much wider than the dial escutcheon or much deeper than 5½", so that the whole transmitter would not be any larger than the average Amateur's v.f.o.

A large modern dial is fitted to the exciter, directly calibrated for the five bands, and by following the alignment data, accurate calibrations are obtained, if the trimmers and slugs are set with the aid of a good frequency meter.

A study of Fig. 2 will show how the exciter operates. A 6J5 is used as a

Clapp oscillator with three separate inductances, L1, L2 and L3, each slug tuned. The tuning condenser is divided into four sections of 50 pF. each, and are switched as follows:—

- 80 metres—Two 50 pF. sections in parallel (C4, C5) and inductance L1.
- 40 and 10 metres—One 50 pF. section (C6) and inductance L2.
- 20 and 15 metres—One 50 pF. section (C7) and inductance L3.

Trimmers are used to adjust the high frequency end of the bands, and the inductance slugs the low ends.

With the above combinations, the inductances are of such value that L1, in combination with the condenser sections mentioned previously, covers 3.5 to 4 Mc.

Similarly L2 covers 7 to 7.45 Mc. on its fundamental, and L3 covers 3.5 to 3.6 Mc. also on its fundamental.

The 6AU6 is capacity coupled from the oscillator cathode, and acts as an isolator with a 5,000 ohm plate resistance, for 80 and 40 metre operation, and on the 14, 21 and 28 Mc. bands as a doubler, with slug tuned plate inductances. The 6V6GT output stage has a series of five slug tuned inductances in the plate circuit, each tuned for output

The dotted lines show the suggested external connections, and it will be noted that if a 35,000 ohm potentiometer is used in the 6V6 screen, a control of excitation to your final is obtained.

The unit supplied to us was set up and tested for oscillator drift and stability, and was found quite adequate for Ham purposes.

It is recommended, however, that a regulator tube be used to control the voltage to the oscillator to prevent any frequency shift with mains voltage changes.

Another point is stressed. It is necessary to see that the h.t. supplied to the exciter is 400 volts as recommended, a drop of 50 volts makes a big difference to the output, so see that it is 400 volts under load and an 807 will be driven fully on all bands.

The total current requirements of the exciter are about 50 Ma. at 400 volts, and with this h.t. supply, the following measured grid drive to an 807 was obtained (25,000 ohm grid resistor):—

80 Metres—Drive 8 Ma.
40 " " " 4 " "
20 " " " 10 " "
15 " " " 3.7 " "
10 " " " 4 " "

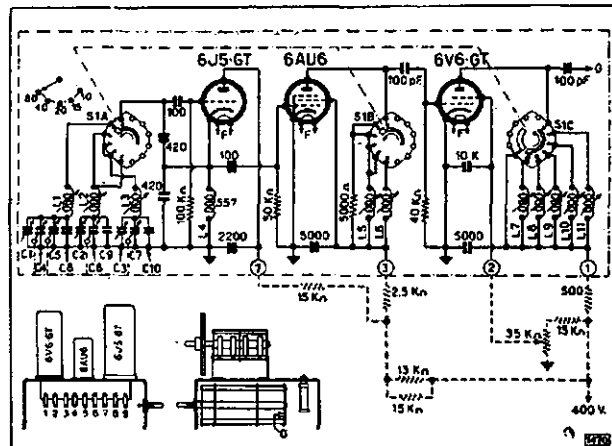


Fig. 2.

Band Mc.	Clapp Osc. (6J5)	Isolator (6AU6)	Power Amp. (6V6)	Final Output
3.5	3.5—4.0 Mc.	Aperiodic Amp.	Amplifier 3.8 Mc.	3.5—4.0 Mc.
7	7.0—7.45 "	Aperiodic Amp.	Amplifier 7.26 "	7.0—7.45 "
14	3.5—3.8 "	D'b'ler 7.15 Mc.	Doubler 14.2 "	14.0—14.4 "
21	3.5—3.8 "	D'b'ler 7.15 Mc.	Tripler 21.25 "	21.0—21.8 "
28	7.0—7.45 "	D'b'ler 14.1 Mc.	Doubler 28.2 "	28.0—29.8 "

on the band required. This stage operates as a straight amplifier on 80 and 40 metres, a doubler for 20 and 10 metres, and a tripler for 15 metres.

It is important to note here that the output to the following amplifier to be driven from the exciter is capacity coupling and if any attempt is made to connect a co-ax line, the added capacity of the co-ax will detune the inductances, and as only a limited range is available for adjustment, the inductances could not be resonated.

Provided the normal capacity coupling to an 807 is used, with a 25,000 ohm grid resistor, and the lead to the grid is kept short, everything will operate perfectly.

A multi-contact switch, SI A, B, C, is used for band changing of all these circuits, so that drive to your final is obtainable on all bands at the flick of a switch.

These readings were taken without plate or screen voltage applied, and need to be reduced by 25 per cent. when the final is loaded.

As an experiment, pin 1 of the 6V6 socket was grounded and a metal 6L6 we had on hand plugged in. After resetting the slugs on the inductances, it was found that for the same plate and screen voltages, about 25 per cent. greater output was obtained.

Our opinion of the Geloso Signal Shifter is that any person starting out in Amateur Radio could not do better than get one of these units and follow it up with an 807 final. He would then have a cheap flexible transmitter for a minimum of cost, capable of transmitting on our five most used bands.

We are indebted to R. H. Cunningham Pty. Ltd. for making one of these units available for test.

AMATEUR CALL SIGNS

FOR MARCH AND APRIL, 1954

ADDITIONS

VK— New South Wales
 2AN—R. Howland, 3 Balfour Ave., Caringbah.
 2FR—T. G. Donald, Lord Howe Island.
 2QG—H. Capsey, 58 Elliston St., Chester Hill.
 2AGJ—Griffith Radio Club; Station: Rdo Theatre, Banna Ave., Griffith; Postal: 43 Canal St., Griffith.
 2ALL—J. L. Leeds, 589 Fisher St., Broken Hill.
 2AOH—P. Hulgens, 39 Folding St., Fairfield.
 2AQW—J. S. Walker, 25 Shell Cove Rd., Neutral Bay.
 2AUF—C. I. Falconer, The Golf House, Terrigal Rd., Terrigal.
 2AUI—J. S. Innes, 120 MacPherson St., Cremorne.
 2AUP—K. Postler, 121 Brighton Bvde., North Bondi, Sydney.
 2AVC—E. C. Champion, 3 Crescent Ave., Ryde.
 2AVF—F. J. Fairleigh, 87 Bultge St., Dubbo.
 2AVS—E. Sundstrup, 10 Greenfield Ave., East Willoughby.

Victoria
 3QB—W. J. Mills, 92 McDonald St., Mordialloc.
 3AKX—D. C. Kirton, 9 Hilda St., East Melb'ne.
 3ASF—B. R. Forbes, 28 Knight St., Shepparton.
 3ASS—S. S. St. George, C/o. 3SH Transmitter, Lake Boga Rd., Swan Hill.

Queensland
 4CF—H. F. Watts, Cr. Kitchener and Herries Sts., Toowoomba.
 4DG—K. D. M. Grice, Winchu St., Quilpie.
 4GE—E. G. Ginn, 23 Flemington, St. Hendra.
 4IB—D. N. Bismire, Willis Island.
 4JY—G. W. Young, 41 Brae St., Coorparoo.
 4YP—C. I. Patterson, Fig Tree Pocket Rd., Fig Tree Pocket.

South Australia
 5AF—A. S. Little, 32 Elder Trce., Dunleath Gardens.
 5GE—R. G. Pitts, 2 Beerworth St., Port Augusta.

Western Australia
 6IW—A. F. Wreford, "Hill View," Frederick St., Gosnells.
 6VK—V. J. Kitney; Station: C/o. Station 6AM, Northam; Postal: C/o. P.O., Northam.

Territories
 9HO—H. T. Overend, C/o. R.T.C., Kavleng, T.N.G.
 9SP—R. Fleming, C/o. Australasian Petroleum Co., Port Moresby.

ALTERATIONS

VK— New South Wales
 2KL—187 Booker Road, Booker Bay.
 2LU—88 Hood Street, Yagoona.
 2NH—10 Royalist Road, Cremorne.
 2OH—23 Blakesley Road, South Hurstville.
 2QX—142 King Georges Road, Lakemba.
 2WJ—C/o. O.T.C. Receiving Station, Bringelly.
 2YO—41 Boundary Street, Spion Kop, Pelaw Main.
 2ZB—98 Juno Parade, Bankstown East.
 2ADT—33 Rose Street, Inverell.
 2AFQ—Station: Bobbin Head Road, Turramurra; Postal: C/o. Raynax Supplies Pty. Ltd., G.P.O. Box 3787, Sydney, N.S.W.
 2AOU—25 Eerrile Road, Beverly Hills.
 2AFV—20 Melville Avenue, Strathfield.
 2ARS—534 Farramatta Road, Ashfield.
 2ART—Post Office Residence, Raymond Road, Glenbrook.
 2ASA—Tuggerawang, via Wyong.
 2AUA—20 Talbot Street, Peakhurst.
 2AVB—C/o. Post Office, Stockinbingal.
 2AWZ—1b Wharf Road, Marrakville.
 2AXG—26 Cliff Road, Wollongong.

Victoria
 3CZ—Station: 2 Vincent St., East Malvern; Postal: P.O. Box 27, Warburton.
 3JR—76 Leicester Street, West Preston.
 3OK—Station: 36 Stawell Street, Sale; Postal: C/o. Station 3GI, Sale.
 3QF—Cardiff Grange, Avonsleigh.
 3QJ—17 Married Quarters, Balcombe Camp.
 3SL—Cambridge Road, Montrose.
 3SQ—55 Nepean Highway, Aspendale.
 3WR—10 Rostrevor Parade, Mont Albert.
 3AAW—Melbourne Telecommunication Unit, R.A.A.F. Station, Canterbury.
 3AJB—Station: Hazelwood Road, East Warburton; Postal: P.O. Box 27, Warburton.
 3AJQ—101 Nepean Highway, Sealford.
 3AKF—19 Princes Street, Mildura.
 3ALE—72 Orr Street, Shepparton.
 3AMH—208 Eyre Street, Ballarat.
 3AMJ—121 Park Street, Parkville.
 3AMZ—1007 Nepean Highway, Moorabbin.
 3AOB—122 Hayes Street, Shepparton.
 3ARH—53 Henty Street, Casterton.
 3ARB—61 Primrose Street, Essendon.

Queensland
 4CF—47 University Road, Mitchelton, Brisbane.
 4DC—123 Esplanade, Cairns.
 4KE—Edward Street, Charleville.
 4RA—Douglas Street, Brighton.
 4SD—Patterson Street, Wynnum North, Brisbane.
 4SG—South Street, Toowoomba.
 4SS—35 Whynot Street, West End, Brisbane.
 4ZZ—House No. 531, Q.H.C., Doyle Street, Harlaxton, Toowoomba.

South Australia
 5GH—19 Grantley Avenue, Daw Park.
 5KU—1 Bond Street, Mount Gambier.
 5LR—Main Road, Blackwood.
 5PW—12 River Street, West Marden.
 5RW—2 Silver Avenue, South Brighton.
 5TW—5 Jardine Street, Mt. Gambier.
 5WX—Radio Maintenance Section, C/o. D.C.A., Oodnadatta.
 5XK—97 North Terrace, College Park.

Western Australia
 6GA—54 State Street, Victoria Park.
 6SR—430 Great Eastern Highway, Midland Junction.

Tasmania
 7AF—90 Hampden Road, Battery Point.
 7PF—9 Forest Road, Launceston.
 7PJ—"Hillmorton," East Risdon Road, Lindisfarne.

Territories
 9AU—C/o. R.T.C., Wewak, T.N.G.
 9WG—Torres Crescent, Port Moresby.

DELETIONS

New South Wales: VKs 2CN (now operating under VK4CP), 2DA, 2AS1.

Victoria: VKs 3CF (now operating under VK2AUF), 3SB, 3SF (now operating under VK9SP), 3YP (now operating under VK4YP), 3YY, 3ADC, 3AFM, 3ASW (now operating under VK2AQW), 3AVK (now operating under VK6VK).

Queensland: VKs 4FO, 4HO (now operating under VK9HO).

South Australia: VKs 5DW (now operating under VK61W), 5JQ, 5KI (now operating under VK2AUP).

Western Australia: VK6KD.

Territories: VK1AF (now operating under VK5AF).

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DX ACTIVITY BY VK3AHH†

QTHs of Interest:

ZK2AC—Eddie Hickford, Nieuwe Island, South Pacific.
 ZB1AUU—Hugh Gilmour, 35/2 Inguanez St., Rabat, Malta.
 W6MUR—1202 Avoca Ave., Pasadena 2, Calif.
 SM5AQV—Ake Andersson, Skapvagen 13/NB, Enskede, Sweden.

DX HIGHLIGHTS

After the recent completion of the power installation at Mawson, Antarctica, Bill Storer, VK1EG, has now commenced regular Ham Radio operation. Bill keeps schedules with VK1DY, of Heard Island, at 1600z on 7040 Kc. (from IDY, 3CX).

VE3CCK anticipates to operate as FP8AJ in August, 1954. His operating frequencies will be on 7 and 14 Mc. (from 3ZO).

During April, F08AJ, for three days active from Clipperton Island, gave many a DXer a new country.

BAND CONDITIONS

3.5 Mc.: On this band reasonable conditions to North America and the Pacific Islands have been reported and observed here. When activity existed, signals were quite good between 0800z and 1300z.

Charlie 1AC heads the list with W6*, W7*, W9* on c.w. and VKs*, ZLs* on phone. Frank 2QL and Dick 3DG heard DU7SV, Ws. Reg 3GX worked VK8OK*, while Fred 3YS reports Ws and DU7SV, also heard by Bob 3ZF. Lin 8ARL spoke to VK1AC*. Ray 3ATN tried his vee beam on this band, phoning with VK1AC*, VK8OK*, and hearing DU7SV. Norman Clarke heard VK1AC. 3AHH's log shows W6*, ZK1BG*, VK1AC* and DU7SV.

7 Mc.: Conditions on this band remained relatively good to all continents. North, Central and South American conditions prevailed between 0800z and 1200z. North Africa and Europe were workable via both short path (1900-2100z) and long path, opening rather early around 0400-0800z. The Far East and Pacific Islands were represented between 0900z and 1400z.

As our friends in W land can easily be worked on this band, no special mention of such QSOs is necessary and we have 1AC who contacted KF3AB*, VE1ZZ*, KG6*; followed by Peter 2FA with FK8AE*. 2QL reports CN8FL* and XE2LA, KP4UH, CT1DJ, LZ2KAC. Noel 2AHH keyed with KH6s*, JA*s, and KF3AB*. Don 8PV/3APV reports KF3AB who was also worked by 3YS. Lance 8ZA has another fine list with KG6*, JA*s and VP81V, KP4CC, OZ9BX, CT1VE, OH1SU, ZB2A, SMs, DLs, KF3AB, G3JFF, LA6Z, CN2BO, ON4CE, CM9AA. Noel 3ZO continues the flow of good ones with T1ZPZ*, YV5DE*, KF3AB*, JA*s, KP4CC* and JZ0AA, VR3A, KL7. Dave 3ADW QSOed CN8EL* and heard GSHL (phone) and SMs, DLs. Kevin 3AKR presents his DX log with HF3FL*, CO2BU*, CO2LL*, XE2HZ* (all on phone), followed by 3ATN who spoke to HF3FL*, CO2BU*, KL7* and KG6*. Norm 3AKK contacted G2BVN* and JA*. Our s.w.'s report: Eric BERS195, HF3FL (phone), F49VN, KL7, VQ4EN (2000z), ZC4IP, ZK1AB, ZK2AC, ZB2A, Y12AM plus a series of Europeans. Norman Clarke, KR6PD, 3AHH worked KF3AB* and heard CT, KZ5CR, KP4UH, PJ2AA, VR3A.

14 Mc.: General conditions were rather erratic to all continents. However, there were some good break-throughs beside normal communication with W land (0200-0700z). The possibility of contacts with Africa and Europe (long path) existed around 0400-0800z. Openings to Central and South America were sporadic between 0300 and 0800z. European signals over the short route were reported and observed here around 1100-1300z early in the month, and around 1900-2300z towards the end of the month.

Apart from contacts with W land, activity on the low end is displayed by 1AC (Macquarie Island) with OH*, V56*, KL7P*, KR6*, SM*, George 1DY (ex-3ADZ) includes in his first DX report after arrival on Heard Island: VK1EG*, VK1HM*, VU2*, ZEZJK*, KH6*, KA2*, SM*, DL*, HB9*, ZB1BU*, 4X4UW*, ZS6A*, ZS2MI*, LA*, VQ4*. 2PA keyed with FK8AE*, a long series of KA/JA*, KB6*, KX6*, VE*s, KG6*, DL1DJ*, 1*, KL7PDC*, OH*, V56CG*. The next in line is Frank 2QL with F08AJ*, PJ2AA*, VR3A*, KB6*, T1ZTW*, CM9AA* and HF4BB*, VR6ZB*, OD5AB*, PJ2AJ*, KG4AU, YS10, HS1D, KJ6FAA, ZS5DC (1800z). 2AHH managed QSOs with JA*s, KH6s*, GM*, HB9*, G*, LA*, ZC4IP*, CN8MM*. Alan 3CX worked VE*s, ZS5MP*, YV5FV*, VR3A*, F*, JA*s, ZC4IP*, VK1DY*, G* and heard VR6AC (14080 Kc.). Percy 3PA QSOed VR3A*. Don 3PV/3APV

reports VR3A*, ZS5MP*, KL7*. VE*s and ZC3AL, CT, CR7AF; followed by Bill 3TX who contacted XE1BS*, CR7AF (0610z, 14040 Kc.). 3YS mentions VR3A* and PJ2AJ, LU0DJW, 3ZA keyed with HRIAA*, JZ0KF*, KL7FAG*, KA*, KB6*, FK8AE*, KR6*, VS1CZ*, VR3A*, KL7AWB* and heard F08AJ/MM, T1ZTG, CP3CB, PJ2AJ, ZK1AB, ZS5MP, AB1US. Don 3ADI reports G*, SM*, PJ2AJ*; while 3ADW worked F*. John 5HI contacted KB6*, and Ray 5RK keyed with JA*. From WA, we have John 0GU with ZC5VR*, F*, 1*, HB9*, BERS195 heard FK8AE, F08AC, F08AJ/MM, F08AK, KB6, KX6, PA0 (1930z), VR3A, VS2EB, VS8s, HRIAA. Here at 3AHH we have OH*, KH6*, PJ2AJ*, ZS5MP*, KL7FAG*, VK1DY*.

These are the phone reports: 1AC spoke to KL7AFR*, and 2PA QSOed VR2B*, KA/JA*, DL*, ZC5ER*, VE*, KL7ASZ*, followed by 2AHH with KH6*, JA*, VE*, YV3IC*, PJ2AA*, KF3AB*, VR2CV*, ZS2DV*, ZC5VR*, G*, OD5AB*, YV5AB*, CO2OZ*, ZK1B*, CN8MM*, DL*. Ken 3WM phoned with VK1HM*, and Neville 3ACN tried his new beam with results like CT*, VK1PG*, XE1TR*, HP3FL*, VR2CS*, G*, KL7*, VE8GY*, KB6*; while 3ADI reports SM*, 4S7YL*, CT*. 3ADW contacted KJ6FAA*. John 3GD reports YV5AB* and OD5AB, Q44AI, I. Ken 3AQJ worked ZS*, 3ATN listed VK1HM/ZC2*, ZS*, VE*, CO*, 5HI spoke to KC6KU*, KH6*, KA*s, KW6*. Doug 7DZ phoned with KL7*, VE*, and Len 90K contacted a series of ZLs*, VKs* and Ws*. BERS195 heard KV4BB. Norman Clarke heard G, JA, KW6, YV5AP.

21 Mc.: Erratic openings to various continents were predominant. Times for the American continents were between 0800z and 0400z with Africa and South East Asia around 0400-0800z.

1AC worked a series of VKs*, while 2ID contacted VQ4BP*, ZE2JK*, VS1FE*, Ws*, KH6s*, followed by 2AQN with 4S7WA*, ZE2JK*, VQ4BP*, VS1FE*, Ws*, KH6* and OD5AB. Reg 3GX reports Ws* and ZE2JK. 3PA QSOed CP5EK*, VK1AC*, Ws*, VS1FE*, KA*, KH6*, JA*, KG6*, DU7SV*, and HP3FL, Y13WH, XZ2KN, 4S1YL 3WM worked CP5EK*, 3AKR mentions WZ1Y* plus the common Ws* districts. 3ATN managed QSOs with KZ5*, OQ8RU*, ZS*, W*, KG6*, KH6*. 6GU reports Y13WH*, XZ2KN*, ZC4JA*, VQ4BP*, KR6KD*, ZS*, F*, 1*, HB9*. Jim Hunt heard a long series of Ws*.

27 and 28 Mc.: During the first half of the month this band showed some remarkable openings which seemed to disappear on the 13/4/54. Break-throughs were to W land, Central America and the Pacific Islands.

Norm 2ALJ reports W4*, W6*, W7*, DU7SV*. Quentin 3IM heard KH6s and DU7SV. Les 4XJ QSOed a series of W4s*, W6s*, W7*. Jim Hunt heard a number of Ws*.

GENERAL NEWS

VK1DJ (Macquarie Island) has recently been licensed (from 1AC). ZK4AC was heard being called by overseas stations on 14 Mc. c.w. (from 3PV). No information on his QTH is yet available. JZ0AA appears to be another station in Dutch New Guinea—QSL via VK8YV (from 8YV). There seems to be some activity from Pitcairn Island in VR6AC, VR6AY and VR6ZB (from 2QL, 3CX, 3ZA). ZK2AC is on 7 Mc. for regular schedules with ZLs (0700z and 0800z) (from BERS195). ZP8AY is supposed to be on 14010 Kc. (from 3CX). W6MUR handles QSL cards for ex-ZK2AA.

And here is some 3.5 Mc. DX information: G2DCU, in VK known as VK2AWU, under which call sign Walter operated during his stay at our end of the world, is looking for VK stations on this band. European stations interested in 3.5 Mc. DX are G5DQ, G6HB, G6ZO, GW3ZV, EI8J, YU1AD, I1AIV, I1ACG, HB9EU, DL1DX, DL1FF, SM3AKM, SM4GL, SM5AEU, SM4APZ, SM4BTB, SM5SDW, SM5AQV, SM5AQZ, SM7QV, SM7AKG, LA4ZC, LA8U, LA7Y and LB8YB. SM5AQV (here one of the strongest European stations when 3.5 Mc. opens to Europe!) uses 450 watts input. His antenna is a long wire and the rx is a pre-selector plus HRO-7. Ake will be pleased to arrange schedules with any VK who desires a QSO on the low frequency bands (thanks SM5AQV for the above information).

Signals in exclusive Ham bands are not always originating at Ham stations. Here are those reported during the month:—

Radio Pakistan—7008 Kc., commencing operation before 1400z.
 B.C. Station, unidentified—7032 Kc.
 B.C. Station, unidentified—7055 Kc.

Do you know some more? Let's keep the list up-to-date!

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FIFTY MEGACYCLES AND ABOVE

NEW SOUTH WALES

April was a very interesting period for the v.h.f. gang. The monthly meeting of the Group was well attended and a very interesting and informative lecture was presented by Mr. Bert Sinfeld on the "Voltohmyst," giving those present plenty of ideas for another project.

The direction finding field day was a very enjoyable outing. Stations were ZHL as control station. 2ANF, 2AJO, 2AJZ, 2ATO, 2OA, 2LG and 2CE. Points were gained for locating a station within a 1/4, 1/2, 3/4 and 1 mile radius of their actual location, plus one point for each contact made during the day. After many cross bearings had been exchanged and maps marked, the results were: 1st, 2AJZ, locating 32 points, contacts 20 points, total 52; 2nd, 2ANF, 20-28-48; equal 3rd, 2OA, 12-14-26; and 2ABO, 0-28-26; 4th, 2LO, 12-12-24; 5th, 2ATO, 0-11-11. 2CE had some trouble with his gear and only had one contact, but of course ZHL, being control station, scored all the points. However, had a greater number of home stations been active, more cross bearings would have been exchanged and added interest to the day's activities. Just the same, a great deal was learnt about broadness of beams and gear in general. All taking part agreed that it was an excellent day and with the experience gained will achieve better results in future contests of this type.

Many contacts were made with country stations during April on 144 Mc. ZWH, of Forbes, was worked by 2ANF on nightly sked, also by 2AJZ and 2NP. 2GU, Canberra, was heard with a good signal working 2ZHO, 2ANF and 2AJZ. 2AGY, Newcastle, was worked seven consecutive nights on phone by ZHE, while ZRU has been working most Sydney stations.

About midday on 25th April, ZWH at Forbes heard 3RR on 144 Mc.—nice going Hugo, pity this was not contact. 2TA, in Young, is getting 6148s going on 144 Mc.

On 50 Mc. activity improved somewhat. 2ANF worked 2TC at Young for the first time on 26th April. 2TC was also heard by ZRU at Gosford during that contact. 2ADT at his new location at Inverell is reported to have worked 4CU on 50 Mc., so watch out for these stations.

Other Sydney stations heard on 50 Mc. were 2ARM, 2HE, and 2HO.

Now here is a very interesting note on neutralising v.h.f. receivers: The method of neutralising v.h.f. triodes, e.g. 6AK5, etc., by cutting off one heater pin appears to be unsuitable. A test of this method in which a cascade was neutralised by inserting a duff tube, minus pin 3, proved that the neutralising coil had to have considerably increased inductance. Replacing the normal 6AK5, the converter was very much out of neutralisation and showed an excessive noise figure.

The converter was re-neutralised using the method of disconnecting the heater voltage, but still leaving the heater by-pass intact. Noise figure tests proved that neutralisation was correct and subsequent tests on replacement with other 6AK5s showed no change of neutralisation.

It would appear that internal capacitance of the 6AK5 is considerably different when only one side of the heater is connected to ground for r.f. This effect may well apply to other tube types, such as the 6J6 or 12AT7, but was not tried. That was the findings of John ZANF who will be interested in any comments.

To those who wish to keep abreast with v.h.f. activities, listen to the v.h.f. broadcast from 2WI each Sunday night at 1930 hours when details of field days, lectures, and other items of interest are given. These broadcasts are originated on 2 mx and relayed on 6 mx.—2APQ.

VICTORIA

The annual election of office-bearers took place at the v.h.f. meeting last month and the following were successful: SJO, Herb Stevens, President; SOJ, Bob Stevens, Secretary; 3LN, Len Moncur, Publicity and C.D.E.N. Organiser; 3ACH, Cedric Symthe, Vice-President. After the formal business, a discussion took place on the field days, firstly SADU went to Bald Hill near Bacchus Marsh, 3YS to Arthur's Seat at Dromana, 3LN Oliver's Hill, Frankston, 3OJ to Klinglake.

The big news was that 3YS was successful in working 7FF and 7BQ and as this news spread throughout the afternoon, all interest in the field waned in favor of VK7 and all beams went southwards. However, the VK7s were not heard in Melbourne, or by 3LN at Frankston, and as the day was not conducive to temperature inversion, it seems likely that VK7 contacts could be made from Arthur's Seat on any normal occasion. So in future field days, the gang will make sure the "seat" is occupied by some portable station.

The "Fox" Hunt was the most successful yet, with six mobiles in the field. On the first run

the "fox" succeeded in evading the hounds. On the second, 3ALY made the catch, but whilst the fox was reporting back to control, 3YS and 3ACH were right at hand. On the third run to the final location under the bridge on the Boulevard, all hounds were close, but no one was successful whilst the fox was on the move. A total of 12 of the gang had supper under the bridge as the rain had recommenced. Three more mobiles are reported to be under construction for the next run and we are now short of home stations.

With the appearance of 3AGD at Dunkeld on 2 mx, considerable possibility of DX from Melbourne is apparent, with 3ZL and 3GM at Ballarat, 3AGV at Colac, 3ANQ Warrnambool, 3CI Nagambie, and 3BW at Portarlington. 3AGD has made contact with 3ACH and has heard 3LN and 3BQ, the contact with Cedric being approx. 180 miles, which would seem to be a land record for the State. 3AGD was using 10w, to a four element beam atop his 80 ft. tower. 3RR and 3CR made an expedition to Reed's Lookout in the Grampians with the idea of working VK5, but no go as conditions were very poor, however a report has come from 2WI that they were heard at Forbes. It is a pity the beam was not swung in VK2 direction. 3ATB has left for abroad; and Melbourne stations are looking forward to a signal from the Benalla area soon on 2 mx.—3LN.

SOUTH AUSTRALIA

Further to my remarks on the 12AT7 last month, Feb. "CQ" has an interesting circuit of an oscillator-multiplier using the two halves of the triode with the controlling crystal connected across the cathodes. It is a modification of a controlled multivibrator circuit devised by Butler, in England, during the war years. Feed back is obtained by connecting a 30 pF capacitor between the plates, and the output on the harmonic frequency desired can be taken from the plate of the second half. Outputs up to the 17th harmonic can be used to drive another 12AT7 to reach the 400 Mc. region! This appeals to my Scotch instincts. A tube which we haven't seen here yet, the 6BQ7A has been superceded by the 6BQ7A which has better heater cathode insulation for cascade circuits.

Curious as to the 12AT7, I looked up my Handbook and noted with satisfaction that the maximum d.c. heat cathode voltage is 250v. Another interesting fact too is that when used in a push-pull grounded grid circuit, the overall input impedance is approx. 360 ohms at 250v, and 300 ohms at 180v. plate supply with grid bias of -2v. and -1v. respectively. As a single ended grounded grid the gain is about 10 db at 200 Mc. and 6 db at 400 Mc. with a noise figure of 8, which is pretty low as amplifiers go. Push-pull operation will give better figures as the L/C ratio can be improved with the tube capacities in series.

I seem to remember Reg 5RR having a 288 Mc. tx up the pole, but here comes an idea of a complete wide-band preamp. for the noisy areas where transmission line pick-up is hard to eliminate. Using a 6BQ7 (substitute 12AT7 here) in a cascade, the relay, power supply and preamp. unit fits into a can about 10 x 6 in. and can be mounted right at the beam terminals. The high output to the 300 ohm transmission line enables the converter to be operated at lower gain and so reduces the noise very considerably. This might be worth trying Tom, since you complain of a high noise level at P.O. Renmark.

Clem 5GL couldn't hear anything from 3RR recently and it appears as though we v.b.f.ers on the Plains will need a relay on Mt. Lofty before we will succeed in working the VK3s on 144 Mc. Mt. Crawford would make another good launching ground, too, for some 2 mx signals to the North-East! Most of the activity in Adelaide seems to be centred around the 6 and 2 mx "quadruplex" link of Keith SMT (on 6 mx) running a number of converters, with Col SRO, Doug 5DD and Ken 5KC on 2 mx. Since everybody can hear and speak their mind, I can see only one difficulty—I'd have to be careful of my shack "back-chat."

On 6 mx we still have the regulars with Brian SCA, Ron 5NL, Charlie 5ON, Joe 5JO and Doc 5MD working most nights. My gear is in the shack and it's too cold for me down there—and anyhow, it's only when an Intrastate Contest is on that the President needs to come on the air, isn't it Warwick? Notice the 300 ohm line flapping in the breeze at your QTH, somebody cut it, eh?

My scribe, Ray 5BT, apart from giving me most of my local news, this time pointed out that the article on the ASB Converter was attributed to "R. G. F. and 5FU" and I must hasten to apologise to Bob ROPER, 5FU, because the fault was entirely mine.—5XU.

TASMANIA

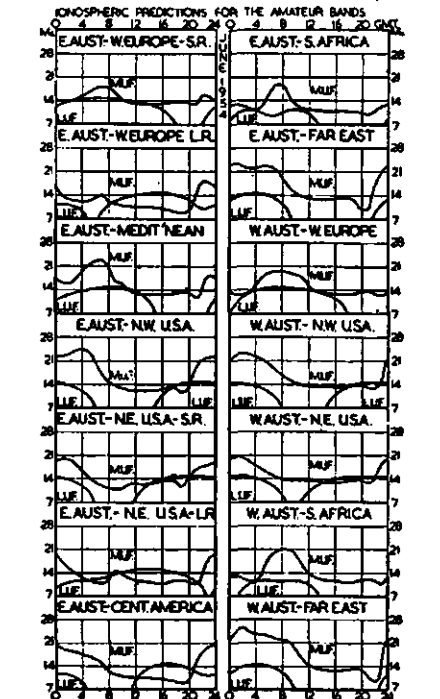
As no notes have been forwarded from Tasmania for some months, these notes will cover the general conditions on the v.h.f. bands in Tasmania, also the activities in the various parts of the State. Over the last few seasons, 50 Mc. has not appeared to have been as good as in the more Northern States and it is considered by VK7s that they are handicapped by being too far South, this possibly accounted for the lack of interest in this band as the only stations who have operated on 50 Mc. over the last two years have been 7AB, 7AJ, 7BQ, 7LZ and 7PF. Checking back my log over the past four seasons, shows that the more unusual stations are worked here late in the season.

On 144 Mc. the activity is now all centred in Hobart and Launceston. In the South, 7AJ and 7LE are both active on this band, although no details are available of the present set-ups. Whilst in Launceston for the Annual Dinner, 7MY and 7OM were very interested in the local rigs and have both taken rough copies of crystal converters as used by 7PF and 7LZ.

In Launceston several 144 Mc. field days have been held over the summer months and this has resulted in much more interest being taken in this band. Stations operating on 144 Mc. are 7BQ, 7LZ, 7FF and 7XW. Details of the equipment used by these stations are: 7BQ runs 25w, to p.p. 8012s. The antenna is a 12 element stacked array and the rx a four tube cascade converter (6AK5, 12AT7, 6AK5, 6BA6) feeding into an Eddystone 650 rx. 7LZ uses an 832 running 25w, the antenna is also a 12 element stacked array and the rx a five tube converter using a 6J6 as an overtone xtal osc.-multiplier, 6AK5, 6J8 cascade r.f. amplifier, 6AK5 2nd r.f. amp., 6AK5 mixer feeding into a revamped Command rx. 7FF's final is an 815 running 60w, whilst the antenna is the popular five over five. The rx is the same as that of 7LZ. 7XW is at present using an 832 to a halo. Chris receives on a super-regen. rx. Freq. used by these stations are: 7BQ 145.512 Mc., 7LZ 144.45 Mc.; 7FF 144.138 Mc., 7XW 145.35 Mc., 7CA and 7TE are also expected to be operating on 144 Mc. in the near future.

3YS was heard by 7LZ calling CQ on m.c.w. at 1503 hours on Sunday, 11th April, contact was established and 3YS's signal was audible in Launceston until he concluded at approx. 1645 hours. During this time QSOs were made both on phone and m.c.w. with signals ranging from SS to 5B. 7BQ also contacted 3YS on phone at 1610 hours; no other VK3 signals were heard. This makes the fifth consecutive year that VK7-VK3 contacts have been made and in practically every instance the Tasmanian stations have operated from no higher than 50 ft. above sea level and from inland locations. Tasmanian operators would like to see the calling frequencies of Interstate stations published in "Amateur Radio."—7LZ.

PREDICTION CHART FOR JUNE, 1954





FEDERAL

Fed. President: W. R. Gronow, VK3WG.
 Fed. Secretary: G. M. Hull, VK3ZS, Box 2611W, G.P.O., Melbourne.
 QSL Bureau: R. E. Jones, VK3RJ, 23 Landale Street, Box Hill, E.11, Vic.
 DX C.C. Manager: G. I. Morris, 50 Eighth Street, Parkdale, Vic.

NEW SOUTH WALES

President: Jim Corbin, VK2YC.
 Secretary: Harry Hickin, VK2ACH, Box 1734 G.P.O., Sydney.

Meeting Night: Fourth Friday of each month at Science House, Gloucester Street, Sydney.

Divisional Sub-Editor: Ted Whitting, VK2ACD, 16 Loudon Street, Five Dock.

QSL Bureau: J. B. Corbin, VK2YC, 78 Maloney St., Eastlake, Sydney (Inwards and Outwards).

Zone Correspondents: North Coast and Tablelands: Noel Hanson, VK2AHH, Ryan Ave., West Kempsey; Newcastle: Ron Mcd. Stuart, VK2ASJ, 98 Dunbar St., Stockton; Coalfields and Lakes: Harry Hawkins, VK2YL, 27 Comfort Ave., Cessnock; Western: W. E. Stitt, VK2WH, Cambijowa, Forbes; South Coast and Southern: Eric Fisher, VK2DY, 2 Oxlade St, Warrawang; St. George: Chas. Coyle, VK2YK, 84 Carlton Cres., Kogarah; Western Suburbs: Barry White, VK2AAB, 35 Flavelle St., Concord.

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 Secretary: C. Gibson, VK3FO.
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QSL Bureau: Inwards—Graham Roper, VK3ZB, 26 Lucas St., South Caulfield, Vic. Outwards—Frank O'Dwyer, VK3OF, 190 Thomas St., Hampton, S.7, Vic.

Zone Correspondents: Western: T. B. Rodda, VK3ATR, Box 254, Warracknabeal; South Western: W. Wines, 11 Redford St., Warrnambool, and E. Giddings, VK3ANQ, 8 Nelson St., Warrnambool; North Eastern: A. D. Buchanan, VK3FD, "Booroondal", Warring; Far North Western: M. Folle, VK3GZ, 101 Lemon Ave., Mildura; Eastern: Leo Dwyer, VK3SG, and John Batrick; North Western: C. Case, VK3ACE, Cumming Ave., Birchip.

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 Secretary: Ern Moore, Box 638J, G.P.O., Brisbane.

Meeting Night: First Friday in each month at the Royal Geographical Society Rooms, Ann Street, City.

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 Secretary: R. G. Harris, VK5RR, Box 1234K, G.P.O., Adelaide. Telephone: J 1151.
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 Secretary: J. Mead, VK6LJ, Box N1002, G.P.O. Perth.

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Meeting Night: Third Tuesday of the month.

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President: L. E. Edwards, VK7LE.
 Secretary: W. G. Tait, Box 371B, G.P.O. Hobart.
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Divisional Sub-Editor: L. E. Edwards, VK7LE, 126 Strickland Ave., Hobart.

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Zone Correspondents: Northern: M. A. Chaplin, VK7KA, 56 Trevallyn Rd., Launceston; North Western: R. K. Wilson, 11 Cunningham St., Burnie, Tasmania.

FEDERAL

LIMITED A.O.C.P.

Under the heading "New Deal For Radio Hams" in the daily press on 7th May, Mr. Anthony, Postmaster-General, announced amendments to the Wireless Telegraphy Regulations to allow the issue of licenses to applicants who pass the theory and regulation papers of the Amateur Operator's Certificate of Proficiency, but who do not sit for the usual Morse code section of the examination. The age limit for the passing of the Amateur examination—either normal A.O.C.P. or the new Limited A.O.C.P.—had also been reduced from 18 years to 16 years, Mr. Anthony said.

Readers will recall reference to both these matters in these columns during the past year. Once again, by virtue of unity of the Amateur movement, the Wireless Institute of Australia has been the representative that brought about both privileges. The issuance of the Limited A.O.C.P. has been somewhat delayed by the necessity for an amendment to the Regulations under the Wireless Telegraphy Act, but is gratifying to know that applications for the license can now be made by those who have passed the examinations in theory and regulations.

Under the regulations covering the issuance of this new license, licensees are limited to operation in the regular Amateur frequency allocations from and including the 144 Mc. band. However, at any future date the Limited license holder may obtain the full A.O.C.P. qualification by merely sitting for and passing the Morse code test.

FEDERAL CONTESTS COMMITTEE

Under the Federal policy of forming the Federal Contests Committee in other than the Victorian Division with a view to giving the other Divisions an opportunity to gain experience and participate in Federal activities to some extent, the New South Wales Division has successfully completed the operation and organization of Federal Contests for the past few years. Although under changing administration in that Division the members of the Committee changed during its term, it carried out the Contest activities in fine style and deserve the thanks of the Federal Council.

To relieve the New South Wales Division, the South Australian Division has now accepted the responsibility of operating the Federal Contests for the ensuing year. There is no doubt that this Division will do an excellent job of conducting this part of the Federal administration.

MEMBERS OF ADVISORY COMMITTEES

FOR 1954

The following Amateurs have been appointed to the Amateur Advisory Committees operating in each State of the Commonwealth to keep in watch of the Amateur bands in an advisory capacity and draw the attention of licensed operators to incorrect operating practices and modes of transmission. The activity of the Advisory Committees has been the means of obviating official action by the Postmaster-General's Department, Wireless Branch, in relation to breaches of the Regulations governing the operation of Amateur Wireless Stations where such breaches have been committed by the operator of a station. The co-operation of all Amateurs will be the means by which our bands can be kept clear of "law breakers" and spurious radiations.

New South Wales

Mr. G. T. Bruce, VK2GT.
 Mr. J. A. Lindsay, VK2AKR.
 Mr. O. R. Pearce, VK2IV.
 Mr. J. C. Pinnell, VK2ZR.
 Mr. L. H. Taylor, VK2ZCL.
 Mr. V. H. Wilson, VK2VW.

Victoria

Mr. R. A. C. Anderson, VK3WY.
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 Mr. C. R. Gibson, VK3FO.
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 Mr. L. R. Jensen, VK7LJ.
 Mr. K. A. Johnston, VK7RX.
 Mr. W. W. Watson, VK7YY.

SWEDISH AWARD

1. The Vasteras Radio Club (Sweden) has decided to issue the W.A.V. (Worked All Vasteras) Certificate, obtainable by licensed Amateurs everywhere in the world.
2. The Certificate is based on contacts with Amateurs in Vasteras after 31st December, 1953.
3. Participants outside Europe (DX) shall, with QSL or other written verification, prove contacts with at least two Amateurs in Vasteras, equals 2 points.
4. Participants in Europe will have to prove by QSL cards or other written evidence that they have collected 10 points by working at least 10 Amateurs in Vasteras.
5. Applicants of the W.A.V. in LA-OH-OZ-SM will have to prove by QSL or other written evidence that they have collected 20 points by working Amateurs in Vasteras.
6. Each contact with Amateurs in Vasteras on all bands will count one point. The same station may only be contacted ONCE on each band.
7. Applications for W.A.V. may be sent to "W.A.V. Manager," SMSWI, Emausgatan 45 E, Vasteras, Sweden. Each entry must include QSLs or written verifications on the claimed contacts, as well as a list of the contacts, calls, frequency, date of QSO, CW or Phone.
8. Cost: Four International Reply Coupons.

FEDERAL QSL BUREAU

RAY JONES, VK3RJ, MANAGER

Harold Webber, VK3PW, is at present en route to the U.K. on a business trip. Later he will visit the U.S.A. He plans to make a few Ham visits in both countries as time permits.

The Hallicrafters sponsored expedition to the Clipperton Island was treated to a rough house by the elements. En route to Clipperton, they ran into heavy seas which blew away their sails and ultimately one diesel went overboard. They had been working hourly skeds on 14100 Kc. on the way down and quite a few VK stations made the contact with the ship. When things got bad they sent out a blast for help

SILENT KEY

It is with deep regret that we record the passing of—
 VK5BF—Francis George Miller,
 April, 1954.
 Ex-VK7CS—Cecil Scott, March,
 1954.

and a Mexican station owned by General Najoro, of the Mexican Army, heard their call and arranged for help to be sent. Finally they managed to get their other diesel going and made Clipperton, the weather still being heavy with big seas and gales. They were unable to land sufficient petrol to keep their power supply generator running for as long as they wished with a result that the contacts made with their station F08AJ were not as numerous as would otherwise have been. The above has been pieced together from tibbits supplied by W2CC, VK5BO and VK3CX.

The Colombian Radio Society sponsored an expedition to the Desde Archipelago Colombiano de San Andres from 4th to 7th May. The expedition, which was allotted the prefix HK zero, was scheduled to use the 10, 20 and 40 mx bands. The Archipelago is situated in the Caribbean Sea near the coast of Nicaragua. Anyone who contacted the expedition will receive a special certificate on application to the Society.

VS1FL, Colin Turner, of 1 Polden Court, Jalan Kayu, Seletar, Singapore, is seeking VK QSOs on 7 Mc. He will QSL all contacts or reports.

The many friends of Major Ken Ellis, DL2KE, and holder of 14 other Amateur call signs during the past nine years, will be interested to learn that he is leaving the Army in June and will then take himself a wife.

XINP active on 14 Mc. during April with a bad note, gave various QTHs off the Australian coast. Claimed he was on a ship bound from Australia to the Orient and neither desired or would send QSLs. Later advices show him giving his name as "Fag" and requesting QSLs via VK9YY. It's "London to a brick" on Alan VK9YY disclaiming all knowledge of his identity.

Treb BERS195 has received the following from ZB1E. "Most ZB1 stations are operated by Service personnel whose stay at Malta is limited." (My own son has been there 19 months and no relief in sight—nothing limited about that, hi.—VK3RJ.) ZB1E is a permanent Maltese resident and suggests it is better to send cards for unlisted ZB1 stations to him for relay as he "keeps track" of all the ZB1 stations. His full QTH is Bob Galea, Casa Galea, Railway Road, Birkirkara, Malta.

From the same source comes, "ZB1AUV is ex-XABQ, 11RF, HA1RF and G3AUV. VS1YN is a Baron, a Sir, and a Lt.-Col., as well as being ex-AC4YN, G5YN, VU2YN and LA9YC."

VS9AS at Aden, is ex-GC2BMU and is due to return to England in September next.

Treb finally wrung a card out of VP8AK. He wore him down as he did AC4YN. Treb, like the Mounties, always gets his card.

NEW SOUTH WALES

The Annual General Meeting of the N.S.W. Division was held on the 24th April at Science House. The meeting was attended by a large group of members and was opened a little late by the President, Jim Corbin, 2YC.

Owing to the lack of further nominations for Council, the following five members of Council were re-elected: J. Corbin, 2YC; G. Bruce, 2GT; W. Lewis, 2YB; D. Pollard, 2ASW; S. Burke, 2EL. Two members remain to be co-opted to Council for the ensuing year.

Following on a discussion on the desirability of employing a paid Secretary for the Division, H. Piggott, 2ACH, volunteered to act as Hon. Secretary for 1954, and S. Burke, 2EL, decided that he would act as Hon. Treasurer for as long a period as he may be available.

There was a considerable amount of comment on the various aspects of the Institute's functions, and the President appealed again for any volunteers to assist in the work of the Institute in any way possible. It was pointed out that the Division will need many helpers during the year to take care of the various activities planned, so any members, and there must be many, are invited to contact any member of Council and give offers of assistance.

SOUTH WESTERN ZONE

Bob 2XP at Dalton is active on 40 and 80 mx, using an AT5 with controlled carrier, genemotor power. A new one in the zone is Harry Hilder, 2AFT, from near Griffith. I have it on good information that Harry was a pre-war operator in the days when they used 46 in the p.a. with the full 150 volts on the plate! Harry has recently moved down from Bourke and hopes to be on the breeze from Griffith in the near future.


2PL reports that the Griffith Radio Club has been issued with a license to operate a tx at the Club Rooms, so all are requested to listen and call when the call sign comes along. Don 2RS at Albury is active on 80 mx, still on QRP while waiting for the a.c. to be hitched up to his QTH. Ray 2APZ out Leeton way is heard occasionally on 40 and 80 mx, still struggling with the AT5 for 20 mx. Ross and Geoff, 2PN and 2BQ, at Tumut, not heard for some time, must be cooking up some little thing down there. Remember fellows, YOU are ALL welcome at the zone hook-up on 80 mx at 1930 hours on Wednesday night, make it a must.

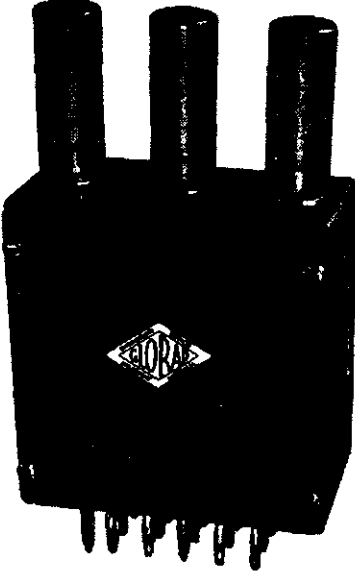
NORTH COAST AND TABLELANDS

Following on the recent successful Convention at Urunga, which was attended by many Hams from all parts of N.S.W., and for that

matter other places, activity on the North Coast is for the most part rather quiet. 2PA and Zone Officer 2AHH have been testing their respective beams and have worked out the polar diagrams for same, conclusions drawn—some are better than others. 2RK appears to be rather quiet, what about some notes to Sydney Norm? That goes for all you chaps in the zone also. Chief 2XO is on a Cook's tour at present. VR4AE and 2ABT have spent quite a bit of their time in the zone recently and visited quite a few of the boys. 2PA had to put him in a bath to get the mud off him before he could find out who he was. The same Pete and 2AQI of Armidale are working skeds on 6 mx.

The Inverell boys, aided and abetted by 2ADT, have gone all v.h.f. Amateur Radio has received a new lease of life since Jack got organised up there. 2LR had some vivid food experiences—6 feet in the shack. The Darling Downs boys got together to get Len a new power supply, nice work chaps. 2AEY is picking paspalum seed, no not oakum. 2AHH was second in VK-ZL Contest in the c.w. section, and third in the phone section. Don't forget the weekly zone hook-up boys.





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VICTORIA

The May meeting was held on 5/5/54 at the Radio Theatre at the M.T.C. This meeting took the form of a Tender Night. Unfortunately I was not present, so any comments passed on are secondhand. I understand the amount of gear offered was not as much as usual, but all changed hands.

Presumably a few new members were admitted so as a matter of principal I'll wish them the usual welcome. Remember fellows, "Wireless before Women." Grandpa Parsons will now mumble in his beard. Apart from those few comments, my spies have told me nothing. They are not happy about not being paid their usual fees.

June Meeting.—Council has decided to make the June meeting a Film Night and members are invited to bring their XYL and harmonics, or YLs. This arrangement is quite a departure from the usual run and if successful will no doubt be repeated.

July Meeting.—Ken Dalziel, ex-VKISK, will take the rostrum and talk on "Macquarie Island." This talk will be supplemented by films of Macquarie Island. The programme for the rest of the year is not yet arranged, but will be published as soon as it is known.

Tx Hunt.—This event on 2nd May was the first victory the tx has had. This was due to the fact that 3IE (may his signal never exceed S3) realised that the location he had selected to hide the tx was not as difficult to find as he had thought. Not having faith in his ability to find his way home, he took his d.f. equipment with him. At least that's what he tells me.

Those past masters of clear thinking and reasoning, to wit, 3AHC and 3AFJ, had calculated the possible location during the previous week, so he would not make his equipment available to those intrepid hunters. To add insult to injury, we could not beg, borrow or steal suitable equipment from anybody in time to partake—but just wait till next time. Come the 6th June and somebody is due for a surprise.

Twelve miles air line, eh! Anybody who cares to forward a Collins 75A—any model—during the next seven days will be given full directions. 3LN to be charged extra—one Zephyr six or better.

Skipping the foolery though, eleven cars started on the last hunt, five have not yet checked in. That three element beam apparently threw them very much off the track. Somebody flew out Ballarat Road and has not been seen since. 3LN went to Dandenong before cutting across to Warrandyte. Len will, in future, take the boat on tx hunts. Very useful for crossing rivers! Anyhow, the next hunt is on 6th June and a good roll up is requested. This will probably be the last hunt until next spring.

Another Scramble is being planned. This will be organised for a week night. 3ALQ will again operate as control station and will arrange for further details to be broadcast from 3WI. 3FO will take part in this event using 288 Mc. and 50 Mc.

Have had time this month to do a spot of listening and the comments on the Call Book have been most interesting and gratifying. May I suggest that those with any comments or suggestions drop a line to the Magazine Committee, and so help us to do even better next year.

If the compilation department will slice out half the VK5 notes this month, maybe a few personal notes will be in order ("Tis OK, Pansy is on holidays.—Ed.).

3ATK has spent many hours making a modulator work, slowly coming good. 3ALO went into a shop for a tube and came out with a H.R.O. 3AAF has acquired an AR7. Now has a rx for every day of the week and two for Sundays! Can't get over how well the Command works with the 6AC7s; has to be heard to be believed. 3TX and 3RN both been on sick list. 3AHN now has new rig on the air. News of 3OO, hope you are making a good recovery. Eric, 3TZ has not been heard much of late. 3AHC and 3AHS playing with all-band finals. 3SX threatened to appear on 288 Mc. The next person to enquire after my amplifier will be invited out at dawn. Tom 3HX has not been donated any Craven A's lately so I'd best ease up a little and leave space for the zone notes.

SOUTH WESTERN ZONE

Great activity in the zone this month with the Zone Convention held at Hamilton on 10th and 11th April—it being a great success. Saturday afternoon was given over to welcoming visitors and zone members, then at 1800 hours proceedings opened with a Dinner at the Grand Central, attended by 30 members and visitors including 4KS. After Dinner, all adjourned to the 3HA studio where the annual meeting was held. This was preceded by a short film produced by 3II with the greatest number of

"stars" ever of the doings at the last Convention held at Colac. After the President welcomed those present the business side was attended to, quite a few items were discussed and we hope they will be for the betterment of all concerned.

The election of office-bearers with SNN as Chairman resulted: President, 3AGD; Vice-Presidents, 3BI and 3HG; Committee, 3AGV, 3AKR, 3IC; Secretary and Treasurer, 3ANQ; Publicity, 3II; Wines and 3ANQ.

Sunday was taken up by two tx hunts, the first going to 3AEH and the second to Ian Whelan, a very junior associate. The highlight was a visit to the hospital where 3TW introduced Dr. L. Andrews, 3HY, who explained the in and outs of x-ray in such a manner that even I could follow.

To wind up the week-end, most of the chaps called on 3II and 3AGD at Dunkeld on the way home. Special thanks to Garland—what a job feeding those brutes at Dunkeld.

All the zone has gone 144 Mc. happy. 3AGD and 3AKR have put signals into Melbourne—a distance of 160 miles, also making 3ATN's converter work at Birchip, a distance of 120 miles. 3ANQ's rx is working overtime, also tx. If any of you 144 Mc. chaps want a QSO, turn your beams to the West and South West and see what happens. A new Ham at Wangoom, John Adams, received the much awaited news on 26th April, hopes to be on by the time these notes are printed.

NORTH EASTERN ZONE

Rex 3JR has been appointed to a new position as City Engineer in Bendigo where we hope he will find a good position for his shack, and the Central Western Zone will appreciate him, as a member, as much as we did. Vic 3ABX has moved house, rig, and beam tower in Benalla. Jim 3JK and Col 3WQ are busy on folded dipoles and projects of 2 mx as well. Syd 3CI is right in the local DX on 2 mx, and Alan 3UI and Peter 3APF work with him in regular shacks on 6 mx. Although we only see Chas 3ACW in the references to his other interests in the district, Doug 3JJ, who lives next door, periodically overcomes the trouble of finding space to set up his mobile type of gear, and Des 3CO is now moving his rig into a much more comfortable shack. Frank 3ZU can be heard using his very attractive console set-up to good effect.

Murray 3HZ is, probably, still busy with his other interests as is, no doubt, Alex 3AT, but Les 3ALE has found time to write an article for "A.R.," keep it up OM. Keith 3JC is almost certain to be competing with Ken 3KR for 20 mx DX. Hugh 3AHF was trying out his new EC348 a short time ago. Jack 3FF is still short of his idea of a satisfactory antenna. Howard 3YV and Gordon 3XU have been keeping quiet lately. It is hoped that Henry 3HP and Des 3EP have not been careless with that "aerial raiser," as they have not been heard of lately either. We will have to encourage Ron 3AGG to join the ranks of the battery-powered stations. The zone hook-up is still on the last Sunday in each month, but is now at 2015 hours local time on 3700 Kc.; Stan 3AGT managed to make the April one.

CENTRAL WESTERN ZONE

The past month has brought a tremendous increase in v.h.f. activity within the zone. Two mx beams are springing up everywhere and some f.b. contacts are being made. Dick 3RR, while operating portable from Reed's Lookout in the Grampian Mountains near Horsham, on 25th April, and under conditions that were far from ideal—misty rain and low clouds—was heard by Hugh 2WH at Forbes, N.S.W. Ray 3ATN, of Birchip, is now all fired up on 2 mx and has already logged Dick, working from Horsham, a distance of 80 miles. Ray has a five over five atop a 75 ft. mast. Herb 3NN also listening on 2 mx and as Byron 3TA and Merv 3AFO are also on that band, we can almost have a zone hook-up on 2 mx. Trev. 3ATR is now on 50 Mc. and will shortly be on 2 mx.

Byron 3TA is sporting a new rx and it is working well. Charlie 1AC has been putting f.b. signals in here on 40 mx, but so far we have been unable to copy on the hook-up frequency on 80 mx. Jim 3DP and Bob 3ARM are still off the air due to generator trouble. Hope you boys soon fix things up and come back amongst the gang again. Merv 3AFO has dismantled the 2ED and has erected a half wave on 80 mx with much improved results. Herb 3NN putting the finishing touches to his 3 inch c.r.o. in between building a 2 mx converter. Any member requiring the zone's frequency meter can obtain same by contacting Merv. 3AFO. This zone is very fortunate in acquiring a new member of quite some renown, namely Rex 3JR, formerly of Benalla, who now resides at Bendigo. A very hearty welcome to the zone Rex. See you next Wednesday night, low end of 80 mx, at 1930 hours.

BALLARAT & DISTRICT RADIO SOCIETY

The annual meeting of the above Society was held at their club rooms in the Y.M.C.A. building on 7th April, 1954. The election of officers resulted as follows: President, Bill 3AMH; Vice-President, Keith 3IV; Secretary, Andy 3BE; Treasurer, Eric 3ZL; Committee: Alf 3AL, Eric 3ZL, John 3HW, and George 3AGL—the last named being appointed Publicity Officer.

A vote of thanks was moved by Alf Kerr to our Foundation President, George McCulloch, for his untiring services for the past three years. The membership of the Society has increased to 53 members as against 50 at our last annual meeting. During the year we enjoyed visits to various centres of interest, such as R.A.A.F., Post Office and Ballan tx. The thanks of the Society go out to Don Millar and Brian Stares, of the R.A.A.F., for various lectures and demonstrations, and to Stan Widgery for the use of his film projector.

At the conclusion of our annual meeting a very enjoyable practical demonstration and lecture was given by Sgt. Jim Carr, of the R.A.A.F., on their latest radio receiver in the form of the Tasma TS100; known in the R.A.A.F. as the AR21. It being a ground station h.f. fixed frequency receiver of 21 valves.

QUEENSLAND

Once again I have the honour of presenting to you the notes from this Division. So maybe my effort over the last twelve months wasn't so bad after all, so I'm taking this opportunity to present the new Council to represent you for the next twelve months. I know you join me in wishing them the best.

Our new President is Harold Murphy, 4HM. Harold is well known for his Ham activities over a period of twenty years, and really is a country member, having done most of his operating around Longreach and Pomona, which should lend a country viewpoint to the chair. Harold will have a chance of meeting Hams throughout the State, as his employment necessitates some travelling; over a period I hope to be able to give you his itineraries, so you can look out for him if he is your way. The only phone work Harold does is on a 4WI broadcast, so if you want to natter to him, get out the bug and do some high speed Morse on the c.w. end of 14 Mc.

Vice-Presidents are yours truly and William Young, 4YA. Bill is one of the old timers in the VK4 Division, being one of the very early W.I.A. members in Queensland. Though it may not be apparent, Bill has the Division and Ham interests at heart. His activities are mainly 14 Mc. DX phone, of course he will always give the locals a check and a call. I do advise if you QSO Bill, if you haven't a piece of heather in the shack, to get out the Scotch filter, whether he's the exception or not, Bill over the years has made many donations in cash and kind to this Division for contest and such.

Our Secretary, Ernie Moore, has been on the Council for many years as representative for the student group. Though not a transmitting member, Ernie has filled the breach in offering to take on this arduous task and at the same time look after the student interest. In Ernie I think we have found someone who is not only keen on the job, but is capable of putting the best into it.

Once again Charles O'Brien, 4NC, is the Treasurer. Charlie has been looking after the finances of this Division for a long time now, and a more capable Treasurer would be hard to find, and as my opinion, we here in VK4 should be thankful Charlie is one of our members, not only is he in harness, but Miss C. O'Brien, his daughter, is our QSL Outgoing Manager, and doing a mighty job of it. To direct your QSLs to her, the address is 93 Jardine Street, Stafford.

Incoming QSLs of course will be handled by Jack Files, 4JF again. Jack would sooner sort QSLs I think than eat, and gets as much pleasure out of the rare cards as does oneself. Personally speaking, no one is more capable at the job than Jack.

The position of Librarian this year is filled by John Pickles, 4FP. John, of course, has held various positions in this Division. Though in poor health, has consented to handle both the Library and the Technical Library and hopes all members avail themselves of these facilities over the year.

A newcomer to the Council is John Ross 4JO, who will keep the v.h.f. group to the fore. John is solely a v.h.f. man and to others of the same interests, he hopes for your fullest support on queries.

To the countryman, our Past President, John Weddell, 4FT, is taking up the cudgels on your behalf. As a Past President and a keen Amateur, John should give the most to the countrymen's interests and judging by his efforts to date the country Amateur has a worthwhile representative.

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897-9	8,000, 10,000	100, 125, 166, 250, 500	1	30-15,000	15	P.P. 6V6Gs, A or AB1 to Line	62/6
783-9	3,000, 5,000	2, 3.7, 8, 12.5, 15	1	40-20,000	15	P.P. 2A3s, A or AB1 to V.C.	62/6
809-26	500	2, 3.7, 8, 12.5, 15	1	50-20,000	15	Line to Voice Coil	42/6
870-28	10,000	2 or 8	1	*20-20,000	**6	P.P. 6V6Gs or 807s as Triodes	57/6
871-9	10,000	2 or 8	1	*20-20,000	12	P.P. 6V6Gs or 807s as Triodes	81/-
872-9	10,000	3.7 or 15	1	*20-20,000	12	P.P. 6V6Gs or 807s as Triodes	81/-
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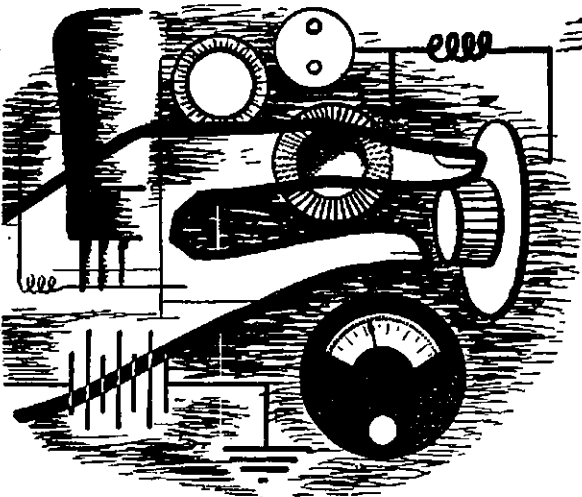
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Aussie Harris, 4TN, will again be the Contest representative and also Publicity and Personnel Officer. Aussie has gained the Division quite a lot of publicity over the past year and has had a lot of work in keeping his eye on contest results and sorting out the logical winners in this Division of the various contests.

On going to print the position of Federal Councillor, Traffic Manager, and Station Manager has not been clarified, but I hope by next month to be able to give you some dope on these positions.

There has been some changes in the meeting night, but by the time these notes are out there should be some clarity on the situation. The Council is organising some fine lectures in the next few months, among them will be one on D.M.E. and Model Plane Remote Control. To all these two subjects should be very interesting so make a promise to be along. You owe the Institute at least a few nights a year and a lecturer can put more into the job if he has a crowd before him.

No news this month from the Ipswich gang, maybe the fellow from the b.b.s.s. has recruited my spy for his nefarious work. But thanks to the effort of our country representative, I've gleaned a little from the Gympie district. Seems things are much in the doldrums up that way with 4CR busy with his Apex Club and the local b.c. tx, though Col does hold skeeds with 2AMX, even with the antenna down one end. The cyclone also left its mark up there, 4LN's beam has a nice warp, and it's only the cobwebs keeping it up; with his 6 mc beam stacked away, there is very little activity from him.

4XR thinks Ham Radio on the blink and not very happy with conditions, although he is always there when the band opens on 14 Mc.; has some bright ideas for a 7 Mc. antenna. 4HZ has lots of ideas on most things in Ham Radio, but finds time is the controlling factor (don't we all, Jim?); he hopes to be more active after June. Maybe someone has given Jim the good oil on conditions, because I can't imagine him as a June bride, hi. He still has three antennae and getting a lot of benefit from their respective directional effects, after observing their effects while visiting an ardent short wave fan.

Local news is very scarce as I've been spending my evenings in a horizontal position, but I do know there have been some good scores in the VK4 Contest, and all logs should be in by this. Bill 4YA and Frank 4ZM seem to be the only ones these nights on 14 Mc. Did hear Jim 4PR put a n.b.f.m. signal on the air, but couldn't stop to hear it. Believe quite a few have forsaken the higher frequencies for 3.5 Mc., but unfortunately at the moment my rx won't tune that low.

Some activity on v.h.f. going on and among one of the call signs heard was Don 4GP.

SOUTH AUSTRALIA

Fre 5FS

The monthly meeting of the VK5 Division was held in the club rooms on the night of 13th April to the usual representative gathering of members. The Lecturer for the evening was Mr. H. E. Mutton, of Prince Alfred College, and his subject was a talk on London; the talk was illustrated by photographs taken around the city and projected upon the screen. Mr. Mutton took his listeners to various parts of London, including a trip to the Tower, he pointed out that in this city, one can go on trips day after day for the outlay of a few pence (I suspect some Scotch ancestry in the Mutton family tree). These talks that are something different, are appreciated by members and enable those not fortunate enough to have been abroad, to share with the lecturer the things he has seen and heard on the other side of the world. A vote of thanks on behalf of members present was proposed by 5MD. In the chair for the first time was our new President, Mr. Gordon Bowen, and although nervous, as everybody is in this exalted position, he acquitted himself very well. Gordon opened the business side of the meeting by referring to the passing of full member Ross Harris, VK5FL, and associate member R. Jeffery, and members stood in silence for one minute as a tribute to their memory.

Visitors were then welcomed by the meeting, and we were very pleased to have with us 3AKA, Mr. S. Hughes; our old friend of years gone by, 5MH, Dick Baty—I noticed with interest what a grey headed old so and so he had become (what's that about people living in glass houses not throwing stones? All right, I heard); and E. McEwan and J. Hart. QSL cards were distributed by the QSL Manager, Mr. George Luxon.

During general business, it was brought to the notice of the meeting that the new Call Books were on sale from book stalls in Melbourne, but had not been received in Adelaide, this is a particularly bad oversight by those

responsible and should not be repeated for the next issue, it is only reasonable that all Divisions should be given priority over sales to the general public. At the time of writing, the Call Books have been received in Adelaide due to the good graces of our Secretary, Reg Harris, who kindly brought them back from Melbourne, whilst returning from a business trip.

During the month, the daughter of the Past President (Parsons is the name in case you have forgotten) presented her husband with a baby son and so made dear old Warwick a grand-pappy. Many were the jokes cooked up to spring on the old buffer for this event, but due to a nasty time being had by mother and son, which for a time were quite serious, all the proposed tom-foolery was soft pedalled to serious enquiries as to their well being. I am happy to report that now both are doing fine, although Bob is shirking his duties in the nappy washing department and spending his time flitting over the skies of Darwin. The poor child has been given the name of Christopher Warwick, what a hell of a handicap that kid has for the rest of his life.

It is with deep regret that we learn of the passing of another old-timer in VK5, Francis George Miller, VK5BF. Frank was well known all over Australia with an outstanding signal on all bands, and was interested in radio from the First World War, where he was a Signaller. He was one of those chaps who made radio his life, being a commercial operator at SMU at Murray Bridge during his working hours and playing Ham Radio during his leisure. His cheery voice will be sadly missed by his many friends in VK and the rest of the world. To his wife we express our deepest sympathy.

WOOMEA RADIO CLUB

The regular monthly meeting of the Club was held in the club room at 8 p.m. on 8th April last and quite a considerable amount of business was attended to. Congratulations were passed to Max Newell, whose wife has presented him with a baby son, nice going Gwen, a pigeon pair now. The club's new tx seems to be working out nicely, 100 watts to an 813 in the final with Class B 809s as modulators. The next addition will be a suitable microphone so that the old carbon can be relegated to the dust heap, or shall we say the atomic heap. This month's new member—signed up on the last meeting night—is John Kennedy; John will be officially welcomed at the next meeting.

Quite a number of improvements to the shack brought to light some very interesting discussions and several ideas were placed on the books to be attended to in due course. The two element rotary beam is almost finished, the hold up being two pieces of 3 x 2 oregon which has to come the hard way from Adelaide, however it should be along in the near future.

QSL cards are also not delivered as yet, so all you folk who are waiting upon cards from this station, just hold your horses, they will be sent when received. Club member Ray Farmer has sat for his c.w. exam, again, he has secured a pass in theory and regulations and all good wishes go to him for success in this last portion of the examination. A new operator in the club will help to overcome the lack of operators noticed lately. (It was ever thus Len, the old willing horse will always do the lion share, congrats to you for the job you are doing up there.)

I notice in the latest magazine that my good friend the Editor has dealt a body blow to ("the old so and so," I mean the Old President) Padder Parsons he calls himself, gee that's no kid either, about time you trod on his toes Tom. Cec 5EZ has left on a tour of VK3 and VK2, by the time these notes appear, the decorations and the excitement will have died down in the "Fearful gates of the Pacific." Look out you fellows that he doesn't souvenir one of the cranes from the top of the Bridge. Lance 5LD is also eastward bound through VK3, VK2 to VK4 in five days, boy oh boy, somebody in that car is going to have breakfast off the mantelpiece for a week or so after they return.

UPPER MURRAY AREAS

The last meeting held was at Hurtle's 5RE, there were several absentees due to that demon "work." 5KW, 5CF and 5XO being a.w.l. Now that 5XO has shifted out of line of sight, we cannot catch up with him so easily, but hope to see him again when he has the new job "by the throat" as it were, and can find time to perhaps get as far as Berril, if not the meetings held at Renmark. It is about 25 miles from Renmark to Loxton, so his absence can be excused. Activity here has not been very great, but 3.5 Mc. has been used as a channel to 3AJU for contacts, while trying to reach him on 14 Mc. Fred 5MA states that his beam tower looks like being the new tank stand, this possibly precludes much action on his part until such time as ways and means can be found to make it a dual purpose structure. Harry 5KW turned up on 7 Mc. one Sunday;

by the time we had exchanged a few words, the call to eat sounded, both here and at Berril. The QSO concluded very hurriedly, as I never believe in interfering with a good man in the execution of his duty. Hughie has been collaborating over 144 Mc. with 5TL, that's as far as it went, but with 5HD, has been able to work duplex on 50 and 144 Mc. for a period of an hour during Easter. (After that Tom, you had better hide your head in the sand and use your tail as an antenna.) It is whispered that Tom has disposed of "Ratling Salvation" to some poor unsuspecting farm hand. To those of you that are not in the know, "Ratling Salvation" was a single cylinder motor which had two wheels attached, heaven forbid that I should call it a motor cycle. Warwick mentioned that he had received a parcel from Les 5UK, so did I, at least you did get something in yours. Fanny, mine contained junk, and junk and then some, strangely Les it all went and I hope 5FO has done the right thing by you, but don't ever do that to me again.

Speaking of 5FO, I hear that "James" has spent his holidays, pulling the family "bomb" to bits, if he doesn't make a better job of it, than trying to work all States in the U.S., I can see "Ray" doing the rounds of the scrap metal shops in the black-fellows district with all the spare parts parked in the now, not wanted, pram!!

No notes to hand from the South East Areas, I can't believe that Col has been so busy with the new home that he has not had time to write. I suspect that his notes have been deliberately withheld to make it tough for me. Stewart is heard regularly on Sunday mornings with a fine signal and lots of DX can be heard calling him. Thanks for the QSP Tom. The tape recordings are in the capable hands of the new President and will be along your way very soon.

As much as it hurts me to say this, I cannot let this opportunity pass without paying tribute to the very fine job done by the Past President during his two years of office, his one object during that time was the furthering of Amateur Radio and the South Australian Division in particular, this he achieved, and gained the respect of members, not only of the W.I.A., but of Departments connected with Ham Radio. So I say Viva Parsons, long may you be spared to give of your best to the VK5 Division and to the magazine.

WESTERN AUSTRALIA

The last meeting of the year of this Division was held on 27th April, and after the general meeting concluded, the annual meeting followed. The attendance was only meagre. This was due, as was expected, to the fact that members generally do not attend meetings to wade through a system of business, which according to the rules of association, such as ours, does make a dreary couple of hours to many. As long as the Division is solvent and the Council enjoys the confidence of members, that's all they see to it. Nothing new is evolved—all items of general interest are imparted as they arise during the year—the rest is immaterial. Can you imagine any enthusiasm on the part of the average member as to whether depreciation is considered at 12½ per cent. or only 10 per cent.? A really good instructive lecture with equipment, demonstrated around the level of the Ham knowledge, is a better means of drawing a good attendance. Even the highlight of the evening, the Presidential report, is only a condensed version of what everybody knows. The remedy seems to be to cut out the general meeting, substitute for it an annual meeting lasting half an hour (it can be done), and get on with an interesting lecture.

It is some years now since there has been an election to fill the vacancies in the Council (nine); lack of interest in the business side accounts for it. We cannot create more interest by making bigger and better business. Eight members nominated were elected, and have power to add to complete the full Council. They were VK6LL, Clarry Bishop, last year's Treasurer; VK6OR, Jack Hoar, last year's Social Contest Officer; VK6LJ, Jack Mead, last year's Secretary; VK6FT, Fred Tredrea, last year's Lecture Organiser; VK6GM, George Moss, last year's President; VK6AG, last year's "A.R." Sub-Editor. The two new members are VK6WS, Warren Jacobs, and VK6HK, Don Graham.

The Auditor, Skipper Schofield was re-elected. Whilst new and younger members join and take some particular interest in the work of the Institute, it is very re-assuring that such stalwarts as "Skipper" continue to guide the old ship in dangerous waters.

As the President, 6GM, was away with the "Wise Men," Vice-President 6AG was called upon to conduct the meeting. The audited statement shows a very satisfactory state of affairs. One fact made clear by the Treasurer was that half our subscriptions was paid away

HAMADS

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Advertisements under this heading will only be accepted from Institute Members who desire to dispose of equipment which is their own personal property. Copy must be received by 8th of the month, and remittance must accompany advertisement. Calculation of cost is based on an average of six words a line. Dealers' advertisements not accepted in this column.

FOR SALE.—Following equipment in good sound working order is ex the estate of the late Mr. Ross Harris, and offers are invited for purchase of same: Eddystone Model 504 Com. Receiver; Eddystone Model 680 Com. Receiver; Bendix Freq. Meter with calibration book and crystals; BC453B 190-550 Kc. Receiver; TR1153B Xmitter-Receiver complete with 300 volt AC power supply (modified for 2 mx); ABAC 300v. 300 Ma. power supply; Type 3 Mk. II. Transceiver fully modified and mounted in new leather carrying case, entirely complete; Eddystone Model 678 Modulation Meter; 2" Oscilloscope; Philscope Capacity Analyser; Complete 813 Transmitter, 3.5 to 28 Mc., VFO controlled, entirely complete with 811 modulators and speech amp., etc.; 40 ft. steel tower and 3 element rotary 20 mx beam, complete with turning mechanism and Selsyn indicators. Please make offers to: Mrs. R. C. Harris, 15 Denning St., Hawthorn, South Aust. Phone U 5043.

FOR SALE.—Pair 2300 Mc. Transceivers (share present VK record for this band), 2C40 co-ax osc., 6J5, 6V6 audio or modr., 6SN7 quench osc., 6H6 quench rectifier, tone generators, co-ax dipoles, etc., both fully metered, full details in "QST." One has 3" spkr. built in, other has 955 super-regen. on 288 Mc. as alternate detr. Parabolic reflector 23 db gain, £18 pair. Also buffer-p.a. unit, 815-100TH fl. transfr., top grade components, spare 100TH, black crackle chassis, £10. Also exciter or small Tx, 6V6 c.o. (v.f.o. input), 1625 multiplier, 1625. All bands to 50 Mc., fully metered, fl. transfr., £6. K. McTaggart, 5 The Grove, South Camberwell.

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SELL.—Quantity VHF gear inc. 522 Tx, on panel with meter, £12; Cascade Converter, in crackle finish case, £6; 829 Tubes, £4; many other tubes and parts; BC348 coil unit, dial, gang, IF's, etc., complete, £5. Wanted Photographic gear including Enlarger. What offers? V. H. Wilson, 26 Wilson Street, Maroubra, N.S.W.

WANTED.—Conversion Circuit for Bendix MN26C Receiver. Write J. Muntz, Nathalia, Vic.

WANTED.—Dural Tubing 1" or 3/4" for 2 or 3 element 14 Mc. beam. P.O. Box 72, Maryborough, Qld.

WANTED.—One 6AK6. J. Humphrey, 33 Daley St., Bentleigh, Vic. XU 2329.

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a grid blocking circuit without any trace of chirps or clicks; fine business Sam.

The recent Exhibition at the Burnie Jaysee Industrial Fair proved a great success and a few new members are promised. Thanks go to Syd TSE for the good work he put into the organising of the stand and operating his tx at the site. Thanks also go to all members who exhibited equipment and assisted. Among the interested spectators was ex-VP9, Mr. Honey.

TAB at Devonport has solved the power supply problem for portable work by driving a generator from the motor in his boat and expects to be running 100 watts on v.h.f. shortly.

OBITUARY

The death occurred recently in Hobart of one of the old-timers of Amateur Radio in Tasmania, Cecil Scott, ex-VK7CS. "Scotty" was a foundation member of the Tasmanian Division of the W.I.A. and was Secretary for some years. Old-timers will remember him in the old days on 160 metres and later on 80 metres with his station in Launceston. They will also remember him for his great variety of humorous QSL cards, examples of which must be scattered around Australia in great numbers.

"Scotty" will be remembered mostly by those who listened to the amateurs on 250 metres before the war when amateurs were allowed to broadcast musical programmes. His jovial wit made his programmes most enjoyable.

In the early days in Launceston, "Scotty" had permission to broadcast public meetings on several occasions, before the advent of broadcasting in that city. His notes in various periodicals under the pen-name of "Grid-Leak" and "Cork Esses" will be recalled by many.

It was a shock to the old-timers present at the W.I.A. meeting when his death was announced to find that "Scotty" was unknown except to the one or two who were thus abruptly reminded of the rapid passing of the years.

CORRESPONDENCE

Main Signal Office,
Naval Headquarters,
Potts Point, Sydney,
22nd April, 1954.

Editor "A.R.," Dear Sir,

May I through the columns of your publication explain briefly the short life of call sign VK2ZAN? At the Royal Agricultural Society's Easter Show at Sydney a small transmitting-receiving set-up was established in the Naval Section of the Combined Services Display. With the co-operation of two Radio Amateurs in the Navy, Surgeon Lieutenant S. J. Lloyd, R.A.N. (VK3AST) and Chief Radio Electrician M. J. Cosgrove (VK2AAC), a temporary permit was issued by the Wireless Branch of the Postmaster General's Department.

The initial object was to provide a more practical method of demonstrating wireless equipment to the public. It was with the assistance of VK2BX that VK2ZAN commenced to be known on Wednesday, 14th April. When the station closed down on Tuesday, 20th April, 57 stations had been contacted.

The equipment in use was on display to the public and almost the whole time the station was actually operating, the public were able to watch and hear Amateur Radio working. The public interest was intense and the response from Amateur Radio could not have been better. I hope the publicity gained for Amateur Radio will prove to be beneficial.

I would like to thank all those stations who contacted VK2ZAN and to those who called me and who were unable to make a firm contact. I wish to apologise for our misfortune. Two or three initial contacts were not completed due to various reasons known only too well to Hams. However, I am sending a form of QSL to every station I worked, including those contacts which were not completed and hope that they will at least take the place of the normal card.

Finally I would like to thank VK2BX, VK2AX, VK2HP, and VK2ABE who came into the Showground and gave their most welcome assistance, and I would also like to say how glad I was to meet the other Hams who made themselves known to me at the Showground Display.

I am also sending a copy of this letter to the Editor, "Radio and Hobbies."

(Signed) G. B. Thrum, Lieutenant Commander R.A.N., Staff Officer (Communications) to Flag Officer-in-Charge East Australian Area.

in subs to "A.R.," capitation fees and Convention dues. One new associate member was elected, Mr. Angus, of Diamond Tree, via Jardee.

At the first meeting of the new Council, held on 8th May, the following office-bearers were appointed: Patron, Mr. G. Hayman; President, Mr. F. Tredrea; Vice-Presidents, 6OR and 6CM, Jack Hoar and George Moss respectively; Secretary, Jack Mead, 6LJ; Treasurer, 6LL, Clarry Bishop; Sub-Editor and "Bulletin" Editor, 6HK, Don Graham; co-opted to the Council, 6RU, Don Bumble, who is also QSL Officer; Contest and Social Officer, 6WJ, Warren Jacobs; Insurance Officer, 6RS, Ron Stiffold; Traffic Manager, 6LU, Lou Stagg; Lecture Organiser, 6AG, Wally Coxon.

The winners of the trophies were announced. 6EC, Eric Cornelius retains the Carl Cohen Trophy with his entry, a video oscillator for 625 lines with a thorough description and circuit diagrams in real 6EC style. The Hayman Trophy went to 6OR for a well-constructed grid dip oscillator. Congrats to both members.

Herewith 6AG makes his bow, and wishes the new Sub-Editor, Don Graham, the best of luck, and what is more, every assistance from members to supply the copy.

TASMANIA

The May general meeting was held in the club rooms on Wednesday, 5th, and was very well attended, sufficient members being present to allow the formation of a lecture committee consisting of "Ack" Anderson, Mark Hurburgh and Barney Watson, and a working bee to finish up the social evening in the club rooms on Wednesday, 9th June, and all members are invited to attend and make it a success. Organisation is in the hands of Bob O'May and Ted Evans and the programme will probably consist of pictures and competitions with supper to follow—ladies bring a basket! So don't forget—9th June at the club rooms.

Lecture for the meeting was on 144 Mc. equipment and was given by L. Edwards and A. Johnson with a number of pieces of 2 mx gear on show. Athol also brought along his tape recorder with a recording of a 2 mx transmission of 7MY at Sandford, a first class signal by the sound of it Alan. Hurry and get that converter working so that we can work that long awaited 2 mx DX.

That old wireless bird has been busy again—this time with a girl for Barney Watson (the first), and for Denis Robinson, YDR, a boy—congratulations boys.

Paid a flying visit to Queenstown recently, but unfortunately was only able to visit one shack—that of 7LS. Len has quite a nice set-up, tx rack mounted and the operating table backed into a disused fireplace with the feeders going up the chimney, tape recorder close handy and lathe and bench drill in the corner. Also had a talk with 7BR who is working 80 mx mostly and contemplating building a v.f.o., but missed 7CF completely through lack of time, will make a point of looking you up next time Chas.

Boy oh boy! Did you see those gangsters in last month's issue, last page—wow!

Opinions vary as to the success of the 2 mx network for providing communications for the King's Cup rowing event which was held in Hobart recently, but I think taking all into consideration it was reasonably successful. Two mx circuits were provided between starter's boat, patrol boat, finishing line and the rowing headquarters at Buckingham rowing sheds.

Visited the 7DH domicile at Montague Bay to borrow his 2 mx walkie-talkie for the rowing hook-up and found Dave digging post holes—not for antenna poles, but for a fence. Have not heard you for a long time Dave, what about firing up the 2 mx mobile again?

Heard a very pertinent enquiry emanating from the 7YY haywire recently. Bill wants to know whether the H.E.C. has a license for that noise generator, and if not, why not. Couldn't read you very well Bill, the Hydro were on your frequency (and all others). R.I. please note!

I have it on the best authority that the earth tremor in Hobart the other day was not due to natural causes, but rather unnatural ones. Joe TBV climbed up for a bit of top shelf stuff. First the shelf collapsed, then the bench underneath then the AT5 under the bench. Results were a cut hand and the AT5 was to be wrecked anyway. Better leave that top shelf stuff alone Joe; now you know where he hides it Mary!

NORTH WESTERN ZONE

A recent visitor to the North West was Geoff Crompton from Launceston who visited a couple of local shacks including 7SF and TWA, and was very impressed with TWA's home-brew rx, so much that he took a copy of the circuit. Recent high speed c.w. signals, which at first appeared to be a commercial, turned out to be 7UW with an automatic key working

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6A8	10/-	12C8	10/-
6AC7	10/-	12J5	10/-
6AG5	15/-	12SG7	10/-
6BE6	15/-	12SK7	10/-
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6C6	7/6	12SR7	10/-
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6F6	10/-	813	60/-
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WI BROADCASTS

All Amateurs are urged to keep these frequencies clear during, and for a period of 15 minutes after, the official Broadcasts.

VK2WI: Sundays, 1100 hours EST, 7146 Kc. and 2000 hours EST 50 and 144 Mc. No frequency checks available from VK2WI. Intrastate working frequency, 7125 Kc.

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VK6WI: Sundays, 0830 hours WAST, on 7146 Kc. No frequency checks available.

VK7WI: Sundays, at 1000 hours EST, on 7146 Kc. and 146.5 Mc. No frequency checks are available.

AMATEUR RADIO

Published by the Wireless Institute of Australia.

Law Court Chambers, 191 Queen Street,
Melbourne, C.I.

EDITORIAL



"The Limited Amateur Operator's Certificate"

Under Statutory Rules, 1954, No. 50—"Amendments to Wireless Telegraphy Regulations"—appears Sub-Regulation 50A:

"The examination for Amateur Operators Limited Certificate of Proficiency shall be such as to show that a successful candidate possesses the knowledge and qualification specified in this Regulation, namely, (a) A knowledge of Wireless Telephony and electrical principles; and (b) A knowledge of such of the Radio Communication Regulations for the time being in force under the Telecommunications Convention and of such of these Regulations as to relate to the operation of Amateur Stations using Wireless Telephony."

This is the official notice the Wireless Institute has been waiting for over a period of many months since representation was made for the issuance of a Limited Amateur Operator's Certificate to assist those technically minded people who, for various reasons, cannot master the morse code, but who have technical knowledge and ability sometimes well beyond the standard necessary for a normal Amateur Operator's Certificate of Proficiency.

Elsewhere in the Regulations under the Wireless Telegraphy Act the Limited Amateur Operator is limited to operation in the bands from and including 144 Mc. upwards. This section of the frequency spectrum is so interesting and offers such wide fields for genuine Amateur experimenting that the limitation of the bands that can be used under this

license will in no way deter the successful candidate.

The W.I.A. has long been interested and active in implementing Amateur Emergency Networks for use during National or Civil emergencies; every State in the Commonwealth is actively participating with these Networks in some form or other.

There is no doubt that the v.h.f. bands will be the universally used bands for future emergency communications networks and the introduction of the limited operators into these regions will ultimately benefit the Amateur Service and the country to a greater degree than is as yet realised.

Today a scant dozen or so have made application for the new license; tomorrow there might be hundreds. The foremost object for which the Institute was formed was "the association of persons and/or bodies corporate or incorporate interested in the encouragement and scientific development of radio communication in all its branches." In pursuit of this, the Limited Operator's Certificate of Proficiency has been gained by Institute representation. The Institute will always pursue its policy of representation for the Australian Amateur.

With the introduction of the Limited Amateur it takes unto its fold another responsibility. It welcomes the new license and extends the hand of friendship to all those who gain it.

FEDERAL EXECUTIVE.

THE CONTENTS

The Complete Amateur—Function and Master Switch Panel, Rack Details, Aerial and Feed Lines	2	Remembrance Day Contest, 1954	15
Selectivity and Phone Reception	5	DX Activity by VK3AHH	16
A Transmitter with AC/DC Power Supply	9	Prediction Chart for July, 1954	16
Amateur Call Signs	11	QSO Using Transistor	16
Hetrofil	12	Fifty Megacycles and Above	17
		Federal, QSL, and Divisional Notes	19

THE COMPLETE AMATEUR

BY TOM ATHEY,* A.I.R.E.

SECTION SEVEN

Function and Master Switch Panel

Panel 19" x 3 Units

Chassis: Flat plate at right angles to Panel, 17" x 4" x 16 gauge.

The components on this panel are mounted in such a way as to give balance to the panel. Only three main components are needed, viz.:-

One 2-bank, 3-pole, 3-position wafer switch (Oak).

One 10 amp. D.P.S.T. flush switch.

One 240-110 step-down transformer.

At the rear of the sub-panel is mounted eight follow-through insulators or an 8-point junction box, also one 3-pin recessed plugbase, and five 2-pin chassis sockets. The latter are for the a.c. outlets, viz.:-

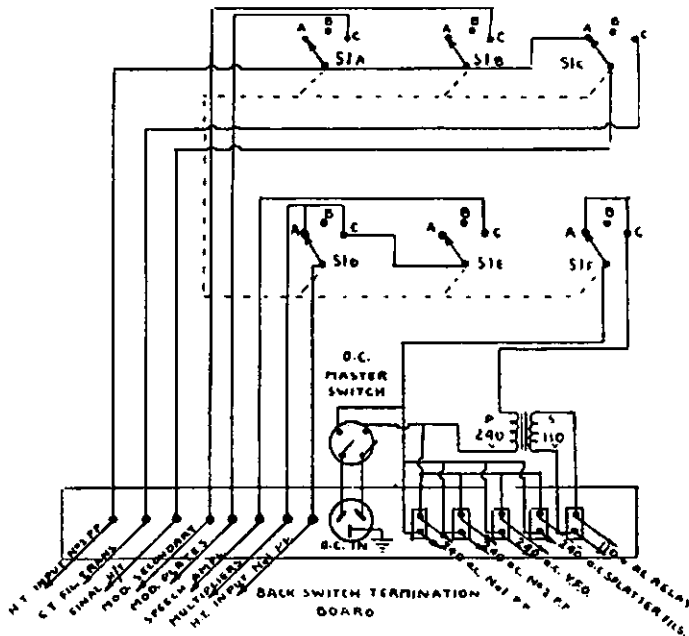
240v. to No. 1 Power Pack.

240v. to No. 2 Power Pack.

240v. to V.F.O. Power Pack.

240v. to Splatter Transformer.

110v. to Aerial Relay.



The recessed chassis plug is for the a.c. 240v. input from the mains.

The other eight connections are for the various circuits obtained by the function switch, the positions of which will be described in detail and can be followed by referring to the diagram. With regards to the switch, I consider this the most important part of the rig. It has three main functions, viz.:-

Taking each position separately

Position 1—C.W. only.

Position 2—Standby.

Position 3—Modulator on.

* Ex-Instructor Qld. Division W.I.A. Classes; 41 Mountford St., New Farm, Brisbane.

Position 1—C.W.

- (1) SIC feeds h.t. to final, shorting out modulation transformer secondary and splatter suppressor SIB.
- (2) Removes h.t. from modulator primary S1A.
- (3) Removes h.t. from speech amplifier S1E.
- (4) Brings aerial relay into transmit S1F.
- (5) Feeds h.t. to multipliers SID.

Position 2—Standby

S1A, B, C, D, E, F all opened.

Position 3—Phone

S1A feeds h.t. to modulator plates. S1B feeds h.t. to modulator secondary. S1C picks up h.t. from c.t. of splatter transformer.

SID feeds h.t. to multipliers.

S1E feeds h.t. to speech amplifiers.

S1F feeds 110v. a.c. to relay ready for transmit.

You will see that great care must be exercised in making sure that all wiring is in exact accordance as laid down in the circuitry. Any wires wired on the

The other eight connections can be made up by using a strip of bakelite and mounting screw terminals in a row. Screw type terminals are better than the spring type as they readily provide a means of anchoring spade lugs from the form which is to be made up when the chassis are being wired together, as per the cabling diagram.

In the chassis cabling, keep the a.c. wires to one side of the rack and all other leads carrying r.f. or d.c. on the other. Bind bunches of wiring together using nylax binding strip. It makes for a cleaner and neater job.

SECTION EIGHT

Rack Details

The transmitter is mounted in a relay rack, a diagram of which is shown. The rack can be of only two uprights or can be constructed as a cased-in rack. In the latter instance you will require eight uprights of angle iron. By joining two uprights together as per details, you will allow a recess for the panels to fit into and improve the overall finish of your rig.

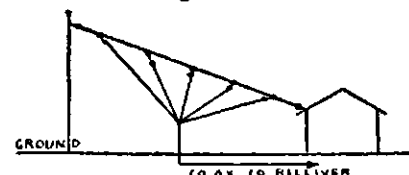
SECTION NINE

Aerial and Feed Lines

A special layout for an aerial or aerials is impossible to advise as so much depends on location, the amount of space available, and your pocket. Beams for 14 and 21 Mc. are great if you can afford them.

I suggest that a two element beam be used for 14 Mc. band, feeding both elements, one out of phase with the other. This type would them cover 14 and 28 Mc. bands. Thus you would only need two beams for three bands. Beams on 7 and 3.5 Mc. are impracticable because of size. Other types, such as folded dipoles, terminated folded dipoles, the latter a reasonably new type, would be the easiest and best for a beginning.

Another type, as yet untried for transmitting but which works excellently for reception, is the impedance switching type, details of which may be found in the latest copy of the "Radio-tron Designer's Handbook." This consists of quarter wave lengths of aerial attached to a common point of feed as shown in the diagram.



This aerial automatically selects the desired aerial for the band being used merely by the fact that the impedance of the unwanted bands being such that

wrong position would create havoc in the general control.

The d.p.s.t. master switch, a flush switch, is the main a.c. control. On switching on the 240v. a.c., it puts all filaments on all chassis and supplies line voltage to the v.f.o. All pilots should light up, indicating that all filaments are on.

It may be better to make the sub-panel a small chassis, 17" x 4" x 1 1/2" deep, thus allowing the chassis sockets to be mounted along the rear edge. Make sure that no a.c. connection has a bare or open connection—remember, "Death Is So Permanent."

the aerial becomes inoperative. However as I've no data for transmission on it, it is just a matter of taste. Reports on it would be appreciated.

Feed lines can be either open wire lines or co-ax feeders, depending on one's pocket, the latter being rather expensive.

CONCLUSION

The author has endeavoured to keep to standard practices. Nothing of any special system has been used or designed except perhaps the type of final coil.

A word in passing regarding the use of single ended Class C amplifiers instead of push-pull valves is worthy of comment here.

Since the introduction of t.v. in the U.S.A. it has been found that harmonic radiation was causing trouble to

the viewers. After exhaustive tests, it was proved that most of the trouble was primarily caused by the use of valves in push-pull. This is an involved theory, but is fully covered in the "Radio Handbook," 12th and 13th editions. It was also found that this spurious radiation could, to a great measure, be solved by using single ended pentodes in place of push-pull tubes, hence my recommendation for one tube in the final.

A further article on the remainder of the station is in the course of being transcribed, consisting of a receiver and control equipment such as frequency meter and modulation monitor, etc., and will be published at an early date.

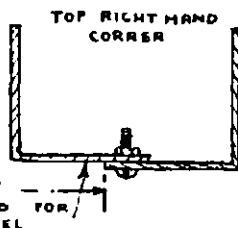
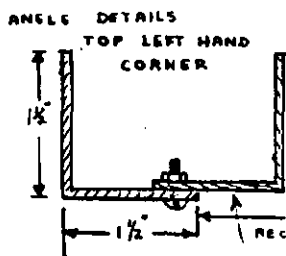
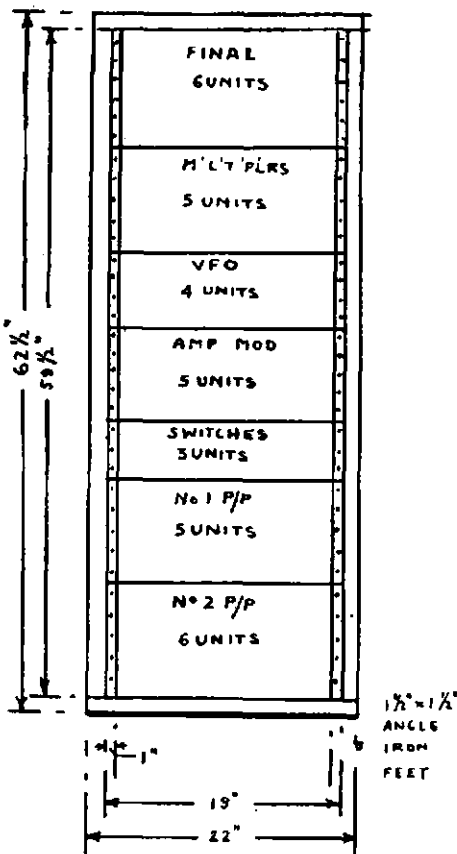
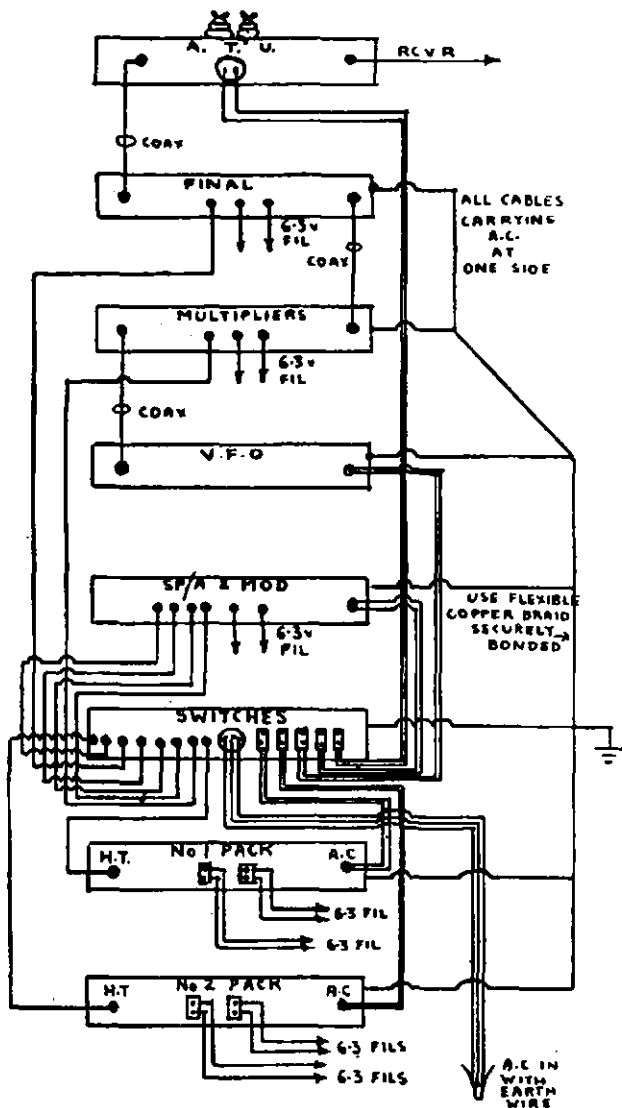
If any intending Amateur can gain a basic knowledge of a clean conventional transmitter, then the author will feel justly rewarded. Good DXing chaps.

CORRESPONDENTS PLEASE NOTE!

It is the intention of the Magazine Committee to continue to publish the magazine as near as possible to the first of each month. As some correspondents over the last few months are forwarding copy late, they are reminded that copy date is the 8th of the preceding month. If you have been sending copy before that date, our thanks go to you; but if your copy has been arriving at 191 Queen Street, Melbourne, after the 8th, here is a warning!

Rather than hold up production of the magazine, in future no responsibility will be taken for non-published notes that arrive after the 8th.

Remember! The 8th is not your posting date, but is the date of copy arriving in Melbourne.



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Selectivity and Phone Reception*

Tricks With Your Present Receiver

It doesn't take long for any Ham, new or old, to realize that some receivers can separate signals better than others and that this characteristic is called "selectivity." Different makes and models of receivers vary in their selectivity, of course, but it is questionable if every operator utilizes the selectivity of his particular receiver to the fullest extent, and the purpose of this article is to describe how the selectivity can best be used.

However, before getting into these details, let's review the situation and see why we need selectivity and how it is used to separate signals. The selectivity we're talking about is usually obtained in the i.f. amplifier of the receiver—the receiver also has "front-end selectivity" that keeps out "images," but the real hard-working selectivity is in the i.f. amplifier.

A curve of the attenuation versus frequency of an i.f. amplifier is called the "selectivity" or "response" curve of the i.f. amplifier—the circuits in the i.f. amplifier are the most selective in the receiver and so they determine the over-all selectivity of the receiver. The selectivity of a fair communications receiver (without crystal filter) might look as in Fig. 1. The nominal "intermediate frequency" is 455 Kc. (frequency of minimum attenuation). The "bandwidth" at "6 db. down" (6 db. attenuation) is 5.5 Kc., and the bandwidth at 60 db. down is 18 Kc. The bandwidth at any other attenuation up to 70 db. (the apparent limit of measurement in this case) can be read from the curve.

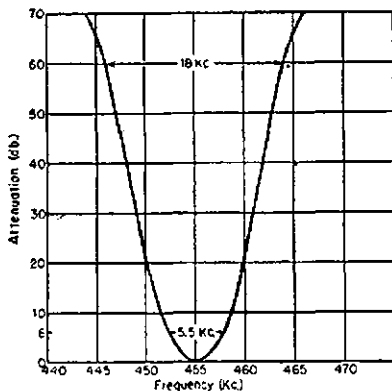


Fig. 1.—Typical i.f. selectivity characteristic of a communications receiver. The bandwidth at "6 db. down" is 5.5 Kc.; the bandwidth at 60 db. down is 18 Kc.

A curve like this means that a signal at 464 or 446 Kc. will have to be 60 db. greater than one at 455 Kc. to give the same output. If it were only 40 db. stronger it would end up in the output 20 db. weaker than the desired signal.

It's to our advantage, therefore, to have an i.f. amplifier in which the attenuation increases rapidly with frequency beyond the 10 or 15 db. point.

Amplifiers with this characteristic are said to have good "skirt selectivity," and the ultimate (but unobtainable) curve would be a rectangle. Since "good skirt selectivity" is hardly a quantitative term, some engineers now use the expression "shape factor" to describe the skirt selectivity. The shape factor is the ratio of the bandwidth at some low attenuation (usually 6 db.) to the bandwidth at high attenuation (usually 60 db.). Hence the shape factor in Fig. 1 for the 6 and 60 db. points is $5.5 \div 18 = 0.305$. The selectivity characteristic of an amplifier is defined if the bandwidth at 6 db. down and the shape factor are known. "Bandwidth" by itself isn't of too much use to the Amateur, because two amplifiers could have the same bandwidth (at 6 db. down) and have widely different shape factors. The bandwidth at 6 db. down is primarily of importance in determining the fidelity of response to a phone signal, as we will see later.

It's a simple matter to find out what kind of selectivity curve your receiver has, assuming that the S meter reads in decibels to a fair degree of accuracy. (Some of the current receivers are pretty good in this respect). All you have to do is tune through a stable carrier that doesn't quite pin the S meter, with no other signals present. This signal can be a frequency standard, a v.f.o. harmonic or any other unmodulated signal. By plotting the dial frequency against the S meter readings, you will have a selectivity curve of your receiver, accurate within the limits of accuracy of the S meter calibration and the frequency intervals on the tuning dial. You can tune the receiver with the signal source fixed, or you can tune the signal source with the receiver fixed, depending on whether the receiver or the signal source has the better calibration and more favorable tuning rate. If you have a crystal filter you can then cut it in and make a similar run, to obtain the crystal filter selectivity characteristic.

RECEIVING AN A.M. SIGNAL

It's fairly easy to decide the maximum selectivity (minimum bandwidth) you can use in receiving a c.w. signal. Since practically all of the energy of a c.w. signal exists at a single frequency, you might expect that c.w. signals could be received on an i.f. amplifier with a 6 db. bandwidth of only a few cycles. However, this is not the case, since an amplifier that sharp would "ring" unmercifully, and also tuning in a signal with such a sharp receiver would be well nigh impossible. From a practical standpoint, the minimum possible bandwidth for c.w. work seems to be in the region of 120 to 150 cycles†.

Deciding upon the maximum useful selectivity for phone reception is not quite as simple. In the first place, an a.m. signal is a complex thing that can

have energy existing over 6 to 16 Kc. (Male speech is often given as ranging from 100 to 8000 cycles, but good communication requires an upper limit of only 3000 cycles or less. An upper limit of 3000 cycles requires an a.m. bandwidth of twice this, or 6 Kc.) For purposes of discussion, let's assume a perfect male voice a.m. transmitter, with no distortion and the ability to modulate without attenuation at any audio frequency up to 8000 cycles. Then the possible spectrum that the signal could occupy would look like Fig. 2, where it is drawn for a carrier frequency of 3900 Kc. How much of this possible spectrum the signal occupies at any instant depends, of course, on the operator's voice (high or low pitched) and the syllables being spoken.

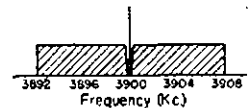


Fig. 2.—The possible spectrum of a "perfect" a.m. transmitter used to transmit a male voice. The actual frequency distribution will vary from instant to instant, depending upon the speech.

FIDELITY

If the receiver is to reproduce the transmitted signal exactly, it must pass the carrier and both sidebands without attenuation. Suppose, for example, that our receiver i.f. has the selectivity characteristic of Fig. 1, and that we tune our receiver to set the signal of Fig. 2 squarely in this i.f. (the S meter will read maximum at this point). Since our i.f. is down 6 db. at 2750 cycles off the mid-frequency, a 2750 cycle component of speech will be attenuated by this amount. A 5000 cycle component of speech will be attenuated 22 db! In other words, the high audio frequencies of the incoming voice will be attenuated, and the voice might sound slightly "bassy" or lower-pitched to a keen ear familiar with the actual voice. (An unthinking receiving operator might say that "the transmitter has no highs" or that "the audio of the receiver has no highs," when such is not the case—the transmitter is perfect, and the receiver audio system could also be perfect and the effect would still be there.) So it would appear that, for phone reception, we can't even use as much selectivity as shown in the curve of Fig. 1.

Fortunately, such is not the case. In the first place, no sensible Amateur tries to build a "high fidelity" transmitter (except to prove he can do it), and he usually has a high audio frequency response in the rig that drops off rapidly above 3 Kc. If he is smart, he will decrease the low frequency response in the transmitter, so that "highs" are transmitted at greater strength than the "lows," by comparison with his normal speech. Then at the receiving end the "sideband cutting" described in the previous paragraph will be somewhat compensated for and his voice will come out

* Reprinted from "QST," March, 1964.

† Kaye and Kaye, "One db. per Cycle!" "QST," November, 1951.

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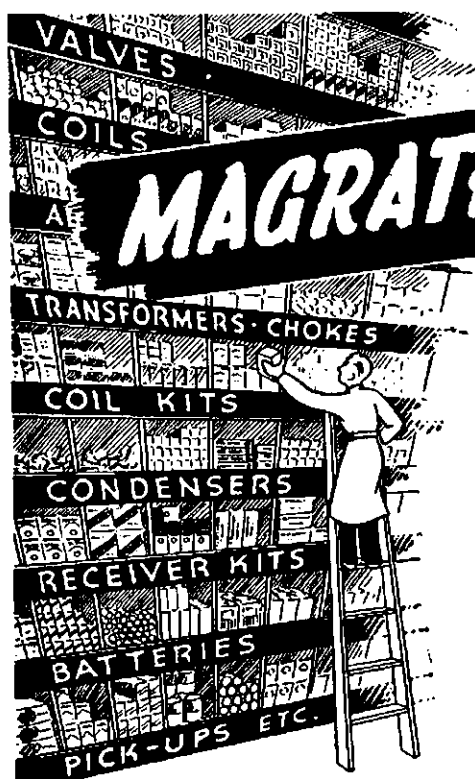
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with more nearly its normal balance (varying with different receivers, however). (Another reason for cutting down the low frequency response is that it makes the modulator's job easier and is more economical of a.f. power.)

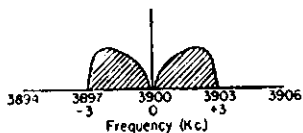


Fig. 3.—The possible spectrum of a "practical" a.m. transmitter. The components beyond 3000 cycles are deliberately eliminated, and the lower voice frequencies are attenuated.

HOW MUCH SELECTIVITY?

Now that we have boiled down our "perfect" transmitter to a "practical" one that passes, say only up to 3000 cycles, the possible spectrum will look like Fig. 3. Centred in our i.f. amplifier of Fig. 1, it will suffer only slight attenuation of its high audio frequencies. If we detune it slightly to one side or the other, we can include some more of one sideband and thus improve the "highs." This is an effect you have all noticed when tuning with a fairly sharp receiver. It now becomes apparent that the ultimate to which this process can be carried is with an i.f. bandwidth of just under 3000 cycles, when the receiver could be tuned so that the i.f. was accepting just one sideband. If we don't mind losing some of the "highs" in the original signal, we can use a bandwidth down to around 2000 cycles (there is no general agreement on the figure—some will set it lower and some higher) and still get intelligible speech through. It won't be a faithful reproduction of the original, but it will have a high communications value.

But now we run into a problem. Let's say that we have a sharp i.f. of 2000 cycles bandwidth at 6 db. down and 6500 cycles at 60 db. down. Its curve would look like Fig. 4. (This is the selectivity characteristic of a BC453 "Q5-er.") If we superimpose it on one sideband of the signal in Fig. 3 (as we do in effect when we tune the receiver), we can plot the resultant signal that appears at the detector. This is shown in Fig. 5 for two different tuning conditions. The tuning condition at A passes one sideband without much

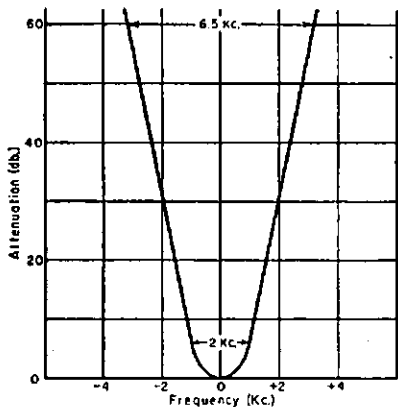


Fig. 4.—The i.f. selectivity characteristic of a typical "sharp" receiver (the BC453 "Q5-er"). Notice that at 60 db. down it has about a third of the bandwidth of the i.f. of Fig. 1.

alteration of its relative amplitudes—the tuning condition at B has cut the "highs" and accentuated the "lows." But look at the poor carrier! In A it has been knocked down better than 20 db., and 10 db. in B. Now the signal appearing at the detector has insufficient carrier, and the net effect is as though we were receiving a badly overmodulated signal. There will be considerable distortion in the detection process, although the signal can usually be copied.

Here, then, is another limitation to how much selectivity we can use—we can't use it to the point where it takes a good signal and makes it appear at our receiver's detector and audio system as an overmodulated signal. What's the solution? There are several, and they make up the meat of this article.

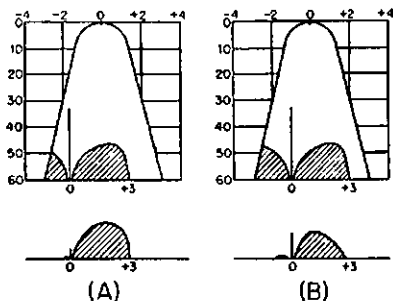


Fig. 5.—The upper sketches show the i.f. characteristic of Fig. 4 (with the vertical scale reduced for convenience) superimposed on the phone signal of Fig. 3. The resultant signals that appear at the detector are shown in the bottom sketches. Notice how the slight difference in tuning has modified the carrier amplitude and the relative amplitudes of "highs" and "lows" in the sideband.

IMPROVED SHAPE FACTOR

Suppose that instead of the selectivity curve of Fig. 4 we could build an i.f. amplifier with a selectivity curve that looked like a rectangle, as in Fig. 6. Then as long as the carrier fell within the passband it would be unattenuated, and we wouldn't have to worry about the overmodulation effects mentioned above. We could utilise up to 3000 cycles of a single sideband (carrier at edge of passband), or 1500 cycles of double sidebands (carrier centred in passband). Furthermore, it wouldn't be too hard to tune, since once the carrier was within the passband, tuning would only change the relative "highs" in the audio output. In other words, there is a 3 Kc. space on the dial where the carrier can be set and the voice can be heard (although varying in the amount of "highs"), and hence the tuning is not too critical.

But you don't just go down to the corner store and order an i.f. amplifier like that. You wait around wishing for one, and finally someone describes something that approaches it, like the crystal-lattice filter[‡] or the Collins mechanical filter[†]. These filters have a big advantage over the characteristic of Fig. 4 in that they have a relatively "flat" bottom and almost vertical sides, so they approach the "ultimate" of

Fig. 6. To the extent that their characteristics approach Fig. 6, their performances approach that described in the preceding paragraph. They are certainly superior to an i.f. with the characteristic of Fig. 4.

To reject an interfering signal, you tune the desired signal a little to one side or the other, until the undesired signal drops out of the passband. The carrier of the undesired signal will drop out while one sideband (or a portion of it) remains, but the QRM is not as damaging as when the undesired carrier (and hence a heterodyne with the desired carrier) is present.

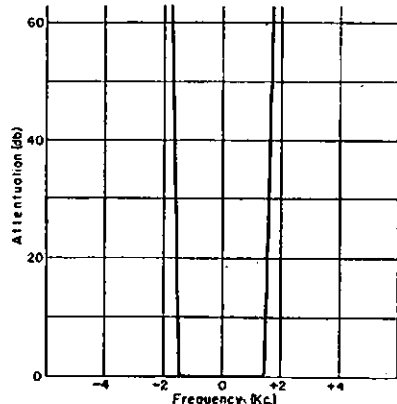


Fig. 6.—An "ultimate" bandpass characteristic for an i.f. amplifier for phone reception. It can be approached with some of the current techniques.

EXALTED CARRIER RECEPTION

But everyone doesn't have a crystal-lattice or a mechanical filter, and the selectivity found in most Ham shacks is perhaps the receiver's crystal filter or some auxiliary selectivity like that shown in Fig. 4. How can you use it to best advantage without attenuating the carrier? One thing you can do is to take a page from the book of the s.s.b. gang, and make up for the lack of carrier at the detector by substituting a locally-generated one.

All this high-falutin' language means is that you turn on the receiver's b.f.o. and zero it to the (weak) incoming carrier. (For example, in the detector signal shown at the bottom of Fig. 5A, the b.f.o. would be set to coincide with the carrier signal, about -1.6 Kc. off the i.f. centre frequency.) The b.f.o. takes the place of the attenuated carrier. If the b.f.o. isn't exactly zero beat (a much more likely condition!) there will be some distortion, something like what is heard when an s.s.b. signal is not properly tuned. (You will get a steady audible beat if you're too far off.) But, as in the reception of an s.s.b. signal, the voice can be understood even though it is not perfectly natural. The extent to which this can be tolerated depends primarily on how anxious you are to hear what the other fellow is saying. But this is a good stunt to have in your bag of tricks—you simply start to make a single-sideband signal out of the incoming a.m. signal by partially lopping off the carrier and one sideband, and then you receive it as you would any other s.s.b. signal. You have to watch the same things: r.f. gain well below the overload point, plenty of

‡ Technical Topic, "How to Visualise a Phone Signal," "QST," July, 1950.
 † Weaver and Brown, "Crystal Lattice Filters for Transmitting and Receiving," "QST," June and August, 1951.
 ‡ Roberts, "Mechanical Bandpass Filters for I.F. Ranges," "QST," February, 1953.

audio volume, and b.f.o. set properly in relation to the i.f. passband. Practice it a few times on signals that are "in the clear"—it may take a little while to get the feel of slow tuning and to find the proper setting of the b.f.o. for best audio balance.

One important advantage of this (and any other) exalted carrier reception has not been mentioned yet. At the detector, the audio you hear is the beat between the highest-amplitude signal (normally the carrier) and the side frequencies that make up the sideband. If the carrier amplitude drops down (through selectivity or fading), the audio you hear is a result of the beats between the side frequencies and whatever component has the greatest amplitude. If the drop in carrier amplitude isn't too great, the only obvious effect is a little distortion, but with significant carrier attenuation the distortion can become quite marked and even downright obnoxious. It is to your advantage, therefore, to maintain the carrier at considerable amplitude above the side frequencies at all times. Interfering signals of greater amplitude can also "take over" to cause the carrier frequency (when the resultant beats would be the same, frequencywise). Hence, using the local oscillator to furnish a local carrier, as described previously, give us protection against the distortion obtained when the carrier fades or another carrier attempts to "take over."

Another way that we can obtain the same result, but without using the b.f.o., is to amplify the carrier frequency more

than any other. To do this requires a receiver with, in the ideal case, an i.f. characteristic like that shown in Fig. 7A. With this we could set the carrier at 455 Kc. (by proper tuning of the "front end") and the carrier would fall in the "slot" and one sideband would be passed by the shoulder. This is an unrealisable characteristic, however, and we have to settle for a compromise. A crystal filter characteristic can look like Fig. 7B at some setting of the phasing and selectivity controls, and it can be used for exalted carrier reception of an a.m. signal by careful front-end tuning. It is obtained in the sharpest position of the selectivity control (contrary to usual crystal filter practice for phone reception, where the filter is set in the broadest "in" position). The tuning will be critical, since the spike of the crystal is quite sharp, but the a.v.c. and S meter can be used for tuning if the receiver is stable.

The audio output will be attenuated considerably, and some receivers may not have enough audio gain for best results, but along with the reduction in audio gain will go a great attenuation of QRM. The receiver is tuned for maximum S' meter reading, but it will be much sharper than anything you ever tuned before. Don't wait until you get into a tough spot to learn the technique—try it out on a few "in-the-clear" signals some time until you get the hang of it. It is a good trick to have in your bag. The audio will not be as boomy as it usually is with the crystal filter in the "broad" position.

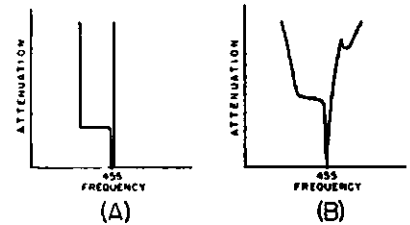


Fig. 7—An "ultimate" exalted-carrier selectable-sideband characteristic. A, can be approached by a setting of the crystal filter that gives the characteristic of B.

In passing, it might be mentioned that there are available "selectable sideband adapters" that add to the effective selectivity of a receiver. The Central Electronics "Sideband Slicer" and the General Electric YRS-1 use a phasing principle** similar to that used in one type of s.s.b. generator, and they both offer exalted carrier reception of incoming signals along with the selectivity feature.

And there you have a brief outline of the problems involved in receiving phone signals in crowded bands, and two simple tricks you can do with your present communications receiver to help solve these problems. Maybe your receiver isn't the best in the world (whose is?), but it's almost dollars to doughnuts that you aren't using it to full advantage. But you can, with just a little practice.

** G.E. "Ham News," Vol. 6, No. 4, July, 1951.

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A Transmitter with AC/DC Power Supply

BY HANS J. ALBBECHT,* VK3AHH

SO called stand-by transmitters have always been popular among the Ham fraternity. They are useful for quite a number of applications. This is proved by various types of well known disposals equipment. One major requirement in the design of such a transmitter must obviously be the provision of a universal power supply. Although an ideal universal power supply would include possible operation from dry batteries as well as from an arbitrary power connection, the satisfaction of the latter requirement only is a considerable step forward.

Above reasons caused the writer to design a simple transmitter with an AC/DC power supply. Such power supplies are frequently used for various electronic appliances. Thus this description is not intended to produce something entirely new, but has fulfilled its purpose if it serves as a guide to readers who are interested in the construction of equipment on similar lines.

Main features of the rig to be described can be summarised as follows:

- Satisfactory results were obtained on both c.w. and phone.
- Its input power is reasonably adequate (e.g. 10-12 watts with 230 volts mains).
- Although the rig was primarily intended to be a c.w. transmitter, a modulator tube driven by a carbon microphone has been included.
- Operation on more than one band is possible.
- All components can inexpensively be purchased in this country.
- The AC/DC power supply permits economic operation from all kinds of AC or DC mains.

GENERAL DESCRIPTION

The circuit given in Fig. 1 shows a perfectly straight forward transmitter, consisting of v.f.o., doubler, final stage, and modulator. Only the circuit of the power supply differs greatly from the conventional way, i.e. it is transformerless. Thus tubes with high voltage heaters are utilised throughout, their heaters being connected in a series-parallel fashion. The high tension is supplied by a rectifier section containing a selenium rectifier and an appropriate smoothing filter.

There is no need to emphasise how convenient v.f.o. operation is on the Ham bands nowadays. This is particularly the case with low powered rigs, and thus the inclusion of a v.f.o. was considered a necessity. It is of the e.c.o. type with temperature compensation and band-spreading. The tube used is a 12SK7. As a safeguard against possibly extensive voltage fluctuations (mainly due to the fact that a number of stages is supplied by a single h.t. supply with condenser input filter) voltage regulation at its screen-grid by means of a VR105 is used. The circuitry is equivalent to that of the v.f.o. described earlier. Its frequency range is likewise 3.5 to 3.6 Mc.

The next stage comprises a 50L6G working as a doubler and its plate tank circuit covers the 7 Mc. band. Operation on the 3.5 Mc. band is possible by letting the stage operate as a buffer, which can be achieved by connecting an appropriate condenser in parallel to the existing circuit and thus changing its coverage to 3.5 Mc. This can be done by a simple switch. Provision is made to utilise this stage as a crystal oscillator if so desired. In that case a crystal can be plugged into the socket being connected between plate and grid of the tube as shown in Fig. 1, thereby forming a Pierce oscillator. The plate circuit is capacitively coupled to the final stage.

This final stage consists of a pair of 50L6Gs in parallel. Automatic negative grid bias is produced by grid current and grid leak resistor. The tank circuit is equipped with a plug-in coil for the band of operation. This stage works as a straight amplifier on 3.5 and 7 Mc. and as a doubling p.a. on 14 Mc. if operation on that band is desired. As shown in the figure, the common earth connections to the buffer and final stages are interrupted by the key, across which the phone/c.w. switch is connected. An appropriate link is wound on the coil former so that output to a 75 ohm line is conveniently obtained. The output coupling can, of course, be altered to suit individual requirements.

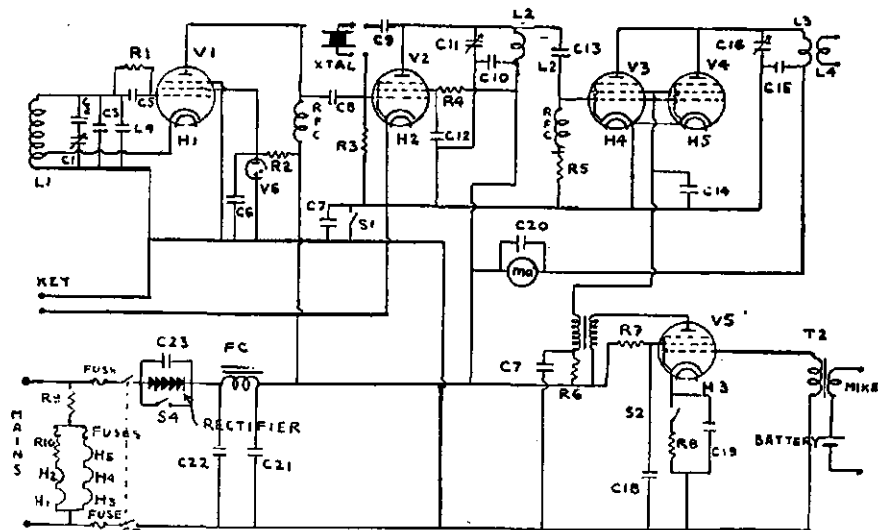
The modulator section contains another 50L6G whose audio output is sufficient to modulate the screen-grids.

Various kinds of screen modulation are possible. This transmitter uses the ordinary transformer coupled type. Clamp tube or controlled carrier modulation should, however, give equally good results. Readers interested in further experimentation in that direction are referred to an excellent publication in this magazine some time ago. The lack of a speech amplifier necessitates the use of a carbon microphone ahead of an appropriate input transformer. It must, however, be mentioned that another 12SK7 could be added to perform as speech amplifier enabling other microphones to be employed. The modulator tube can be disconnected by switch S2.

AC/DC POWER SUPPLY

The mere mention of AC/DC power supplies may cause some readers to raise various more or less violent objections on account of a number of disadvantages, such as transformerless supplies are said to have. However, it should always be remembered that the operation of apparatus using simple supplies of this kind is in no way more difficult or dangerous than that of ordinary equipment provided certain precautionary measures are observed constructing them. The main requirement is that the chassis and cabinet (if metal) must at no point be in direct connection with the mains, i.e. the AC/DC powered instrument must comply

† G. M. Bowen, "A Mobile Modulator," "A.R.," April, 1953.



- C1, C11, C16—100 pF. variable.
- C2—40 pF. N.P.O.
- C3—100 pF. (cer. TC-750).
- C4—250 pF. mica.
- C5—100 pF.
- C6, C7, C12, C14, C17, C18, C23—0.01 uF.
- C8, C9, C20—0.001 uF.
- C10, C15—0.08 uF.
- C13—500 pF.
- C19—25 uF., 6v.
- C21—32 uF., 600 volt.
- C22—8 uF., 800 volt.
- R1—20,000 ohms.
- R2—2,500 ohms, 7 watts.
- R3, R4—50,000 ohms.
- R5—5,000 ohms.

- R6, R7—10,000 ohms.
- R8—140 ohms.
- R9, R10—See text.
- L1—5.1 uH.
- L2—7.4 uH.
- L3, L4—According to band and output coupling desired.
- V1—12SK7.
- V2, V3, V4, V5—50L6G.
- V6—VR105.
- R.F.C.s.—2.5 mH.
- Ma.—Milliamp. meter 0-120 Ma.
- T1—Audio transformer 1:4.
- T2—Input transformer for carbon microphone.
- S1, S2, S3, S4—Switches (see text).
- F.C.—Filter choke (see text).

* 10 Belgravia Avenue, Box Hill North.
† H.J.A., "Simple V.F.O. With Temperature Compensation," "A.R.," December, 1952.

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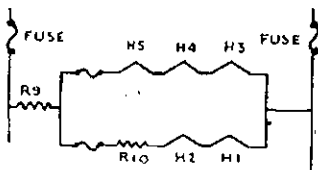
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with the Radio Code of the Standards Association of Australia (A.S.S. No. C69-1937) which states under V.7 (f) (ii): Power units and sets of the transformerless type shall have the live parts of the inner structure isolated from the case or frame by an isolating condenser or other approved means, which shall not be capable of passing a current exceeding 5 milliamperes to case or frame when the full rated voltage is applied in the normal manner of operation.

This means that an insulated earth bus has to be used as common earth connection. It is advisable to connect this wire to chassis, shields and cabinet by means of condensers having low impedance on frequencies used in the set. A good r.f. connection between the chassis and shields on one hand and the common earth bus on the other hand is, of course, essential for stable operation of the transmitter. Thus several condensers are wired in at various points well distributed throughout the rig, so that chassis, shields, and cabinet are at earth potential for r.f. The permissible total impedance of all condensers is indicated by the 5 Ma. limit (see above), giving e.g. 50,000 ohms for 250v. mains and 40,000 ohms for 200v. mains. Only the higher value is of interest here because of the universality of the power supply. The total capacitance must therefore not exceed 0.0637 μ F., in practice coming to 0.06 μ F. In the writer's rig six 0.01 μ F. mica condensers (not shown in Fig. 1) connect chassis and shields to the common earth bus, being well distributed throughout the circuit.



Points emphasised here are, of course, well known facts in the construction of AC/DC receivers as is also mentioned in the "Radiotron Designer's Handbook."¶

Above isolating precautions are obviously not necessary if cases or frames of wood, or other insulating materials, are used as mounting bases, see ref. §

Before discussing the heater supply in this transmitter, we have to make ourselves familiar with its two major requirements: Firstly, the variety of mains voltages the transmitter is supposed to operate with, and secondly, the maximum permissible heater-cathode voltage specified for the tubes used. To obtain universality we have to make provision for the use of 250, 230, and 200 volts mains.

Answering the second question, we find as "peak heater-cathode voltage" 150 volts for the 50L6G and 90 volts for the 12SK7. There are, of course, quite a number of ways of combining all heaters so that the switching arrangement for changing the power connection remains simple, while above points are observed. Fig. 2 illustrates how the problem was solved in this transmitter.

¶ "Radiotron Designer's Handbook," Chapter 35, Section 6.
§ H.J.A., "A Simple 80 Metre Station," "A.R.," March, 1950.

There are two heater circuits, the first consisting of heater H1 (12SK7), H2 (50L6G) and a resistor, R10; and the second of H3, H4, H5 (50L6Gs). The main dropping resistor, R9, is in series with both circuits as shown in the figure. This resistor has a value of 330 ohms with taps at 270 and 170 ohms to provide for operation from 230 and 200 volts mains as well. Its wattage comes to 30 watts. R10 has 600 ohms at 14 watts. If the use of a second 12SK7 (perhaps as speech amplifier, see above) is desired, it is advisable to connect it into this circuit and reduce R10 accordingly. The calculations are simple application of ohm's law, and therefore computations for other heater combinations should not present any difficulties to readers.

It is obvious that all types of mains within the range 150 to 250 volts can be handled by the above set-up, i.e. by changing the taps if necessary.

A well known disadvantage of series heater operation in AC/DC power supplies is that changes in the mains voltage are transferred to the heaters with a slightly larger percentage. The heaters are consequently subject to voltage fluctuations possibly exceeding the normal 10% tolerance. Thus the use of barretters should result in care-free operation while enabling the above heater circuits to be operated at mains voltages between 230 and 250 volts without changing the tapplings. For that, a 300 Ma. 80-200 volt type should be used instead of R9, with a 150 Ma. 80-120 volt type being the substitute for R10. After re-arranging the heater supply described above, a wider range of mains voltages could be covered without changing tapplings by utilising barretters of the same types.

The order of the tubes in the heater supply is mainly governed by their peak heater-cathode voltages as discussed above. It is, however, advisable to connect the v.f.o. tube to the earth side of one of the heater circuits although the actual order of tubes does not seem to be critical from the operating point of view.

The rectifier section of the power supply contains a selenium rectifier and a smoothing filter which is of the condenser input type. The selenium rectifier with 28 cells and a diameter of 1.75 inches is rated at 300 volts and 300 Ma.,** providing a reasonable safety margin. The filter consists of the input condenser of 8 μ F., a filter choke of approximately 10 Hy. at 200 Ma., and an output condenser of 32 μ F. The maximum rating of all condensers is 600 volts. The filtering obtained with components as above was found to be completely adequate. The filter condensers can be of the electrolytic type if the following precautions are observed when operating the transmitter from DC mains:

To avoid wrongly polarised DC voltage at the filter condensers, the rectifier has to be left in the circuit until the correct operation of the transmitter proves that the polarity is right. Switch S4 must then be closed so that the rectifier is by-passed, which is necessary as pure DC should not be allowed to pass through a dry rectifier for too long

** H.J.A., "How To Use Dry Rectifiers," "A.R.," June, 1952.

a period. Switch S3 controls the high tension of the transmitter.

It is suggested to connect appropriate fuses into the h.t. circuit as well as the heater circuit.

The transmitter has frequently been used as a stand-by transmitter with excellent results. Its performance was thoroughly tested on the 7 Mc. band and was found to be well comparable with that of other rigs using the same power.

AMATEUR CALL SIGNS

FOR MONTH OF MAY, 1954

ADDITIONS

- VK— New South Wales
2ND—K. W. Nutt; Station: 97 Findlay Road, South Goulburn; Postal: C/o. Station 2GN, Goulburn.
2AJF—J. D. Ferguson, Taylors Arm, via Macks-ville.
2AYG—F. Gresser, 11 Rawson St., Coledale, 5C.
Victoria
30P—J. H. Kosseck, 43 Ford St., Newport.
3QZ—J. G. Colley, Princes Highway, Traralgon.
3AIL—J. Leclis, Canteen, Holding Centre, Benalla.
3AMM—R. H. Cunningham, Portable, 384 Glenferrie Rd., Malvern.
3AQB—W. R. Babb, 20 Ovens St., Yarraville, W.13.
3ARJ—J. R. Adams, "Pine Vale," Wangoom.
3AXD—C. C. Burrows, Deschamp Ave., Lilydale.
3AXM—E. J. Mulholland; Station: 101 Bluff Rd., Black Rock; Postal: D.M.I. Army Hdqrs., Melbourne.
3AXR—C. G. Williams, 41 Molden St., East Bentleigh.

Queensland

- 41C—M. N. Russel-Clarke, Willis Island.
4TY—N. R. W. Tyas, Mount Aiford, via Boonah.
4XS—L. J. Salter, 66 Haly St., Kingaroy.

South Australia

- 5KQ—F. T. Park, 107 Osmond Ter., Norwood.

Western Australia

- 60R—J. C. Hoar, 1 Hope St., Mosman Park.
60Y—T. H. Mitchell, 10 Kipling St., Narrogin.

Tasmania

- 7BL—B. E. Lloyd, 544 Sandy Bay Rd., Sandy Bay.

Territories

- 9VG—H. A. Vinning, Radio Telecom. Centre, Port Moresby.

ALTERATIONS

- VK— New South Wales
2DB—6 Throsley Street, Fairfield.
2KN—"Craigneish," Cooperbrook Ave., Gymsie
2LN—195c Housing Settlement, Bradfield Park.
2PL—Station: Wickhams Hill, Griffith; Postal: Box 631, Griffith.
2RI—Home Command, R.A.A.F. Hdqrs., Penrith.
2VQ—1 Brisbane Street, Balgowlah.
2WZ—63 Carranya Road, Lane Cove.
2XE—Station: 75 Laurel Street, Willoughby; Postal: Flat No. 2, 15 Glenmore Street, Noreburn.
2AAB—Station: 33 Flavelle Street, Concord; Postal: Light and Power Section, Buildings Branch, G.P.O., Sydney.
2ABQ—34 Griffin Road, North Curl Curl.
2AFF—Lot 66, Site 2, Commonwealth Cottages, Dapto.
2AKS—Station: 33 Calbina Road, Northbridge; Postal: 53 North George Street, Sydney.
2AMI—142 Seville Street, Fairfield.
2AVT—70 Epping Road, Double Bay.

Victoria

- 3MH—16 Newhall Avenue, Moonee Ponds.
3AJZ—Station: 2 Mile McDonald's Track, Coalville; Postal: P.O. Box 73, Yallourn.
3AWQ—24 Railway Parade, South Jordanville.

Queensland

- 4DY—18 Wolsley Street, Buranda.
41G—35 Curtis Street, Toowoomba.
4JA—26 Leina Street, Auchenflower.
4NR—Summerville Road, Carina.
4XP—C/o. E. C. B. Jones, "Mah Deen," Millwood, via Millmerran.

South Australia

- 5NB—Maitlands, S.A.
5NV—Belair Road, Lynton.
6GC—14 Garden Street, Swanbourne.
6RT—School House, Naremburn.

Tasmania

- 7BR—21 Denison Street, Queenstown.
7LL—Station: 4 Derwentwater Ave., Sandy Bay; Postal: 174 Macquarie Street, Hobart.
7YH—160 Strickland Avenue, Cascade.

HETROFIL

BY C. A. CULLINAN,* VK7XW

Way back in 1939, R.W. Woodward, WIEAO, described in "QST" an amazingly simple device for removal of troublesome heterodyne interference in communication receivers under the title of "Hetrofil—An Aid To Selectivity."†

So valuable is this gadget as an adjunct to the Amateur Station that we feel that we cannot give it greater praise than to use the name Dr. Woodward coined for it.

Here is a device using only a few resistors and condensers which can eliminate a bad heterodyne just like a

* 64 Lawrence Vale Road, Launceston, Tas.
† "QST," September, 1939.



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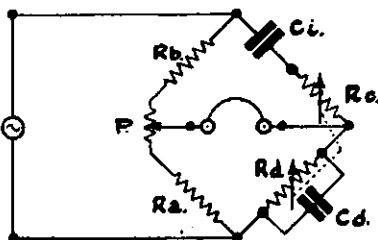
291a TOORONGA ROAD,
MALVERN, S.E.6

Phone: UY 3974

crystal filter, but at a fraction of the cost and negligible complexity.

The basic circuit is that of a Wien Bridge, as shown in the diagram. This bridge is an audio frequency bridge which is used extensively in audio work for frequency measurement. When made with precision components it has very high accuracy, the control knob being adjusted for a null, which is quite sharp.

When Dr. Woodward's article appeared we built up one of them and it has seen a lot of use since then. During the war it was used on many occasions to permit reception of B.B.C. news despite a bad heterodyne which used to accompany many B.B.C. news services.



Basic Wien Bridge.

Afterwards it was used in sound effects work in broadcasting work, whilst now it assists our receiver.

For the mathematically minded who want to delve into the mysteries of operation of the Wien Bridge, the following equations give the data necessary to design the bridge for individual requirements. For instance, the GR type 434B audio frequency meter covers the range 20 to 20,000 cycles per second in three steps: 20-200 c.p.s., 200-2,000 c.p.s., and 2,000-20,000 c.p.s.

Unknown frequency f

$$f = \frac{1}{2\pi \sqrt{Rc Rd Cc Cd}}$$

$$\text{when } \frac{Cd}{Cc} = \frac{Rb}{Ra} - \frac{Rc}{Rd}$$

However if $Cc = Cd$

and $Rc = Rd$

$$\text{and } \frac{Rb}{Ra} = 2$$

$$\text{then } f = \frac{1}{2\pi Rc Cc}$$

In a well built Hetrofil over the range 100-5,000 c.p.s., the attenuation at the null point will be in the order of 200 c.p.s. 30 db., 500 c.p.s. 40-45 db., 1,000 c.p.s. 45 db., and 2,000 c.p.s. 55 db. In the Hetrofil a switch enables different condensers to be switched into circuit. This is for two reasons. Firstly, the attenuation for a particular frequency will differ with different capacities, and secondly, at some null frequencies the response curve will be more asymmetrical with some capacities than with others.

Construction is simple and for Amateur work ordinary $\pm 10\%$ tolerance resistors and condensers may be used. The dual potentiometer should have a logarithmic taper in each section, but it will probably be very difficult to obtain this taper. However, ordinary linear wire wound potentiometers may be used.

The linear unit used here at VK7XW was manufactured pre-war by A.G.N.,

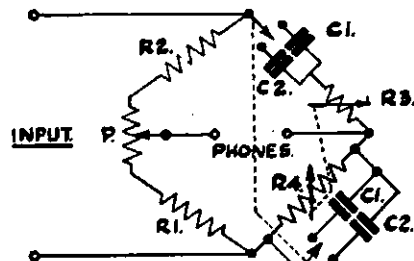
of Melbourne. If dual potentiometers are not available, then it is desirable to gang two single units. The method of ganging will depend on the physical construction of the units used. Note from the diagram of the Hetrofil that the pots are used as rheostats and it is possible to have the two slider arms on a common shaft.

The purpose of potentiometer P is to obtain fine balance, but if the components are reasonably accurate, it will not be needed.

In the parts list, R1 and R2 are 1,000 and 2,000 ohms respectively and with these values, the Hetrofil should be used from a high impedance headphone output, say 2,000 to 4,000 ohms.

To use it from a 500 ohm output on a receiver, R1 and R2 should be 150 and 300 ohms respectively.

It is very important to realise that the null will be only for a given frequency and if in tuning out a heterodyne or any other tone, there is a considerable harmonic content then this will pass through the bridge.



Practical Wien Bridge.

C1—0.05 uF. condenser.
C2—0.25 uF. condenser.
R1—1,000 ohm 1 watt carbon resistor.
R2—2,000 ohm 1 watt carbon resistor.
R3, R4—10,000 ohm dual potentiometer or rheostat.
P—200 ohm potentiometer.
S—Double pole 2-way wafers switch.

The Hetrofil has an insertion loss of about 15 db., then if the audio gain of the receiver is wound up too much any increase in harmonic distortion becomes noticeable as apparent inability to obtain a null. However, if the resultant is compared to the output to the bridge, it will usually be found that it is the harmonics that can be heard. The ear is a most sensitive device and a very weak harmonic may appear to be much louder than it actually is in practice.

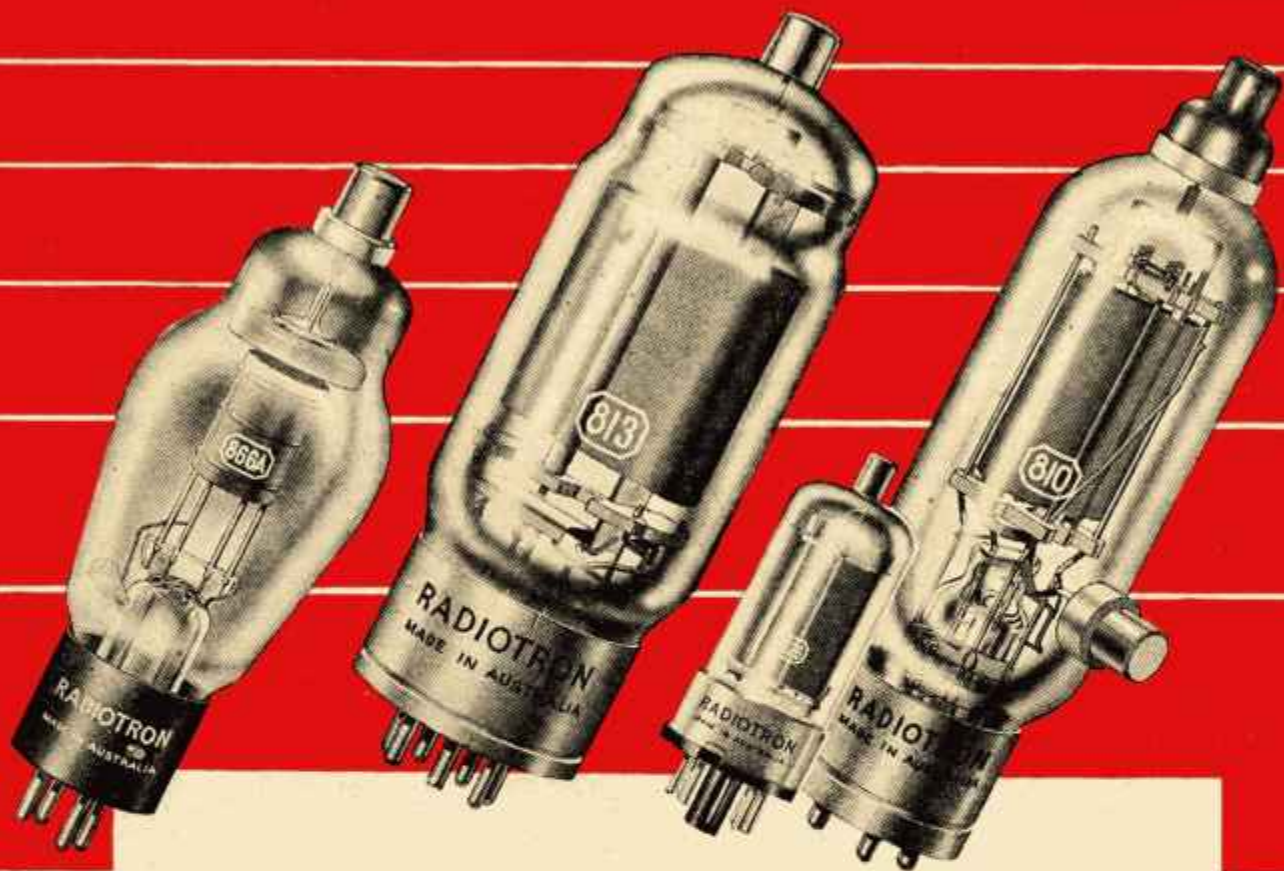
The Wien bridge is frequently used in distortion analyses as the insertion loss one octave each side of the null may be negligible. This bridge is also often used in very low distortion audio oscillators of the negative feedback type.

In practice the Hetrofil is fascinating. If two signals are being heard as, say, 200 and 500 c.p.s., then either one can be suppressed just by adjusting the bridge.

Due to the asymmetrical response there is some frequency distortion on phone signals, but this property also makes the device useful in reducing the "hiss" type of noise background.

For the chap who plays around with sound effects, just feed a voice into it, swing the ganged pots. back and forth non-symmetrically, inject a judicious background of atmospheric noise recorded from a s.w. receiver and you have synthetic short wave reception that should trick even the experts.

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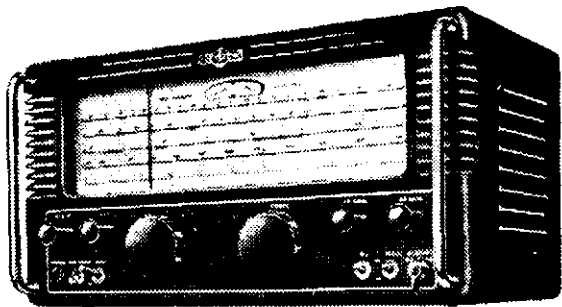
Important: When ordering valves, be sure to mention "Amateur Radio" so that priority can be given to your order. Ask also for a **FREE** copy of the R.C.A. Interchangeability Directory. Form 1D-1020.



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EDDYSTONE "750" RECEIVER

FREQUENCY RANGE: Band 1—32 to 12 Mc.; Band 2—12 to 4.5 Mc.; Band 3—4.5 to 1.7 Mc.; Band 4—1465 to 480 Kc.

VALVE LINE-UP: Eleven valves perform the following functions—
 R.F. Amplifier 6BA6 N.L. S Meter Diodes 6AL5/D77
 Mixer (S.F. to 1620 Kc.) ECH42 Output N78
 Oscillator 6AM6/Z77 Beat Freq. Oscillator 6BA6
 Fre. changer (to 85 Kc.) ECH42 Rectifier 5Z4G
 I.F. Amplifier 6BA6 Stabiliser VR150/30
 Det., A.G.C. and A.F. DH77

ELECTRICAL PERFORMANCE: Double Conversion Superheterodyne. Sensitivity is better than 5 microvolts for a 15 db signal/noise ratio at all frequencies.

SELECTIVITY is variable over the range 30 db to 60 db down 5 Kc. off resonance. Image ratio is better than 40 db at 30 Mc. and greater at lower frequencies.

AUTOMATIC GAIN CONTROL: Output level is maintained within 15 db for a 90 db change of input, above 3 microvolts at 8 Mc.

AUDIO OUTPUT: Maximum output is 3.5 watts. Pick-up terminals are fitted and audio stages give linear amplification over a wide frequency range.

S METER: A socket at the rear accepts the Cat. No. 669 Signal Strength Meter.

FINISH: Fine black ripple.
 Weight 40 lbs., width 16 $\frac{3}{4}$ ", depth 10", height 8 $\frac{3}{4}$ ".

Price £128/7/7 (inc. Sales Tax, Speaker extra)

EDDYSTONE "840" RECEIVER

FREQUENCY RANGE: Band 1—30.6 to 10.5 Mc.; Band 2—10.8 to 3.7 Mc.; Band 3—3.8 to 1.4 Mc.; Band 4—205 to 620 Metres.

VALVE LINE-UP:
 R.F. Amplifier UAF42 Output UL41
 Frequency Changer UCH42 Beat Freq. Oscillator UAF42
 I.F. Amp. and A.G.C. UAF42 Rectifier UY41
 A.F. Amp. and Det. UAF42

ELECTRICAL PERFORMANCE: Sensitivity is better than 10 microvolts for a 15 db signal/noise ratio.

SELECTIVITY: 30 db down 10 Kc. off resonance. Image ratio better than 15 db at 30 Mc. and correspondingly higher at lower frequencies.

AUTOMATIC GAIN CONTROL: The delayed A.G.C. system maintains the output within 25 db for a change in input of 80 db above 3 microvolts. A.G.C. is switched off when the B.F.O. is turned on.

POWER INPUT: Inputs of 100/115 volts and 220/250 volts are catered for, and current consumption is approximately 0.275 amp. The receiver operates equally well from D.C. or A.C. (25/60 cycles) mains.

FINISH: Fine black ripple.

Price £103/6/2 (inc. Sales Tax, Speaker extra)

EDDYSTONE '680X' RECEIVER

FREQUENCY RANGES: Band 1—30 to 12.3 Mc.; Band 2—12.5 to 5.3 Mc.; Band 3—5.7 to 2.5 Mc.; Band 4—2.5 to 1.11 Mc.; Band 5—1120 to 480 Kc.

CIRCUIT: Fifteen valves perform the following functions—
 Two R.F. Amplifiers 6BA6 Push-Pull Output 6AM5/EL91
 Frequency Changer 6BE6 Beat Freq. Oscillator 6BA6
 Separate Oscillator 6AM6/Z77 Noise Lim., S Meter 6AL5/D77
 Two I.F. Amplifiers 6BA6 Rectifier 5Z4G
 Detector and A.G.C. 6AL5/D77 Voltage Stabiliser VR150/30
 Two Audio Amplifiers 6BR7

ELECTRICAL PERFORMANCE: Sensitivity for 50 milliwatts, 15 db signal/noise, 4 microvolts or better on all ranges.

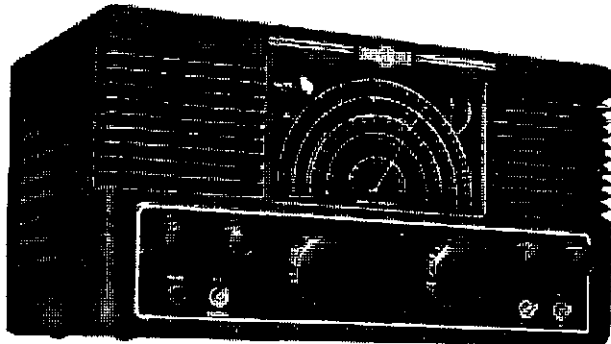
SELECTIVITY: Bandwidths at 6 db down—Minimum 14 Kc., first intermediate 7.5 Kc., second intermediate 4 Kc., maximum 2.5 Kc., and greater with crystal switched in and phased.

AUTOMATIC GAIN CONTROL: 9 db change of output for 100 db change of input, above 1 microvolt at 9 Mc.

FINISH: Polychromatic Grey.

Weight 47 lbs., width 16 $\frac{3}{4}$ ", depth 13 $\frac{3}{4}$ ", height 8 $\frac{3}{4}$ ".

Price £206/18/4 (inc. Sales Tax, Speaker extra)



EDDYSTONE "740" RECEIVER

FREQUENCY RANGE: Band 1—30.6 to 10.5 Mc.; Band 2—10.6 to 3.7 Mc.; Band 3—3.8 to 1.4 Mc.; Band 4—205 to 620 metres.

VALVE LINE-UP:
 R.F. Amplifier EAF42 Beat Freq. Oscillator EAF42
 Frequency Changer ECH42 Output EL42
 I.F. Amp. and A.G.C. EAF42 Noise Lim. and S Meter EB41
 A.F. Amp. and Det. EAF42 Full Wave Rectifier EZ40

ELECTRICAL PERFORMANCE: Sensitivity is better than 10 microvolts throughout for a 15 db signal/noise ratio and 50 milliwatts.

SELECTIVITY: 30 db down 10 Kc. off resonance. Image ratio better than 15 db at 30 Mc. and greater at lower frequencies.

AUTOMATIC GAIN CONTROL: A change of input of 80 db affects the output by less than 25 db.

S METER: A socket at the rear accepts the Cat. No. 669 S Meter.

FINISH: Fine black ripple.
 Weight 30 lbs., width 16 $\frac{3}{4}$ ", depth 10", height 8 $\frac{3}{4}$ ".

Price £87/3/9 (inc. Sales Tax, Speaker extra)

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REMEMBRANCE DAY CONTEST, 1954

The Remembrance Day Contest is an Australian annual contest to perpetuate the memory of those Australian Amateurs who gave their lives for their country during World War II. It is held on the week-end nearest to the 15th August in each year, the date on which the hostilities ceased in the S.W.P.A.

A Handsome Perpetual Trophy is awarded annually for competition between States, inscribed with the names of those who made the supreme sacrifice, and so perpetuating their memory throughout Amateur Radio in Australia. The name of the winning State each year is also inscribed on the Trophy.

Again this year Amateurs in the VK1 call areas can participate in the Contest. Scoring for contacts with VK1 remain the same, namely, six points per contact per band for all States for contacts with VK1.

RULES

1. The Contest will commence at 1800 hours E.A.S.T. on 14th August and continue through until 1759 hours on the 15th August.

2. The Contest is open to all Australian Amateurs, but only members of the W.I.A. are eligible for the awards.

3. The Contest is an open event—c.w., phone, or a combination of both may be used.

4. The Contest is an Interstate Contest, and Amateurs in each State will endeavour to contact Amateurs in all other States.

5. A station may be operated by more than one operator under the station call sign provided that operators, other than the station licensee, submit a separate log under his own call sign for contest purposes.

6. All existing Amateur bands may be used, and all transmissions must conform with the Regulations as laid down in the P.M.G.'s "Handbook for the Guidance of Operators of Amateur Wireless Stations." Any breaches of these will lead to the disqualification of the operator concerned.

7. The arrangements of schedules for contacts on other bands will not be permitted.

8. All stations entering the Contest will call "CQ RD" if using c.w., and "CQ Remembrance Day" if using phone.

9. A State competing for the Trophy must submit a minimum of six (6) logs from financial members before becoming eligible for contesting the Trophy.

10. Only one contact per station per band is permitted.

11. Serial numbers to be exchanged during the Contest will be as follows:—

(a) For c.w. the first three figures will be the RST (telegraphy) report, followed by the serial number of the contact commencing with any number between 001 and 100 for the first contact and increasing in value by one (1) for each successive contact. If any contestant reaches 999 he will then commence 001 and continue 002, 003, 004, etc.

(b) For phone the first two figures will be the RS (telephony) report, followed by the serial number of the contact commencing with any number between 001 and 100 for the first contact and increasing in value by one (1) for each successive contact. If any contestant reaches 999, he will then commence 001 and continue 002, 003, 004, etc.

A complete exchange of serial numbers must take place before any points may be claimed for the contact.

12. In order that an equitable distribution of points for States with a large number of contestants compared with a State with fewer contestants may be determined, a sliding scale of points has been allotted as shown in the scoring table appended.

13. In addition to the points in the scoring table that may be scored by a contestant, a bonus of 25 points may be

added to the total score for each State worked on 50 Mc. or above.

14. The log submitted must show in the following order: Date, time, band, emission, call sign, RST/No. sent, RST/No. received, points claimed. No log will be accepted unless laid out in this order.

15. A statement signed by the operator must be attached at the conclusion of the log stating that the Regulations (Rule 6) and these Rules have been observed. Any logs departing from this form will automatically be disqualified.

16. All logs must be forwarded through the Contestant's Divisional Council (for membership checking) to reach the Federal Contest Committee, Box 1234K, G.P.O., Adelaide, on or before 11th September, 1954.

17. Attractive certificates will be awarded to the first, second and third highest in each State; there will be no outright winner for Australia. Where a large number of logs are received from any one State, further certificates may be awarded at the discretion of the Contest Committee.

18. The State to which the Perpetual Trophy will be awarded shall be determined as follows:—

To the average of the top six (6) logs shall be added a bonus arrived at by multiplying this average by the ratio of valid logs submitted by that State to the total of Amateur Licensees in the Division at the time of the Contest.

Example: Total points equals—

Aver. Score $\left\{ 1 \text{ plus } \frac{\text{No. of Logs}}{\text{No. of Licensees in Division}} \right\}$

19. The logs which will be accepted for the multiplier under Rule 18 shall show at least five (5) contacts in the Contest.

20. The Trophy shall be forwarded to the winning State in its container and will be held by that State for a period of twelve (12) months when the winner for the succeeding year is determined.

21. The Federal Contest Committee shall be the sole adjudicators and their ruling will be binding in the case of any dispute.

SCORING TABLE

		To								
		VK1	VK2	VK3	VK4	VK5	VK6	VK7	VK8	VK9
From	VK1	6	6	6	6	6	6	6	6	6
	VK2	6	1	2	3	5	4	6		
	VK3	6	1	2	3	5	4	6		
	VK4	6	1	2	3	5	4	6		
	VK5	6	2	1	3	5	4	6		
	VK6	6	1	2	4	3	5	6		
	VK7	6	2	1	4	3	5	6		
	VK8	6	1	2	3	4	5	6		
	VK9	6	1	2	3	4	5	6		

Note.—Read the table from left to right for points for the various States.

Examples:—

VK2 scores	1	point for a VK3 contact.
	2	" " " VK4 "
	3	" " " VK5 "
VK6 scores	1	" " " VK2 "
	2	" " " VK3 "
	3	" " " VK4 "

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DX ACTIVITY BY VK3AHH†

GENERAL NEWS

Reports mention that Bill VK1EG is quite active on the Ham bands and has worked ZS, VK6 and others (from 1DY, 3PV). It looks as if U.S. MM stations have obtained their permit to operate on the 21 Mc. band (from 2ALJ, 3PA, Jim Hunt). YV5DE looks for VKs on 3525 Kc. at 0900z. ZM6A8 is another rare 3.5 Mc. station. VK9DS is ex VR1F (from BERS 195). In the course of his duties, Bud 2AQJ saw KG6 Hams and KA01J on Iwo Jima.

For the benefit of our many readers, both in VK and overseas, here is an up-to-date summary of this year's VK1 activity:

- Mawson, Antarctica: VK1EG.
- Heard Island: VK1DY, VK1PG.
- Macquarie Island: VK1AC, VK1DJ.
- Cocos Island: VK1BJ, VK1HM.

Undoubtedly, we are all aware of the situation on our exclusive 7 Mc. band (7000-7100 Kc.). It is obvious that all we can do is, firstly, increasing our activity during evening hours, and, secondly, providing the authorities concerned with a comprehensive and accurate list of all audible non-Ham stations in that range, so that they will have a basis for steps they find appropriate! Thus we shall again publish, what can be considered, the beginning of such a list as it appeared in last month's notes:

- Radio Pakistan, 7008 Kc.
- B.C. Station, unidentified, 7032 Kc.
- B.C. Station, unidentified, 7055 Kc.

I should appreciate any reports, comprising the type of emission, operating frequency, time, together with its identification as accurate as possible!

QTHs OF INTEREST

- KF3AB—M/Sgt. Lloyd Hull, 1983 AACS. Sqdn., APO 2323 T/3 C/o. P.M., N.Y.
- T12WR—Box 1345, San Jose, Costa Rica.
- FU8A—V. M. Fonsagrave, Port-Vila, New Hebrides.
- JY1US—Jim Davis, C/o. American Embassy, Amman, Jordan.
- KR6AA—Col. Fred B. Westervelt, Surgeon, RYCOM, APO 331, C/o. P.M., San Francisco.

Rare Q8Ls were received by 2PA: YV1CB; 2AMB; LU2WE, VK90K; 3KR; TA3AA, PY2AHS, YK1AH; 8PV/8APV; FB2Z, ZE3JR; 8ADW; VR3C, K6CKU; 3ALD; ZM6AP; SATN; VP2KE, C8AJ, KR7AO, ZS3P, AB1US, ZE2JJ, EA8DE; 8RK; 487XG, ZC4IF, C8AF, VS2EB; 7PM; T13LA, KTIW, DU1CV, ZC5VF, ZS5CZ, VU2RC; BERS195; ZS1BK, ZS5MP, 457LE, ZS6EU; 8AHH; OA4ED, JZ0KF, VK90K, SM8ARG.

This time I say thank you to VKs 1AC, 1DY, 2IC, 2PA, 2QL, 2AHH, 2ALJ, 2AMB, 2AQJ, 3HE, 3J, 3KR, 3PA, 3PV/3APV, 3XB, 3YS, 3YU, 3ZA, 3ZO, 3ADI, 3ADW, 3ALD, 3ATN, 4RW, 4SS, 5HI, 5RK, 7PM, 8OK, and s.w.l.s. BERS195 (VK3), Norman Clarke (VK2), and Jim Hunt (VK3).

QSO USING TRANSISTOR

As you are probably aware, several G land lads have been experimenting with transistors in transmitters, and have worked up to 90 miles on 3.5 Mc. and about nine miles on 1.8 Mc.

The following interesting information is to hand from the Editor of "Break-In," R. S. Pottinger, ZL4GP.

ZL4GP has several of the transistors current in Great Britain, and on 22nd May contacted ZL4GA, a distance of three miles. This was followed by contact with ZL3FM in Christchurch, 200 miles, who reported 339. Stations in Wellington (380 miles), Fielding (450 miles), and Whangarei (720 miles) reported the signals heard. There is no doubt that these distant stations heard the transmission as the system was code, and they reported it in some way that was identifiable. One station (Wellington), placed his carrier on the transistor frequency as a check.

The circuit was a self excited v.f.o. using an OC50 transistor, with 125 milliwatts input to the collector, and at roughly 33% efficiency, the carrier was probably of the order of 40 m.w.! The writer thinks that this is a world record for distance using a transistor transmitter, and is better than any G land records. [Unfortunately, no details are to hand as to what band these contacts were on.—Ed.]

195: KG6FAA, VE3PK and Europeans. Norman Clarke: ZM6AR, KG6. Ws. Jim Hunt: HP3FL, Ws, KH6, JAS. 8AHH; log shows DJ1WN* (1830z), JZ0AA*, ZK2AC* and KP4CC.

14 Mc.: Conditions on this band were comparatively stable during the month. European contacts were possible over both the short and the long way, the times being 0500-0700z, 1200-1800z (interrupted by frequent QSB), and 2130-2330. Consistent openings to North and Central America existed between 2000 and 0700z. Africa was represented around 0200-0700z. South America broke through around 0200-0500z and 2000-2200z.

Again, regarding contacts with our friends in North America as commonplace, we have, on c.w.—

1AC (Macquarie Island) with VR2BZ, LA8RB*, SM3AKM*, JAs*, VS3CR*, SM3AKW*, SM3BPJ*, followed by George 1DY (Heard Island) who worked a long series of ZSs*, ZE*, CM8AA*, VK1EG*, W6*. Bert 2IC reports ZS1H*, XE*, OZ*. Pete 2PA contacted YV1CB*, F*, DL/DJ*, G*, VS1ER*, PA*, ON*, SM*. 2QL worked KM6*, VK1DY*, VK1PG*, ZS2BC*, ZS6AJC*, ZS5DE*, ZS1H*, ZE3JO*, F18AQ* and heard KJ6AZ, KE1BA, YV5AO, Noel 2ABH QSOed XE1AX*, and XE1SA*. Jack 3JJ contacted XE1MJ*, while Ken 8KE continues the flow of good ones with HZ1FL*, I1L1*, VR3A*, DU7SV*, VS8CG*, KV4*, FO8AJ/MM*, KL7FAG*, I1BCL*, F7SHP*, PJ2AJ*, EA3AF*, ZS8AP*, MP4QAH*, VS2DW*, XE1AX*, F18AT*. Don 8PV/8APV greatly assisted by sending very comprehensive reports including a long series of Gs, JAs, PA, EI, VS2AM, Y13PH, YUIAD, GM, VS1FZ, OH, DL/DJ, VR3A, ON, LA, GW, FT3AB, 4X4FW, ZB1BM. 8XB worked DL*, VR3A*, KZ25*, G*, 8YS reports F88BC*, VE8CG*, XE1SA*, KL7BAK*, Don 8ADI listed DL*, G*, JA*, YU*, VS2DW*, followed by Bob 4RW with PJ2AJ*, KZ25GH*, KP4UE*, FM7WN*, T12WR*, KLTP*, XE1MJ*, VR3A*, Alan 488 logged T12WR*, DL/DJ*, HB*, I*, OH*, VS1G*, VK1HM*, KJ6AZ*, VS6CR*, XE1MJ*, SM*, KL7*, CE*, HS1D*, VR3A*, F18AQ*, VS2DW*, KV4*, FO8AC*, ZS5MP*, ZS2*, CT1DJ*, HZ2FL*, and 4X4, GI, GM, PA, ON, John 5HI QSOed ZS6AJC*, KZ5CP*, ZS5AM, ON*, DL*, XE1SA*, F18AZ*, VP4BN*, VU2KV*, GW*, PA*, KP4T*, and Ray 8RK contacted VK1HM* and JAs*. BERS 195 heard DU1CV, VR3A, ZS5MP, CT, CN8MI, F88BG, VQ4EG, JZ0KF.

The phone portion of the band demonstrated its condition as follows: 2PA reports DL*, DJ*, I*, ZS5DE*, VS2DS*, VP9BN*, while Noel 2AHH logged HK1BZ*, YV1AA*, HP1J*, VS1*, VS2*, VS8*, T18RS*, HZ1AB*, ZB1BU*, CO2BL*, CO2BK*, ZS5DE*, YV5AP*, CM9AA*, XE1TR*, HR1FV*, YS1MS*, KG4AU*, XE1FT*, CO2IB*, P23CE*, HR1LW*, VP9BN*, VK1PG*. 2AMB heard FM7WN, 3KR spoke to KL7AFD*, YV5BY*. Don 8PV/8APV heard 457WA, KA, SM, DL, KA01J, OZ, AB1US, OH, G, KZ2KN, VU2RA, HC1LW, FO8AB, OA4M, HP1RA, HK1, ZS5DE, HP3FL. Don 8ADI spoke to ZC5VR*, DU1CV*. Dave 8ADW QSOed VK1PG*. Len 8ALD heard CM9AA, CO2BL, CO2BY, ZS5QV, ZS6OY, and Ray 8ATN reports VK1PG*, CO*, ZS*, 4RW spoke to FM7WN*, HR1FV*, HC1LW*, VR3C*, HK4DF*, KJ6AZ*, 6HI phoned with YV1AA*, HC1LW*, HR1BG*, ZS5OV*, ZS6OY*, VQ2FU*, KL7BLK*. This month's only representative from Tasmania is Pat 7PM who QSOed VS8CW*, SM*, CM9AA*, CO2IB*, ZE1JX*, CO2BK*, KL7AUG*, EA4DT*, Gs*. Len 90K worked KZ5CP*, FO8AB*, T12TG*, T12RC*, CM9AA*, OD5AB*, ZS8DW*. Here are the s.w.l. reports: BERS195 T18RS. Norman Clarke HR1BG. Jim Hunt: KJ6, VR3, VR2, OD5, KL7, OH, CO, YS1, ET2, AB1, ZS, VS6, XE1, YV, VS2, VK1DY, PA, DL, LU1QG, YV5, GD3.

21 Mc.: Conditions on this band were again rather erratic. The American continents broke through between 2300 and 0400z. The beginning of the month gave African openings around 0400-0700z.

Percy 2PA reports VQ4EH*, ZEEKP*, VS1FE*, Ws*, W3UKY/MM*, HP3FL*, DU7SV*, JA*, 8PV/8APV heard VR2CG, KH6AWQ, KX6AR, a long series of Ws, AD4BS (QTH ??), JA1CJ, 3ATN worked KH6*, KG6*, OQ8RU*, ZS*, Ws*, ZE*. Pat 7PM tried his vee beam on this band with Y13WH*, VS2UW*, VS1FE*, ZM6AQ*, KG*, KA*, KH6*. Norman Clarke heard Ws and KH6. Jim Hunt reports 45YL, VS1, HP3FL, DU, Y13WH, ZB1KQ, ZE2KP, T12EV, W3UKY/MM, W4JGZ/MM, W4VUU/MM and Ws in all districts except W1, W9.

27 and 28 Mc.: As was to be expected, conditions on this band deteriorated considerably, and the only report received does confirm it. It has to be emphasised that Hams operating and listening for DX on this band during the present period of minimum sunspot activity deserve great praise from everybody concerned with work on short-wave propagation. Good work, chaps! Norm 2ALJ heard one W6.

DX HIGHLIGHTS

There is a possibility that VQ9NZK (VQ4NZK) will be active in Aug., 1954. By the time these notes reach you, VS5RO (G2RO) should have been representing Sarawak (expedition scheduled for June, 1954) (from 2QL).

Besides, G2RO intends to operate from other rare DX locations in Asia during the next couple of months. Detailed information will be given when available.

BAND CONDITIONS

3.5 Mc.: Break-throughs from North America and the Pacific Islands occurred during May. Signal strengths were reasonable around 0830-1200z.

Chas. 1AC worked a long series of VKs* and ZLs* on c.w. and phone; followed by Frank 2QL who keyed with VR3A*, VK9OK*, ZK1BG* and heard W6, W7. Ray 8ATN managed a QSO with DU7SV*, and Eric BERS195 heard VR2CT. Jim Hunt heard on phone VEGY (0900z), W6, W7. 8AHH also heard W6 and W7.

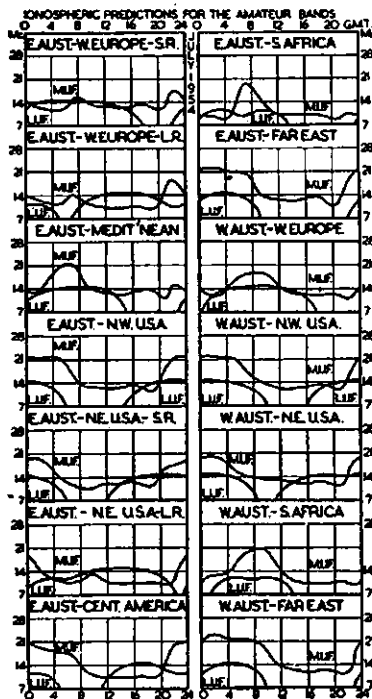
7 Mc.: The band displayed rather erratic break-throughs to Europe via both short and long route (1900-2230z and 0600-0800z). Short-path North and Central American openings were steady (0600-1400z), while South American conditions were not very consistent. Occasionally, North America broke through over the long path around 2100-2230z. African conditions (around 2100-2200z) were also inconsistent.

Disregarding common W and VE contacts, this is this month's activity:

1AC worked ZK1AB*, and 2QL reports KF3AB*, YV5DE* and CE3QW, KV4UQ, KP4CC. The next in line is Noel 2ABH with KH6*, KG6*, YV5DE*, CO8AJ*. Laurie 2AMB QSOed JA1CR*, KL7FAI*, VR3A*, KW6BB*, 4SNG*, JA1DV, FA8DA*, and heard XE2LA, PX1PR. Bert 8BE spoke to F88AC*. Ivor 8XE keyed with YV5DE*, followed by Fred 8YS who heard JZ0AA, VS2EF. Bob 8YU contacted CT1DJ*, while Lance 8ZA heard an OQ5 station (2200z). Noel 8ZO reports KP4CC, KP4UH, G8GB, KG6GX, DL1NW, DL4IQ, PJ2AJ, ZM6AP. 8ATN worked KL7*, and Len 90K spoke to HP3FL*. This month's s.w.l. reports are: BERS

†10 Belgravia Ave., Box Hill North, E.12, Vic.
* Call signs and prefixes worked.
z—zero hour—G.M.T.

PREDICTION CHART FOR JULY, '54



FIFTY MEGACYCLES AND ABOVE

NEW SOUTH WALES

Interest of the V.h.f. Group varied during May between the election of officers for the forthcoming year, a lecture on Noise Generators, the Autumn Field Day, and experiments in various shacks with n.b.f.m. and phase modulation systems.

The election of officers took place at the May meeting and was, as usual, a very democratic affair, due possibly to several declining nominations. As a result, the following appointments were made: President, Percy Healy 2APQ; Vice-President, Bob Winch, 2OA; Secretary, John Miller, 2ANF; Management Committee members: Horrie Laphorne, 2HL (Asst. Sec.); Harry Solomon, 2AJZ; Roy Hart, 2HO.

The lecture given by John 2ANF on Noise Generators and their use in adjusting v.h.f. rx's was very well presented. By the aid of graphs and circuits, John explained the various sources of noise which have a bearing on how well the rx will perform when it comes to reception of weak signals, pointing out that many a signal is not heard because of the noise generated in the rx itself, as from information available on noise from external sources, 144 Mc. is the optimum frequency for weak signal reception.

By the use of a simple noise generator, using a A1468 tube, adjustments to circuit, layout and experiments with components can be made to enable the lowest noise figure to be obtained—a very important factor to be considered.

The Autumn Field Day was held under excellent weather conditions on Sunday, 18th May. Stations operating in the field were 2OA at Mt. Gibraltar, 2ANF at Razor Back Mountain, 2YR at Menal, 2AZO, 2YM and 2LG at different points in the Blue Mts., 2HL out from Woodage, Country stations operating included 2GU, 2PM at Canberra; 2WH, 2JW in the West; 2EZ, 2VU, 2KF, 2ANU in the Hunter district, with 2RU at Gosford and 2GA at Ettalong.

Several long-haul contacts were made. 2OA and 2ANF worked 2WH in Forbes and 2BZ in Newcastle. 2ANF worked 2GU and 2PM in Canberra. As it was a point per mile contest, results will be given next month. It was an excellent day, all who took part had a good time.

Interest in n.b.f.m. and phase modulation is intense. John 2ANF has been experimenting with a number of different methods, using a crystal diode with very good results. Ernie 2ASE has been keeping track of John's activities and reports that the number of f.m.'ers are increasing; they include 2WH, 2OA, 2QZ, 2LG, 2ABZ, 2ARM, 2HL with 2AJZ and 2APQ in the offering. Bob 2OA only took ¼ hour to instal his diode modulator.

So if you want to hear some very interesting and informative discussion, listen on 2 mx even into the small hours of the morning. The fact that f.m. or phase modulation has advantages over a.m. for long distant 144 Mc. contacts, where signals were weak, has been the experience of John 2ANF and Hugo 2WH during their nightly skeds.

Signals from 2WH in Forbes have been good during the month. On the 14th May, Hugo worked 2ANF, 2NP, 2ATO and 2HE, he also heard and was copied by 2ABZ, 2HL and 2APQ. It has also been reported that Hugo heard Dave 2BZ in Newcastle. Ben 3RK has been staying with 2WH and has helped with the construction of a 32 el. beam. Talking of beams, Harry 2AJZ has acquired a tower and a tower-raising party consisting of 2MQ, 2HO, 2HL, 2OA, 2LG, 2ABU, 2YC, 2AC, 2AJA and 2APQ, with the aid of a semi-trailer and driver, transported the tower 15 miles and re-erected it at Harry's QTH. A very nice addition to the station. Ted 2XX is still wearing out hacksaw blades, cutting angle iron for his tower.

A hint from Colin 2ACK on the use of the 2E28 on 2 mx. Neutralise this tube in the screen by use of a small variable condenser between screen and cathode. Use r.f. chokes in plate h.t. and do not use screen modulation. Colin is using a 2E28 in the final, modulating with a pair of 2E28s and has a very good sig. Also uses series tuned inductively coupled drive to the final with 1½ to 2 Ma. drive. These few hints may be of interest to those who may have had 2E28 troubles.

Little activity has been reported on 50 Mc. Major 2RU, Arch 2GA and Jack 2JH have been heard. However, the 144 and 50 Mc. Scramble in June should arouse some activity.

For the benefit of country and Interstate operators, here are a few of the Sydney stations' frequencies and are on most nights: 2ATO 144.18, 2LG 144.6, 2HL 144.85, 2ANF 144.25, 2NP 144.68, 2APQ 144.5, 2AJZ 144.5, 2OA 144.7, 2HE 145.8 Mc. More will be listed next month. Also remember if you are home on week days, during the daylight hours, call and listen on the hour when possibly some shift worker skeds can be arranged.—2APQ.

VICTORIA

The main activity in VK3 during the past month has been the enormous activity of the 2 mx group in the country and western districts of the State. Already 3ATN, at Birchip (183 miles from Melbourne), has put signals through to Melbourne consistently and at excellent strength. 3AGD, at Dunkeld (160 miles) has heard a number of Melbourne stations and hopes to have a high power tx on the band shortly. 3ANQ, at Warrambone, completely disorganised the band one evening by landing an S8 to S9 signal into Melbourne and frantic calling took place by the Melbourne stations to make contact during the hour or so that his signals came through. 3AGV, at Colac; 3CI, at Nagambie; 3DI, at Leongatha; 3BW, at Portarlington; 3AKR, at Westmere, together with 3ZL, 3GM and 3SE at Ballarat complete a very comprehensive list for the metropolitan stations.

The last fox hunt brought out eight mobiles on a particularly cold night and unfortunately for the fox hunt it happened to start at precisely the same time as 3ANQ's signals burst on Melbourne in such fine style; consequently, the home stations concentrated on his signal and the mobiles were left without information for the first hour. However, after the DX faded on the band, the hunt got under way and the only catch of the evening was made by 3VZ. At the last location in Booroondara Recreation Reserve, Kew, 3JD, 3ABA, 3ADU and 3ALY were all within a few hundred yards of the fox car at the finish.

The C.D.E.N. activities are continuing and a hunt is to be held on the second Wednesday in each month, commencing at 8 p.m.

The last v.h.f. meeting was a particularly interesting one with a visit to Overseas Telecommunications Commission and a very interesting night was spent, particularly in the facsimile equipment room. The main interest from the Ham point of view in the Telecommunications room was the fact that many operators are not able to send their own name via the hand Morse key and all communications are completely automatic, performed by perforated tape machines for transmission and reception. The phone men, particularly, enjoyed this anomaly with modern communications, to find the professional c.w. man without even the knowledge of the Morse code.—3LN.

SOUTH AUSTRALIA

Well, well, well! In fact a whole artesian bore; my best bet for 288 Mc. has made his first post-war contact on 40 mx, and my portie confrere who is no doubt writing with fiendish glee at having won a convert. I can only presume Howard that you are going to win the R.D. Contest for VK5? I hope that you won't quit my sinking ship Rex!

Now if I turn that call sign around, Les 5AX, at Gawler, is consistent on 8 and 2 mx—Sundays, Mondays, Wednesday, chaps. My faith is restored. My good scribes at the Mount and Remark report that activity above 50 Mc. is not at all time low tide. Claude 5CH is using a modified 522 tx on 146 Mc. and putting out a very good signal—vertical polarisation is used for local working. Col 5CJ also using the 522 with Tom 5TW doing useful service with a modulated osc. Everyone hoping that the Limited License may bring some more enthusiasts onto the bands. That goes for me too Col. Many thanks, may your beam not be allergic to DX!

From the land of sunshine and connoisseurs comes, "Beware the 6J6"—OK Tom, I'll keep away from that two cathode shooter and report the doings. Activity has reached an all time low. Lower than at any time since Xmas, so far as 144 Mc. is concerned. Even Les 5AX and 3AJU cannot hear Tom, but maybe can borrow a converter from 3TI for further attempts. The 7 and 3.5 Mc. bands not being very co-operative either! Tom soon to use smoke signals—news flash 5PS—but Hughie's 16 el. beam is bound to rotate any time now. All mine does these days is to provide refuge for the birds.

From Joe 5JO I learnt that 4XN in Dalby was heard by Bill 5HD transmitting on 50 Mc. and receiving on the 3.5 Mc. band, 1930 hours on Sunday, 16th May, which salient fact should remind DXers that in the Southern Hemisphere the winter months still bring their share of Sporadic E, as the earth's inclination favours us. Have a listen, too, on 27 Mc. for the Adelaide University tx. Its activity indicates the presence of meteors passing through the rarefied atmosphere at about a height of 60 miles at great speed and leaving behind a cloud of ionised air. This provides an excellent reflecting medium of fairly short duration, but could be useful even at that. For Interstates this signal

can take the place of the 33 Mc. beacons as it operates fairly consistently. July and August are the two peak months according to Professor Huxley.—5XU.

WESTERN AUSTRALIA

No chaps, the Editor hasn't slipped up, and let an error creep in; that is VK6 at the head of this column. About time too, some may say! Anyway, I hope to bring forward any v.h.f. items of interest and show the other Divisions that W.A. is not entirely a land of 8 mx modulated osc. and diode rx's. So much for that!

50 Mc.—Since the last notes appeared, there have been a few additions to the 50 Mc. ranks. 6WJ of Mt Hawthorn (a scant 400 yds. east of 6HK), is now quite active and punishes a 4-el. beam very effectively with a pair of 3STs. 6CC of Manning Park, has an 815 going with Clamp tube modulation; Frank has been licensed for some time, but only came on the air around Xmas and duly polished off his share of the DX. 6SJ, of Midland Junction, is another who took the air around the end of December, but unfortunately missed out on the Interstate openings. I believe 2WH was sitting tearing his hair, listening to Sid at S7 about 15 minutes before the end of the Ross Hull Test. He wasn't the only one to tear his hair when Sid later found out about it!

Activity has of course fallen away on 6 mx since the end of the DX season, although it is beginning to look up again now, and there are still the die-hards who manage to keep the flag flying.

Perhaps the v.h.f. gang had better ask the Editor to insert a "Wanted" advert, for one only VK6 country station to take up the v.h.f.'s in earnest! Still, it does make for more interest to have that distant station to check with on 50 Mc. and higher. At the moment, the DX is provided by 6GU, in South Fremantle, who is always 59 anyway; John is very pleased with his new 4-el. array at 48 ft., and has good reason to be for his 25 watts radiate a good sig.

144 Mc.—The Sunday evening net still for-gathers at 2000 hours, although attendances have fallen away of late. 6AG, 6KW, 6RU, 6WT, 6BO and 6HK have shown up at different times. Still, it's a far cry from the days when up to seven or eight would appear in one evening. This brings to mind such calls as 6OR, 6JS, 6DF, 6RO and 6LW to mention a few. When 6JT is not on his official travels for D.C.A., he puts in an appearance and pours a relentless signal over the metropolitan area from Boya. The lack of a country contact is felt here too, although the last time 6DW put in an appearance, signals were up to RST 573 with phone possible at times over this 120-mile path.

About the biggest piece of news to affect 2 mx lately is of course the release of the new Limited A.O.C.P., eliminating the Morse test, but permitting operation on 144 Mc. and higher. There are quite a few chaps in this Division who will benefit by this new ruling and it will be interesting to see how it affects the population of the v.h.f.'s, 2 mx in particular. Increased population can only lead to more consistent DX results and then, who knows, someone may raise a W.A.S. on 144 Mc.!

288 Mc.—There was a burst of activity here at one stage recently when a local net of transceivers was proposed, but the idea was shelved when difficulties were encountered with the gear—and when one of the proposed net members took unto himself a wife. All the best to you, Tony from the v.h.f. gang—even if you wouldn't come on 6 mx! 6BO and 6GB have put crystal controlled transmissions on the band and have been copied at S9 at 6HK's converter. Rolo is using an 832 tripling, driving another 832 in the p.a. with about 7 or 8 watts output, and Jack has a converted 522 tripling in the final, which works out very nicely. The converter is a 6J6 push-push mixer, 6SH7-RL7-6J6 osc. chain from 7.750 Kc., with the final 6J8 tripling to 279 Mc. 6WJ has had considerable success with a pair of 7183s as far as 6BO, but no actual two-way QSO has resulted.

576 Mc.—Just to show we are not fooling, something can be put in under this heading apart from nil! 6WJ has his ASB4 converted for 576 Mc. and has received his own tx, a pair of RL18s, over about a quarter of a mile with colossal signals. A small parabola was tried, and despite the fact that it was not really large enough, exhibited some very marked directional characteristics. Warren attempted to get a pair of 15Es going, but gave up when, after four duds out of six, he could just about see the grids of the remaining good tubes through the plates when h.t. was applied! If I know Warren, he'll soon be trying again.

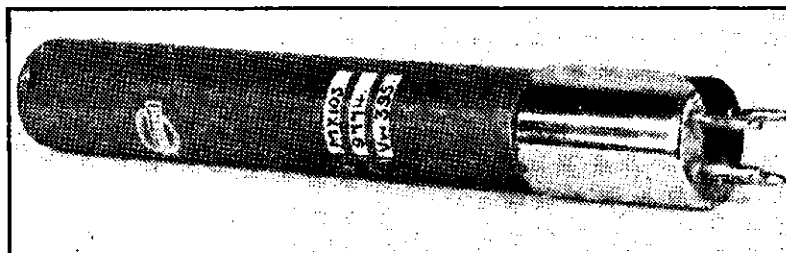
Talking of 15Es. Overheard 5EN on 21 Mc. the other day announcing his intention of putting 100 watts from a pair of 15Es into an enormous Sterba curtain for 1 and 2 mx beamed on VK6. Well OM we certainly wish you luck and offer any co-operation you may call for.—6HK.

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MX103	Gamma Counter	195mm	29mm	370V	100V	8%	-55 to + 75°C	110	—	375	130
MX108	Beta/Gamma Counter	110mm	26mm	370V	100V	8%	" " "	45	20	10	100
MX113	Alpha/Beta Counter	85.7mm	14.2mm	575V	150V	6%	" " "	—	6	1.6 to 2.1	50
MX114	Beta Counter	95mm	33.3mm	600V	200V	6%	" " "	—	40	3.5 to 4.0	150
MX115	Gamma Counter	110mm	26mm	370V	100V	8%	" " "	45	20	375	100
MX118	X-Radiation Counter	168mm	26mm	1140V	200V	5%	" " "	—	50	3.5 to 4.0	150
MX122	X-Radiation Counter	168mm	26mm	940V	200V	5%	+10 to + 75°C	—	50	3.5 to 4.0	350

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FEDERAL

APPOINTMENT OF NEW FEDERAL SECRETARY

After almost four years of service as Federal Secretary of the W.I.A., Max Hull, VK3ZS, has tendered his resignation from this important office. Doug Bowie, VK3DU, has been appointed in the place of Max and a hearty welcome is extended to him.

Max intends to stay on as Public Relations Officer with the Federal Executive and he hopes to carry out a few duties that take up less of his valuable time. His appointment as Public Relations Officer is dependent upon the result of the current motion before the Federal Council asking for its approval to the expansion of the Federal Executive to incorporate two more voting members than has been hitherto.

The Executive has realised for quite some time that a Public Relations appointment was necessary to bring the activities of the Institute more before its own members and the public alike.

NEW LICENSES TO U.K. AMATEURS

As from 1st June, 1954, the British Post Office commenced issuing new Amateur Licenses to United Kingdom Hams. The new licenses are to be known as:—

- The Amateur Sound License
- The Amateur Sound-Mobile License
- The Amateur Television License.

Although the full details of the new licenses are not available, the liberal outlook of the British Administration is reflected in the terms of the various documents concerning them. Such an outlook must give great impetus to the training of technical personnel for the various broadcasting services including television, and no doubt the British Post Office have long realised that the Amateur ranks is a logical source to first create the interest, then to semi-train technicians for the future requirements of the country.

The Amateur Sound-Mobile License is of particular interest. It is granted for a period of one year upon the payment of a separate fee (this has not yet been decided), and permits the licensee to operate a telegraph or telephone station anywhere, subject to certain regulations, except on the sea or within an estuary, dock or harbour. The possibilities for the newly formed British Amateur Emergency Networks with a license of this nature is immense. It is hoped that one day the Australian Administration will see the value of such a license and follow in the footsteps of the British Administration.

NEW ZEALAND CALL BOOK

An order has been placed with the New Zealand Amateur Radio Transmitters (Inc.) (N.Z.A.R.T.) for a supply of the ZL Call Book. These will be distributed throughout the Divisions of the W.I.A. and possibly through some of the booksellers. It is expected that it will sell for approximately the same as the Australian Radio Amateur Call Book.

There is only a limited quantity available so place your order with your Division, the Victorian Division, or the Federal Executive now to avoid disappointment.

And talking of Call Books, if you would like a copy of the R.S.G.B. Call Book listing all the calls of Amateurs in the British Isles, write to Federal Executive and let us know; when the exact requirement is known, an order can be placed with the R.S.G.B. for a supply.

T.V.I.

With television coming ever nearer, Amateurs—particularly those in the metropolitan areas of the two major Commonwealth cities, Sydney and Melbourne, where the first television transmitters are likely to be erected—are reminded of earlier warnings in these columns and suggestions that when re-building equipment the experience of overseas Amateurs be regarded earnestly with a view to the inclusion of modern t.v.i. techniques.

Some two years ago the Federal Executive imported a quantity of Remington Rand's Television Interference Book which will prove of immense value to those who sent in for a copy.

The Radio Society of Great Britain has now released a booklet called "Television Interference," which should be in every Ham's library. It is intended that a quantity of these be purchased from the R.S.G.B. and distributed to the Australian Amateur at cost. The booklet covers a comprehensive subject very ably and in a most practicable manner in six chapters. If you desire a copy reserved for you, write in to the Federal Secretary, Box 2611W, G.P.O.,

Melbourne, without delay. The exact landed cost is not yet known, but it will be a moderate charge. Be prepared for t.v.i.! Don't get caught.

VK5 TO TAKE OVER FEDERAL CONTESTS

As was mentioned in these columns last month, the South Australian Division of the Institute has agreed to supply the personnel for co-optation by the Federal Executive to form the Federal Contests Committee for 1954-55.

In typical style, this active Division has "hopped" into the Contest business already and the following is a list of names of those comprising the Committee:—

- Gordon Bowen, VK5XU (Chairman)
- Reg. Harris, VK5RR
- Jack Vivian, VK5FO
- Reg. Gale, VK5QR
- Warwick Parsons, VK5PS
- Jack Coulter, VK5JD.

OMISSION!

The Department has advised that, inadvertently, the name of Mr. J. E. Rumble, VK6RU, was omitted from the names of those comprising the Amateur Advisory Committee in Western Australia published in the June issue of "Amateur Radio."

A.O.C.P. CANDIDATES' FEES INCREASED

Amendments to the Wireless Telegraphy Regulations (S.R. 1954, No. 50) providing for the new Limited A.O.C.P. also prescribes new scales of fees for examination for all Wireless Operators' Certificates of Proficiency issued by the Postmaster-General's Department.

The unmentioned fees apply as from the 7th May, 1954, for examination for the various classes of Certificates of Proficiency:—

First Class Commercial Operator's Certificate	£2 0 0
First Class Aircraft Operator's Certificate	£2 0 0
Second Class Commercial Operator's Certificate	£1 10 0
Second Class Aircraft Operator's Certificate	£1 10 0
Broadcast Operator's Certificate	£1 10 0
Third Class Commercial Operator's Certificate	£1 0 0
Third Class Aircraft Operator's Certificate	£1 0 0
Amateur Operator's Certificate	£1 0 0
*Amateur Operator's Limited Certificate	£1 0 0
Issue of Duplicate Certificate	10 0

*Amateur Wireless Station Licenses issued to the holders of this class of Certificate authorise the operation of radio telephone equipment in Amateur frequency bands 144 Mc. and upwards.

FEDERAL QSL BUREAU

RAY JONES, VK3RJ, MANAGER

Noel ZL3OZ (ex-VK6NR, VK3NR, and VK5NR) has apparently finally shaken the wanderlust from his shoes. Noel expects to return to Melbourne with KYL and family in August. He expresses the hope that it is his final move, and the desire to settle down to prosaic suburban life.

ABU5, Vince, of Taipei, Formosa, gives QSL QTH as care APO63, Care Postmaster, San Francisco, Calif.

'ZC6UNJ, who has recently arrived in ZC6 from India, complains of the heat in ZC6!!! He requests QSLs via R.S.G.B.

An A.R.E.L. W.A.S. Certificate issued to Al Scarlett, W2CC, in May, 1954, bears the number 4,825. One issued to the writer in May, 1950, is numbered 3,355, showing that almost 1,500 have been issued in four years. Almost one per day.

In connection with the Columbian Celebrations, 1954, to be held in Genoa during October next, to honour the memory of Christopher Columbus, the 2nd International Meeting of Communications will be held. The meeting will take place in the historical Palazzo San Giorgio. The Mayor of Genoa advises that the Columbian Institute of his city has established several awards to be presented to Amateurs who, by September 1, 1954, have made outstanding progress in the technical field and those who have provided the most exceptional public service. Two gold medals and diplomas will be awarded to those two Radio Amateurs, one of whom is Italian, who establish two-way communication of the greatest distance on v.h.f. and u.h.f. from their home stations. The 145 and 420 Mc. Amateur bands may be used. For the purpose of compensating for propagation differences and to allow for comparison of the

records obtained on the two bands, the distance obtained on 420 Mc. will be multiplied by three. Additionally, a gold medal and diploma will be presented to the Amateur who is judged to have rendered the most outstanding service for the safety of human lives or who will have given in any way proof of human solidarity. Diplomas of honour will be issued to those who are judged second and third. The competition is open to all Radio Amateurs and applications should be sent via registered mail to the Civico Instituto Colombiano, Sezion Concorso, Radio-amatori, Palazzo Tursi, Genoa, not later than September 1, 1954. Members of I.A.R.U. societies competing for the public service award should apply directly through their I.A.R.U. society.

X1NF, mentioned in these notes in June, still is pursuing his merry way and making many contacts. His "ship" is moving rather slowly as at 1st June he gives position as off Cape York. Claims that in one month he will be operating off Portuguese Timor, and has been commissioned by numerous W stations to ascertain the whereabouts of CR10AA, active a few years back. X1NF, who studiously avoids giving any personal details, now claims that he will QSL 100 per cent. at a later date (how much later he does not forecast) and now is looking forward to receiving cards. We accept his promises cum grano salis.

Cannot dig out any VK station who has contacted Bill Storer, VK1EG. Writer and VK4FJ are anxious for details of such contacts. However cards have turned up indicating that Bill has at least made an appearance on 14 Mc. on April 21, May 10, 11, 13 and 15 with contacts with ZS6BW, ZS6FN, ZS6Q, PY2CK, VQ2DT and ZL1HY. Most of these contacts have been made around 1130/1230 G.M.T.

Further to the para regarding the Vastaras Radio Club W.A.V. Award, appearing in the Federal notes in June "A.R." This award is not as difficult as would first appear, as there are over 100 Amateurs in the district. A list of most of their call signs is held at this Bureau and a check of call signs will be made for any interested applicant.

NEW SOUTH WALES

The May general meeting of the N.S.W. Division was held on 26th May at Science House, Gloucester Street, the assembled audience being the largest to have attended a meeting for many years. It was an occasion when members were invited to bring their XYLS or YLS and it was noticed that there were many of the ladies among the audience.

Jim Corbin, 2YC, President, opened proceedings at 8 p.m. and after the reading of minutes by the Secretary, Harry 2ACH, little business was discussed. The President welcomed the visitors, 5CH, 5KS, VR4AE and 2GU, the latter being thanked by the President for his past help to the Division.

An excellent showing of films followed, the main attraction being the official film of the 1953 Redex Trial which was much appreciated by all, and which was, after proceedings had ended officially, the subject of many discussions around the hall. Bob 2QZ gave a brief resume of his recent trip to the Trobriands and other places north, followed by a few observations

MY XYL SAYS!

WHY is it necessary to keep repeating on the air, and in this magazine, so often, that there is in existence a "Gentleman's Agreement" on the more popular Ham bands.

My XYL says that if a Ham is a born gentleman he won't need to be reminded, and if he is not a gentleman, then he won't know what to do, no matter how often he is reminded.

Of course my XYL is ignorant of the finer points of Amateur Radio and can be forgiven, if not silenced!

—OIGLE.

from 2AET on his trip to U.K. These were much appreciated by their listeners.

Coffee followed and the balance of the evening was devoted to a regular rag chew by all present, new acquaintances were made in many cases and many old ones renewed. A most enjoyable evening was spent by all and it is hoped by many that the same thing will be organised again in the near future.

At the initial Council meeting held a few days previously, the following officers were elected for 1954. Two members were co-opted to Council, Chas. Quin, 2AWQ, and Vince Bennett, 2VA. President, J. Corbin, 2YC; Vice-Presidents, Bill Lewis, 2YB, and Chas. Quin, 2AWQ; Secretary, Harry Hickin, 2ACH; Treasurer, Stan Bourke, 2EL; Publicity Officer and Sub-Editor, Ted Whiting, 2ACD; Circulation Manager, Bob Roach, 2ARI; Class Manager, Don Pollard, 2ASW; Class Secretary, Ken Kimberley, 2AXZ; Class Supervisor, Leon Parr-Smith, 2AOJ; and QSL Officer, J. Corbin, 2YC.

EASTERN SUBURBS

Activity in these parts is spasmodic on 40 and 20 mx, with only one station in the area putting in a peep on 80 mx. Had a yarn the other Sunday p.m. on 20 mx with Jack ex-2EZ, who now is 6EZ. Jack likes his location, says his nearest local VK6 is 20 miles away; he has an occasional visit from that ancient mariner, Dave 2AYE, who is still in the planning stage for his M/M rig. Andy 2AX is acting the Good Samaritan in helping Dave to get a "boxatrix" perking. Haven't heard a thing for ages of Ern 2ASE, hope all is well with you OM. More active than of late, Harold 2HF has been chasing a few r.f. ergs up the wires and is to be heard a bit on 40 mx phone. A nice transmission OT, whether it's the N-S or E-W antenna. Harold doesn't seem to be so keen on 20 as of yore, 40 is the relaxation now.

A recent acquisition on 20 mx phone is Brian 2ABJ, who gets a share of DX from Bondi, using a vertical half-wave with some success, but is laying plans for a beam. Outstanding 20 mx phone DX man in this area is Horrie 2FA. Have seen reference in G DX reports of Horrie being level pegging with the hefty signalled 2QR, no mean achievement. 2FA has but a 2-el. beam and is about on sea level overlooking Sydney Harbour. Sheer doggedness and knowhow does it. Just to make sure of things, Horrie has an elevator control on his beam mast and can vary the height of the array whilst nailing down Gs and suchlike. 2FA also has phase modulated n.f.m. up his

sleeve if the b.c.i. gets troublesome. Ivan 2TN has been visiting Kiwiland and may be heard at times on 20 mx phone, keeping up the personal touch with the many ZLs he met. Ivan has a penchant for car mobile work and is an active member of the Waverley Radio Club, which, by the way, is a real old timer. It was about the first Radio Club in Sydney in the pioneer days and now seems to have outlived all others.

Harry 2MB has moved from the immediate area and is now ensconced in Redfern, whence he may be heard at times with good telephony on 20 mx. Ray 2AIG is due for congratulations on recent promotion in the ranks of law and order. Understand he is planning an extra special electronic bug which will not only make dits and dahs, but will take over like George, the automatic pilot! Ray sticks to what some lads are inexperienced enough to dub "an antiquated form of communication"—brass pounding; maybe, but it still has its uses and always will, at least in this generation. Nevertheless, he is often heard on the mike, mainly when visiting 2AX. Gone from this area is Jack 2FJ, another DX man who has acquired a "quiet" location, far removed from built up suburban areas. Gone also is Bruce 2AZH, now heard from South of Sydney, and the Prince of many hobbies, Alf 2CE, so long in Bondi, is now over Ryde way. How is the concrete path-laying going AH, and what does it feel like to have enough ground space for antennae after the limitation in the old pozzey? I am told too, that v.h.f. stalwart, John 2WJ, has gone with the wind, and is now near Liverpool. If near enough to National tx's John, you could light a spare lamp or two around the place? Hope the big fellas don't modulate your 6 mx tx as 2BL used to do with a pre-war 6 mx Ham at Coozee! Canadian radarman, Jim Whittaker, licensed a year ago as 2AAS in Coozee, has also gone to graze in other pastures, now being heard at times from up Hornsby way.

An unexpected signal in Eastern Suburbs appeared on 80 mx phone in the shape of Mac ZLIAT, with an obviously maximum ground wave. The reason, Mac, a C.P.O. Teleg. in the R.N.Z.N., was whiling away an hour or two in the "shack" on the cruiser Black Prince. He reckoned it was better fun than trying to compete with the boys from the W "flat top" ashore. Could be! Heard a local lad saying he might have a go at a transistor tx on the lines of overseas ideas. Reminds me of an advert. in

a G mag, which illustrates audio coupling transformers for use with transistors, the overall size being less than a cubic half inch. What with deaf aid valves, etc., things are likely to get much smaller. Heard on 20 mx phone with a good signal is Phil 2ATA; could do with a spot more audio gain though. Nothing has been heard for some time of Colin 2ABD, but the grape vine has it that he is in the land of Z56. Another bloke who has moved from the area is Lester 2KT, who is now west of the metropolis. Vince 2VA has been heard with a good signal on 40 mx phone, but it seems to have been a brief excursion. G stations reckon that Vince's 20 mx c.w. is one of those from VK that can always be heard under supposedly poor band conditions. Vince is still taken up with s.s.b. and is steadily re-building to rejoin pioneers 2AC and 2CP.

SOUTH WESTERN ZONE

Owing to inactivity there is not much this month, at least they have not been heard here. The Albury set have been quiet, although 2OJ was heard once, Noel was back on after an absence of two years, welcome back OB. Geoff 2BQ, at Tumut, went portable on 144 Mc. on v.h.f. field day, conditions were not too good, but Geoff did manage to get one or two contacts—his best with 2WH at Forbes. Stewart 2PL, Ted Druitt and your scribe are contemplating a trip to Tumut on Queen's Birthday week-end, looks like the scouts are out inspecting the location for the next Convention later in the year, the excuse being to call on 2BQ and 2PN. There is also a new Ham in Tumut, name and call as yet unknown.

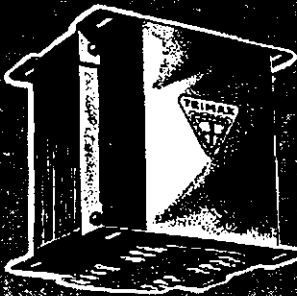
Also heard that some v.h.f. activity can be expected from Wagga, from an R.A.A.F. location. This is really good news, perhaps the Wagga boys will let us have the score, Don 2RS, of Albury, has moved to new QTH, has a.c. on but is still QRP. 2BQ still playing around with cascode converters. Members of the Griffith Radio Club are getting gear together for the club station, brand new call sign is 2AGJ. Brian Jones has the rx finished and is waiting on Ted Druitt to build tx.—2AJO.

HUNTER BRANCH

Twenty-two members were present at the May meeting of the Hunter Branch held at the Tighes Hill Technical College. The meeting opened at 8 p.m. with Lionel 2CS in the chair and after the minutes had been read and general business had been dealt with, films

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were shown dealing with "Radio Antennae" and "The World's Greatest Road Trial." Following the screening of these two films, Jim ZCC gave an instructive and educational lecture on "V.F.O. Construction and Design" and gave a practical demonstration with gear he had brought along with him.

Frank VRAE visited Ron ZASJ during the month on his way south. Ben ZABT and his brother-in-law, Bill Z2L, also called on Ron and had an earbash session. Bill Z2L hails from Toronto and is one of the "old timers," licensed in 1911. He aims to make a comeback using an AT3. Taree Bill ZAEY and Harold ZAHA repaired a relay for Ron that was on the blink. Associate Syd Daniels had a visit from Cref ZKO during the latter's holiday trip down the coast. Associate Frank Stubbs injured himself in a fall from a ladder, and Jack Hamilton (gentleman) has been doing a tour of duty as the voice of ZASJ, enabling Ron to work his first DX for two years.

A miracle has occurred. Dave Z2B has been heard on 80, 80 mx mark you and not 2 mx. He has, as a sideline, taken up the game of "top soil excavating," pardon, golf. Harry ZYL bought him a G08 tx. Jack ZKQ has been heard back on 6 mx. Jim ZCC getting his share of c.w. DX on 40 and 20 mx. Chris ZPZ and ZCX migrating to 2 mx. The sympathy of the Branch was extended to Chas. ZARV on the loss of his father, and to George ZAGD whose uncle was killed. Mrs. Stuart, Ron's mother, has recently suffered a serious operation, but is recovering nicely. Ron has a new call book, present from the President and Council of the N.S.W. Division.

Harold ZAHA and second op., Ern ZFP, are to be congratulated on winning all prizes in all sections of the N.F.D. Tom Steel, 57, of Macquarie Street, Belmont, an invalid s.w.l., is anxious to get a good communications rx to assist him in getting A.O.C.F. anyone interested contact Tom. The next meeting of the Hunter Branch at Tighes Hill Technical College will be at 8 p.m. on Friday, 11/6/54. Films and an interesting lecture are the bill of fare.—ZAOR.

NORTH COAST AND TABLELANDS

Reports from this zone are scarce this month, conditions and the fact that few of the boys are heard are the reasons. Ted ZAVG, a new comer to the zone, but an old friend of all, is getting established, he is at present operating from Urunga, all bands. Pete ZFA and Noel ZAHH are conducting many tests with their beams, both working quite a bit of DX when conditions are OK. Much consideration is being given to future flood emergencies in the area and it is the considered opinion that the N.C. net is adequate, but that loose ends need to be tied up in Sydney and Newcastle.

Organisation for the next Urunga Convention is well under way. It will be bigger and better next year, so don't forget to keep the Easter week-end 1955 reserved for Urunga.

VICTORIA

The June meeting of the Victorian Division was held on Wednesday 2/6/54 at the M.T.C. The gathering was the largest ever, no vacant seats were noticed, due no doubt to the presence of XYLs and harmonics. The films selected for the occasion were most suited for the families. The radio boys got small fare for once. As usual, the meeting adjourned to a Collins Street cafe where it finished at a very late hour.

Come the sixth and the intrepid hunters gathered in College Parade. Ten or eleven cars turned up braving the cold and dismal looking weather. Sharp on 2.30 p.m. the signal came on and the race was on. Last of the mark was 3AHC and party who had trouble with a short-circuited feedline. With 3OM and 3AFJ taking turns on the loop they ultimately arrived within 100 yards of the tx, only to find themselves on the wrong side of the ????!!!! river. (May your signal never exceed S2, Alf.) It was some consolation to know that others were in the same boat. After walking about 500 yards, borrowing a field strength meter, and walking a bit further, we completed the course only to find that five others had clocked in. First in was ALZ, then Reg Bowen, 3rd ZVZ, with the rest following at close intervals. The location on this occasion was north of the river at Yarra Bend Park.

Now I'm not complaining—much—but I personally saw 3LN pass over one green article to 3YS before the start. Fred, how could you when I was down for a Zephyr Six. Price cutting, that's what it is. Anyhow, I'll get my revenge. I think rude things about Len's 2 mx rx. Best DX I heard was 12 feet.

Strange what a small world it is. Did you hear Phyl (Mrs. 3LN) reminiscing on school days with Harold ZAHC. By the way, what odds are being offered on Phyl getting her ticket before the end of the year. More on this in future issues.

Remember me yelling for a scramble. Well, I forgot to send in a log, hence I'm not listed in the results for the 11th April. Conditions for this scramble were ideal, particularly on 40 mx. Although quite a few stations took part, only nine logs were received. The winner was ZADW with 46 contacts. Logs were received from: ZADW 46 points, ZAHH 41, ZAKO 38, ZXB 31, ZAJU 25, ZYQ 20, ZATK 16, ZOM/M 11, ZAF0 8.

The next two-band Scramble will be held on Thursday, 8th July, commencing at 8 p.m. and concluding at 10 p.m. Any two bands may be used and the rules are the same as those for the last Scramble.

Had words with Ray ZATN and we may get him on 258 Mc. in the near future. That's what we want, some country stations to toss together some gear for the band. Any other takers, say down Geelong way and Mornington Peninsula locations.

Next month's meeting has already been publicized, but had better do it again. A talk on Macquarie Island with pictures is scheduled. Eight p.m. is the time at the M.T.C. on 7th July. Have no information about the rest of the programme for 1954-55 as yet.

If Mr. Editor will cut Grandpappy's notes this month, I may get in a few personal notes. 3TX is now the owner of an ART; says the Type 3 is better; Bill, how could you? ZAP was heard calling Ws. Long time no see Al. 3TV back in harness after a long spell of leave. What's happened to ZDU. Has not been heard for weeks (he is the new Fed. Sec.—Ed.). 3UC has forsaken the key and is heard regularly on 40 mx with phone. Have heard nought of ZAAP for long while, must still be house building. ZANS back on air after a re-build.

Now in response to a special request, will associate members, students, and others looking for practice, please note that Slow Morse Transmissions are made on Sundays at 2030 hours on 3504 Kc. The transmissions will be made by 3GU during July, ZAHH during August, and ZHE during September. Reports on the transmissions are especially asked for. Reports may be sent either direct to the station concerned or to the W.I.A. rooms. The chaps doing this job are particularly anxious to know how they are getting out and how many people are taking advantage of the service they are providing.

Now for zone notes.

NORTH EASTERN ZONE

Jim. 3JK was modifying equipment for mobile working the last time he discussed radio work. Col 3VQ improved the last school holidays by visiting round the Melbourne Ham shack. Doug 3IJ now has the timber for his new masts, while Chas. ZACW has entered and safely returned from hospital. Alan 35G has visited Mangalore lately, and it is learned that Alan 3ALN is now at Nhill. Henry 3HP and Des 3BP have ATR2B transceivers. Murray 3HZ is a bit too busy for much Ham Radio, while Peter ZAPF is quiet, but Alex ZAT is reported playing with colour photography. It is thought Les ZALE said he was helping Johnny ZACK with radio experiments.

Alan 3UI is developing a s.w. converter for b.c. receivers, but Keith 3JC must be on 20 mx all the time, where, it is understood that Ken 3KR is hearing interesting DX. Although Vic ZABX has not been heard, Frank 3ZU was on our hook-up with an f.m. transmissions. Howard 3YV and Gordon 3XU have not been evident, and, although Hugh ZAHF has been able to take an active interest in our hook-up, apparently it has not been quite so practicable for Jack 3FP.

Tom 3TS should be around again soon, thus we may hear of the interesting activities of George ZGD. Jack ZAKC must be still busy on his commercial interest, although Des 3CO now has his new shack in operation. Our Associate Lex has his A.O.C.F. and has applied for a station call sign; congrats OM. Syd ZCI, as usual, breaking his v.h.f. records with Nagambie-Dunkeld on 2 mx, but Stan ZAGT has been quiet again since last month.

CENTRAL WESTERN ZONE

As usual at this time of the year, 80 mx is the outstanding band of an evening. Just to prove that statement, our last two zone hook-ups have included Chas. VKIAC on Macquarie Island, who has been putting in a consistent S8 signal here. Chas. is experiencing gales and blizzards now and I guess has the agility of a monkey now as far as shinning up masts to replace antennae are concerned. Conditions on 80 mx should remain good for a few months now, so Chas. should be able to keep well up with the zone doings.

Keith ZAKP has at last located the zone's frequency meter and is busy calibrating his own with same. The next step then is to get his gear going on 80 mx and join in the zone hook-ups. Dick 3RR is at present only on 6 and 2 mx, due to his low frequency antenna parting

company with the mast—at the top, darn it. Byron ZTA has dismantled his 3-el. rotary on 20 mx and is busily engaged in constructing a bigger and better version of the same thing, however more details on that score next month.

Ray ZFI has forsaken Ham Radio for photography, but only temporarily we hope. Merv ZAF0 has completed his 5 x 5 on 2 mx and by the time this reaches the printing stage should have it forty feet up and working well—I hope. Neville ZACN has devised a 40 mx fixed beam antenna. By the way we have an ardent s.w.l. in Neville's mother. Yessir, even to having her own communications rx. That's f.b., and may you enjoy plenty of good listening. Alan 3HL, of Callawadda, has had a spell in hospital, but is now home again. We all send our regards Alan and hope you are now completely recovered.

Trev ZATR has now completed his g.d.o., so now is all set to get cracking on 2 mx. Bill ZAKW has been very busy with commercial radio of late, but now has everything under control. Now you have time on your hands, Bill, how about digging out your 2 mx gear from the cupboard and be in the swim? Still no sign of our long lost central westerners, Jim and Bob, hope to hear you about before many moons. Well cheers for now chaps, see you next Wednesday night at 7.30.

SOUTH WESTERN ZONE

The State Convention will be held in our zone this year on 28th and 29th November at Ballarat. Bill ZAMH and his boys will make it the best State Convention yet. The main events this month seems to be the activities on 144 Mc., so you city lads have a listen 47a way now and again. Active stations include ZAGD, ZAKR ZAGV, Z2L, ZHG, ZJX, ZEQ, ZANQ and we look like getting more in the near future. Kevin ZAKR has had a spell in hospital, but out again. John Adams has collected his piece of paper with the call ZARJ, and is active on low power. At last we have talked Les Z3DX back—c.w. on 7 Mc. and he is talking 2 mx. ZALG often on the hook-up, but his receiving conditions no good. Other Geelong members heard on 80 mx, but never in on the net. All members awaiting disposals screech with lots of interest.

QUEENSLAND

May meeting, the first after the election of the new Council, was high lighted by an address on D.M.E. by Mr. W. Allison, of D.C.A. This address was exceptionally interesting, and all were sorry, after two hours of it, that we had to call a halt so as the normal business could be attended to. Mr. Allison has promised to continue at our next meeting. I'm sure it will prove equally interesting.

Owing to the absence of our President and Secretary, yours truly and John ZFP deputised for them. With no agenda, we struggled through in some manner, and was around eleven when business concluded. Amongst those present was noticed Tom ZTT, Jack ZSF from Ipswich, and Keith ZKF.

Certificates were on hand for John ZRT and Keith ZKS for their top scores in this State in the respective sections of the VK-ZL DX Contests. Keith also was awarded a pick up for the highest points gained in this State. While on Contests, let me dig a little to remind you that the R.D. Contest is looming up again, and we want all Amateurs we can muster to submit a log in this State. Also there are plenty of log sheets for those who require them at a penny each.

An AT5-AR8 combination was on show which will be balloted for in the usual manner. The Call Books came to hand per favour of Dave ZAYE, which we must thank him for, so put in your order now.

July meeting should be of interest to those interested in remote control of models as 4NP will give a lecture on model aeroplanes and remote control of same.

Arthur Waltz has the responsibility of being the new Federal Councillor and at the same time being the Traffic Manager for this Division. Arthur of course is one of the foundation members in this Division and should need no introduction to members.

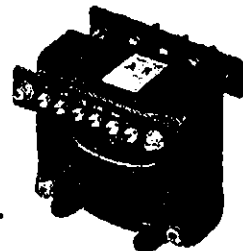
Conditions in and around Brisbane have been very dead of an evening. Myself, I haven't bothered to turn the rig on. Saturdays and Sundays see a little activity, but mostly chaps chasing the Ws who have been coming through. Bill ZYA has pulled his 2-el. down to put another element on it. Frank Z4M has put up a vertical and also his power. John ZFT has been nattering around on 3.5 Mc. with quite a few others there with him.

Heard a few of the Ipswich gang on short skip a few evenings, while my spy up there informs me news is very scarce, very few active up that way. Those active: Harold ZHG, Leon ZFW, Norm ZKO and Jack ZSF, who sked at

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* Response includes correction due to Negative Feedback.

** For use with Rola 12-0X Speaker.

Type and Mounting	Impedance—Ohms		Frequency Response		Rating Watts	Typical Application
	Primary	Secondary	DB±	C.P.S.		
894-23	500	2, 3.7, 8, 12.5	2	50-10,000	5	Line to Voice Coil
900-22	2,500, 5,000	2, 3.7, 8, 12.5, 15	1	*40-15,000	15	Single 807, EL34, etc. to Voice Coil
896-9	8,000, 10,000	2, 3.7, 8, 12.5, 15	1	30-15,000	15	P.P. 6V6Gs A or AB1 to Voice Coil
897-9	8,000, 10,000	100, 125, 166, 250, 500	1	30-15,000	15	P.P. 6V6Gs A or AB1 to Line
763-9	3,000, 5,000	2, 3.7, 8, 12.5, 15	1	40-20,000	15	P.P. 2A3s A or AB1 to Voice Coil
809-26	500	2, 3.7, 8, 12.5, 15	1	50-20,000	15	Line to Voice Coil
870-26	10,000	2 or 8	1	*20-20,000	6**	P.P. 6V6Gs or 807s as Triodes
871-9	10,000	2 or 8	1	*20-20,000	12	P.P. 6V6Gs or 807s as Triodes
872-9	10,000	3.7 or 15	1	*20-20,000	12	P.P. 6V6Gs or 807s as Triodes
891-22	6,600	83, 100, 125, 166, 250, 500	1	50-12,000	35	P.P. 807s AB1 to Line
892-22	3,200	30, 62, 83, 125, 250, 500	1	50-12,000	55	P.P. 807s AB2 to Line

DRIVER TRANSFORMERS

Type 545-9—S.E. 4,000 to P.P. AB2 Grids 1.6:1 Primary to half Secondary ratio, 50-10,000 C.P.S., 5 Watts.
Type 588-6—S.E. or P.P. 5,000 to P.P. 807s Class B, 200-5,000 C.P.S., 5 Watts.

MODULATION TRANSFORMERS

Primary: 3,800, 5,000, 6,600, 8,500, 10,000 ohms. Secondary: 4,000, 5,000, 6,000, 8,000, 10,000 ohms. 150 mA. D.C. per side on Primary. 150 mA. maximum Secondary current. Ceramic insulators. Frequency Response: 200-7,000 c.p.s. 75 Watts Rating.

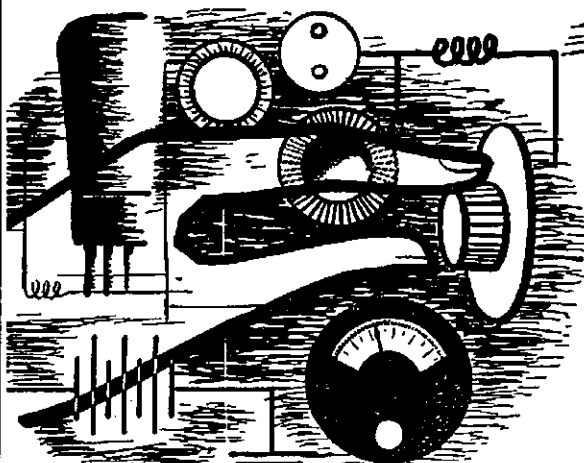
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7.15 p.m. to discuss the pros and cons of Amateur Radio and what have you. 45C, an ex-VK7, should be on there in the near future. Harold 4HG is just about ready to hoist his 10-20 mx beam, and is pinch hitting on 40 mx with a long wire. Leon 4FW has started on his new beam, being one of the many who lost theirs in the recent cyclone; he has a double extended zepp at present. Norm 4KO has decided it's about time he brushed the cobwebs off his beam and put it up. Jack 4SF is going in for s.s.b. and about to give all and sundry a headache copying him; he also is trying out a double crystal filter in his rx.

To the north, news is creeping through of the activities up that way. Gympie boys are very quiet. 4XR has not been heard on any band, nor has he a 7 Mc. antenna yet, but has a very nice set up in a 100 Kc. osc. and multivibrator. Jim 4HZ has his eagle eye on it to do a spot of calibrating one way or the other; he has been hearing some nice DX on 21 Mc., but has had no luck in contacting any of it. To make up for it, has had some nice rag chews on 3.5 Mc.

Col 4CR very busy with recordings and playing them over the local b.c. tx at appropriate times, while his antenna is still in a semi-horizontal plane; where didn't that cyclone hit. The latest set-up by Barry 4LN is a junk window in the town, where he has sundry bits and ends for sale, including a battery version VR106, the one on a.c. I believe he has kept for his own use.

The Rocky gang instead of chit chat from band to band have organised a radio club comprising twelve Hams and four s.w.'s, and all, I believe, members of the W.I.A. They have taken the 4WI broadcast on the formation of groups as a guide to their plans. The club is meeting on the 15th of each month. The officers are 4NG President, 4FU Vice-President, 4MT Secretary, and Treasurer is my old friend, Bill 4WD. Members include 4CD, 4DI, 4DO, 4BV, 4EC, 4CJ, and 4ZL. My information does not include where the meetings are being held, but to others interested from that part of the Division, Bob Greenwood, 4NG, at Box 250, Rockhampton, is the man to contact. We here in Brisbane wish the club every success, and would like to get a monthly account of your doings. This is a lead for other country centres which could be followed to their advantage.

This is all for now chaps, I hope one of these days I'll be able to fill a couple of more columns like the old man from the b.b.s.s. I suppose the VK3 boys, instead of offering him the chair on his present visit, offered him a wheel chair instead, but not being a grand old man and years of experience in paddling behind me, you'll have to put up with my poor efforts for the time being. So cheers for now and remember, August is the month for the R.D. Contest.

SOUTH AUSTRALIA

The monthly general meeting of the VK5 Division for May was held in the clubrooms to a capacity gathering of members to the tune of 120. The guest speakers for the night were Mr. Hec. Brock (5UZ) and Mr. Clem Tilbrook (5GL) and they chose for their joint effort the subject of "Quartz Crystals." This teaming up of two chaps who were without doubt masters in their own particular line was a huge success, as Hec. handled the theoretical side and Clem the practical, to the full benefit of all present. Naturally both gentlemen could have used another hour or so of time to fully cover their subject, but I think that all present will agree that they both contributed their share toward an excellent and instructive lecture. Neither gentleman needed much introduction as Hec. is a definite oldtimer in Amateur Radio, and whilst Clem is not such an oldtimer, he can safely claim that he is as well known as most oldtimers for his experiments in crystals and the v.h.f.'s.

Both lecturers brought along an unusual number of exhibits which were displayed on the main table and the boys present were given time off to examine them, all of which added to the general interest of the lecture. The vote of thanks proposed so ably by Brian 5CA was seconded by the audience in the usual manner and was clearly indicative of the splendid job performed by the joint lecturers. Strangely enough, even without me in the President's chair, very little general business was transacted and the main excitement for the night came from the handing out of the new Call Sign Books. I had a bit of bad luck with my Call Sign Book, because I discovered that the cover was a little dirty in places and I sneaked up to the main table and rung the changes for another one. Later on in the night, I remembered that I had put a QSL card from an LU station in the back of the first book and immediately started a frantic man-hunt to find somebody who had received the book. After disrupting the meeting, and causing untold

confusion with my mad dashes up the aisles and over the chairs (easy, grandpappy, watch your heart.—Ed.), I finally located the book and also the card, and was gently led away and placed inside an iron lung until I had recovered my breath and also my peace of mind.

The meeting closed at the normal hour of 10.30 p.m., that is officially of course, but apparently continued for some time outside the clubrooms judging by the murmur of voices that filtered through the main door as the willing slaves swept up the floors and generally tidied up. Among the visitors were Messrs. Col Ferguson (5CJ), F. Anderson (5FA), E. Redpath (ex-GZDS and now a VK5), D. Pollard (2ASW), L. Hazelt, and H. Gabb. We welcome these visitors and hope to see them again some day, possibly as members, although of course some of them are members, but from the country.

The last paragraph in the VK5 notes just received, caused me to come all over soft hearted toward the acting scribe who signed himself Pro 5FS, in fact I almost reached the point of giving him a curt nod of recognition at the Council meeting. However, I took myself in hand secure in the knowledge that he was only protecting himself for the months to come because you see he only gets one month in the year to have a shot at me, but I get eleven. Incidentally, did you get the significance of the christian names of my grandson—Christopher Warwick—get it? CW—get it—CW—Oh I am a one!!

WOOMERA RADIO CLUB

The Secretary of the Woomera Club, Ron Catmur (6FY), has been forced to give the job away on account of being too busy with his vocational duties, and his place has been taken by Max Newell. Ron's resignation was accepted with regret as it will be remembered that he was one of the few who fought and battled for the Club and brought it along to the present stage. However, the bread and butter must come first and we can only say that he will hand the reins over to Max with the knowledge of having done a swell job. Nice work Ron, and the Woomera Club will always remind us of just what can be done by a Ham even in the furthest places and against almost impossible odds.

The main activity for the month has been the erection of their two element rotary beam on 20 mx, and it now graces the sky some fifty feet up, but will not be tuned until the next week-end. A big portion of the credit for this undertaking must go to the President of the Club, Len 5OC, and no doubt he will be right there when the tuning up takes place.

Two visitors to Woomera during this month have been SED and SJN, and it is with regret that we announce that the Club was unable to turn on much rare DX for them because the bands were practically out of commission each time they tried. Ray Farmer now has his A.O. C.P. and will be able to help Len out with his duties at the clubrooms and that being the case, they will be able to get some of the b.c.i. troubles ironed out on 40 mx and thus have another band at their disposal. The boys have hopes of getting some v.h.f. gear together and going on the air soon, but just when that will be, is undoubtedly some time yet.

Ted 5JE has not been around much lately, but as he is in the process of building a garage, it is only to be expected. Several new members were welcomed to the Club at the last meeting and a couple of them hope to sit for the next exam, which is good news, whichever way you look at it.

I should close these Woomera notes with a short reference to the new Secretary, whom I thank for these notes. However, it would seem that he is another one of those modest coves who believes in hiding his light under a bushel, something like me, only it takes two bushels to hide mine, therefore I can only put one of my espionage agents to work and ferret out the information for myself. Until then, I will content myself with saying that the Woomera Club is lucky to get somebody with the enthusiasm necessary to hold down the job of Secretary, and I feel sure that they will give him all the help that he will find necessary. Thanks again Max for the notes, and don't worry about them being short, any notes are enough for me, no matter how little, they don't call me "Padder Parsons" for nought.

A welcome visitor to the "City of Lurches" (now they have me saying it), was Murray 4KX (ex-2AKX) and now radio officer on the S.S. Age. Murray paid several visits to various Ham shacks including 5HN, 5ON, 5MD and 5JO. I understand that he was somewhat surprised at the hospitality that was turned on by the VK5 boys, although hospitality is VK5's second name. He also commented on the VK5 notes, but my natural modesty, curbs my itty-witty tongue.

Several Associate members of the VK5 Division have been moaning a bit about the A.O. C.P. examination questions being a bit tough

at times, in fact one member even put his moan on paper to make it a bit more official. Council handed some copies of previous examination papers to a member of the Technical Committee for an opinion before making any comment and his opinion is awaited with interest. However from a personal glance at the papers, and well remembering just how much I did not know about radio when I sat for my examination, I did feel that the papers today have a tendency to become too theoretical in their approach to Amateur Radio. When all is said and done, the examination should only serve as a guide to the Department, to determine whether or not the candidate is a suitable person to issue a license to, so that he may experiment with radio and learn by practical experience all the answers that puzzle him at the moment. Of course I might have the wrong slant on Amateur Radio, perhaps they should start off where most of us finish, but what a lot of fun and comradeship they will miss.

SOUTH EAST AREAS

5TW has had a few contacts on 40 mx, but Tom is still busy on the new QTH, and likely to be so for some time to come if my experience counts for anything. 5CH is at the moment of writing holidaying in VK2 and I am wondering just how much gear he will bring back with him on his return. Every time I have a chat with Claude he seems to have added to his collection of gear, although from what I have heard of those VK2 jokers, he will be lucky to come back in one whole piece! That might work, I have never had a bite from VK2 yet.

5KU has just got the beam back in position, and with a new shack and the beam working well, we should hear a lot from Erg. 5TD has had a visit from, as the VK7 scribe so aptly puts it, the wireless bird, who left a baby daughter. I have had no details as yet, but all are well, including John. I have said before and I say again, always heed the gypsies warning, DX before dishes! 5JA continues to etude me and I can always have a paragraph about John ready even before I receive the notes from Col., it is simple, "nothing to report." 5MS is having a little beam trouble. Stewart is finding that the ideal spot for a beam is also a pretty good place to collect the high winds, however if all that I have heard about him is correct, he will soon find a way out of this temporary trouble. I have heard that a new sub-station has been put into operation near his QTH, and I guess that he will be pleased to get primary voltages above 160 volts. Pardon me going all technical.

5PB, who comes under the heading of the Mt. Gambler boys nearest neighbour, about 60 miles away at Naracoorte, called in there the other day and from all appearances he intends to get going again. Wally was at one of the VK5 meetings recently and gave me the same idea from the way he spoke.

5CJ is still fairly busy settling in at the new QTH and has no activity to report on the air. Regarding that alibi of Pro 5FS last month, don't you believe it Col. I sent him the notes on time, but he was so frightened that I might come back from my holidays a bit earlier and finish the notes that he rushed them off a week earlier. Pro 5FS indeed, the Greeks have another word for that. It was good to see you at the meeting the other night Col., sorry that I did not have a longer chat with you, but you know me, nose to the grindstone Parsons.

Judging from the tone of the letters received from the country and also from what I have heard on 40 mx, oh yes I am on 40 mx, haven't you heard me, it would appear that the VK5 tapes that are being sent out are meeting with everybody's satisfaction. The only winge, if it could be called that, is that it is a pity that they are not sent out each month. I agree with this opinion, but also I realise that Gordon 5XU is a busy man and can only devote a certain amount of time each month to compiling them. However, he will do all he can to fix this.

It has been increasingly noticeable in the VK3 notes in this magazine that the scribe, Mr. K. E. Pincott (the Mister is a courtesy title only, on my part) takes a great delight in "needling" me at every opportunity, and whilst my gentlemanly instincts prompt me to treat it all with ignore, his last attempt in his notes for June for me to unmask his perfidy. You don't know what that means? Well that makes us square, because I don't know either, but it looked good. However, I smelt a rat when I read his remarks about the compilation department silencing half of the VK5 notes so as to include his personal paragraphs. Hastily turning back the pages of the magazine to the first page, what did I see, I repeat, what did I see? Yes, you said it. Compilation department, K. E. Pincott. How low can they stoop to upend me, how low can they stoop to take away the few measly pence that I earn from my writings and thus keep the wolf from the

WESTERN AUSTRALIA

Now is the time to thank Wally 6AG for his efforts as Sub-Editor over the last 12 months. I'm told it's not an easy task to compile something from nothing, although some scribes succeed with this admirably! Anyway, Wally has kept the flag flying and I hope to carry on where he has left off. But don't forget, if you want to see something in print or have some scandal that needs publicity, let me know. Just because you think about it doesn't mean it appears in the next issue! So, to business.

Those who attended the May meeting were well entertained by the three lectures arranged by our new Programme Organiser, IAG, Mr. Trigwell, of the Wireless Branch, spoke on Departmental frequency measuring gear and procedure, followed by Wally Coxon, 6AG, who summarized the results of the 60/40 mx news transmissions from VK6WI over the past seven months. The evening was concluded with a description by George Hayman, 6GH, of the video signal generator constructed by 6EC. This is a very fine piece of work and it is to be hoped that Eric may be persuaded to dash off an article on it for "A.R." in similar style to his "Amateur TV" series.

The meeting took great pleasure in welcoming Wally Howse as an Associate member. Nothing unusual there perhaps, but Wally is the first holder of the new A.O.L.C.P. to become a member of the Division—and may there be many more to follow! Good luck, Wally.

ODDS AND ENDS

6WZ in Geraldton, an ex-scribe, is still to be found in the general get-together on 7 Mc. of a Sunday morning. 6CN, of Kellerberrin, finds time to get on in between dispensing cough cures, etc. I believe a new rig is in the wind there, all ready for the a.c. when it arrives. A new contact t'other day was 6EZ from Safety Bay, with a thumping signal. John must have a good QTH because he is often heard on 14 and 21 Mc. over the 40 mile path to Perth with signals at full strength. "The Voice of the Golden City," so I'm told, is 6TK, of Norseman. Terry now sports a three element 14 Mc. beam set a 50 ft. tower and is knocking off the DX in fine style. 6HK tried 3.5 Mc. one night—had two contacts, but gave it away after a soldered joint melted off the antenna tuning coil!

One of the backroom boys seldom heard these days is Lee 6HC, from North Beach. Lee is one of those experimental types, always building something new and always pulling it down for a re-build. Still the finished product is inevitably of commercial standard. 6JK, another of the silent brigade, is busy with studies. 6FL maintains he will not be in the R.D. Contest this year, but when the time comes, we'll see, eh Frank?

Our new President, Fred Tredrea, 6FT, does good work on 21 Mc. with 90 watts and a three element beam. Says he heard and nearly worked a VEG on the band the other day around sundown. That's one for 3AHH to work out! Almost a stranger on the air these days, 6RU was heard on 20 mx. New plans are in hand there for a bigger and better set of beams to grace the backyard. 6WT can almost be bracketed with 6RU because of his location—two doors down the street! Dave is progressing slowly with the tower and beams, though a new high level modulator is taking up some time. 6MK was heard working 1EG at Mawson phone/c.w. Wonders will never cease! 6LL, our Treasurer, having just shifted QTH to Victoria Park, may be inactive for a time; we certainly hope not for long, Clarry.

Got quite a shock recently when 6AG casually mentioned that he uses a three wave-lengths vee beam on 3.5 Mc. I think that almost takes the cake from 3ATN, eh Ray? 'D better be careful, maybe this will start claims for the longest antenna in VK. Wally is one of the very few "original" Hams in VK6 still active, if not the only one. He can speak with experience about such things as the old XYA, XYB, etc., series of call signs of the 1909 vintage, spark tx's and so on. This Radio game must be a mighty powerful drug! 6SR, the call of the Radio Society of W.A., has been heard again on 7 Mc. of a Sunday morning per the voice of 6SJ. Sid is somewhat hampered in his operating by living on a main highway (oh boy! That ignition QRM!) and by the fact that the S.E.C. 66,000 volt mains run right past his front door. Still, he gets by.

A problem which has reared its head recently in connection with the 6WI broadcast on Sunday morning on 7 Mc. is that of interference with 3WI on the same channel at the same time. A few years ago this difficulty of 2,000 miles QRM at 0930 on 7 Mc. would probably not have occurred, but in these times of low m.u.f.'s it is there in full force. The obvious remedy—a QSY—will be or has already been effected.

Well, that's it till next month, chaps, and don't forget the copy.

TASMANIA

The June meeting turned out to be one of the best attended for quite a long time with the clubrooms almost filled to capacity. This was due no doubt to the first lecture arranged by the newly formed lecture committee, which was a talk entitled "With Heemskirk to New Zealand." This talk was illustrated by numerous Kodachrome slides and was given by Mr. H. S. Watchorn and Mr. E. E. Medhurst. Mr. Medhurst, owner-skipper of the Heemskirk, and a son of the late radio pioneer, VK7AH, also brought along a number of press cuttings and charts and judging by the applause and the questions, there is little doubt that the lecture appealed to all. A great deal of amusement was caused by the production of a "key" (left foot style) which was made up on board the Heemskirk when the modulation failed on the ATS-AR6 combination. Much hollow laughter from 7YY, who happened to be on the receiving end on that particular occasion.

Due to the popularity of the lecture, the business of the evening suffered somewhat and it was not until approximately 10.30 p.m. that the business really got under way, by this time a number of members had gone home and the few diehards left carried on.

The 7WI Exhibition QSL cards have been received from 7LJ and have turned out very well. At the time of writing, the cards have been filled in and will be ready for posting very shortly. By the time these notes appear in print, they should be well on the way to all stations who contacted 7WI from the Science Exhibition in January last. 7MY is on the air at last from Sandford on 2 mx and has had two-way contact with 7HJ on several occasions with strong signals both ways. My poor old 2 watts won't quite make the distance, but Alan puts in quite a good signal at the 7LE shack (when the hydro isn't on the air!). 7DH also reports hearing 7MY which is pretty good considering the 7DH location at Montague Bay. Two mx seems to be looking up in Hobart with 7OM and 7RM building the necessary gear and various others balancing on the brink.

The new 7WI shack is now almost completed and ready for occupation. Several working bees during the last few week-ends have resulted in benches, shelves and power wiring being installed. The walls and ceiling have been painted a delicate shade of cream and the tx is working and in position on its plinth. Tom 7AL is investigating the aerial position, but as yet has not been able to get on the roof because of the weather. Rumour has it that Tom intends putting up a T2FD complete with terminating resistor—aw nuts!

A donation of 24 sets of keys to the club rooms was received recently and this will help considerably in making the rooms available to members at all times. The keys may be had from the Secretary by both Associate and Full Members on payment of a deposit of 10/- per set, the deposit being refunded at such time as the keys are returned. Keys to the tx room will, of course, only be available to licensed members.

Tiny 7JD has been inactive for some time due to a move in QTH, but I understand that he is now completely re-building the rig into a console. The console, which has accommodation for 12 17-inch panels, is almost complete but the rig has yet to be re-built to fit. Tom 7FM is at present visiting Kelso and has taken a rig, so I'm told; opposition to 7PM Tom? Andy 7DA, originator of the lecture committee, at present very quiet, but just mention cameras and see the eyes light up. Secretary Bill Tait is expected to come to light with a brand new list class ticket very shortly. Better start building the rig Bill—2 mx for a start. Noticed 7FJ casting envious eyes on a photograph of a console rig from the north; now come on Ted, cease fiddling and let's hear the old voice again. 7WG and 7RY still home building; removed those bricks from the shack yet Bill?

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tent door? Well, I suppose that I have had a good innings. I shouldn't complain, but in future copies of the magazine when the crumbs that they will print for VK5 in "Hamads" makes you wonder what has become of "Padder Parsons," pause and spare a thought for a good guy and remember "Pincott's Perfidy." Go on, slice this paragraph out "P.P."

The Council of the VK5 Division appointed the following members to the Contest Committee for 1954-55: Messrs. Gordon 5XU, Jack 5JD, Reg 5RR, Jim 5FO, Reg 5QR and Warwick 5PS. This line-up looks good on paper and they have the power to co-opt further helpers if wanted. It means a lot of work, but they are all triers.

UPPER MURRAY AREAS

The monthly meeting of the Upper Murray boys was held at the QTH of Fred 5MA and the roll-up included 5RE, 5KW, 5CF, 5TL and a couple of interested visitors. Hughie 5EC was unable to attend owing to a previous engagement, the proceeds from which help to keep the wolf from the door each week and also permit him to buy and make that concoction which he has the cheek to call a cup of tea. The new call sign books were distributed to all present and favourably received, even 5KW being satisfied that his name and address was correctly listed, to his amazement.

One of the visitors, who admits to Ukrainian origin and to having spent a portion of his life in the Russian Army, and also to being attached for some time to the Royal Scots Guards, gave an interesting talk on his experiences with the two armies. He had an acquaintance with radio in both armies and gave a brief description of the gear to his listeners and also made it quite clear that life under the control of the Soviet Union has no appeal for him, an opinion that was shared by all present after hearing his little talk. The meeting concluded with a massed attack on the "goodies" so kindly provided by Mrs. 5MA, who could be pardoned for thinking next morning that the homestead had been the victim of a grasshopper plague or an invasion of white ants, judging by what was left on the table. Needless to say, a good time was had by all.

5MA has dismantled his beam tower and it is now taking shape as a tank stand under the skilled workmanship of Fred and that MMMaster PPlumber, Tom 5TL. Fred is also nearing completion of a band switched tx with a single 607 final, with a preponderance of EF50s, the lot being constructed on a copper chassis. The MMMaster PPlumber again Fred? 5RE has had a gremlin who delights in melting the fuse wire without any clues as to the origin. Hurtle was not able to keep his usual Sunday morning schedule recently because his next door neighbour was erecting a galvanised iron fence and the QRM was of good strength and quality. Not the MMMaster PPlumber, Hurtle?

5KO has not been heard or seen by anybody but there is some excuse for Alec because he has been very busy at his new occupation and also at his new QTH. 5KW finally got round to showing up on 7 Mc. the other Sunday lunch-time, but has been somewhat in hiding for the rest of the month. The family Citroen now has an Austin engine reposing under the bonnet and is now known as the "Citroen-Austin-Vonthehoff special." Its frequency is dubious, but it has an audible noise response at twenty miles an hour. Nice work Harry.

5TL has little to report on his personal activities on the air apart from a contact with Charlie 5ON who informed Tom that he proposes a trip to Berril in the near future and will be able to attend the June meeting of the boys, which incidentally will be held at the QTH of 5XW. A visitor to the Upper Murray areas was Jack 5MR, from Stirling West, who called in on Tom and said that he would be back for a chat. Nothing has been seen of him since and Tom was wondering if he had fallen in the river, or got lost in the bush. Hurtle 5RE, as the local Coroner, reports that as yet no bodies or parts thereof are to hand.

During my holidays away in various parts of the country, I was approached by a Ham who shall remain nameless, for obvious reasons, who said that he knew that I came from the b.b.s.s. and he wondered if I was interested in auditioning an unusual act for the radio. To humour him I consented to look at the act which was a dog who played the piano and a pigeon that sang songs. Well, believe it or not, I actually heard the dog play and the pigeon sing, and without hesitation signed the act up for the b.b.s.s. at a good fee. After signing the contract, the Ham said to me that he was feeling a bit of a heel in having me on, because the act was a fake. This staggered me a bit because I had actually seen them perform, and it looked dinkum to me, so I said to the Ham, "Fake, what do you mean?" "Well, Pansy," he said, "the pigeon doesn't really sing, the dog is a ventriloquist!!!"

Homecrafts

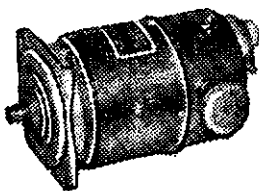
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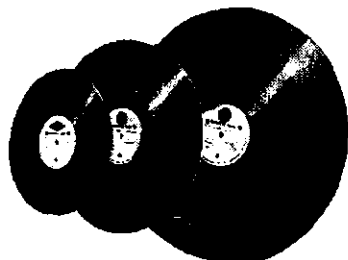


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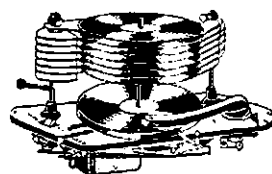
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All Amateurs are urged to keep these frequencies clear during, and for a period of 15 minutes after, the official Broadcasts.

VK2WI: Sundays, 1100 hours EST, 7146 Kc. and 2000 hours EST 50 and 144 Mc. No frequency checks available from VK2WI. Intrastate working frequency, 7125 Kc.

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VK7WI: Sundays, at 1000 hours EST, on 7146 Kc. and 146.5 Mc. No frequency checks are available.

Published by the Wireless Institute of Australia.

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EDITORIAL



THE SACRED FLAME

Each passing year brings its sorrows as the Great Reaper takes His harvest from amongst our friends, many also victims of World War II., leaving us only "silent keys" and cherished memories. Their names are not engraved on the Remembrance Day Trophy, but we will have them in our hearts when we call "CQ R.D. Contest" this August.

Throughout the ages great philosophers have symbolised the flame as a purifier, a purger of dross and uncleanness, the "Flame of Life," "Light of the World," to the Greeks, the "Torch of Life," a gift from the Gods on Mt. Olympia to mortal man; to "Toc-H" Brethren, a light to keep alive in the hearts of men, to strive more nobly in service to the living.

By participating in the R.D. Contest we make our annual pilgrimage

to the Shrine of Remembrance wherein the tiny flame, a symbol of eternal life, burns with a pure unending light; for our lives do not end with death; they stream on, not merely in our offspring but more importantly in the influence they have had on the rest of life, our families, friends, acquaintances and casual contacts.

To we who remember, then, let us strive to enter this year's Contest with the "Flame of Remembrance" in our hearts, to contest with each other as in Grecian Olympia; but let it be a contest to perpetuate the ideals of give and take, unselfishness and love for which they gave their lives in sacrifice.

*"By your acts of grace,
So shall they live."*

PRESIDENT S.A. DIVISION.

THE CONTENTS

The Complete Amateur — The Receiver	2	Short Wave Listeners' Group	8
"Sure Fire" Crystal Oscillator-Multiplier	5	Prediction Charts for August and September	8
Tube Type Designation Systems ..	6	Amateur Call Signs	9
Remembrance Day Contest—Variation of Awards	7	DX Activity by VK3AHH	10
A New Modulator for the Type 3 Long Wire Antenna	8	Fifty Megacycles and Above	12
		Federal, QSL, and Divisional Notes	15

THE COMPLETE AMATEUR

PART TWO

BY TOM ATHEY,* A.I.R.E. (Aust.)

SECTION ONE

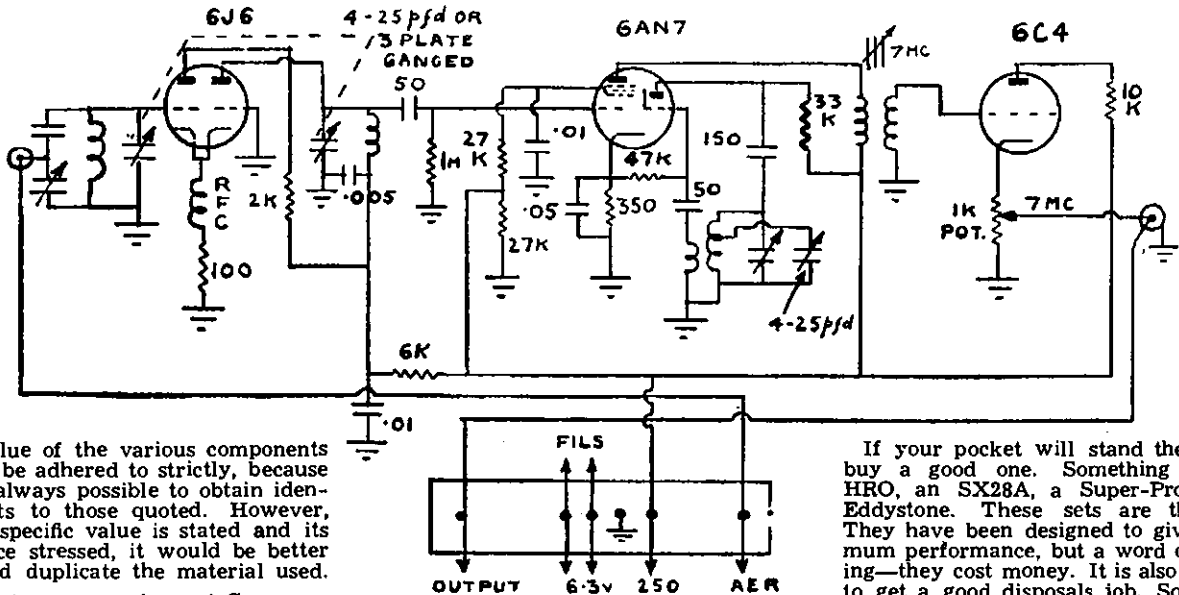
The Receiver

It is a well known fact that it is no use calling over and over your call sign if you can't hear a reply. Very often it is conditions that cause you not to get a reply, but not always. Very often it is your receiver that is responsible; it just has not got what it takes to get results. Therefore it is essential that you get a good receiver.

In the nine sections of Part 1, the author dealt with the building of a band-switched transmitter, using normal theory. There was nothing included in its make-up that was out of the ordinary run of transmitters used by the fraternity. All that the writer tried to convey to the newcomer is that when he starts building his rig, to try and make it as neat as possible. The circuitry was made as simple as possible so that very little skill would be needed—just to be able to read a schematic and use everyday tools.

Since "Amateur Radio" has commenced to publish these articles, the writer has received letters from VK2, VK5 and VK6 asking him to continue the series and include (1) a good receiver, (2) a frequency meter, (3) notes on monitoring, and general tuning up.

So here is the answer to those enquiries. There will be five sections to Part 2, thus making 14 sections in all and giving, it is hoped, the newcomer to Amateur Radio a complete set-up of an Amateur Radio Station with details of how to start to build it. As stated



The value of the various components need not be adhered to strictly, because it is not always possible to obtain identical parts to those quoted. However, where a specific value is stated and its importance stressed, it would be better to try and duplicate the material used.

In country areas where A.C. power is not readily available, the use of genemotors can be substituted. Also valves can be replaced by a similar type, but drawing less current. For instance, use 6AM5s for the 6AG7s, 6V6s for 6L6s in the modulator, and use only one 807 in the final. This way your drain can be kept to a minimum. Yet you can obtain an input to the plate of the final of 50 watts quite easily.

before, it will be known as "The Complete Amateur." The five sections will comprise:—

- Receiver using converters for each band.
- Frequency meter with crystal calibrator.
- Modulation monitor using a simple 'scope.
- Audio oscillator, Wein bridge type, 50-3000 cycles.
- Sundry tables on beam construction.

If your pocket will stand the strain, buy a good one. Something like an HRO, an SX28A, a Super-Pro, or an Eddystone. These sets are the tops. They have been designed to give maximum performance, but a word of warning—they cost money. It is also possible to get a good disposals job. Something like a BC348. This is a fine receiver, but can be improved if you convert it to double conversion (see the 13th edition of the "Radio Handbook" for details).

Still, the writer does not think that all Amateur requirements are fully handled by these commercial jobs. Either they do not cover all bands or they do not give enough bandspread over the Amateur bands. So it is with this thought in view that the author decided to try and incorporate into this receiver everything that a Ham requires:

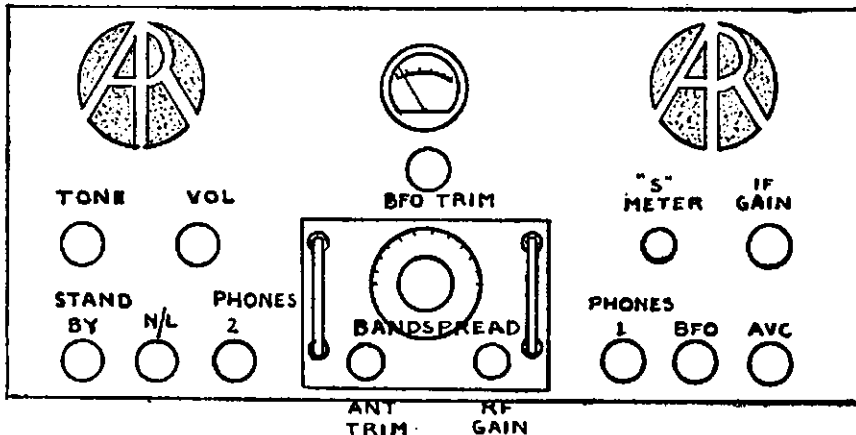
1. Ease of tuning.
2. 180 degrees of bandspread on every band.
3. Double conversion (really triple).
4. AVC, BFO, noise limiter, S meter, two phone jacks, speaker output.
5. An "S9-er" input and a "Q5-er" output included.

The set is actually made up in two units, viz.: A converter (one for each band) and a sensitive, selective i.f. channel.

First we will discuss the converters.

As you can see, this converter comprises a three-valve set-up. Converters can be from one valve upwards, but this set-up has been selected as the best for general coverage. It consists of a cathode-coupled grounded grid r.f. amplifier, followed by a conventional

* Ex-Instructor Q'land Division W.I.A. Classes; 41 Mountford St., New Farm, Brisbane.



conversion stage, converting the r.f. to approximately 7 Mc. This is then fed to the output terminal by a cathode follower. This method was chosen to allow a low-impedance output to the next unit. An aerial matching device is included to compensate for aerial differences.

DETAILED DESCRIPTION OF CONVERTER

The converter is built up on a chassis measuring approximately 4½" wide by 6" deep (front to back) and 3" high. Five terminal pins protrude from the rear of the chassis and engage five sockets mounted on the i.f. channel chassis (see sketch of i.f. chassis). These pins are for picking up the h.t. and l.t. supply. The fifth pin is for the aerial input.

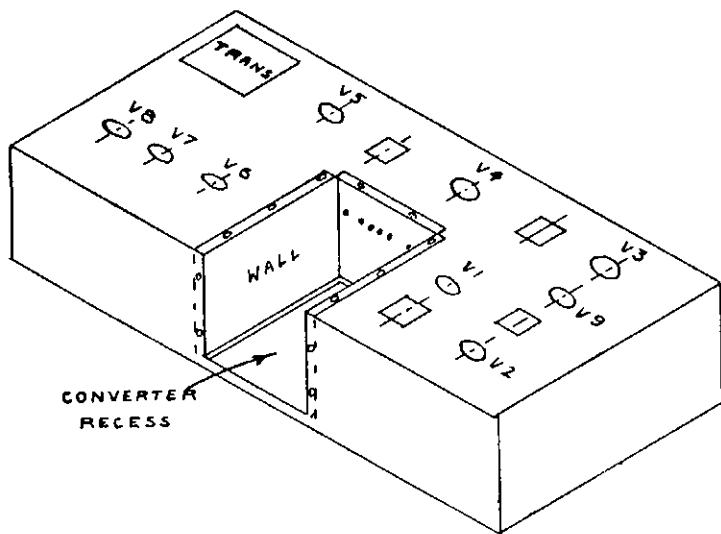
As an afterthought, it may be just as well to make the pins number six, as

similar coil as in the grid circuit and trimming it the same way. The grid is earthed, thus successfully acting as a shield between the plate and input circuit and so avoiding the necessity to neutralise this stage.

This input circuit has well known properties of being able to reduce input noise to a minimum at the same time giving r.f. gain. Hence my term an "S9-er" input. Values shown may be varied, but in the main should be adhered to if possible.

The output from the r.f. amplifier is fed to a conventional 6AN7 converter tube. This tube was selected because of its ability to readily oscillate up to 100 Mc. (claimed by the manufacturer) and as these converters may be built to use the bands up to 144 Mc., it may be just as well to standardise as to type of valve to use. Then if one passes out, you can always grab one from another converter, if you have not any spares.

Converters of this type can be made up as you require them. If you are a one-band man, you will of course only need one converter. But the time will come when you will want to try other bands, so instead of scrapping the existing job, all you have to do is to build up another converter, even whilst you are using the old one. The ultimate is, of course, one for each band—80, 40, 20, 15, 10, 6 and 2 metres—seven in all. The one i.f. channel will work them all and give you good results. Take pains in your work. A crackle finished panel looks good and very professional. If you have any difficulty in getting the panel crackled, try your local type-writer man and get him to do the job. The writer did and it did not cost very much. So much for the converter.



a positive earth between the converter and the i.f. chassis is a must.

The panel is made to overlap the chassis on both sides by half an inch and the height will be approximately 6". In making the chassis, bend ½" in at the bottom edge to allow for runners for the converter to slide on. On checking the pins over, you will find that one pin is over. This one is for the converter output. (See pins marked on schematic diagram of converter.)

Taking the circuit in detail, commencing at the aerial terminal or input. The aerial is fed at the junction of two condensers, one fixed and one variable. One end of this condenser network is earthed (the variable) and the other end goes to the r.f. coil. This coil can be either of the slugged type, or you can use the type made for a five-band coil kit. This coil is trimmed with a small capacitance so that you can peak up the output.

The r.f. coil in turn goes to the grid of the 6J6 valve. The output of this valve is cathode coupled to the next stage by a common cathode (common to both triodes). In the second portion of the valve (triode No. 2), output is taken from the plate circuit using a


The oscillator bandset condenser is screwdriver set to the band edge with the bandspread condenser fully in. Thus by opening the bandspread condenser out you can find out how much spread is needed and adjust the tap accordingly.


These converters use oscillator variation for band coverage and prove quite stable and satisfactory. The oscillator circuit used is one recommended by the manufacturer, but if you prefer another type of circuit, use it by all means.

The output of the converter valve is fed into an i.f. transformer having a frequency of approximately 7 Mc. There has been no special reason that 7 Mc. is the best frequency to use. You could use 10.7 or 3 Mc. if you wish, but whatever you do use, make sure that the i.f. channel will accept it.

The i.f. signal is fed to the 6C4 triode grid and the output is taken from the cathode of that valve.

The rest of the wiring is very straight forward and should present no difficulty to the builder. Note: Avoid long grid leads. Make good clean soldered joints, and see that the chassis is a good fit in the i.f. channel recess and that pins line-up exactly with the sockets.





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"Sure Fire" Crystal Oscillator-Multiplier

BY J. V. HUTCHISON,* VK2JH

THE purpose of this article is to re-introduce an apparently little used "sure fire" crystal oscillator-multiplier circuit. After experimenting to some extent with this circuit, the writer came to the conclusion that it left the well known "third overtone regenerative" type of oscillator in the shade.

ADVANTAGES

Its main advantages over the latter are:—

- Any type of crystal capable of oscillating at all, will definitely "start" and keep going.
- For the same tubes and plate voltages, more output will be realised.
- Much more reliable for use in mobile equipment.
- The first multiplier section is capable of delivering more output on all harmonics, even up to the fifth harmonic of the crystal.

A capacitor, marked C3 in Fig. 1, couples the third harmonic voltage to the other triode section where it is tripled by a resonant plate circuit tuned to the ninth harmonic of the crystal. The latter is then coupled, via an r.f. transformer, to the cathode of a receiver mixer stage (i.e. cathode injection) which is preceded by a broad band r.f. stage resonated to the middle of the 50 Mc. band.

The 12 Mc. transformer from the mixer plate to the co-axial line is one of the four slug-tuned coils which were originally the crystal oscillator plate inductors used in the 522 transceiver. Two turns of insulated hook-up wire are wound over the cold end of the inductor and connected to the output co-ax socket.

The communications receiver, in this case, tunes from 10 to 14 Mc. in order to cover the 50-54 Mc. range.

However, our immediate concern is with regard to the possible application of the oscillator-multiplier circuit to transmitters, v.h.f. in particular.

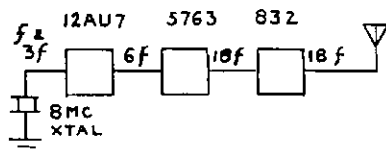


Fig. 3.

V.H.F. TRANSMITTERS

There appears to be a rather wide choice of tubes for this application, although some were found to deliver more output than others.

Two of the best types were found to be the 12AT7 and 12AU7. An RL16 gave excellent results as oscillator and 1st tripler also, but even the older types such as the 6N7 proved to be quite satisfactory.

A typical example of tube line-up for that 144 Mc. mobile rig would be as shown in Fig. 3.

Fig. 4 shows the correct circuit for the 12AU7 used as a crystal multiplier. If type 12AT7 is preferred, the inductance values should be increased slightly, in order to allow for the latter tube's different interelectrode characteristics.

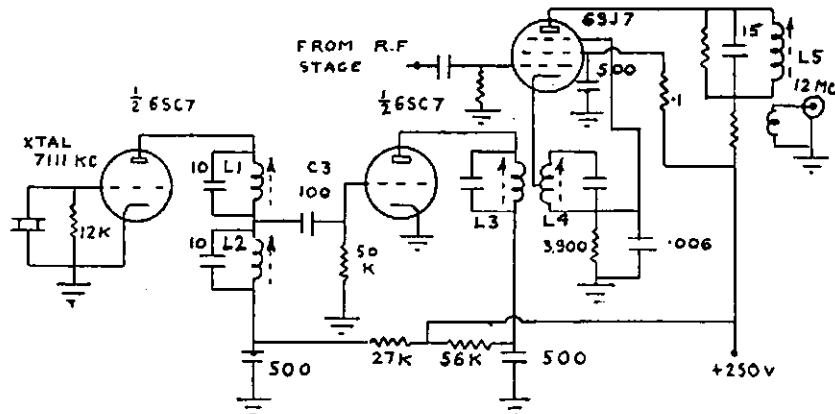


Fig. 1.

V.H.F. CRYSTAL CONTROLLED CONVERTERS

In an original version of the circuit, a 6SC7 dual triode served both as an oscillator, controlled by a 7,111 Kc. crystal and as a frequency multiplier as shown in Fig. 1.

The plate load of the oscillator section is two parallel resonant circuits in series, one tuned to the frequency of the crystal and the other to its third harmonic.

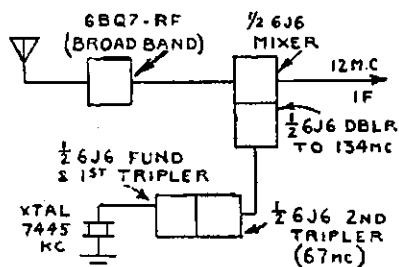


Fig. 2.

The above version could well be applied as a basis for the design of a crystal controlled converter for the 144 Mc. band.

A suggested line-up of tubes is given in Fig. 2. Other arrangements, with regard to tubes and receiver i.f. frequencies will suggest themselves to the reader.

AMATEUR BANDS AVAILABLE

*1.84— 1.86 Mc.	†288— 296 Mc.
3.5 — 3.8 "	†576— 585 "
7 — 7.15 "	1,215— 1,300 "
14 — 14.35 "	2,300— 2,450 "
21 — 21.45 "	5,650— 5,850 "
26.96— 27.23 "	10,000—10,500 "
28 — 30 "	†21,000—22,000 "
50 — 54 "	†30,000 Mc. and
144 —148 "	Above.

* Available for emergency network purposes only. Normal Amateur activities are not permitted in this band.

† Temporary allocations.

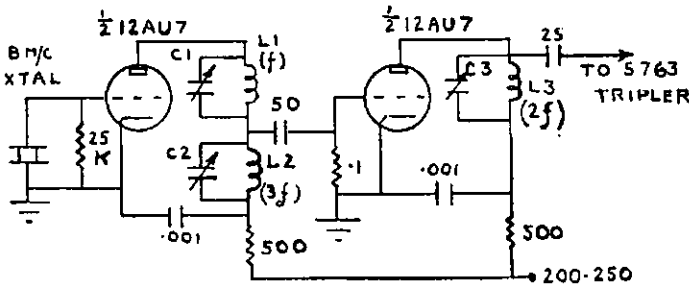


Fig. 4.

C1—60 pF. variable.
C2—25 pF. variable.
C3—25 pF. variable.
L1—32 turns No. 22 enamel, close wound on 1/2 inch former.

L2—12 turns No. 20 tinned copper, 1/2 inch diameter spaced to 1/4 inch.
L3—0 turns No. 20 tinned copper, 1/2 inch diameter, spaced to 1 inch.

TUBE TYPE DESIGNATION SYSTEMS*

Exceptions Prove the Rules in Numbering Radio Tubes

If, as the saying goes, "an exception proves the rule," then the rules governing the designation of radio tubes by numbers and letters are exceptionally well proved. For electronic tube numbers are like French verbs—more exceptions than rules. However, believe it or not, there is a system—several of them, in fact—and on occasion it helps to know what the various number and number-letter combinations mean.

Three standard systems now are recognized and used by most tube manufacturers. These are: (1) A receiving type system, (2) a cathode-ray system, and (3) an industrial and transmitting type system. These have been established as standard by a joint committee of two associations of manufacturers—the Radio, Electronics and Television Manufacturers' Association (RETMA) and the National Electrical Manufacturers' Association (NEMA).

Unfortunately, many tube types pre-date the systems now being used, and as a result we have several hundred cases in currently used tubes where the numbers do not follow the aforementioned systems. Also, some manufacturers still use numbering systems of their own instead of conforming to the voluntary standards set up by the joint committee mentioned above.

A brief review of the current numbering systems and some of those used in the past may help Amateurs who, when they browse through a tube manual, get the feeling they are wandering about in an unexplored jungle.

RECEIVING TUBE TYPES

Back in the 1920s, each manufacturer numbered or otherwise named his tubes as he saw fit and things very soon got very messy. The replacement problem was headed toward becoming unsurmountable, and so in 1933 the industry adopted the first voluntary standard numbering system—which although it has been since modified several times—still is used today for receiving tubes. This system calls for a number, a letter, and another number. An example, is our old friend, the 6L6.

The first number symbol determines the filament voltage within a certain range, to wit:

Rated Filament or Heater Voltage	Symbol
Zero	0
In excess of 0 and up to and including 1.6	1
In excess of 1.6 and up to and including 2.6	2
In excess of 2.6 and up to and including 3.6	3
In excess of 3.6 and up to and including 4.6	4
In excess of n—0.4 and up to and including n+0.6 where n is any integer	n

The letter or letters in the middle are merely serial designations—with two letters being used when manufacturers ran out of single letters. Today the letters I, O and P are never used—and also, double combinations such as "AA" are never used.

The final symbol in this system consists of one or more digits which indicate the number of useful elements for which terminals are provided. This includes separate internal shield and shell connections. A few spot checks with the standard base diagrams (which are used in the A.R.R.L. Handbook and G.E.'s tube manuals) will show how this final symbol works out.

Often a suffix is used in this receiving type system. These, and their meanings, are: G—glass with octal base; GT—same except with a 1 and 1/8-inch diameter tubular bulb (known as T-9 size); M—metal-coated glass with octal base; X—low-loss base; Y—intermediate-loss base; and W—military type tube. A second suffix—which may be A, B or C and so on—means a superseding version of the same type which, according to the rules of the game, can be plugged into the same socket and should give as good or better performance.

That is the currently accepted receiving tube type designation system. But there are many exceptions. Numbers like 41, 80 and 12A carry over from previous years. We find another type of exception in the so-called "loctal" tubes whose designations all begin with a "7"—such as the 7C5. Obviously this plan does not conform to the filament voltage code above. Other exceptions have come about because the original purpose of certain tubes was not for "receiving." That is, some tubes often are used now for receiving purposes, but were originally designed, and numbered, in accordance with some other system. Samples of this type of exception are the 9002 and quite a few tubes in the 5500 series.

CATHODE-RAY TUBES

Being the baby of the family, the cathode-ray tube had a system slapped on it before it was hardly dry behind the filaments. As it now stands, this system calls for a number symbol which tells the maximum diameter of diagonal of the face in inches, a letter which is merely a serial assignment, and a letter-number symbol which designates the type of phosphor used. For example, the 16RP4 has a diagonal of 16 inches and P4 phosphor coating inside the face. However, there are a few exceptions—like the 905, 908, 1803 and so on.

TRANSMITTING TUBES

Under the inglorious heading of "tubes and devices exclusive of receiving and cathode-ray tubes" Amateurs will find their favorite transmitting "bottles" labelled with various and sundry letters and numbers which mean little, if anything.

The numbering of transmitting tubes was not standardised until 1942. Thus many tubes still being manufactured carry numbers and/or letters originally assigned under systems started by different manufacturers. For instance, the famous 807 and its brothers and sisters in the 800-series are carry-overs from private pre-war numbering systems. So are tubes in the 200- and 400-series.

In 1942 a standard number-letter-number system for transmitting and special purpose tubes was adopted—a plan which lasted only four years. However, a great many tubes still popular with Hams were assigned numbers under this system. Samples are the "Lighthouse" series like the 2C40 et al, the 4D32, 2E26 and others. Under this system, the first number symbol was assigned to indicate power rating of the heater or filament as follows:

Filament or Heater Power	Symbol
Zero	1
In excess of 0 watts and up to and including 10 watts	2
In excess of 10 watts and up to and including 20 watts	3
In excess of 20 watts and up to and including 50 watts	4
In excess of 50 watts and up to and including 100 watts	5
In excess of 100 watts and up to and including 200 watts	6
In excess of 200 watts and up to and including 500 watts	7
In excess of 500 watts and up to and including 1000 watts	8
In excess of 1000 watts	9

Next, a letter symbol indicated the structure and/or function of the device in accordance with the following schedule:

Type	Symbol
Monode	A
Diode	B
Triode	C
Tetrode	D
Pentode	E
Hexode	F
Heptode	G
Octode	H
Vacuum capacitors	L
Crystal diodes and rectifiers	N
Photo-emissive devices, etc.	P
Mercury types	R
Vacuum contactor-type switches	S

* Reprinted from G.E. "Ham News," Vol. 8, No. 6, Nov.-Dec., 1953.

Finally, a number symbol constituted a serial designation, and these serial numbers started with 21 to avoid conflict with the receiving type designations.

In 1946 this system was scrapped in favour of a pure numerical serial system starting with 5500—the system which is in effect today. Thus many of the newer tubes used by Amateurs are appearing with numbers in the 5500's and 6000's. Of course, as this "5500 system"—as it is often called—officially includes special purpose devices, Hams will find a great many industrial tubes mixed in with the newer transmitting types of interest in Ham operations.

Neither of the two systems outlined—nor any of the private numbering systems—was made retroactive. Thus some tubes now bear complex numbers relating to more than one system. This gets a little bulky, but does tell the story. Witness the GL-4D21/4-125A. Here the "GL" denotes a General Electric Company tube and the "4D21" and the "4-125A" explain how the tube has been listed under two different numbering systems.

GERMANIUM PRODUCTS

Under the long-hair title "solid state devices" we find one very old friend of the Amateur—the crystal diode—and one very new friend—the transistor. While at this writing the numbering system for such devices has not been officially promulgated by the joint designation committee of RETMA and NEMA, there is a system in use—a system which stems from the 1942-1946 transmitting tube system outlined above.

When crystal diodes began to be numbered—such as the 1N51 et al—the first symbol (the number "1") was in accordance with the 1942-1946 code and indicated zero power filament or heater. The second symbol, the "N," indicated a crystal device. The last number was merely a serial designation.

Then the transistor came along and began to carry numbers beginning with "2N—" (G-E junction-type transistors, for instance, are designated 2N43, 2N44, and 2N45).

Some manufacturers now want to code "solid state devices" by a system which in effect would pick up the pieces of several broken-down systems. They feel that it should go like this: The first number symbol would indicate the number of elements minus one—thus a 1N51 is a diode, a 2N45 a triode and so on; the "N" would indicate a "solid state device"; and the last number would be a serial designation. However, such a coding system has not been officially adopted. ★ ★

As long as this is a free country, no manufacturer ever will be bound to adhere to a standard tube numbering system. He can call his tubes anything he likes.

However, most manufacturers today do their best to ease the replacement problem by going along with the decisions of the majority on a voluntary basis.

This question sometimes arises: Just who decides precisely what number shall be assigned to a particular tube type under any of the currently-effective designation systems?

The answer is that RETMA registers all tubes upon request of manufacturers, assigning the next open number in the system in question.

★ ★

Now on the basis of the above rules and exceptions could you make up your mind whether or not to use, say an 862A in your next rig? Chances are you can't—and the chances are, further, that you won't bother to try when you find out that although this bottle has a 200-gallon input rating (and should run cool on the Ham bands!), it lists at \$1322.00.

REMEMBRANCE DAY CONTEST VARIATION OF AWARDS

Following a motion to Federal Council and consultation with the Federal Contest Committee, the following variation of awards under Rule 17 will operate in the coming Remembrance Day Contest.

Instead of the three awards being given to first, second and third, in each State, these three awards will be given to the winners of the Phone, C.W. and Open Sections respectively.

It is felt that c.w. operators are at a disadvantage compared to those working phone or both phone and c.w. as they are so much in the minority and the change will encourage c.w. operators who would otherwise have little chance of gaining a certificate.

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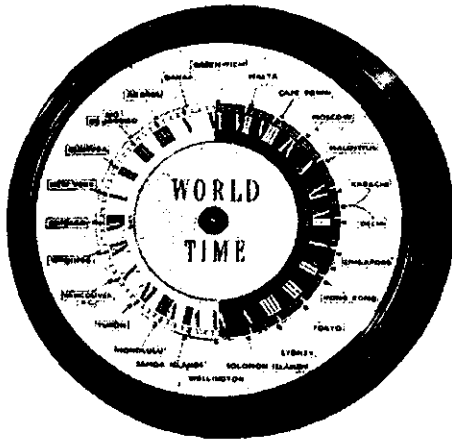
To set the time the knob is turned in an anti-clockwise direction until the time of the day or night is indicated on the disc, by means of the arrow adjacent to the place name required.

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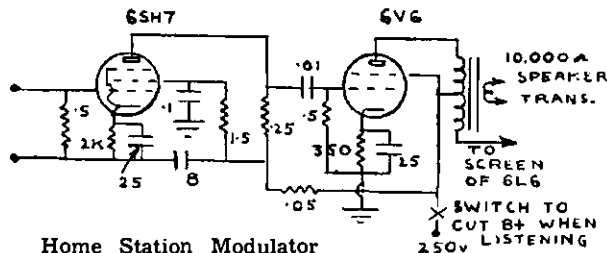
A NEW MODULATOR FOR THE TYPE 3

BY E. A. BARBIER,* VK5MD

HAVING tried various Modulators for the Type 3 and never being very satisfied with the results obtained, the author was talking to his old friend, Bob Manuel, VK5RT, who suggested straight out screen modulation, pointing out at the same time that this system was successfully used by cars of the Electricity Trust in S.A.

A modulator was quickly built up using a 6SH7 into a 6V6 with a centre tap 10,000 ohm speaker transformer as the modulation transformer. Results were excellent and the fact that one could modulate the 30-watt carrier was very pleasing to the writer.

No other power supply was used, the drain of the modulator and the trans-



Home Station Modulator

The original suggestion was single choke Heising, which, instead of modulating the plate as in the old days, modulated the screen of the 6L6 in the final. This involved a resistor to drop the screen to 125 volts and a capacity in parallel to pass the audio. Here we came back to one of the drawbacks, that the unmodulated carrier was only half that of the full input.

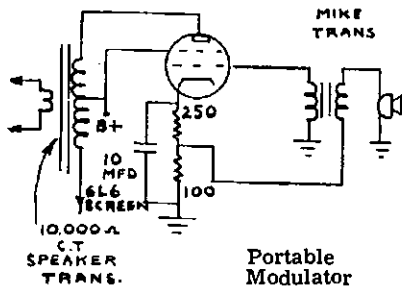
Browsing through a contemporary magazine by VK2JU, the author noticed a modulator using a 6V6 with centre tap choke modulator for modulating the plates of two 7193s. Why not use this system for modulating the screen of the 6L6?

*C/o. H.M. Gaol, Adelaide, South Australia.

mitter measured 91 Ma., which the experts assure is well within the limits of the Selenium rectifiers.

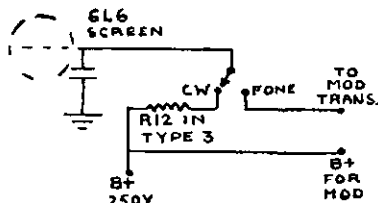
Herewith are the two circuits, one for portable work with a carbon mike and the other for home-station use using a crystal microphone.

The only adjustment needed to the rig is to tune up the transmitter in the c.w. position to maximum output as measured by r.f. meter lamp or what have you, then switch to the phone position, tighten the coupling until modulation causes an upward swing in the r.f. meter, lamp, etc., and a slight kick on the plate meter.



Portable Modulator

The switching system for the screen was that used in the series screen modulator described some years back and in case you have forgotten, it is given here:—



As a modulator for the newcomer, the author cannot think of anything simpler, and certainly much cheaper than buying an expensive plate modulation transformer, providing the new Ham has 250-300 volt supply for crystal and v.f.o., doubler stage and a larger supply for the final. VK5MR is using this scheme to modulate 80 watts to his final 807.

LONG WIRE ANTENNA

The editor asked a question the other day that reminded me of something perhaps a lot of Hams don't realise. You see, he recently moved to a spot where for the first time in his life he didn't have to bend the ends of a half wave 80 metre antenna. The switch apparently has awed him and he asked if we thought it would be worthwhile putting up a long wire on 80 metres.

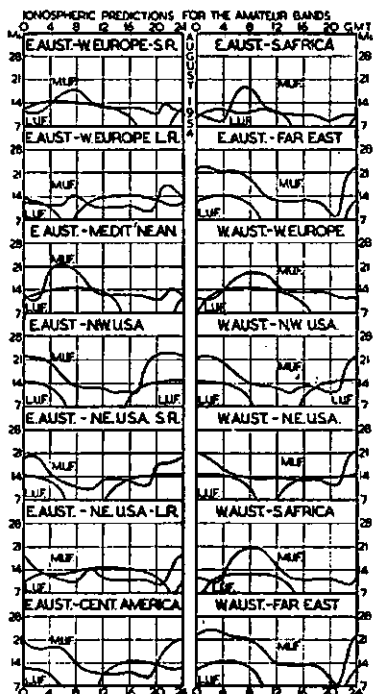
It seems his property is long but narrow. We were forced to advise him that unless he particularly wanted gain in that long direction (which he didn't) he ought not to go to any great pains to put up a long wire. And the reason is that a long wire gives you more losses than gains. In other words, relatively speaking, the nulls—broadside—of a long wire probably do more damage in general coverage work than the gain off the end does good. He's still wondering what to put up—and we didn't have the heart to suggest that probably his best bet would be a vertical (which he could have put up on any old lot).

—“Lighthouse Harry.”

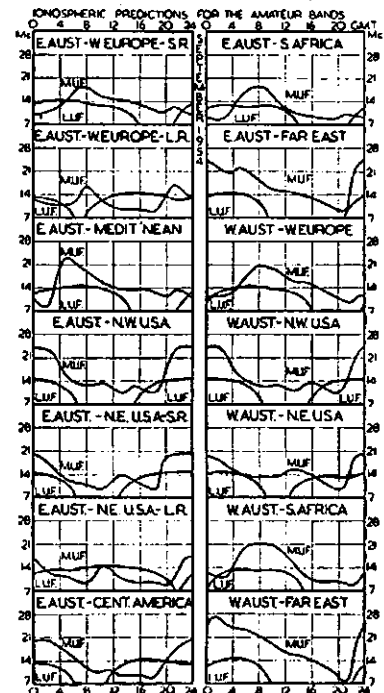
SHORT WAVE LISTENERS' GROUP

All persons interested in the formation of a Short Wave Listeners' Group within the Victorian Division of the Institute are invited to attend a meeting to be held in the rooms, 191 Queen St., Melbourne, on Tuesday, 31st August, at 8 p.m.

PREDICTION CHART FOR AUG., 1954



PREDICTION CHART FOR SEPT., 1954



AMATEUR CALL SIGNS

FOR MONTH OF JUNE, 1954

ADDITIONS

VK—New South Wales
 2JM—G. E. Meaton, 67 Duff St., Broken Hill South.
 2OZ—G. McLeod, 82 Stoney Creek Rd., Beverly Hills.
 2PP—F. W. Twemlow, Station: Gordon Rd., Moorebank; Postal: 64 Princess St., Brighton-le-Sands.
 2VS—V. V. Petruchenia, 16 Glendale Rd., Turramurra.
 2AAD—R. Hodgins, Ross St., Glenbrook, Blue Mountains.
 2AAT—J. L. Hazelwood, Ridge Rd., Oakdale, via Camden.
 2ADD—D. L. Dowling, Wattle St., Sawtell.
 2AET—A. Havyatt, 23 Archbold Rd., Roseville.
 2AXU—A. G. Weynton, Cr. Elizabeth & Stanley Sts., Albury.
 2ZAA—R. K. Dodd, 41 Richmond St., Tumut.
 2ZAM—H. F. McTeigue, 65 Clanalpine St., Mosman.
 2ZAW—G. D. Wheaton, 738 Anzac Pde., Kingsford.
 Victoria
 3ER—E. V. Read, 41 Charteris Drive, Ivanhoe East, N.21.
 3NR—N. G. Roberts, 7 Orford Ave., Kew, E.4.
 3AGM—G. C. Muller, Roberts Rd., Belmont.
 3AHP—B. D. Pronger, 5 Richmond St., Croydon.
 3ZAA—G. S. Sutherland, 92 Fawkner St., Essendon, W.5.
 3ZAB—S. G. Baxter, 10 Chenhall Cres., Traralgon.
 3ZAC—W. L. Ritis, 163 Derby St., Kew.
 3ZAE—R. J. Elliott, 112 Bruce St., West Coburg, N.13.
 3ZAN—R. Neal, 11 Xavier St., Nth. Essendon.
 3ZAR—N. M. Robb, 8 Kent Rd., Box Hill, E.11.
 3ZAW—H. J. Williams, 71 Shorts Rd., Merlynston.
 Queensland
 4PM—C. W. Meech, R.A.A.F. Station, Amberley.
 4ZAA—F. J. Pettiford, 7 Fraser St., Sandgate, N.E.7.
 4ZAB—C. T. Amooore, 46 Holland St., Northgate.
 4ZAC—B. M. Byrne, 91 Main Ave., Rainworth, W.4.
 South Australia
 5FK—R. C. Fawkes, Beare Ave., Marleston.
 51C—P. R. Crosthwaite, 216 Prospect Rd., Prospect.

5JV—J. Vidale, 21 Haig St., Netherby.
 5UF—R. Fenwick, Station: Royal Flats, Mildred St., Port Augusta; Postal: C/o. 5AU Broadcasting Co. Ltd., Box 247, Port Augusta.
 5UW—K. E. Wilson, Station: Station 5AU Residence, Anstey St., Port Augusta; Postal: C/o. 5AU Broadcasting Co. Ltd., Box 247, Port Augusta.
 5ZAA—I. B. Wall, 38 Chatsworth Gr., Toorak Gardens.
 5ZAM—R. D. Martin, House No. 20, Radium Hill.
 5ZAW—C. G. White, 3 Derwent St., Cumberland Park.
 Western Australia
 6MN—D. A. McNaught, 98 Hobbs Ave., Collier, via Como.
 6ZAA—W. J. Howse, 53 Ellen St., Fremantle.
 6ZAZ—C. G. Andrews, 47 Canterbury Ter., East Victoria Park.
 Territories
 1GA—G. L. Abbs, Macquarie Island.

ALTERATIONS

VK—New South Wales
 2AN—8 Joycelyn Avenue, Chester Hill.
 2BX—64 Princes Street, Brighton-Le-Sands.
 2GO—Flat 8, 57 O'Sullivan Road, Rose Bay.
 2LL—C/o. O.T.C. Receiving Station, Bringley.
 2MZ—"Tree Tops" Bridge Road, Blaxland.
 2WI—Station: 271 Castlereagh St., Sydney; Postal: G.P.O., Box 1734, Sydney.
 2ADQ—Lot 8, Lascelles Road, Narraweenaa.
 2AGQ—5 Providence Road, Ryde.
 2AHK—C/o. Richmond District Fishermen's Co-op. Ltd., River Street, Ballina.
 2AJX—"Sylvandale," Princes St., Newport.
 2ALF—Station: 14 Station St., Mullumbimby; Postal: Intermediate High School, Mullumbimby.
 2ALK—Flat 2, 45 George Street, Marrickville.
 2AOM—Flat 2, 29 Hughes Street, Elizabeth Bay.
 2AOQ—99 Grafton Street, Bondi Junction.
 2AQJ—No. 38(T) Squadron, R.A.A.F., Canberra.
 2ATI—Newcastle—Technical College, Wood St., Hamilton, 2N.
 2AUP—99 Quigg Street, Lakemba.
 2AVG—Station: 178 Golf Links Ave., Urunga; Postal: C/o. P.O. Bellingen.
 2AYJ—Station: 75 Essex Street, Epping; Postal: C/o. Brolite Pty. Ltd., Cr. Ralph and Shirley Streets, Alexandria.
 Victoria
 3UF—Portable; C/o. Chief Signals Officer, H.Q. Southern Command, Melbourne.
 3ABX—9 Cunningham Street, Benalla.

3ACE—Station: Morrison Street, Birchlip; Postal: Cumming Avenue, Birchlip.
 3AFE—1215 Howitt Street, Wendouree, Ballarat.
 3AJS—643 Hampton Street, Brighton, S.5.
 3ARS—Falls Road, Trentham, Queensland
 4RF—21 Bovelles Street, Camp Hill, S.E.6.
 4RS—Station: Main Street, Proserpine; Postal: G.P.O., Box 129, Proserpine.
 4TY—State School, Wallangarra, South Australia
 5DH—129 Second Avenue, Royston Park.
 5RZ—C/o. Station 5AU, Port Augusta.
 5TV—18 Hanson Avenue, Heathpool.
 Western Australia
 6CD—37 River View Ter., Mt. Pleasant, Perth.
 6CK—C/o. Dept. of Civil Aviation, Wyndham.
 6FE—25 Heytesbury Road, Subiaco.
 Tasmania
 7DM—Station: C/o. D. M. Richardson, Stowport; Postal: C/o. J. R. Smith, 31 Hopkinson Street, South Burnie.
 7RC—Station: Cambridge Airport; Postal: C/o. D.C.A., G.P.O., Box 541F, Hobart.
 Territories
 9AB—Station: 3 Mile, Rouna Road, Port Moresby; Postal: P.O. Box 38, Port Moresby.
 9GB—C/o. O.T.C. Radio Station, Lae.
 9KT—The Residency, Rabaul.

DELETIONS

FOR MONTH OF MAY, 1954
 New South Wales: VKs 2CZ, 2TO, 2AIIH.
 Victoria: VKs 3ED, 3GB, 3LQ, 3PZ, 3UQ, 3VG (now operating under VK9VG), 3XS, 3AOL (now operating under VK7BL), 3AYD, 3AYR.
 Queensland: VKs 4TX, 4XD (now operating under VK2ND).
 South Australia: VKs 5BF, 5EH, 5KS, 5OD, 5QM.
 Western Australia: VKs 6NR, 6NY.
 Tasmania: VK7GC (now operating under VK4IC).
 FOR MONTH OF JUNE, 1954
 New South Wales: VKs 2ANY, 2ATJ.
 Victoria: VKs 3BY, 3DT (now operating under 2VS), 3XU (now operating under 2AXU), 3AIC (now operating under 51C), 3AMG (now operating under 4PM), 3ATD (now operating under 2AAD), 3ATE.
 Queensland: VKs 4DP (now operating under 3AHP), 4HU.
 South Australia: VK5JE.
 Territories: VKs 9FK (now operating under 5FK), 9GM (now operating under 2JM), 1SK.

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DX ACTIVITY BY VK3AHH†

DX HIGHLIGHTS

ZD7B is ZS8CW and intends to be active for some time on 14 Mc. c.w.

FP8AA's operation (on 7 Mc.) was scheduled for July (from 3XB).

An Argentine Himalaya Expedition (Zone 22) is represented by LUOMA (from BERS195).

During the present excellent 3.5 Mc. DX opening what is believed to be the first contact between Honduras and this country on that band had been established by VK2HZ with HR1AL. Congrats Bill!

W4QCW and W4VZQ will shortly operate from Navassa Island under the prefix of KC4.

BAND CONDITIONS

3.5 Mc.: As was to be expected, an excellent DX opening took, and is, at the time of writing, still taking place on this band. North American stations broke through as early as 0700z, while Central American conditions existed between 1000 and 1100z. The Pacific Islands now appear to be better represented and times are between 0700 and 1200z.

Gilbert 2FU (ex-GM2OY) reports ZM6AS, and Frank 2QL follows with VK1AC*, and ZK1BG, W6, W7. Dick 3DQ heard KC8AA and VK1AC. Dave 3DY, Fred 8YS and Merv. 3AFO worked VK1AC*, while Bill 3AJU reports ZM6AP*, WKIAC*, KC8AA. Don 3ALQ heard FO8AB, VR2CS, VKIAC, ZM6AP, and 3AHH's log shows ZM6AS*, VKIAC*, and VR3A, HR1AL, W7.

7 Mc.: This band has also shown itself as a good DX band, the only limitation to its usefulness being inactivity on the "DX side." European conditions existed over the short route between 1800 and 1900z, and over the long path between 0500 and 0630z, South and Central America broke through between 0600 and 1200z. Openings to the Far East, Pacific Islands, and North America were observed between 0500 and 1400z. Heard Island came through around 1000z, while Africa was workable between 1890 and 2000z.

Apart from W contacts, these are this month's reports: Frank 2QL QSOed CO9AQ*, and heard VR3A, YV5DE, HLIAS, EA9DF. Don 2RS worked FUB8C* on phone, and Jas. Noel 2AHH managed QSOs with YS1Q* and KH6*, while Laurie 2AMB reports VK1PC* (Heard Island), V8R0*, VEZ2Z*, VK9RE* and YVEDE*. Phil 3AQO worked KH6* and KL7*. Don 3PV/3APV heard LA2HE, G3JU, SM7BJR, I1L and other Europeans. Col 3WQ heard on phone FK6AB, LU1AB, LU2JP, LU3UE. Don 3ADI phoned with FUB8C*, KH6J*, and Ray 3ATN spoke to HP3FL*. Ray 3RH worked KP4CC* and heard KG6 on phone. Eric BERS195 heard VQ4RF, OQ8RU, OQ5CP, KP4CC, YV5DE, VR2AS, ZK1AB, CO8AQ, DU7SV and on phone HP3FL*. Here at 3AHH we have KP4CC*, VE* and FUB8C* on phone, and SM, VP9KX, HB, G.

14 Mc.: General conditions on this band seem to have improved considerably. During June the band demonstrated at times excellent conditions to W land and Central America between 0200 and 0800z, and also from about 2000z to 0000z. South America broke through during the same periods, but conditions to that continent did not seem to be as consistent. Europe was workable over both short and long path, times being 0400-0700z, 0900-1400z, and 2100-0100z. Africa and Heard Island were well represented around 0400-0800z.

Considering W contacts as commonplace for the Eastern part of our Continent, we have, on c.w.: George 1BY with a series of ZSs* and Ws*, followed by Pete 2PA who QSOed a series of SMs*, DLs*, Cs*, CTWB, PA*, ONs*, HB*, KA*, 9QL keyed with XE1AX*, ZS1BK*, ZSEF*, ZCSRO* and heard VS4RO, ZS3B, VK1EG, VKIDY, VKIPG. 2AMB is the next in line with VR3A*. Alan 8CX QSOed VR3A*, KV4*, VKIDY*, XE1QB*, XE1AX*, VK1HM/ZC2*, VS4RO*, VS5RO*, VKIPG*, ZS1BK*. Ken 3KB worked KL7*, VE7*. FK1AC* T12TG*, KZSIL*, 4S7NG*, OKI*, SBBWO/MM*, ON4*, EA*, VU2*, VS6*, 3PV/SBP reports VR3A*, II*, XE1MJ, CSAR, DU1UP, VU2, DL, OD5EX, F7, CO2SW. 3YS follows with ZS1BK*, ZS8CY*, ZS2BC*, VR3A*, ZS2DE, TA3AA, DL. 3ADI keyed with YU*, while Mac 3ADM managed a QSO with XE1M3*. Bob 4RW mentions T12WR* KV4*, F18AT*, John 5HI QSOed LA*, KL7*,

and up comes Rob 5RG with VK1EG*, VK1DY*, ZS8*, KA8*, followed by Ray 5RK who reports KL7*. The W.A. representative in these notes John 6GU, worked a series of ZSs*, ZE2AC*, VK1PG*, DL/DJ*, ZCSRO*. Ray 9RH (Norfolk Island) contacted T12TG*. BERS195 heard LA, T12TG, VK1HM/ZC2, VP9BN, XE1MJ, VR3A, ZK1AB, VK1PG, F18AZ, VU2, VS5RO, HSD, HC1FG (0030z), KZSIL, T12AB, DU, ZJOKF, C3AR, ZS1BK.

And here is 20 mx phone: 2PA is the first on the list with VS6, DU, KG6, Jas. Neil 3HG worked ZS5QV*. Ken 3KR mentions VE*, KZS0G*. Gerry 3AGQ presents a good list including VP9AR*, CO2BK*, CO2GO*, CO2OZ*, YS1MS*, TGBA1*, KV4*, HR1FM*, VP9AX*, XE2FC*, XE1PT, T13LA*. Ray 3ARO worked ZS5*, and 3ATN reports VK1PG*, YS1MS*, 5A5TF*, VE*, ZS*, VQ2DY*, VKIDY*, HR1AA*, HR1FM*. 4RW spoke to YS1MS*, T12SJ*, VE*, KV4*, VP8CJ*, CO2BI*, 4X4DK*, VR2CS*, KL7*, VR3C*, P2JAQ*, F18AT*, 5HI phoned with KL7*, ZS1OF*, HR1FM*, T12AB*, T13LA*. Len 9OK reports hearing a series of Europeans and South American stations, while our s.w.l.'s report the following: BERS195: HP1JF, VP9BN, and Jim Hunt: Gs, GW, PA0, F7, DLs, VE, KL7, KA/JA, VR3, DU, XZ2, VS2, VS6, CE3, YV5, ZS5, ZS6, ZC3.

21 Mc.: Conditions have deteriorated but occasional break-throughs to North America and Africa still exist. Some short skip has also been observed. North American conditions were likely between 0000 and 0300z and African conditions around 0400-0700z.

Norm 2ALJ worked W5*, W2JAC/MM*, W4VUV/MM*, Reg 8GX QSOed W8*, W4VUV/MM*. 8YS heard W4VUV/MM*. 8ATN reports W*. KH6*, OQ8RU*, ZEKPK*, and 6GU managed QSOs with ZEKPK*, ZS6RA*, ZS5OY*, VQ*, Ws*. Pat 7PM spoke to T13LA*, 4S7Y*. CO2*, ZM6*, KZ5*, HP3FL*. Jim Hunt heard W2, W3, W4, W5, W6, W7, W8, W9, KL7, KG6, KA2, and KH6.

27 or 28 Mc.: Well, it had to happen! One of our consistent stations on this band reports that despite listening activity, no DX was heard and, consequently, none was worked. However, this was to be expected as well as we can be sure that one day the band will be wide open again. Anyway, thank you Norm 2ALJ for the report.

GENERAL NEWS

Bill VK1EG, Mawson, Antarctica, has been quite active. Several stations in Eastern VK have now also worked Bill (0600-0800z). Congrats (from 2QL, 2AMB, 3AXX, 5RG). ZD6BX intends to be on for five years (from BERS195). We are pleased to welcome W2JAC/MM and W4VUV/MM, who are at present in Australian waters (from 3GX, 3YS). LA7UE, on Bear Island, counts as Spitzbergen and LB9IC may shortly be another station there (from BERS 195). EL2X is ex-DL4EA, OE13EG. ZD9AB is active on 14 Mc. c.w. around 1730z (from BERS 195). CEOAD is on 14008 Kc. Besides VK1 stations, ZC2AC and ZC2AD are on Cocos Island. G2RO hopes to be in Melbourne before Christmas (1954) (thanks 3CX for the last items). The VKI fraternity registers the addition of another Ham on Macarior Island, VK1GA. During his trip around VK, Frank VR4AE had personal QSOs with quite a few of us.

Continuing our special 8.5 Mc. DX information, here is some more news. ZM6AS recently active on the band, 14 ex-ZL1AJ, VR8AW has also been on. ZM6AR is on 3585 Kc. using c.w. and phone. South America is represented by YV5DE, LU3EX, LU3EL, P2JAJ, PY5FV (from ZL1CI, VK3XB, BERS195).

And here is good news for our s.w.l.'s, as mentioned in VK3 Divisional broadcasts: At the June meeting of the Council of the Victorian Division a motion recommending (to F.E.) the establishment of S.w.l. Groups within the Institute and the issue of Official Receiving Station Numbers was agreed to.

The writer's main reason for moving the above was the fact that our s.w.l.'s have greatly contributed to these notes and have supplied many a good and essential news item in the past. S.w.l. activity is, in fact, another very interesting branch of Ham Radio with its own problems, whose solution should be eased by the formation of S.w.l. Groups and the issue of station numbers. S.w.l.'s resident in Victoria are asked to communicate with the Secretary of the Victorian Division.

We wish to welcome to the ranks of transmitting Amateurs the new A.O.L.C.P. licensees; and let us hope that one day they will become enthusiastic DXers after proving their c.w. ability.

Our "black-list" of non-Ham Stations operating in exclusive Ham bands will again be published as soon as new reports have been received.

QTHs OF INTEREST

4X4DR—Paul Vidor, 60 Ibn Garriol St., Telaviv, Israel.

HK1TH—Gabriel E. Tietjen, Barranquilla, Colombia.

OD5AV—V. A. Kupelian, P.O. Box 235, Tripoli, Lebanon.

K84AV—Swan Island, C/o P.M. Tampa, Fla., U.S.A.

EADDE—QSL via EA2CA.

FO8AJ/MM—Via Hallifaters, 4401 W 5th Ave., Chicago 24, Ill., U.S.A.

HK4DP—Box 708, Medellin, Colombia.

Rare QSLs were received by—2AHH: F18AR, ZK1BI, CR9AF, XE1TR, YK1AH, ON4QX; 8CX: KW6BB, YV5FV, VK1HM/ZC2; 8ATN: 5A3TF, VQ2DT, ZD4BF, F18AR, 5HI: KAO1J, VP9BM, CP5EK, ZE3JY, 4X4FA, JZOKF, CE3DZ, ZDZDCP; 5RK: JZOKF; BERS195: CP1BK, CTS4V, HC2OL, HK1TH, OAA1A, ODS4V, T12RU, VQ2DT, VQ3RJB, SM3AKW/MM.

And the monthly "thank you" goes to VKs 1DY, 2FU, 2PA, 2QL, 2RS, 2AHH, 2ALJ, 2AMB, 2AQO, 3CX, 3DG, 3DY, 3GX, 3HG, 3KR, 3PV/3APV, 3WQ, 3YS, 3ADI, 3ADM, 3AFO, 3AGQ, 3AJU, 3ALQ, 3ARO, 3ATN, 3AXX, 4RW, 5HI, 5RG, 5RK, 6GU, 7PM, 9OK, 9RH, and to our s.w.l.'s BERS195 and Jim Hunt.

DX C.C. LISTING

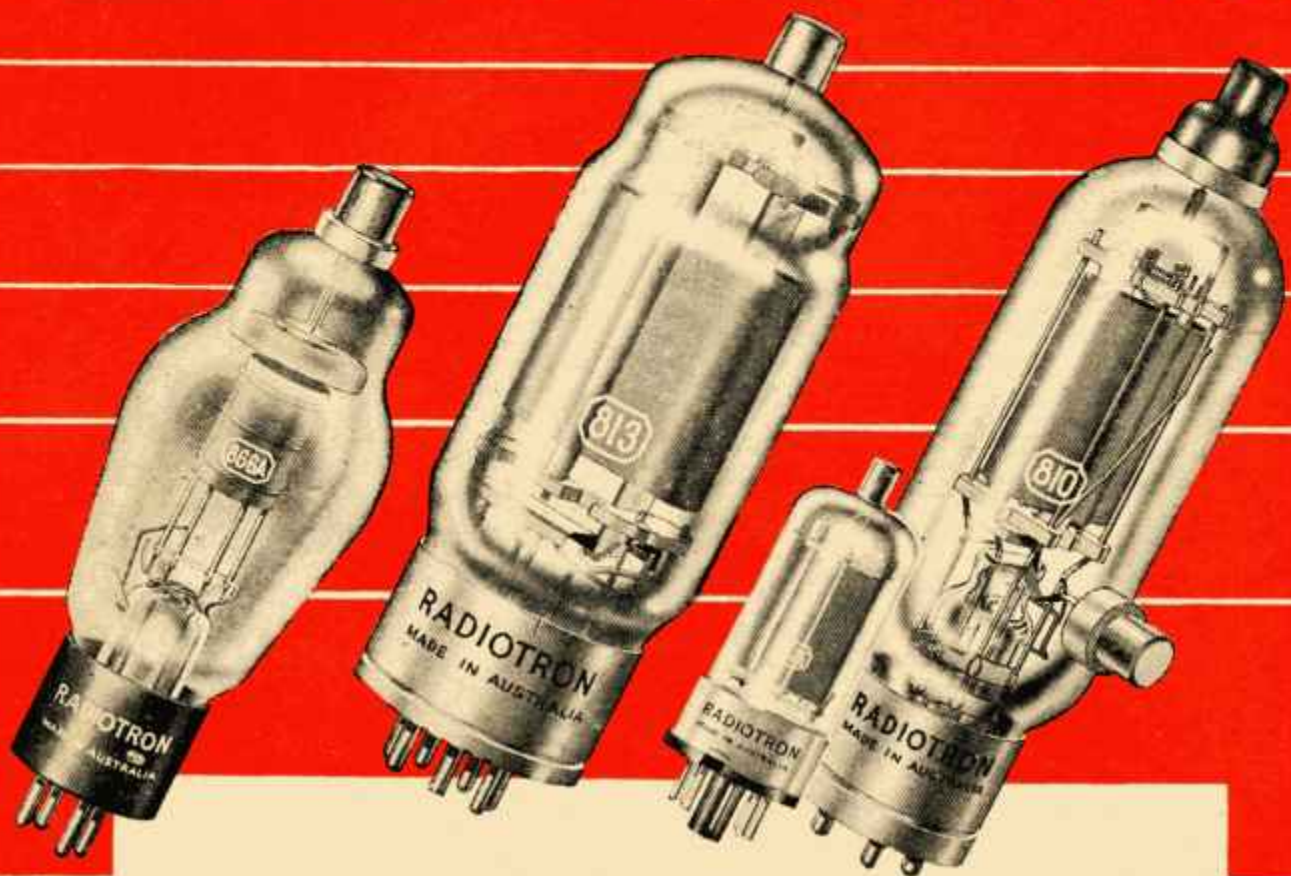
PHONE			
Call	No. Ctr.	Call	No. Ctr.
VK4HR	12 172	VK4RT	22 124
VK3BZ	3 168	VK4WJ	17 122
VK4FE	21 164	VK4DO	20 116
VK3EE	10 163	VK4JP	8 114
VK6RU	2 160	VK5MS	24 109
VK3RD	1 155	VK4CB	28 109
VK4KS	9 152	VK3WM	29 109
VK3BL	4 150	VK3PL	25 103
VK3ATN	26 145	VK2ADT	13 102
VK3LN	11 141	VK2AHA	15 102
VK3AWW	14 140	VK6PJ	19 101
VK3JE	7 139	VK3IG	8 100
VK4WF	16 137	VK3GG	18 100
VK4RW	23 127	VK5LC	27 100
VK6DD	6 126	VK3AUP	30 100

O.W.			
Call	No. Ctr.	Call	No. Ctr.
VK3BZ	6 214	VK5FH	91 134
VK3KB	10 200	VK4RF	11 125
VK4HR	8 195	VK3HT	37 124
VK3HF	15 191	VK3YD	27 123
VK4FJ	29 185	VK3EK	3 122
VK3BL	9 175	VK3JI	25 118
VK3BY	45 172	VK3PL	58 117
VK3CX	28 160	VK3UM	12 116
VK3RK	23 159	VK2OY	44 115
VK3EN	2 152	VK7LI	24 114
VK3CN	1 151	VK4DA	7 113
VK2GW	16 151	VK7LZ	17 112
VK6RU	18 150	VK4RC	13 107
VK6SA	28 150	VK9KX	41 107
VK5BO	33 150	VK6KW	40 104
VK4QL	96 146	VK2YC	34 103
VK4DO	20 144	VK3RJ	42 102
VK3XO	43 144	VK3APA	14 101
VK3VW	4 143	VK3NC	19 101
VK2QL	5 142	VK2OA	32 101
VK3KX	30 138	VK3PG	46 101
VK3JE	21 137	VK7RK	22 100
VK3YL	39 135	VK2AEZ	35 100

OPEN			
Call	No. Ctr.	Call	No. Ctr.
VK3BZ	4 224	VK5LC	55 118
VK4HR	7 210	VK7LZ	23 116
VK4FJ	32 206	VK3VQ	46 116
VK3JE	12 198	VK2ASW	53 116
VK6RU	8 195	VK3JA	43 114
VK2NS	16 192	VK2ADT	14 113
VK3HG	3 181	VK3HO	38 111
VK4EL	10 175	VK3AM	49 111
VK8RW	13 171	VK4RC	34 110
VK2DI	2 170	VK3ZB	21 110
VK4DO	15 168	VK6KX	54 109
VK3KX	1 167	VK2ZC	25 108
VK4KS	24 167	VK3YL	56 107
VK3AWW	45 150	VK2KR	11 106
VK6VW	48 150	VK3AWN	38 105
VK3LN	29 144	VK6WT	58 105
VK5FL	26 143	VK2VN	18 104
VK4WF	40 141	VK4UL	27 104
VK3HT	41 141	VK6PJ	44 104
VK3MC	5 139	VK6PW	50 104
VK3OP	19 137	VK2HZ	17 103
VK6DX	42 137	VK7KB	30 103
VK4RW	52 137	VK2TI	37 103
VK6DD	22 136	VK3YS	57 103
VK6ADE	28 133	VK7RK	31 102
VK2AHA	9 128	VK4TY	35 102
VK2AHM	20 125	VK5HI	51 101
VK3PG	47 123	VK2CX	6 100
VK3JI	33 119	VK2TG	39 100

† 10 Belgravia Ave., Box Hill North, E.12, Vic.
* Call signs and prefixes worked.
z - zero time - G.M.T.

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VK5 PORTABLE EXPEDITION TO MOUNT LOFTY

On the 10th June, Ken 5KC, Col 5RO and Keith 5MT journeyed to Mount Lofty (2,384 ft.) with transmitting and receiving equipment for 3.5, 50, and 144 Mc. The object being to attempt communication on 144 Mc. with VK3 stations.

At 2012 hours S.A.T. on 10th, 3ATN, in Birchip (260 miles) heard and QSOed 5RO, 5MT and 5KC, signals both ways averaging RST 559, these being the first contacts between VK3 and the Adelaide area. At 2120 hours a weak signal was heard which was believed to be 3JK in Hamilton. The following morning from 0700 hours to 0830 hours S.A.T., signals from the VK5 party were heard in Nagambie at RST 559 by 3CI (400 miles). No contacts resulted because of a blow-up in Syd's tx. 3LN in Melbourne was heard calling CQ DX on phone, R5 S5, at 0810 hours the same morning (420 miles). This station was called but no contact resulted. 3ATN was again QSOed at 0940 hours S.A.T., this time all contacts were on phone, signals R5 averaging S5.

The v.h.f. gear used at Mount Lofty consisted of three separate standard SCR522 tx's (input 15w.), a crystal controlled converter—6J8 push-pull r.f. amp., 6J8 push-push mixer, 6AK5 i.f. amp. (2.4 Mc.), osc. section 7.1 Mc. xtal 9003 tritex x 5 and 9002 multiplying by 4 (the converter was used with a BC348). The beam was an 16 element horizontally-polarised broad-side array.—SMT.

NEW SOUTH WALES

June had many interests for the V.h.f. Group. The excellent lecture on the "Slide Rule," given at the June meeting by Ken Andrew, 2ATK, was very instructive and most enlightening to those who had not mastered this device, proving that the Slide Rule can be used to a great advantage when wrestling with mathematical calculations that may be met in solving problems associated with Ham Radio. Ken used a 40-inch demonstration rule he had constructed. It was surprising the number of rules that were pressed into service by those present to follow the various problems Ken explained. A vote of thanks was most ably moved by Fred 2PF.

An interesting piece of gear was displayed at the meeting by Con 2LZ. This was his modulator for the 2 mx rig in which transistors were used in the speech amp., giving very good results.

The one-hour scramble held on Sunday, 6th June was won by John 2ANF/P, 28 points, followed by Bill 2ABZ 28, Adrian 2HE 25, Cliff 2LG 24, with 2OA, 2APQ, 2DF 22, 2AKK 20, 2HL 17, 2QZ 16, 2FF 12 and 2HO 5. Although all stations taking part did not report in their score at the conclusion of the scramble and the total number of stations were less than in previous scrambles, an enjoyable hour was had and congratulations to John for a fine effort.

The Fox Hunt was held on Sunday, 13th. Horrie 2HL took the role of the fox with Roy 2HO as assistant. Those taking part were 2OA, 2ANF, 2AJZ, 2LG and 2AFM. Horrie proved a very elusive fox for while leading the hounds a merry chase before lunch when 2OA and 2AJZ were the closest to his lunch-time location, but nobody reckoned with a gremlin taking up residence in Horrie's rig and preventing the r.f. from getting out via the antenna, with the result that nobody found the fox at the final location. However the weather was excellent and the hounds were really given an opportunity to try and locate a very weak signal.

At the request of the Divisional Council, the V.h.f. Group submitted recommendations for a complete 144 Mc. tx and rx, each complete with its own power supply and antenna for use as a relay link between the 7 and 3.5 Mc. tx's used for the Sunday morning 2WI broadcasts. The recommendations were accepted and ratified at the Division's June meeting. The equipment will consist of a 20w. a.m./f.m. tx and the rx a crystal locked cascade converter feeding into a 7 Mc. i.f. channel with provision made for both a.m. and f.m. reception. The Group have undertaken to construct the equipment; full plans and details are now being prepared and will be published later.

The results of the Autumn Field Day held on 16th May are as follows: Section 1—Highest score by a 6E8 station, 2OA, Mt. Gibraltar, 1402 points; Section 2—Highest score by a home station, 2WH, Forbes, 846 pts.; Section 3—Longest distance worked, 2ANF (Razorback) and 2WH (Forbes), 158 miles.

Scores of stations whose logs were received by the closing date were: 2OA/P 1402, 2ANF/P 1245, 2HL/P 883, 2WH 846, 2AZO/P 730, 2YR/P 630, 2YM/P 588, 2HO 481, 2HE 462, 2LG/P 456, 2AER 150. Congratulations to the winners and especially to Hugo 2WH for a fine effort, proving that country stations taking part in these contests can give a very good account of themselves.

Antennas are still being experimented with out at Forbes. Hugo 2WH now has stacked vees on 2 mx beaming on Sydney. Briefly the construction is two vees stacked half wave apart, each leg eight wavelengths long, the included angle is 35 degrees, highest point is 20 ft. above ground with a downward slope of about three degrees towards the open end. Results are promising as most nights Hugo puts a good signal into Sydney and Bob 2OA and Cliff 2LG were copying for the first time.

Fred 2AGY, at Newcastle, has erected a five over five which has increased signal strength both ways with Adrian 2HE during their nightly skeds.

Dave 2BZ, of Newcastle, was heard with a very nice signal working 2HE, 2APQ and 2WJ. As this was his first contact with John 2WJ at his new location at Bringelly, both were delighted with the result, a distance of about 92 miles. Max 2OT is now operating for a short period each night from the Petersham Technical College under the call 2YY, so keep a watch on 144.15 Mc. for Max. We hear that Norm 2JW, of Orange, is running low power to a s.s.b. tx on 2 mx; would be interested in further details Norm.

New stations heard on the band during the month were Harold 2AWH, of Auburn, on 144.6 Mc. and the first limited license call to be heard is Dennis, VKZZAW, of Kingsford. Welcome to the band chaps, let's hear plenty from you.

50 Mc. has been given some good publicity in the north by Jack 2ADT, at Inverell. Jack is stirring up interest in that district and is reported to have worked 4GG, of Yarraman, and is also getting several of the others interested in 2 mx.

Here are a few more frequencies: 2ABO 144.15, 2YY 144.15, 2KS 144.3, 2XK 144.6, 2AZK 144.6, 2ABH 144.216, 2ARM 145.2. More will be listed next month.—2AFQ.

VICTORIA

The highlight of v.h.f. activity in Victoria remains in the Western District with 3ANQ at Warrnambool, 3AKR at Westmere, 3ACE at Birchip, 3RR at Horsham, 3ATN at Birchip, 3HG at Coleraine and the VK5s at Renmark and Mt. Lofty. This gives excellent opportunity for DX from Melbourne in the westerly direction. The best contacts so far have been 3ATN at Birchip (183 air-line miles from Melbourne) working 3BQ, 3LN, 3YS, 3ACH, 3CR and 3CP. Ray has also worked 3CI at Nagambie and the VK5s at both Renmark and Mt. Lofty. Another excellent contact was a cross band one with 3ADU portable on Mt. Dandenong working 3HG at Coleraine, approx. 210 air-line miles. 3ADU was transmitting on 144 Mc. and receiving 3HG on 80 mx. It was a very excellent per-

CORRESPONDENTS PLEASE NOTE!

It is the intention of the Magazine Committee to continue to publish the magazine as near as possible to the first of each month. As some correspondents over the last few months are forwarding copy late, they are reminded that copy date is the 8th of the preceding month. If you have been sending copy before that date, our thanks go to you; but if your copy has been arriving at 191 Queen Street, Melbourne, after the 8th, here is a warning!

Rather than hold up production of the magazine, in future no responsibility will be taken for non-published notes that arrive after the 8th.

Remember! The 8th is not your posting date, but is the date of copy arriving in Melbourne.

formance for Eric's 8w. mobile. 3HG has also worked 3BQ, 3ATN, 3ACH and 3YS cross band.

The DX highlight of the month was the reporting of 3LN's Melbourne signals at Mt. Lofty at R5, S5 to S6 on phone. This is the first 2 mx signal to get through from Melbourne to Adelaide and Len is looking forward to the next Mj. Lofty tests in the hope of a two-way contact. The air-line distance between Mt. Lofty and Melbourne is approx. 427 miles. It has also been reported that 3LN has been heard at Renmark. A two-way contact between capitals now seems a possibility as the VK5s were being heard by 3CI at Nagambie (390 air-line miles) at good strength, but unfortunately Syd's power supply broke down when he turned over to transmit to them. It is significant that stacked beams seem to be doing the job as Syd runs a 30 el. one and 3LN a 20 el. The VK5 boys at Mt. Lofty used a 16 el. Job. Large stacked beams are under construction at 3ATN, 3BQ and 3AKR. The height of the beam also seems important as 3ATN and 3LN have their arrays up 80 ft. although 3LN is in the valley of the Maribyrnong River and is only clear towards the south. 3ATN has had some patchy signals both ways from 2WH at Forbes, but with the construction of the new beams, stable

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VICTORIA

QSOs seem a definite possibility even during the winter months and we are hoping for excellent DX during next summer.

The v.h.f. meeting provided members with an interesting lecture on 2 mx mobile gear given by 3ALY who brought in his neatly constructed gear, featuring a xtal controlled plate modulated tx with an input of about 8w. The rx was an r.f. stage into a co-axial line super regen. detector and audio stage. The antenna was a 3 el. close-spaced. The meeting was also able to welcome chaps who would be eligible for their limited license but as yet, at this location, only 3ZAA at West Essendon and 3ZAR at Box Hill have been heard. A very hearty welcome to the band is extended to the new limited licensees and we hope you enjoy your stay on 2 mx.

The last fox hunt was instrumental in drawing nine cars away from the fringes and although the hounds were hot on the trail the whole evening, the only catches were made by 3ADU and the 3YS-3ABA combination. The evening wound up with a post mortem held at 3LN's shack. Several new mobiles are at present under construction and we are hoping they will be on for the August hunt. What about building a small mobile for the car for the summer hunts as 2 mx mobile has certainly caught on around the Melbourne suburbs and considerable activity is anticipated during the summer months, especially from the new limited licensees. The next fox hunt is on 11th August and will be an excellent try-out for the gear. As the hunts are now finishing up at a secret 2 mx ham shack, it gives the boys an opportunity to see the other fellow's gear.

3VZ has now got his mobile running excellently and maintained 100 per cent. contact with 3ADU at Mt. Dandenong from his home in Balwyn down to Frankston. Jack has also had 100 per cent. contact with 3LN, 15 miles away whilst he has been cruising around the suburbs. Jack used a 5763 in the final with excellent results.—3LN.

SOUTH AUSTRALIA

There seems to be one sure way of getting some activity on the v.h.f. bands, and that is to report an all time low. It was hardly two days in the post when in came a report from Tom 5TL, at Renmark, of a measure of success from that area, on the 2 mx band. Up till that time 3ATN had heard Tom, but there had been no confirmed contact, so Hughie 5BC brought along his converter and 3ATN was read 55w. As he couldn't hear Tom, a rush trip from Renmark to Hughie's QTH resulted in a two-way contact which is the first VK5-VK3 contact, however small the distance as far as my memory goes.

Almost on top of that piece of good news came the visit of Ken, Col and Keith in the middle of the month to Mt. Lofty, with its great success. I "dips me lid" to anyone who camps out anywhere at this time of the year, especially on mountain slopes. However, everything had been well planned before hand and a sound liaison channel on 3.5 Mc. was used to establish contact with the VK3 end. Hughie at Berri was able to make contact with the 5MT, 5RO, 5KC combination via 5TL who was using 2 mx to Hughie and 3.5 Mc. to 3AGD, who made contact with Ken 5KC through 3AGD. A good two-way contact rewarded 5BC's efforts who had been listening on 2 mx to all that had been going on. Hughie has an 829 final with about 65 watts feeding a 16 el. beam also. He has also taken the precaution of being able to key the tx, after previous thwarting experience! Bill 5HD and Clem 5GL are making fairly regular contacts with Hughie, but as yet Tom cannot make the grade. Never mind Tom, you'll be able to compete with "Granpappy" Parsons now—a few yarns to swap perhaps.

We have another starter this month with 5LE at Gaiga, on the railway line between Walkerie and Karoonda. A cross-band 3.5-144 Mc. contact with Tom, 5 and 5 resulted after some very good work by 5LE. Seems he had built a converter and a g.d.o.; the latter checked up on Lecher wires and the converter lined up. In true country style, fencing wire was made into a "city-slicker" under the guidance of Tom and a few days later two calls from Tom resulted in a contact. Nice work chaps.

A few new calls appearing on the v.h.f. bands now that the Limited A.O.C.P. license is available, but not as many as I had expected; however, I shall live in hopes and will blow the dust out of the rush-boxes and converters and put back the borrowed tubes into the tx power supplies.

Do not forget chaps that there is a bonus of 25 points score for v.h.f. contacts in the R.D. Contest. Maybe VK5 will collect this year! I know this for a certainty—we will receive all the logs for checking so up and at 'em lads! —5XU.

WESTERN AUSTRALIA

The v.h.f. scene in W.A. for June provided some items of interest. One important point was the allocation of the first limited A.O.C.P. call sign of 6ZAA to Wally Howse. Though not yet heard on the air, he has the rig under way and should be active 'ere these notes appear in print. Broadly his gear consists of xtal locked converter and m.o.p.a. tx using an 815 operating on 144 Mc. Cec. Andrews, another A.O.L.C.P. holder, is battling with the paper work leading to the issue of his call sign, and it will be interesting to see who will knock up the first contact here.

6GU put an appearance on 144 Mc. recently with a mod. osc., but signals were fairly well down over the 12 mile path to 6HK and inaudible at 15 miles approx. to 6BO. Best get out the xtal and a couple more tubes John. 6WJ had an anxious time recently; received an urgent call from home while at work that smoke was curling up from under the door of the locked shack! All speed records East Perth-Mt. Hawthorn were smartly smashed and a smouldering power tranny revealed. I bet he won't leave the power on again!

6DW has been putting in an appearance on occasions on 50 Mc., but cross-band tests to 144 Mc. have been poor. 6BO still tied up with shift work, but is spending some time on recently acquired disposals gear. One item of interest is the conversion of an ASB4 to 288 Mc. as per 5PU. 6GB now more active on 50 Mc. Must have caught up with some of those chores. Jack, also sports a variety of frequencies in 144 Mc. nowadays. I believe there was quite a stir on 30th June when a terrific burst of sporadic E took place. Nothing unusual was observed in VK5, but activity would be just about nil, with most of the gang out or at work, so a chance for a mid-winter opening on 50 or 144 Mc. may have been missed.

5KC and 3ATN made an excellent 144 Mc. QSO out of a portable trip to Mt. Lofty; fine effort chaps. As 6AG was saying recently on 144 Mc., VK5 does not lend itself well to portable trips to high spots, unless one is trying to work across the Indian Ocean. 6RK is still having trouble with the 2 mx converter. 'Tis always the same when you try to improve something that's working well. Roger. 6CC has been very quiet lately, hope that 600 volts didn't permanently damage the 815 Frank. Heard 6HS announce his intention of coming on to 50 Mc. many moons ago; what's happened Harry? No sign of you as yet. 6TB is another prospect who has not yet shown up.

Nothing more has been heard of the proposal to form an emergency network in this State, but it is anticipated something will be done in the near future. Some of the v.h.f. gang

are very enthusiastic, although to realise the full possibilities of the scheme, it really requires one to have some form of auxiliary power supply. So we may, before long, have a burst of portable activity with batteries, etc., well to the fore.—6HK.

TASMANIA

This month we have much pleasure in reporting that 144 Mc. activity is on the increase in the South. TOM advises that TMY has now staged a comeback and has established a 144 Mc. link into Hobart from his location at Sandford. 7AJ and 7LE being the active stations in Hobart and these two supply the Hobart end of the link. It is also anticipated that 7RM and 7OM will be active on 144 Mc. in the near future.

Frequencies for these stations are: 7AJ 144.136 Mc., 7MY 144.27 Mc., 7LE 146.5 Mc., 7RM 145.18 Mc., and 7OM 145.512 Mc. At present, details of the equipment used is not to hand, however we expect to be able to supply these details in a future issue.

In Launceston, v.h.f. activity is confined to 144 Mc., however 7BQ and 7LZ have both just completed xtal locked converters for 50 Mc. 7XW is also expected to operate on 50 Mc. for the next DX season and as VK7 has had less activity in the Ross Hull Contest than any other of the States, more new signals from here are urgently required. Now is the time to prepare for this Contest, so let's hear the old call signs such as 7CW, 7AB, 7NC and 7XL again this season.

Much interest was shown to the statement in the VK3 notes for June that the Arthur's Seat-Launceston 144 Mc. link could be again made under normal conditions and local stations here are willing to conduct tests over this circuit at any time that the "Seat" is occupied and to arrange transmitting and listening periods.

To create interest on the v.h.f. bands should we not organise a 144 Mc. Contest to be held during the Autumn months? Owing to our sparsely populated areas we possibly cannot hope to compete with the more heavily populated continents on these bands, however a distance contest would create more interest and in so doing help Australia to establish longer 144 Mc. links and so gain v.h.f. prestige. Judging by the popularity of the Ross Hull Contest, Australia should be able to conduct two contests for the v.h.f. operator per year, particularly so now that technician's licenses are being issued.

Also the publishing in "Amateur Radio" of the full list of awards available to v.h.f. operators, together with the list of qualifications required to earn these awards, would help to create greater interest and consequently greater activity on these bands.—7LZ.



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FEDERAL

GLIDER AIRCRAFT RADIO IN 3.5 Mc. BAND

Representations have been made recently to the Amateur Administration with reference to the use by Glider Aircraft of the 3.5 Mc. frequency. The Federal Executive felt that this might prove a hazard to the aircraft, in view of the fact that this was the c.w. portion of our band.

The Department has pointed out that the Glider Service has operated this frequency for the past eight years successfully, and the possibility of interference is not considered serious enough to require transfer to another portion of the band at this juncture.

It is also worthy of note that under Atlantic City (1947) Table of Frequency Allocations, the band 3.5 to 3.9 Mc. is assigned for Amateur, Fixed and Mobile Services. The Department has restricted the Fixed and Mobile Services to the 3.8 to 3.9 Mc. portion, leaving the 3.5 to 3.8 Mc. frequencies to the Amateur Services.

The 3.505 Mc. Glider Aircraft Frequency is the only exception to this, and the Department states that there is no intention, at this stage, of making further allocations for use by Fixed and Mobile Stations in the 3.5 to 3.8 Mc. portion of the band.

LISTENERS' GROUPS

With the lowering of age to 16 years for A.O.C.P., and the introduction of the "Limited" A.O.C.P., a new section of enthusiasts has been given the opportunity to enter our ranks. However, it must not be forgotten that there is a large group of people, both young and old, who, though not interested in the transmitting side of radio, are keen and critical listeners.

These people, for the most part, have been unable to join in our activities in as full a measure as they might desire. It is with this in mind that the Federal Executive has suggested that Divisions might find it expedient to form a "Listeners' Section," with particular facilities of its own.

A strong group of this nature could be of inestimable value in many ways to members of the Institute and could provide a recruiting ground for future transmitting members.

REPRINT OF HANDBOOK

It is confirmed that the Amateur Administration is arranging for a reprint of The Handbook for Operators of Amateur Wireless Stations. This will incorporate amendments already promulgated and those concerning the "Limited" A.O.C.P.

This booklet is recommended for study by candidates for examinations and the reprint will be at the earliest practicable date.

ADDRESS OF NEW FEDERAL SECRETARY

The private address of the new Federal Secretary, Doug. Bowle, VK3DU, is 22 Norfolk Road, Surrey Hills, E.10, and the phone number WF 5504.

AMENDMENT TO FEDERAL CONSTITUTION

Under the direction of the Federal Council of the Wireless Institute of Australia, Federal Executive hereby gives notice that it is intended to alter the Federal Constitution (1947) of the W.I.A. as follows:

Section 20. By deleting after the word "and" in the second (2nd) line, the words "two other members," and inserting in lieu thereof the words "four other members."

FEDERAL QSL BUREAU

RAY JONES, VK3BI, MANAGER

Bill Storer, VK1EG, has at last been heard and worked by VK stations on both 7 and 14 Mc. c.w.

ZD7B, St. Helena, was heard on 14 Mc. c.w. early in July. He is ZS6CW and will be on the island for some time.

All DX fans hope that long before this note appears in print, Alf VK3KE will be in better health and again active.

CP1BX, Ted Westlake, is now T12BX. Ted visited Melbourne way back in 1947, for a Civil Aviation Conference.

Brian Fleblig, ex-VK1BA, has at last sent out some confirmations for work at Macquarie Island. Brian, who is presently at the P.O. Manjimup, W.A., may soon transfer to Dromana, Vic., having received a nomination for promotion to the latter office.

ZL1AJU visited VK9OK, Norfolk Island, a few months back and has arranged the printing of cards for VK9OK.

SILENT KEY

It is with deep regret that we record the passing of:—

VK5AW—Hal Austin, July, 1954.

Steve Barnes, KG6AEX, ex-KP6AA, well known to most VK stations, is leaving Guam after five years service in that location. He has been transferred to Anchorage, Alaska, and hopes to be active from KL7 by end of 1954. He sends his 73 to VK friends.

ZCSVR, Vic Randall, who is a native of VK5, lived in Rabaul from 1928 to 1938. His QSL is a nice effort.

NEW SOUTH WALES

The June meeting of the N.S.W. Division was held at Science House, Gloucester St., Sydney, on 28th June. A large and attentive audience of members attended the meeting which was presided over by the President, J. Corbin, 2YC.

After the preliminaries had been dispensed with, the meeting was handed over to the lecturer of the evening, Mr. McCulloch, of Standard Telephones and Cables Ltd., who, in a most accomplished manner, delivered a very absorbing lecture on Television, his impressions gained from a recent trip to the United Kingdom and America. The lecture was illustrated by slides and dealt with the varying systems in use in both countries, the advisability of using a.m. or f.m. and a discussion of the standards both in use and desirable from the Australian outlook. Mr. McCulloch raised a few eyebrows in the course of his discussion when he dealt with the difficulties of the t.v. serviceman and the large amount of equipment needed to carry out the oft-times necessary adjustments, and no doubt many who were listening (including your scribe) went home with very definite views on the matter, if not with a feeling of trepidation. The needs of the future were considered, both from the Australian point of view and also from the European angle, the question of the effects of interference, not from Amateur Radio alone, but from Commercial and domestic appliances also, and the initial costs involved.

As can be imagined, question time was eagerly looked forward to by many, questions being fired at the lecturer some considerable time after he had concluded. All agreed that it had been a most informative night, and Mr. McCulloch is to be congratulated on his fine effort.

The recent Sunday morning broadcasts have not been very successful of late on 7 Mc. band, and it has again been found that at this time of the year that the broadcast has better coverage on 3.5 Mc. This has for the main part been carried by Alan 2ACC, using a 144 Mc. link from various stations, and it has long been felt that there is a need for a complete station for operation on 144 Mc., so that it can be taken to appropriate points to enable that link to operate consistently to the convenience of the several operators who have at personal inconvenience carried this out. Council discussed the matter of building such a station and it was put to the meeting that this be done. The V.h.f. Section have offered to design and construct the station and after discussion, the meeting decided to go ahead with the project and thus enable the Divisional broadcast to be heard in the near future throughout the State.

The meeting closed at 10.40 p.m. to be carried on by the hardy souls who invariably discuss the usual topics in the cold of Gloucester St.

HUNTER BRANCH

The June meeting of the Hunter Branch was held at the Tighes Hill Technical College on 11th June, 20 members being present and the meeting was presided over by Lionel 2CS. After the minutes and general business were disposed of, a film was shown entitled "The Story of a Storm." Following this, Jim 2ZC produced a portable rx and the meeting heard a broadcast from a local b.c. station on Amateur activity. A further film was shown on Battery Ignition and Electrical Systems which was well received. Lionel 2CS gave the final lecture for

the evening on "What you should know about your Antenna," a lecture which was both interesting and educational.

A weekly hook-up has been in operation for some time on Monday night at 7.30 p.m. on 7140 Kc. and all Hunter Branch stations are invited to join the hook-up and have a ragchew with the rest of the boys.

Bill 2AMM appeared on the air again during the last month after an absence of 2 1/2 years, uses a Type 3 Mark II. tx. George 2AGD has gone back to "audio" again until 10 mx comes good again. Frank 2AUH is now operating 80, 40 and 20 mx, but still has a busy time chasing the bugs out of his tx. Les 2AOR is busily engaged converting an AT5 and hopes to have it on the air soon. Chas 2ARV has a tape recorder and intends to get the playback permit soon. Fred 2AGY active on 144 Mc. nightly, working 2HE in Sydney, uses a 5 over 5 beam to put the herbs over. Taree Bill 2AEY called recently on Ron 2ASJ and was returning to Taree with Associate Syd Daniels who is holidaying up there. Ron has had more sickness of late, so his voice is not yet up to standard; his mother has returned from hospital and is making a fine recovery. Tom Steele, from Belmont, has now got himself a rx for his a.w. listening.

The next meeting of the Hunter Branch will be held at the Tighes Hill Technical College at 8 p.m. on 13/7/54, an interesting lecture and films have been arranged. All are welcome.

NORTH WESTERN ZONE

Little news from the zone this month, but it appears that Tom 2AMR has been quite busy finishing the construction of a trailer and has spent only a few hours on the air, this being on 15 mx. Noel 2APE has been brushing the cobwebs off some Marconi gear and after getting 10 Ma. in the final found it does not work. Bob 2AXS can always be relied on to help or stand by for a test, consistently heard on 7 Mc. Sunday mornings. Bill 2ACT appears to find flying gliders as interesting as keeping bees or Amateur Radio. From 2AQM the news that distance and time involved in travelling have caused the membership of the Postal Radio Club to dwindle, the equipment has been dismantled temporarily. 2AQD has had rx trouble and found that 6v. tubes are not happy with 12v. supply, operates on 7 Mc., favorite likes are the key and DX.

SOUTH WESTERN ZONE

The 8th June proved to be a red letter day for the South Western Zone as no fewer than eight stations joined in the zone hook-up and ragchew, these being 2PL, 2RS, 2PN, 2BQ, 2APZ, 2EU and 2AJO. Fine work chaps, and hope to see you all again on other nights. Don 2RS reports that Bert 2AEM, at Albury, has moved to a new QTH and is in the process of re-building his gear; hope to hear you soon Bert. Lyn 2AQE, at Coolamon, has a unique way of getting down to earth that jammed-in-the-pulley and also the top-off-the-pole.

Sunday, 13th June, a meeting was held at Tumut to arrange the second South Western Zone Convention. Stewart 2PL, Eric 2DY (visiting Coolamon from Woolongong), Ted Druit and Jim 2AJO together made the trip to Tumut joining up at Wagga with Don 2RS and Stan 2EL. All arrived safely at the destina-

MY XYL SAYS!

WHY is it that a lot of Hams get so annoyed when the other fellow is lucky enough to snare, from under their noses, that elusive DX station.

My XYL says that if these same chaps were all fishing off the local jetty and one of their number caught a big fish, there would be no grumbings or mumbings, but only an enthusiastic congratulation from all present.

Of course my XYL is ignorant of the finer points of Amateur Radio and can be forgiven, if not silenced!

—OIGLE.

tion, much to our surprise, and after a good meal all of the party called on Ross 2PN where the meeting was held. Those present were, in addition to the travellers mentioned, 2BQ, 2PN, 2GT and Keith Dodd. The tentative date arranged for the Convention is 2nd and 3rd October (Six-Hour Week-end), subject to approval and a very good programme of events was arranged. Programmes should be available later and it is hoped that a good roll up will be there from near and far. At the conclusion of the meeting, a very nice afternoon tea was served by Mrs. Weedon which was much appreciated by the gang. The evening was spent at Geoff's 2BQ where an enjoyable time was spent, the 807s and the toast f.b. Geoff. Geoff and Ross have some very nice gear at Tumut and a 144 Mc. tx built by Keith Dodd would do anyone's eyes good.

The zone officer of the South Coast Zone spent his holidays at Coolamon with 2AJO, when a multitude of items were discussed, many alterations tried, with the result that your scribe was hard put to keep a signal on the air, however many improvements were effected thanks to 2DY. That's all chaps, see you on the zone hook-up.

NORTH COAST AND TABLELANDS

Conditions poor again up this part of N.S.W., have to use the 80 mx band for the Sunday broadcast. Noel 2AHH had recent trip to the big smoke in the new car and after a trouble-free ride down, a car hit him outside 2ACD's place early in the a.m., no trouble on the return trip. 2PA, 2XO and 2AQJ, of Armidale, have made contact on 8 mx. 2PA also busy on the coast in the R.A.A.F. Reserve. Len 2LR has been busy painting the house, and the Urunga residents now have included Norm Moody and Ted 2AVG. 2WQ and 2NY are busy getting gear together for 14 Mc. and Terry 2AJS has been busy while batching, his XYL being on holidays in VKA.

In a note from 2AJS (what about you other chaps up the Coast dropping a line occasionally) we learn that in the recent flood emergency, Geoff 2SR had the unique experience of being directly responsible for a number of South Grafton residents being kept informed of developments during critical periods. At the time the 240v. supply had been cut and a crystal set he had built up for a school boy acquaintance residing on the south side of the Clarence River did the job of getting flood reports from 2GF Grafton. Also regarding 2SR, Junior op. of 4 months standing, marked F on the census form, causing considerable QRM in 2SR household, especially during the darkest hours. 2TB also getting in the 144 Mc. net. 2NY has SCR22 and super regen. rx, other stations use the old mod. osc. No outside contacts have been made from Grafton as yet. 2AJS has been occupied getting a double conversion rx going and has improved matters a lot, but is still making improvements to the rx. 2OE assisting getting Terry's masts down for painting, marvellous how a block and tackle will help.

WESTERN SUBURBS

Barry 2AAB not heard of late, must be quite busy on the shift work. Ken 2AXZ is not heard much either, possibly is sharing a new hobby of four wheeled vehicles with Don 2ASW who is quite busy with the class and the latest craze, apart from Council affairs. Jack 2APT puts out a nice drop of r.f. from the new beam 45 ft. up in the breeze, the DX comes back just like the doctor ordered. Ted 2ACD busy with the Publicity, waits for letters from the country, sometimes in vain, but apart from that is occupied with (a) beam, (b) cranky v.f.o. Almost nightly contact with 2AKV on 20 though, signal never varies over 50 mile path. 2AEX still getting around, now has new modulator. 2VY still doing a bit on 20, mostly on 7w. just for fun. 2AGX, another of the gang, has improved things of later and since he has recently saved a nice pole from the wood heap, will have a beam in the future. 2ID heard now and then complete with tape recorder, same applies to 2VG. Harry 2YI now has the beam up in the air a few feet, performance is good and when the band opens. Harry will be on more than at present. 2OQ doing fine again as is 2FM with the AR8. All the Western suburbs boys join in wishing Horrie 2FA a speedy recovery from his serious operation and latter illness, and hope to hear the old familiar croak on the band again soon. Chas 2AWQ still heard a little on 7 Mc., Sunday especially in between Council affairs. Harold 2AAH busy with the usual studies, but hits out on the vertical now and then.

VICTORIA

The July meeting of the premier Division in VK was one out of the box. Extra chairs had to be found and even then many stood round the walls or sat on tables. I counted over 180

present and possibly missed a few. Quite a few XYLs and harmonics were present. No time was lost in handing the meeting over to Ken Dalziel who told of his experiences in the far south. During his discourse, he produced specimens of rocks, birds' eggs and photographs he has as souvenirs of his journeys. Ken's talk was followed by forty minutes of coloured film of Heard and Macquarie Islands. As far as I'm concerned, I'll stay in VK3. Winds of 100 m.p.h. and temperatures of 15 below are not my idea of a picnic, burrrrr!!!!

Among the visitors were 2AYE and 3SS, both of whom were welcomed in the normal warm manner. The membership received quite a boost. Messrs. Francis, Green, Morris, McCulloch, Persash were admitted as Associates, and Messrs. Alablaster, McNally, Blake and McDonald as full members. Hearty welcome fellows and the usual advice.

Gadsden Award—Tom Hogan, 3HX, is the recipient of the Gadsden Award this year. Phyl (Mrs. 3LN) wishes Jennie (Mrs. 3HX) much pleasure keeping it polished.

Len is hiding the tx for the next hunt and after all the comments passed and the conspiracies afoot to trick him into divulging the whereabouts, I haven't the heart to have a shot at him this month.

A Listeners' Award has been arranged. The award is available to any s.w.l. producing 100 confirmations of stations logged. One application has already been received.

The August meeting is a "Grouch Night," so if you have any pet winge bring it along for an airing. My pet winge is the lack of young fellows coming into the ranks.

Is there something radically wrong with this Amateur Radio? The average age of those in the game must be forty or thereabouts. Can anybody suggest ways and means of recruiting the younger generation into the ranks, or for that matter suggest why they are not coming of their own accord? Will the lowering of the age limit for A.O.C.P. holders help? Will the limited certificate help? As yet 'tis too early to say, but personally I very much doubt that either move will help, unless steps are taken to publicize the hobby amongst the teenage groups. How many people have asked you what has happened to the Amateurs since pre-war days when they provided the Sunday morning entertainment? The great G.P. does not even know we exist in this modern age.

By now, no doubt, you are wondering where this is leading. Briefly, it is designed to set you thinking. By next month it is hoped that the theme can be elaborated on and concrete evidence produced that youngsters are interested if you will but give them encouragement and assistance.

That's enough sermonizing on the younger generation for the moment. Now to slap Granpappy down. I've often wondered how long before our friend(?) in the City of Snakes—sorry there I go again—City of Shakes would notice page one, and cast doubts on my integrity. The fact that his libelous remarks made print should be sufficient to relieve his fears that any bias is felt towards him. May he be troubled with Adders in his attic.

If any injustice is planned, I rather fancy that "Padder"—that boar in my bathroom—is the culprit. Unless my feeble old eyes deceive me, he is now on the Federal Contest Committee. Take warning, Sir! If VK3 does not get the R.D. Trophy this year, VK3 notes will be cut in half. If the 3RN/3AFJ combine does not romp home in the next field day there will not be need for you to write any notes at all. Definitely zero bias.

Now to deal another blow to the ego of that python in my pantry. During the war years we dumped rubbish at a little place called Dry Creek. Now what happens? I ask you, what happens? Great snakes! The so-called Best Broad, etc., etc., is shifting their tx there. Am I to infer, Sir (mere courtesy) that the Best etc., etc., has been relegated to the rubbish heap. Lo! how the mighty have fallen. Anybody wanting to know why all the references to snakes is hereby referred to SFS.

Gather round playmates and take warning. Don't breathe a word about State Conventions. Some misguided soul suggested going to Ballarat and what happens. Before I could decide yea or nay, the XYL goes out and buys two frocks and a coat for the occasion. This Ham Radio is getting far too expensive. Still, expect I'll rake up enough cash to see you at Ballarat at the end of November.

The R.D. Contest is now rapidly approaching. It is hoped all VK3 members will participate and pile up big scores. Make those fellows in VK5 work. Don't forget the dates—Saturday 14th and Sunday 15 of August. The rules are on page 15 of the July issue.

There is very little in the way of news this month. Too cold to spend much time in the shack, but did hear that 3WL is flitting back and forth to VK2. 3DU won't have much time

on the air from now on. 3ZS another who has gone hi-f happy. 3UF heard operating portable. Wondered where you had gone to John. 3WM heard on 40. Not complaining Ken, but thought you'd like to know. By the way, can you tell me what has happened to your obber Associate member John Carrucant? Haven't seen or heard of him for months. 3MZ busy painting, that is, when he's not falling off the ladder. 3APD and 3SK both playing round with screen modulation. 3TX in sunny VKA. 3AEW back on a.r. after a long absence. 3EW trying to push some r.f. over Ashburton way with mixed results. Why are the northern suburb signals so poor over this side of town?

SOUTH WESTERN ZONE

Doings in this zone are on 3.5 and 144 Mc. bands. Everybody is talking beams for 2 mx on the 3.5 Mc. band. If you do not talk v.h.f. they leave you out in the cold. 3HG now has his 70 ft. tower in the air with a five over five on top with a converter on the other end. Neil has been hearing 3YS relaying to 3WI on Sunday mornings. 3EQ has his converter going now, the osc. of 3ANQ's converter going well and the rest nearly finished. 3ARJ having plenty of fun with 5 watts; heard talking vee beams. The boys at Hamilton have gone underground for the winter, nothing heard from them for some time. What about it 3HY, 3TW, 3TN and 3DD.

The lads from Ballarat are suffering from the same complaint, heard nothing since Easter. Another loss to the zone—Bert 3BI is now 7BI at Derby. 3ZL and 3BQ heard on 2 mx during the month, but both rather weak here. 3AGV given away gold digging and converting 3AGE and 3KX to 144 Mc. with some success.

The State Convention is on at Ballarat on 27th and 28th November, 1954. Agenda items are wanted for same, so here's your chance to get that pet winge off your chest, not when the show's over and you are packing up to go home.

NORTH EASTERN ZONE

An interesting note in the last call sign list is VK3AIL, issued to our Associate Lex, in Benalla. Hope we can have the pleasure of working you on the air soon OM. Frank 3ZU has been promoted to Yarrowonga from Euroa, Doug 3IJ had just finished painting the timber for his new masts at the time of the June hook-up, and Hugh 3AHH made some repairs to his tx to be on it. It was a pleasure to work Jack 3AKC on his first North Eastern Zone hook-up last month, but not so pleasing to learn that Howard 3YV was having a recurrence of his trouble, hope it clears soon OM. Henry 3HP nearly had a C.D.E.N. job a while back, however it all ended satisfactorily; Des 3BP has been quiet lately, although Gordon 3XU has been heard on 40 mx, and Jim 3JK reported having his 8 and 2 mx beams ready for erection earlier in June.

Syd 3CI has been beating up 2 mx again, hearing the VK5s at Mt. Lofty about 20th June. There are several notes of hearing Ken 3KR, but nothing of Vic 3ABX, although Rex 3UR has been reported touring back and forth from his home in Benalla to the new position in Bendigo. Col 3WQ has been successfully keeping up his skeds for the zone, and Stan 3AGT is returning to radio, having nearly finished home building. Murray 3HZ and his staff were very busy about 27th June, and it is known that some people are very grateful and very pleased, as a result. Nothing further has been heard of Alex 3AT and the colour photography, neither have Les 3ALE or Johnny 3ACK been about. It is assumed Peter 3AFF has been keeping up with Alan 3UI on the v.h.f., and apparently Keith 3JC is working on 20 mx. The hoped for appearance of Tom 3TS and the news of George 3GD has not yet materialised.

The frost or work kept the pleasant company of Des 3CO off the last hook-up, and it is hoped that we did not miss Jack 3FF if he called us. Associate Vern was to sit for the last A.O.C.P. exams., hope you had a good run OM and that will encourage Associate Clarry to try his hand. A good opportunity of hearing of Associate Jim Harrington was missed recently. That article in July "A.R." on low-powered tx by Hans 3AHH should interest Ron 3AGG, it was recommended for batteries, merely by using 6v. filament valves in place of the ones used for AC/DC, and a vibrator or other suitable supply to provide the h.t.

CENTRAL WESTERN ZONE

Our weekly zone hook-up attendances are steadily increasing now, eight or nine stations being a regular occurrence. We welcome back our old timers, Bob 3ARM and Jim 3DP, who after a long absence now have their rigs working very f.b. Charlie VK1AC is now a regular station on the Wednesday night hook-up and of late has had a consistent S9 signal on 80 mx. Trev 3ATR's usually S9 signal was down as a result of a visit from Ray 3ATN. Apparently

Ray made a few alterations to Trev's 80 mx antenna, because since Ray's visit the feeders exhibit more standing waves than one would see on a U.S. Naval parade ground.

Byron's new three element on 20 mx is now all ready and adjusted for erection; above this beam will go a low angle beam for 2 mx which, when coupled to his new 100w. rig, should work out f.b. Herb 3NN, Yanac, is now on 2 mx and is using a 4 x 4. Merv 3AFO, Horsham, has worked Ray 3ATN two-way at Birchip on 2 mx and Dick 3RR is consistently hearing Melbourne stations on 2 mx, they are fairly weak but nevertheless identifiable. He informed me the other night he was using 40 tubes in his 2 mx rx at the time, including converter, etc., so that should dig the weakest of signals out.

Well the year is wearing on and time is rapidly approaching for us to select a time and place for the next Zone Convention. Usually this is held during the latter half of September, so any views and ideas for a bigger and better convention than ever will be greatly appreciated.

QUEENSLAND

WANTED: An enthusiastic Amateur in the Queensland Division to take on the responsibility of Station Manager of VK4WI.

Duties are to receive, gather and correlate news of popular interest, items, talks and technical matter dealing with Amateur Radio and Amateurs generally in this Division. To outline the policy and activity of this Division to be presented for broadcasting over VK4WI each and every Sunday.

Qualifications needed are, to have the welfare of this Division, the W.I.A., and Amateur Radio at heart, to be willing to give up a small portion of time each week in the production of the above mentioned articles. With energy and initiative to see these articles are on hand for the Sunday broadcast. This does not necessarily mean the successful applicant will have to house or maintain VK4WI or read the items, as Jack 4FP has promised to do both providing he gets the necessary help from members.

Remuneration is the satisfaction of having done something for the Division and the W.I.A. and kept his fellow Amateurs in touch with Divisional activity.

The reason for the above appeal is that too many Sundays have been missed over the past

few months, with no broadcast. This being a vital part of our activity and of too great an importance to just let go "willy nilly" as it has, owing to no one being willing to accept the position. So what say chaps, surely we have one in our ranks who would be happy to do the institute a service in this capacity. Don't leave it to the only too few willing members, as in the past.

Seems as if, while we here in Brisbane are stagnating, the country boys are really getting down to it, as right on top of the news of the Rocky boys forming a club of their own, comes news of a group being formed in Townsville with Harold 4HM, our President at the inaugural meeting. News has it that the boys at Toowoomba are to form a group under the sponsorship of 4GG, called the Downs group. So it seems as if the country members are at least interested in the Division, and a little unity within our ranks, while we here in the city are laying down on the job.

To those interested enough to attend the general meetings, the lectures listed for the next few months are model planes and their remote control, a further lecture on D.M.E., the arts and hazards of deep sea fishing, and impedance matching antennae, Smith charts, slotted lines and what have you. All these lectures are by people who are well versed in the subject of their lectures, and if it's only to hear the elucidation of these subjects, it would make your presence at our general meetings worthwhile to yourself.

Our June meeting started with some topical films, presented by Ernie 4GE, which I'm not going to comment on. It was your misfortune if you missed them and judging by the loudness of the applause of appreciation for Ernie's effort, everyone really enjoyed the show. "Nuft sed!"

Did notice Ron 4RL among those present, long time no see Ron, hope the housing problem is settled, and we will see and hear more of you in the future.

The Field Day held on the Queen's Birthday week-end was to all intents and purposes a flop with only a couple of tx's and not many more Hams in support. Seems as if we will have to go further afield and get the support of the country Hams in future activities of this kind. We would certainly like to hear if this would suit them, they could do the organising their end, while we here try to rouse up enough enthusiasm to meet you on your own ground. With a few more groups, these field days could

be run in various districts throughout the year which, not only would give us a day's outing, but would give us a chance of meeting more of you and knitting the country and city members more closely together in our organisation.

Jim 4PR has built the crystal osc. for 4WI with Jim 4OB doing the installation. John 4FP has promised the use of his car himself as chauffeur, this should put 4WI on the exact frequency while at the same time allowing us to give spot frequency broadcasts.

By what I've heard, 144 Mc. is getting a bit of prodding these days. Is this in preparation to give the holders of technicians' licenses one big welcome to the ranks of Amateur Radio? Did hear of one Ham giving the local air control a call, thinking it was another Ham station.

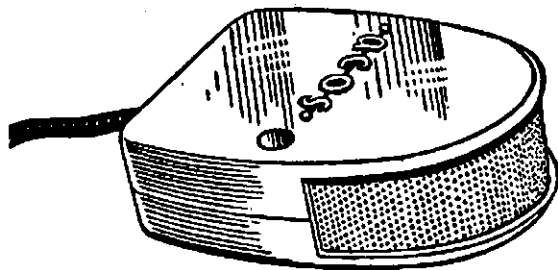
Hear 4NR, who is a newcomer to this State, and 4ZM nattering on the respective merits of an 807 and how they use and abuse them in this and other States. Very enlightening what the poor old "toobe" has to suffer in the hands of the Ham.

Looks, as if the Intrastate shield stays in the country as on the last count of logs in this contest, 4PQ has topped the score again with 4FT a close second, both putting up a very nice score. The best to date since this contest started a couple of years ago. Though a few more logs from the participants would be appreciated if only for check purposes. Maybe next year there will be more activity in it and give these two a run for their money.

From the Gympie area we hear that 4LN has his 14 Mc. beam down and QRL as he is shifting QTH, so means a new pole. 4CR is getting independent as he has one new halyard of copper wire. Only one more halyard to go. No more rope for Col. He is on 7 Mc. at times. Nothing heard of "Chips" 4XR lately; maybe a xtal converter for 21 Mc. may come from the silence. 4HZ is gathering pieces—believe this means a grid dipper—we hope! Jim has had the tube for some time.

August is here again, so what about getting behind your State in the R.D. Contest as we can get that trophy with a little concerted activity on your part even if it means the minimum of contacts and your log sheet in on time. The contest committee is relying on your efforts to pull it off this year. After all, we can always score more than the VK6 boys.

Well that's all for now, and a thought for the month. It is ridiculous for any man to criticise on the work of others, who has not distinguished himself by his own performances.



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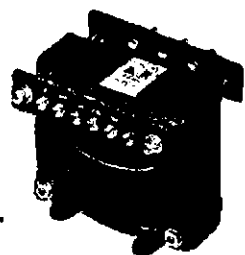
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SOUTH AUSTRALIA

The monthly general meeting of the VK5 Division was held in the clubrooms to a little below normal gathering of members, the number of members present was a little below normal, not the actual members themselves! The guest speaker was Mr. Keith Brearley, who used as his subject, "Continental Tour." The tour included Belgium, England, Scotland, Spain, Germany, Italy, Switzerland and Holland, and was extremely well illustrated with some excellent 35 mm. colour slides. He also gave an interesting description of life and conditions in the various cities visited, and the enthusiasm that greeted the vote of thanks ably proposed by Douglas 5BY was a definite indication of the members' enjoyment of the talk. Among the visitors were Messrs. Daley, Grogahy, Bedford and Judd; to these gentlemen we say come again and we hope that you enjoyed yourselves as much as we did. The Chairman, Gordon 5XU, presented Joe 5JO with his certificate for being the highest scorer for VK5 in the National Field Day, and also read to the members present the suggested alterations to the Remembrance Day awards. Members were asked to give some idea of how many would be likely to purchase the N.Z.A.R.T. call book (25 members signifying their intention) and the meeting concluded at 10.10 p.m.

Mentioning visitors in the previous paragraph reminds me that some members appear to have a somewhat elastic impression of the meaning of visitors. Visitors to our monthly meetings are more than welcome because the visitor of this month will possibly be the member of next month and that is all to the good of the VK5 Division. However, when a visitor keeps bobbing up at meeting after meeting, and tries to dodge the visitors' book, then he is no longer a visitor, but becomes what they used to call me each time I joined a new Sunday School just before the annual picnic, to wit, a "cake-smeller." Joe 5JO is the membership organiser and is stationed at the main entrance at the direction of Council, with the idea of sorting out the visitors from the "cake-smellers" and tactfully pointing out to them the privileges that may be theirs by joining the W.I.A. The next time that you hear Joe going to work on a "cake-smeller" you can take it for granted that he is not acting on his own say-so, but is actually looking after your interests and mine.

I have it on good authority that Doc 5MD has been missing on one or two of his schedules lately and believe that the reason lies in the new sooper-de-loox automobobble that graces his garage these days. You know how it is fellows, rub rub, rub polish, polish, sore wrist, sore wrist, sore wrist, glass arm, glass arm, glass arm, no c.w., no c.w., no c.w.

I received a letter with an enclosed A.R.R.L. booklet on operating an Amateur Station from someone who knows me well enough to call me "Pansy." The several paragraphs on correct operating and procedure were underlined in ink, and the letter suggested that I forward the contents to "A.R." for publication in the hope that it might assist in clearing up some of the rotten operating that at times appear on our bands. I am in agreement with the sentiments expressed, but probably would have been more enthusiastic if the sender had had the courage of his convictions and signed his name. Incidentally, my enthusiasm cooled very rapidly when I had to pay the postman a surcharge of fivepence for insufficient postage on the letter! Seriously though, the writer had a lot of right on his side. We have a set of standard operating rules to abide by, and it is just as easy to do the right thing as to do the wrong. Certainly the best, and the worst of us, make a slip at times, but each State has its one or two who seem to delight in working off-standard and boasting about it. The late Ross Harris, 5FL, was a stickler for operating procedure and gave several lectures on the subject at general meetings. Couldn't someone step into his shoes, I feel sure that a lot of poor operating only springs from ignorance of the procedure.

SOUTH EAST AREAS

STW has had a few contacts on 40 mx and has kept his schedules on the v.h.f.s. (booh!), but Tom finds the shack a little cool these nights for any long sessions at the rx. 5CH has returned from his holidays at VK2 and is carrying on with the shack building. How come that we did not see you this time Claude, couldn't you face my KYL's cooking? SMS has spent some time in remodelling his beam and has worked a few stations on 20, 40 and 80 mx, but also agrees that the cold nights restrain his activities. Jim VSIES was telling me Stuart that your signal is one of the best known VK sigs in Singapore. 5KU now comes under the heading of a de luxe station with heating installed in his shack. Erg naturally is spending more time in his new shack, but as no details are to hand as to his contacts, one can only assume that he uses it to keep warm!

OBITUARY

HAL AUSTIN (VK5AW-5BN)

Hal is known throughout VK as the operator of VK5WI and was, at the time of his passing, an active Council member of the VK5 Division as well as a Past President of the Division. His activities in Amateur Radio date back to its commencement in VK5 and he can rightly be called a pioneer of broadcasting in this State. He is one of the few "oldtimers" who never gave the game away, and at the time of his death was as active in the game as he was in his teens. Ever ready with advice and practical help to the beginner in radio, he was probably one of the most widely known of the VK5 Hams, and was respected in the Amateur and Commercial world for his undoubted practical knowledge in the field of electronics and associated techniques. VK5 has lost a stalwart, VK5 is the poorer for his passing, but VK5 will never forget him, because he lived and died, a true Ham.

To his wife, son and daughter, we extend our sincere sympathy and assure them that we share their sad loss.

FRANK MILLER (VK5BF)

On 24th April, after about 15 months of ill-health, we lost one of our oldtimers in the passing of Frank Miller, at the age of 58 years. Frank was a signaller in the 1st A.I.F. and was an Amateur in the days before licensing. In the late 1920s he used to transmit programmes on the broadcast band from his home in Murray Bridge.

Eventually he constructed the commercial station 5MU and about 1935 sold the station, but stayed on as Manager until the time of his falling health in 1953.

On the Ham Radio side, he ran separate transmitters on each band and was particularly active on 10 metres, where he made countless friendships, especially with the Ws. Frank's signals were always outstanding, but not only that, his equipment in its appearance resembled commercially built apparatus both inside and out. This was due to the fact that he was of the rare type that could make an exceedingly good job of anything he desired to do from radio to fitting and turning.

Of particular interest, it is not generally known that he is credited with the development of the teleprinter. He worked on the design of this whilst in the trenches in France in the 1st World War and was credited with its invention by the Royal Signal Corps. Acknowledgment of this achievement was sent to his parents by cable from London.

We have lost not only a keen and unassuming Amateur, but a man with a high degree of inventive genius and we extend our sympathies to his widow.

5FD, believe it or not, really did get on 40 mx recently, but wasn't on very long before his relay tranny gave up the ghost and John rode away mounted on his dudgeon. 5JA has nothing to report and all I have to say about John is to be found in the last six issues of this magazine. 5CJ has managed to keep his schedules on 2 mx (a couple of booh's), but Colin has at least the grace to say that conditions have prevented him from operating on any other bands. He tells me that he understands that several of the Associates in the S.E. areas are making enquiries regarding the limited license and this is good news if correct, because it will mean "new blood." Hear, hear, say we all.

Was very sorry today (2/7/54) to read in the local paper that a man, thought to be Mr. Frank Bentley (5MZ) had been taken to the Royal Adelaide Hospital after having been knocked down by a motor car near his home. He was admitted to the hospital suffering from a possible fractured skull and a fractured upper and lower leg. At the moment of writing, I have nothing official on the matter, but feel that it is without doubt, Frank Bentley, and we all hope that the injuries are not as serious as stated in the paper. His many VK3 friends will read this paragraph with misgivings and I suggest that they seek any information on his condition from the 40 mx boys in VK5.

Hear a whisper this week that some of the regulars at the monthly general meetings feel that the travel talks are being a little bit overdone and feel that there should be more technical talks in their place. Well, this is all to the good, that's what Council and the programme organiser want the members to do, in fact they want the members to yell out loud if they want any changes in the normal set-up of the meetings. Council and the programme organiser can only try out various

ideas to improve the meeting nights, and if nobody puts on a winge, then they think everybody is satisfied. Gordon 5XU has the matter in hand and will set up the technical talks for the remainder of the year. Time and time again I have emphasised that Council are in office to serve the members and their wishes, and at all times seek constructive criticism. To put it bluntly, if you have got something, they want it, if your something turns out to be nothing, then they will tell you what to do with it. That's fair enough, isn't it?

Incidentally, talking about wings. I must be losing my punch because for the past three or four months, not one stiff letter on cardboard have I received from the wise men from the East, no disgruntled member has written to me telling me that my monthly notes are on the bugle, in fact it is so peaceful in VK5 that I am beginning to feel that it is the calm before the storm. At Council meeting the other night, there was a suggestion that we purchase a new typewriter and I immediately girded my loins and prepared for a lusty dogfight. However, nothing of any great interest eventuated, it was decided to seek prices of secondhand typewriters, and what looked like my opportunity to wield a mighty pen only fizzled out in veiled references from some Council members as to the possibility of our purchasing a filing cabinet, with half concealed smirks in my direction! I wish Gordon 3XU were here again, we always found a windmill to have a tilt at.

The VK5 Division is securing quite a good "Press" these days from the local paper on Thursdays, with the "Wireless Institute" column written by that ace journalist—"Guess Who?" (No Pansies as a prize—Ed.) This column is written with the object of drawing the attention of the average reader to the fact that Amateur Radio is not the hobby of a bunch of half-wits, but is a hobby that can be of national importance and capable of attracting the lowest and the highest in the land to its ranks. The fact that the paper, the "Advertiser," is now giving us a headline to the column each week is further proof that we are succeeding in our objective. How did you like the photograph and the write-up in the paper of John 5HI, not bad, eh? I think I will send a copy of the paper over to the magazine to show them just what the premier Division is doing in the way of publicity for the W.I.A. Ho Hum! By the way, magazine must be popular these days, it was a little late this month and I was amazed with the number of VK5s who were moaning about the lateness. Speaks for itself, does it not?

An unexpected visitor to the City of Virtue this month was Jim VSIES, who was on his way to England after duty in Singapore via VK. Jim took the opportunity of meeting as many of the boys in VK that he has worked at various times and whilst in VK5 was the guest at a little get-together of friends that he made whilst on the air at VS1. I met him for a short period and he impressed me with his outlook on Ham Radio. I think he would be a man after my own heart.

UPPER MURRAY AREAS

The monthly meeting for June of the Upper Murray boys was held at the QTH of Hugh 5BC and resulted in a splendid roll-up including 5XO (the bloke with the round round his ice cream and jelly) and also a visitor to the district in Charlie 5ON who found time to come along and see just what made these country gatherings tick. Actually all hands were present except Hurtle 5RE and the place looked like a buy and sell night but for the fact that none of the varied amount of gear displayed was sold or given away. 5CF brought along some of his gear and there was a session on that; 5BC brought out his 144 Mc. tx, which works in fine style; 5TL brought along a converter and a g.d. osc. on 144 Mc., and 5MA distributed and collected several publications which form, at the moment, the exchange library. Hughie 5BC was instructed to purchase another publication for the library, the cost to be apportioned among the boys. The usual "grasshopper" act was performed by those present upon the goodies provided by Mrs. 5BC, and all present left for home having spent an enjoyable evening.

5XO has been heard on the air by several stations since his change of QTH and 5WO was heard in contact with Alec, although his signals could not be heard. 5MA has at last come on the air again on 3.5 Mc., but the effort was apparently too much because latest advice gives Fred as being confined to his bed with fibrositis or similar. Hope that you are OK by now Fred. 5KW has not been very active this month, but he did climb up the top of his beam tower to watch the fire which was burning some two miles away and gave a running description of the event. Harry said that he was more than satisfied with the view. Frosty mornings this month have not been conducive to early rising, but 5RE, whose information is usually reliable, states that the grass has been white these mornings when he has

been pruning. Naturally the pruning refers to Hurtle's trees and/or vines.

5TL has confined his activities this month to the unmentionable regions and has apparently been talking to Charlie SON because he hints that the 288 Mc. title that I hold was organised with Flannagan and Allan or could it be Clapham and Dwyer. He also suggests that Rafferty drew up the rules, and makes several other nasturtiums about me winning the event. Tom also tries to get into the act by telling me that he also became a grandfather as from 1st June. Anyway Tom, I'll bet that your grandson has not got such a handsome grandfather as my grandson!

Most of the Upper Murray boys cut themselves in on the successful 3.5 Mc. cum 144 Mc. shivoo from Mount Lofly to Victoria, which made history in VK5 this month, and as Tom points out, they might be in the country, but they are doing their best to keep their Amateur Radio in the news. No kidding Tom, you fellows up there have the respect of us all down here for the splendid job you are all doing to keep the flag flying for Ham Radio, despite the distances that separate most of you from each other.

Just as I was putting these notes into the envelope, I received a ring on the phone from my KYL to tell me that Hal Austin, 5AW, and better known as 5WI, had passed away suddenly. On occasions like this I am expected to write a suitable paragraph expressing the feelings of VK5 on the decease and also to give a short resume of his activities in Amateur Radio during his life. To give a short resume on Hal's activities in Amateur Radio is quite impossible because he has been in radio since it was known as radio and has crammed into that time more practical experience than most of us can even dream of. I can remember when I was only just leaving school, and learning the secrets of crystal sets, that I used to listen every Friday night to his transmissions of Gilbert and Sullivan opera from his station at Norwood under the call sign of 5BN, and he was considered at that time to be a veteran of broadcasting, as we knew it then, although he was only in his teens. His activities as an executive member of the VK5 Division are too well known to need enumerating by me, and Hal thought Amateur Radio, breathed Amateur Radio into his business life as well as his domestic life, and can be vouched for by the large number of the boys who were often with him in his workshop during business hours. I could go on writing in this strain indefinitely, but I am not going to because nothing that I could say can adequately express the feelings of the VK5 boys in their loss of Hal. VK5 has lost a stalwart, VK5 is the poorer for his passing.

WESTERN AUSTRALIA

The main item on the programme for the June meeting of the Division departed somewhat from the Ham Radio angle, but was, nevertheless, thoroughly enjoyed by those present—especially those who hold oil shares! I'm referring of course to the talk by Mr. G. A. Smith, of W.A. Petroleum Ltd., on "Seismic Surveying." Mr. Smith presented his talk in a very smooth and at times humorous manner. He has travelled to many parts of the world with surveying teams, and really convinced us that there is more to this oil business than waving pieces of paper in the Stock Exchange.

The two supporting lectures also went off smoothly. Wally Coxon, 6AG, demonstrated some unusual tools of great practical interest, while George Moss, 8GM, concocted an apparatus to show the effect of varying grid and plate voltages on a demonstration triode valve kindly loaned by the Technical College. This tube is similar to the 211 type, with one side of the anode cut away; the remaining active side coated with fluorescent material which glows in proportion to the plate current flowing.

On with the scandal—6MK as usual putting on a relatives signal from Nedlands. That Collins 32V3 should attract plenty of interest when it arrives Tom. 6RU still involved in a rx re-build: completed the job once, but was not satisfied with the switching, so out it came and the job recommenced from the ground up. Moral: Beware of so-called high quality ceramic switch wafers. They can be mechanically unsound, so check yours before taking delivery; it may save a lot of time later!

6AP put in an appearance on 7 Mc. the other day. Alf is on the mend now after a few health troubles. Let's hope they are all behind you now OM. Naremben is now on the radio map with the appearance of 6RT on 80 mx. Also heard on 80 mx was 6VK, of Northam. That band is getting quite a following of "sixes" lately, and the contacts are there to be had, providing the city dwellers brave the b.c.l. 6MO from the Magnetic Observatory at Watheroo was heard working a pair of ZLs as

the DX is there if the gear is up to it. During the month VS1AA and VS1FE passed through on their way East via 6DX at Kalgoorlie. I believe at one stage they were looking for 6LL in his old QTH at Claremont, but of course no luck. Better liaison needed next time Clarry! 6KJ, of Albany, still working the Eastern States on 3.5 Mc. with the greatest of ease, and has been doing so ever since he came on the air. 6YZ to be heard on occasions on 7 Mc. with that 3-inch speaker microphone. 6SR, the official station of the Radio Society, now sports v.f.o. control on 40 mx. Also heard with slow Morse transmissions on 7011 Kc. at 1000 hours on Sundays. 6LU has been experimenting with the Command tx on c.w. and after a series of chirps and blurps, has it putting out a good clean signal.

A point which is worth remembering with the Command tx is that the 1628 magic eye tube makes an excellent oscillator in an emergency, should the 1628 give up the ghost as happened to 6HK recently. The target connection is used as an h.t. tag point on the 1628 socket so 'tis a good idea to disconnect this, but otherwise the tube can be plugged in without modification and the calibration touched up. 6TK raised the question recently of the use of Esperanto on the Ham bands. I think we just about have a language all of our own already Terry, the way some of the chaps bandy the abbreviations around on phone, but the idea has points in favour. 6NF has been warning the fraternity that if they hear strange noises emanating from Appecross way, it's probably Norm on single sideband. Judging by the ZL and W signals with the system, it may be worthwhile experiment. So tune up those b.f.o.'s chaps, and put a VR tube in the oscillator! 6GU's new converter has so much lift on 14 Mc. that he runs the r.f. gain backed right off. He must have been thinking of South Americans when that was on the drawing board.

To conclude on an encouraging note. 6GH in commenting on conditions in general and solar activity in particular, mentioned that the official sunspot number for January was nil. Well it can't get any worse than that, unless there is such a thing as negative sunspot activity, so things look hopeful for a gradual rise in the m.u.f.s. See you on 28 Mc.!

TASMANIA

This month I was tempted to hold writing the notes until after the July meeting, but noticing the "Warning to Correspondents" in the last issue, and having a guilty conscience, I thought I had better do the right thing by the Editor and get the notes in on time.

A most successful social evening was held at the club rooms on the evening of 8th June. This was really the unofficial opening of the rooms and the Council was not quite sure how it would work out when viewed in the light of previous attempts to organise mixed social functions. But all fears were put to flight when the time arrived because the roll up of members, KYLs and visitors almost filled the room to capacity. The evening started with a film show which was delayed a little in starting because of a missing take-up spool for the projector. Suggestions to the operator (7AJ) that he let the film run on the floor and sort it out afterwards were not treated seriously and after a lot of frantic rushing about the town, Athol managed to borrow one and the show proceeded without further incident. A ragchew and supper provided by the ladies rounded off a very pleasant evening, even for 7OM who was last seen bending over the washing up basin wearing an apron.

Doug TDW hit the headlines recently in the local rag—photograph and all—the occasion being the installation of traffic lights at one of Hobart's busiest intersections. You look well up a pole Doug. Incidentally, Doug was that excellent person responsible for the abundance of power points and lights in the 7WT shack.

My apologies for any glaring mistakes in these notes as I am trying out a wide band tuner on Isaac Stern's concert and writing at the same time.

At the last Council meeting, held at the residence of 7AF, Bob complained bitterly about two loose P.M.G. manhole covers on the footpath outside his bedroom window. It seems that at all hours of the night the peace of Battery Point is rudely shattered by latecomers walking on the covers, causing a most unholy clanging. After the meeting, members decided to find out if Bob's complaints were justified, they were, the covers clanged hideously, lights came on, heads popped out of windows and a burly individual appeared full of fight! You were right Bob!

Joe 7BJ has found a new toy, a movie camera! Take my advice Joe, leave it alone, it will break your heart and your pocket, and wait till the kids get their hands on the reels of film. Better stick to radio. Tom 7SW again asking for information about the ex-ARMY rig

he has, more action and less talk Tom, it's about time you put something into that half wave 40 mx antenna you haven't put up yet. Alan 7CJ banished to Kelso, it seems—about time you took the rig up there Alan, or is there too much competition? Associate Jack Stevens contemplating a v.h.f. license, never mind this low frequency stuff on wires Jack, change the frequency. Teddy Evans, when you can fiddle like Isaac I will come to all your concerts (if I get free tickets!).

Boys, the R.D. Contest is with us again—what about it?

NORTH WESTERN ZONE

A combined meeting of the Burnie and Devonport groups was held on 11th June at the home of yours truly R. Wilson. There was a good attendance and it was decided that the meeting night should continue to be the second Friday of the month. No information was to hand regarding emergency equipment, but it is hoped that a few members may begin some of their own design shortly. At the close of the meeting supper was enjoyed by all.

Preliminary plans are being made by a few local Hams for the forthcoming R.D. Contest in an endeavour to win back the trophy which will be a difficult task this year. On listening round the bands there has been quite a lot of DX breaking through and believe that 75F and 7WA have been amongst them. Most of the DX being on 15 and 20 mc with a little on 40. Talking about DX, the local Sunday broadcasts has been coming through fairly regularly on 80 mx though very weak and fading at times, but there has been no sign of it on 40 mx. Most of us who listen here either aren't licensed Hams or don't have equipment for 80 mx, which is a pity because 80 mx is one of our best local bands at the moment.

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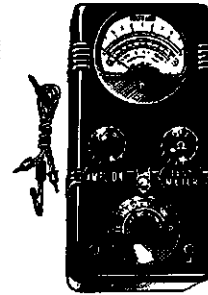
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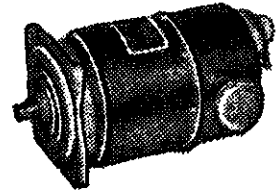
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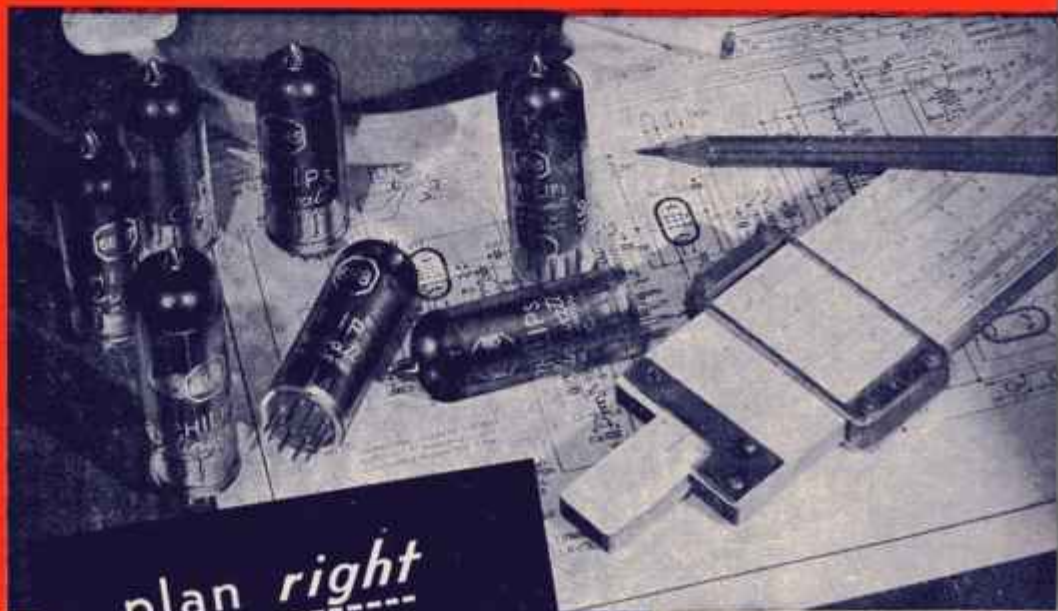
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WI BROADCASTS

All Amateurs are urged to keep these frequencies clear during, and for a period of 15 minutes after, the official Broadcasts.

VK2WI: Sundays, 1100 hours EST, 7146 Kc. and 2000 hours EST 50 and 144 Mc. No frequency checks available from VK2WI. Intrastate working frequency, 7125 Kc.

VK3WI: Sundays, 1130 hours EST, simultaneously on 3573 and 7146 Kc., 51.016 and 146.25 Mc. Intrastate working frequency 7135 Kc. Individual frequency checks of Amateur Stations given when VK3WI is on the air.

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VK6WI: Sundays, 0930 hours WAST, on 7146 Kc. No frequency checks available.

VK7WI: Sundays, at 1000 hours EST, on 7146 Kc. and 146.5 Mc. No frequency checks are available.

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EDITORIAL



THE POWER OF A MEETING

Such are the ambiguities of English grammar that many words can have a multiplicity of meanings. The word "meeting" is a typical example, and yet, in a strange way, the dictionary explanations of this quite common word can all mean the same thing when applied to the meetings of our Institute.

A meeting of the Institute gives that great opportunity to "come face to face with" other people whom we have probably heard on the air time and time again; the chance to "reach out and touch or unite" with our fellow Amateurs; to "come together," "to assemble," "to be united" with people who have the same interests at heart; "to meet," sometimes for the first time, those of our fraternity we have always wanted to meet.

But in an Institute such as ours, this is not the only benefit we can derive from a "meeting"; it also affords a powerful liaison between the Society and its membership; it gives the membership the opportunity to let the Society know its individual problems, the opportunity to discuss individual problems between each other. It gives the Society the opportunity to do something about these problems.

A meeting does more than all the letter-writing in the world could do. It gives the necessary power to the membership and the Institute to discuss and resolve major problems that confront Amateur Radio.

The W.I.A. has major problems facing it all over the Commonwealth today, make no mistake about that! Major problems that must be faced up to by the membership and resolved in a manner that will be satisfactory to all—television interference, foreign encroachment into frequency channels expressly allocated to the Amateur Service, National and Civil Defence Emergency Networks and their co-ordination, W.I.A. representation on behalf of Region III. at the next International Telecommunications Convention—all these things must be faced up to now, not when the crisis is reached!

By meeting each other and discussing these things amongst other interesting Amateur activities, by taking an interest in attending monthly meetings and other organised gatherings of Amateurs, by taking an interest in the administrative organisation behind your meeting and the Institute in general and regularly attending its functions, by giving a little of your spare time to the problems confronting the Institute—by all these things your hobby can endure for you and the generations of Amateurs to follow on in the years that yet lie ahead.

Will you attend your meetings and do your bit to protect the greatest hobby you will ever enjoy?

FEDERAL EXECUTIVE.

THE CONTENTS

Transmitter Control	2	Wireless Operator required for Flying Doctor Service	9
The Complete Amateur—The I.F. Channel	5	Fifty Megacycles and Above	10
Book Review—Low Frequency Amplification	7	DX Activity by VK3AHH	13
Screen Modulation	7	VK Call Signs	13
Amateur Call Signs	7	S.W.L. Notes	13
VK-ZL DX Contest, 1954	9	Federal, QSL, and Divisional Notes	15
Prediction Chart for September ..	9	VK Call Signs	13

TRANSMITTER CONTROL

BY R. M. WINCH,* VK2OA

Recently, the author took stock of his transmitter layout and decided that an overall plan was necessary.

To enable operation on any of the bands from 3.5 to 144 Mc., it is necessary to have at least three transmitters—one for each band would be the ideal, of course. However, operation on more than one band at a time was not envisaged so it was considered that it would be an expensive luxury to have separate power supplies, modulators, keying circuits, etc. Hence, it was considered feasible to have one unit which would supply all power and contain all controls.

CONTROL UNIT

The complete unit is built on one chassis which is placed on the operating desk alongside the receiver. On the front panel are mounted the control switches, gain controls, tone oscillator, pitch control, microphone and key sockets and the modulation indicator.

At the rear of the chassis are six octal sockets, wired in parallel, which act as outlets to the various transmitters.

Each transmitter has its own filament transformer and aerial change-over relay. In each transmitter is incorporated a switch in the 240-volt AC supply to the filament transformer and a 5-pole

fraternity. They are cheap, readily available, neat and conservatively rated at 240-volts, 5-amps. in either SPST or SPDT. They come in several brands, both brown and white and the escutcheons are easily engraved.

The following circuits are controlled by these switches: Filament supply, exciter HT, final HT, modulator, phone send-receive, oscillator on for VFO setting. The first four switches are wired as shown in Fig. 1. The function of the other two will be described later.

POWER SUPPLIES

There are three power supplies, identical except for the type of rectifier valve. The transformers are 385-volt aside, 150 Ma. broadcast type. The filter circuits are the usual 8 μ F.-choke-8 μ F. type using ordinary 8 μ F. 525-volt electrolytics. Each supply has a 200 Ma. dial light wired in the centre-tap lead to cope with accidental shorts.

By using three different types of rectifiers, different voltages are obtained from each supply. With a 5Y3 the exciter pack delivers 320 volts. The PA supply, with a 5R4GY, gives 400 volts, and by using a 5V4 in the modulator supply 450 volts is obtained.

The complete diagram of the exciter power supply and the control circuits is given in Fig. 2. T1, V1, L1, C1 and C2 are the power supply delivering, under load, approximately 350 volts across the points A and D. R1, R2 and R3 form a voltage divider with the point B at 150 volts and the point C at 10 volts positive to the point D. Terminal 1 is connected to the exciter HT terminal in the transmitter, terminal 2 to the screens of the keyed stages, 3 is the oscillator HT, 4 is the common earth, and term-

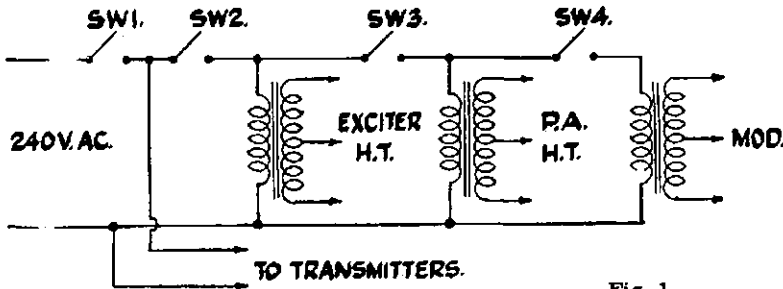


Fig. 1.

This, of course, would impose limits on the design of the various transmitters. After some thought it was decided that this was not as great an obstacle as it first appeared, so it was decided to go ahead and work out a design for such a unit.

The first step in designing was to draw up a set of specifications. Consideration of the contents of the junk-box, some counting of the available bawbees and past operating experience dictated that the design should conform to the following—

REQUIREMENTS

- A maximum power of 50 watts under modulated conditions.
- A HT supply of 400 volts for the final, 300 volts for the exciter, stabilised 150 volts for the oscillator, and screen keying at 150 volts.
- A minimum of operating controls, i.e. as near automatic operation as possible.
- Simple and quick change from one transmitter to another.
- Provision for A2 operation.
- Standardisation of components.
- A constant check on percentage of modulation independent of which transmitter is in use.

A preliminary design was worked out and a unit built up which, after some experimenting, finally worked satisfactorily. As several novel features have been included, it is thought that a brief description of the complete unit plus a detailed description of several of the circuits would be of interest.

switch to break the HT circuits. This latter switch takes various forms in the different transmitters. For instance, in the 40-metre transmitter it is a straight 5-pole on-off switch, but in the 2-metre transmitter it is combined with the crystal switch. In all cases ordinary wafer switches have proved adequate for the power involved.

The control switches on the front panel are ordinary domestic miniature architrave switches. These switches are worthy of attention by the Amateur

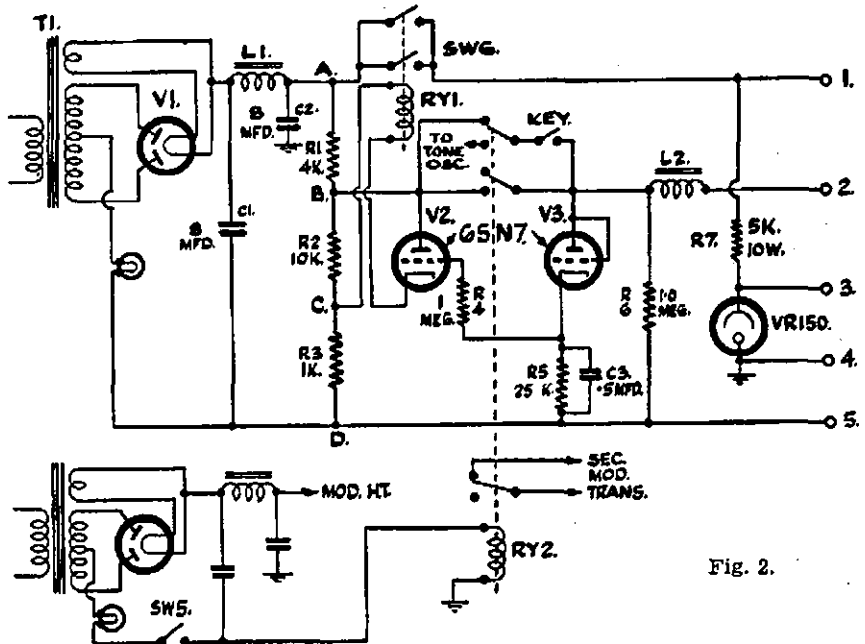


Fig. 2.

* 38 Boundary Street, Parramatta, N.S.W.

inal 5 goes to the coil of the aerial change-over relay, the other side of which is connected to earth.

C.W. Now consider what happens with the key up. The grid of V2 is connected to the negative side of the supply via R4 and R5. The cathode connects to point C which is 10 volts positive. This is sufficient to cut-off V2, consequently the valve draws no plate current and Ryl remains open. When the key is closed the 150 volts from point B is applied to the anode of the diode-connected V3 which becomes conductive and charges C3 to nearly 150 volts.

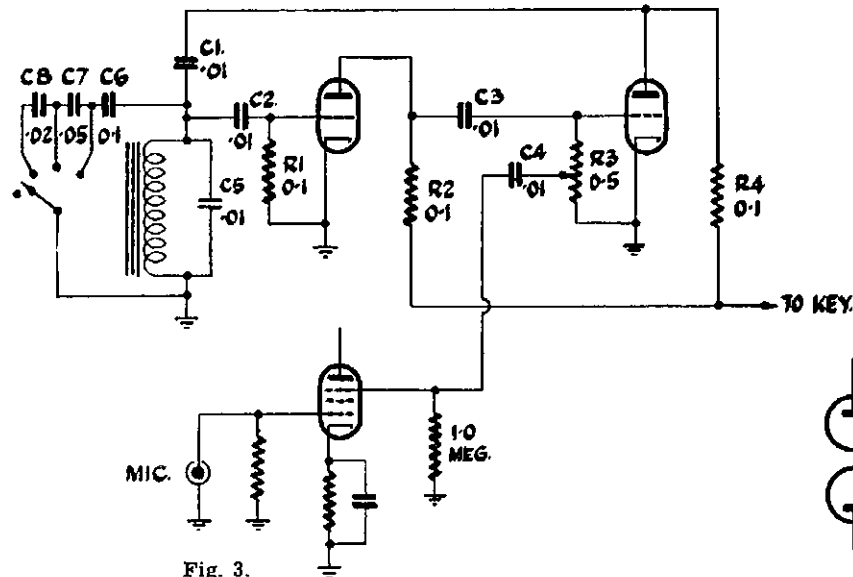


Fig. 3.

Since the grid of V2 is connected to the cathode of V3, it will also go to 150 volts positive—or at least it would if R4 were not in circuit. As soon as the grid of V2 has gone positive with respect to its own cathode, it commences to draw current. R4 keeps this grid current within reasonable limits, but allows the grid to remain at a slight positive potential. V2 now conducts and the resultant plate current causes Ryl to close, supplying HT to the exciter and via R7 and the VR150 to the oscillator. 150 volts is also supplied from the key to the screens of the keyed stages.

The total HT current of the exciter and the VR150 is flowing through the coil of the aerial change-over relay so it too operates and the transmitter emits a signal.

When the key is lifted, the 150 volts is removed so the transmitter stops transmitting and V3 stops conducting. However, C3 does not instantly discharge due to the high value of R5. This means that the voltage across C3 falls at a comparatively slow rate. When it has reached a low enough point, V2 stops conducting and Ryl opens, thus removing voltage from the oscillator and allowing the aerial change-over relay to re-connect the aerial to the receiver. If, however, the key is closed again before the discharge of C3 has reached this point, C3 recharges to the full voltage and the delay commences all over again.

Thus it can be seen that Ryl closes instantly with the first closing of the key, but opens only if the key is left open for a definite time, this time depending on the values of C3 and R5. With the values given, Ryl just opens between words at normal keying speeds.

Ryl needs to be a fast closing relay with a bobbin that will operate on a couple of milliamps. If extra contacts are available, these may be used to silence the receiver. Sw6 is a switch mounted on the front panel of the unit and is used to set the VFO.

Let us have another look at the keying circuit. Very few tubes will key

it to close. The three contacts on Ry2 then perform the following functions: Closes the keying circuit, changes over the key circuit so that it now supplies HT to the tone oscillator, and removes the short across the secondary of the modulation transformer.

SWITCHING The full switching procedure is: Make Sw1 and Sw2, close the filament switches on the transmitters which it is anticipated will be used, close the HT switch on the transmitter required. When the filaments have warmed up, close Sw3. The transmitter is now ready for c.w. operation and merely requires manipulation of the key. For phone operation Sw4 is made at the same time as Sw3. Sw5 is then the send-receive switch.

Note.—When Sw5 is made, the key is automatically connected to the tone oscillator, so keep clear of it when operating on frequencies below 30 Mc. To prevent accidental transmission of the wrong type of emission on these bands, the author turns the tone oscillator gain to zero.

With Sw1-4 made, either c.w. or phone transmissions can be made without any further changing over. Hitting the key gives c.w., making Sw5 and speaking gives phone, and making Sw5 and hitting the key gives m.c.w.

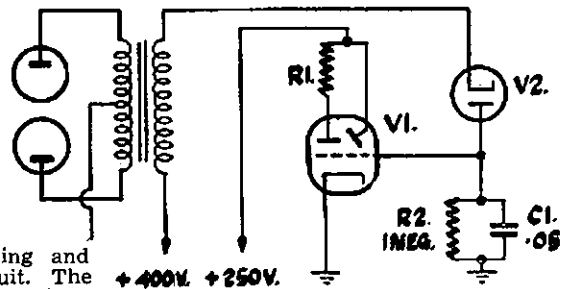


Fig. 4.

TONE The tone oscillator circuit is shown in Fig. 3. A 6SN7 is used as a Franklin oscillator and the output is taken from the grid-leak of the second half and fed to the suppressor of the 6SJ7 which is the first stage of the modulator. (The remainder of the modulator is a 6N7 phase inverter driving a pair of 6L6s in Class AB1.) The coil for the tone oscillator is the primary of an ordinary speaker transformer.

MODULATION CHECKER Fig. 4 is the circuit of the modulation checker. V2 may be any type of tube which will stand the HT voltage. The author uses a 6V6 with the plate, screen and grid tied together. A separate filament winding, which is not earthed, must be used to avoid exceeding the rated heater-cathode voltage of the valve. V1 is an ordinary "magic eye."

The circuit operates in the following manner. With no modulation, the cathode of V2 is 400 volts positive with respect to earth. With modulation, this voltage swings up and down about the mean voltage of 400. 100% modulation will cause it to swing up to 800 volts and down to zero. However, with any percentage of modulation below 100, the cathode is always positive with respect

(Continued on Page 7)

satisfactorily merely by opening and closing the screen supply circuit. The keying will have a poor break characteristic and considerable backwave. The cure is to apply a small negative bias to the screen when the key is open. This makes the keying clean and positive. R6 supplies this negative bias. With Ryl closed and the key open, the power supply is feeding the oscillator and the VR150. This current is flowing through the bobbin of the aerial relay, i.e. from terminal 5 to terminal 4, and causes terminal 5 to assume a negative potential with respect to earth. This is fed to the screens via R6 and provides the negative cut-off bias.

L2 is a keying filter to get rid of the clicks. A point to watch here is that L2 works on both the make and break as the screen circuit is still closed with the key open so that if a large screen bypass condenser is used, the keying will have unduly long tails. Another point is that L2 is working into a higher impedance circuit than would be encountered with cathode keying and needs to be of a higher inductance value. A small filter choke does a good job in the author's transmitter.

PHONE For phone operation, Ry2 does all the switching. Ry2 is a disposals relay with a 28-volt bobbin of approximately 250 ohms resistance. Sw5 is the send-receive switch on the front panel. When Sw5 is closed the full HT current of the modulator flows through the bobbin of Ry2 and causes

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THE COMPLETE AMATEUR

PART TWO

BY TOM ATHEY,* A.I.R.E. (Aust.)

SECTION ONE (Continued)

I.F. Channel

The channelist, as I term the i.f. channel, is a normal conventional double converted job, using 1600 Kc. and 100 Kc. Looking at the schematic, you see that the input from the converter is fed to the standard set-up of short wave aerial and oscillator coils, tuned with a two-gang condenser. This two gang condenser is one of the midget b.c. type of approximately 450 pF. No dial is needed as the gang is set to the acceptance frequency from the converter, then screw-driver locked. This way the input frequency is fixed to the output frequency of the converter, and should require no further adjustment, once set.

The use of ordinary s.w. coils will present no difficulty in obtaining parts, hence their use.

Tune the converted frequency to the i.f. frequency of 1600 Kc. and feed it through the first i.f. amplifier valve in the normal way. The plate output from the i.f. amplifier is then fed to a second converter having a frequency difference of 100 Kc.

Again, as crystals of either 1500 or 1700 Kc. may be hard to obtain, an ordinary b.c. oscillator coil can be used in the oscillator portion. Use a slugged coil and with a fixed padder across the coil, it is possible to slug the coil to the required frequency difference of 100 Kc. As is well known, the b.c. coils

hold their frequency without drifting to a remarkable degree of accuracy.

The new i.f. frequency of 100 Kc. is again fed to a second i.f. amplifier, only this time use a valve having diodes in its make-up, such as an 6N8, or 6G8G. These diodes are used for the pick-up of the voltage for the a.v.c., more of which will be spoken about later. The new 100 Kc. i.f. frequency is now fed to the twin diode valve (either a 6AL5 or a 6H6).

The first diode acts as a demodulator for feeding audio to the driver stage. The second diode acts as a series noise limiter, controlled by an on-off switch. In either case, the audio output is fed to a voltage amplifier. This valve can be either a triode or a pentode, but I have always found that a triode will give you plenty of gain if it is wired in as shown in the schematic.

For the sake of economy use a 6SH7 here. There are plenty of these tubes around (usually for about 5/- each). Wire it as a triode. The only difference to the standard circuit is that the cathode is earthed instead of having cathode bias. Examination of the driver portion of the circuit shows how the valve is connected. I use this system always and find it very satisfactory.

The driver stage is then fed to the output valve. It is not necessary to use a large output here because it is unnecessary. So long as the volume is sufficient to give reasonable output to the speaker system, there is no need to worry the neighbours with the results of your prowess in hearing a VK1 or

the other side of the world. A 6K6 valve is all you need (or a 6M5). If you are content with low output, use a 6AM5. This valve will deliver about $\frac{1}{4}$ of a watt of audio and at the same time keep your final power valve drain down to 19 Ma. (instead of the normal 50 Ma.)

Regarding the speaker system, I have shown two. These are of the three inch type. This is just a bit of flashness to balance the panel and need not be followed. One 5" speaker will do quite as well.

The b.f.o. valve is half of a 6SN7 or a similar type (12AU7) and beats against the 1600 Kc. i.f. input to the second converter. A small condenser is used to vary the note and to allow you to zero-beat the b.f.o.

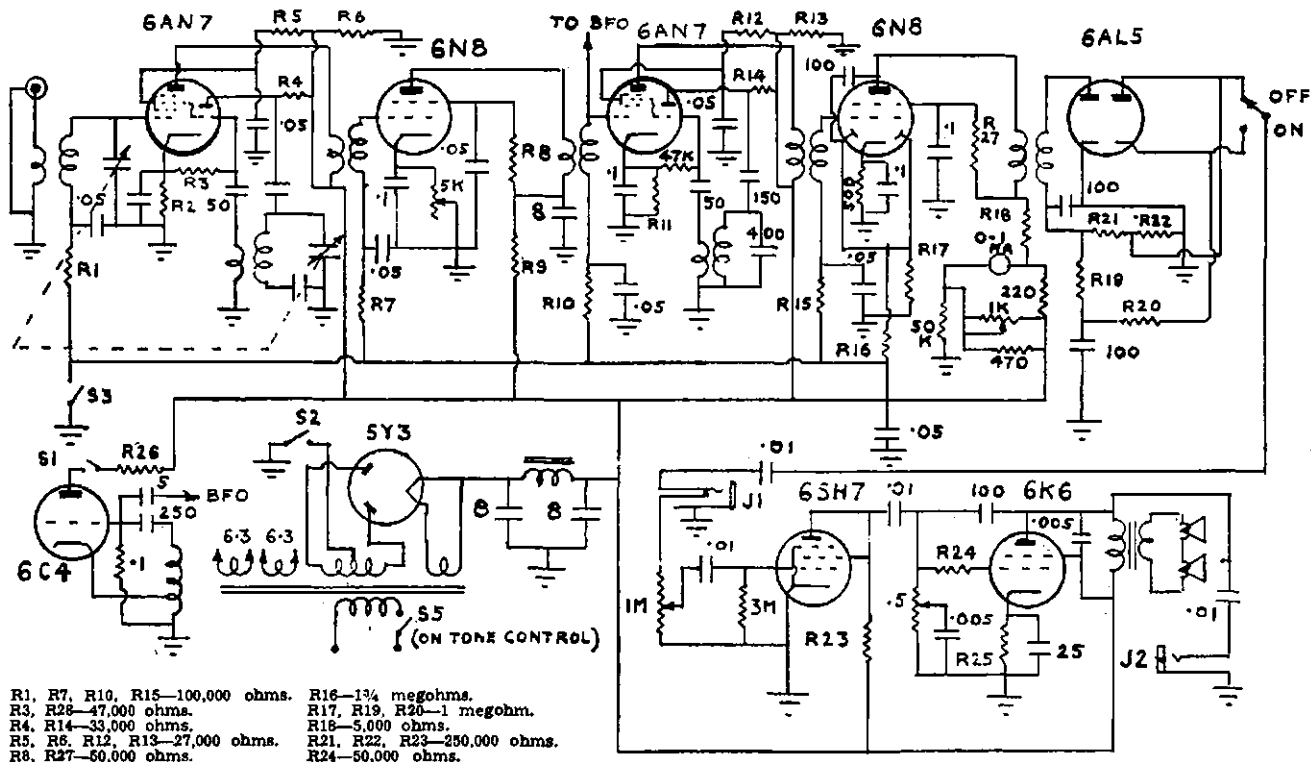
The other half is used for the "Guess Meter"—I term it this way as in most cases it is only guess work. The calibration of such a meter is left to your own individual requirements.

A FEW POINTS ON CONSTRUCTION

From the drawings of the chassis (see August issue) you will see how the recess for the plug-in converters is made. Cut out the recess from your chassis, making it neat and square. Make the opening a free fit, but do not allow it to become too free.

Align the pins accurately so that when the converter is slid in, the pins engage the sockets easily and tightly. Care must be exercised that you allow for the pins in the depth of the opening front to rear. A panel that does not fit snug

* Ex-Instructor Q'land Division W.I.A. Classes; 41 Mountford St., New Farm, Brisbane.



- R1, R7, R10, R15—100,000 ohms. R16—1 $\frac{3}{4}$ megohms.
 R3, R26—47,000 ohms. R17, R19, R20—1 megohm.
 R4, R14—33,000 ohms. R16—5,000 ohms.
 R5, R6, R12, R13—27,000 ohms. R21, R22, R23—250,000 ohms.
 R8, R27—50,000 ohms. R24—50,000 ohms.



The inspection of Mullard picture tube gun assemblies.



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VOLTAGE AMPLIFYING PENTODE EF86

Low-noise pentode primarily intended for use in high-gain R.C. coupled A.F. voltage amplifier stages.

CHARACTERISTICS

V_b	6.3	V
I_b	0.2	A
Cont	5.5	$\mu\mu\text{F}$
C_{in}	4.0	$\mu\mu\text{F}$
C_{a-g1}	0.025	$\mu\mu\text{F}$
V_a	250	V
V_{g1}	140	V
I_a	3	mA
I_{g1}	0.55	mA
V_{g2}	-2	V
V_{g3}	0	V
g_m	1.85	mA/V
r_p	2.5	$\text{M}\Omega$
μ_{a-g1}	38	

OPERATING CONDITIONS

AS R.C. COUPLED PENTODE A.F. AMPLIFIER

V_b	250	250	V
R_a	$\dagger 0.1$	$\dagger 0.22$	$\text{M}\Omega$
R_{g1}	$\dagger 0.39$	$\dagger 1.0$	$\text{M}\Omega$
R_b	$\dagger 1.0$	$\dagger 2.2$	k Ω
* R_{g2}	330	680	k Ω
I_a	2.05	0.95	mA
V_{out}/V_{in}	112	180	

* Grid resistor of following valve.
† Values $\pm 10\%$.

The Mullard EF86 is an all-glass, low noise valve, with the universally accepted single-ended 9-pin technique. The total generated noise expressed in terms of an input to the grid is less than 5 micro volts.

Incorporating the best features of the earlier low noise, low hum, low microphony types, the Mullard EF86, like the picture tube, is truly a valve that is seen but not heard.

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ULTRASONIC GENERATORS — PERMANENT MAGNETS — MAGNETIC MATERIALS AND COMPONENTS, ETC.

MR3-63

and close to the main panel spoils the whole appearance of the job.

The positioning of the controls, shown on the channel panel is self-explanatory, and should not need any comment. The speaker panels are again just a bit of skiting, but if done in chrome would look "super."

When building the power pack, work out the number of milliamps, you want to handle the valve line-up, not forgetting the converters. Under normal requirements a transformer of about 100 Ma. of h.t. is ample, but again this depends on your own requirements. The filaments need about 4 amps. of current to be on the safe side, so I would suggest that your transformer be as follows:

One transformer: 100 to 120 Ma. h.t. 280-0-280 volts, two filament windings of 6.3v. at 3 amps. each, one filament winding of 5v. at 2 amps. One of this type would allow a safety margin and avoid a risk of burn-outs.

A.V.C.

A.v.c. is picked up from the diodes of the second i.f. amplifier and fed to all stages on the channelist. Provision is made by means of a switch to cut off the a.v.c. at will and allow you to run the set at maximum gain, when chasing those weak signals.

The size of the S meter is an optional matter. There is on the market a meter already calibrated for signal strengths. I'm not sure but I think it is supplied by The Master Meter Co. Enquiries from the trade houses in your town would clear up this point.

That's all chaps on the receiver. The rest is up to you. One thing, if you decide to build it up, I feel sure that the effort you put into it will be well worth while. It virtually is a 10 valve triple conversion super having high gain, good selectivity, and low noise ratio to signals.

BOOK REVIEW

Low Frequency Amplification

Low Frequency Amplification by Dr. N. A. J. Voorhoeve, p.p.495. Published in the Philips' Technical Library series. Our copy by courtesy of Philips, of Holland.

This book contains a lot of interest to Amateurs, excepting, of course, the dyed-in-the-wool c.w. only types. It covers almost the whole of the audio field, not only amplification as the title would suggest, but all the auxiliaries like microphones, recordings, pick-ups, loud speakers, power supplies, components and measurements.

Now this is quite a lot to pack into one book. The author has done a good job in selecting what to put in and the result is about the right standard for the Amateur. It is not a designer's manual with page after page of mathematics nor is it a collection of circuit diagrams, but it steers a middle course in a very readable manner.

Like most European books, a number of unknown valve types are mentioned, but the characteristics of the more important ones are given. All the examples are taken from Philips products but the book is in no sense a trade catalogue or a sales pamphlet, but one which can be recommended.

—A.K.H.

Screen Modulation

Mr. J. A. Gazard, B.E., of 39 Glenhantly Street, Woodville, S.A., has raised a point regarding the article "A New Modulator for the Type 3," in August issue of "A.R.," which was not mentioned in the original description. We print, therefore, his remarks on the subject, which applies to all systems of Screen Modulation.

With the arrangement shown, the screen of the 6L6 is at 250 volts without modulation, but under full modulation it will vary from 0 to +500v. The rise from 250 to 500 volts will not give a corresponding increase in r.f. amplitude and consequently the envelope of the output wave will be very distorted, having small positive and large negative peaks.

Goodman, in June, 1954, "QST," page 15, says re screen modulation—

"If we make it (the operating voltage of the screen) the normal screen voltage for the tube used as an r.f. amplifier, we are going to swing it up to twice this voltage on peaks. Two things can happen. The tube can burn up because it is being overloaded, or the output can increase without hurting the tube, showing that we were not getting as much out in the first place as we could have got. The only way is to first find out what the tube can do as a straight r.f. amplifier and then cut the screen voltage back to about one half."

In the case of the Type 3, we are getting all we can out of the 6L6 and therefore it is just as necessary to drop the screen voltage back to about half using either the choke or the transformer for modulation.

Transmitter Control

(Continued from Page 3)

to the anode (earth) and no current flows through V2. If the modulation exceeds 100% the cathode swings through a voltage range greater than 400 in each direction.

In the upward direction, this will be greater than 800 volts, but in the downward direction, the cathode will assume a negative potential with respect to the anode as soon as the modulation exceeds 100%. It will then conduct and charge up C1, thus making the grid of V1 negative and causing the "eye" to close. By omitting C1 and using R2 only, the "eye" would close on over-modulation peaks, but the time of closure would be the same as the duration of the peak.

With the transients encountered in speech the flicking of the "eye" would be so fast as to be hard to see, but by using the C1-R2 combination the peaks are lengthened and are plainly visible even with the "eye" not in direct view.

A word of warning must be sounded about this system however. Its purpose is merely to indicate when the modulation exceeds 100% on the negative peaks. An oscilloscope should be used to adjust the transmitter so that the modulation is symmetrical and linear. After that the gain control should be set so that the "eye" closes on heavy words. This means that the modulation is exceeding 100% on peaks, but also ensures that the modulation is sufficient at all times.

AMATEUR CALL SIGNS

FOR MONTH OF JULY, 1954

ADDITIONS

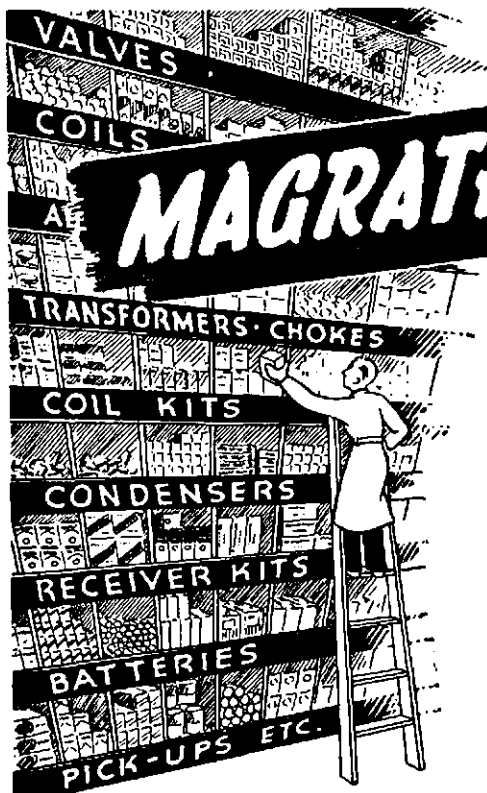
- VK— New South Wales
 2W4—E. R. Woodman, 68 Victoria Ave., Mortdale.
 2ZS—W. J. Smith, 23a Sandringham St., Sans Souci.
 2AEO—B. D. Pronger, 5 Richmond St., Croydon.
 2AJB—P. C. Bennett, 19 Helen St., Westmead.
 2AVQ—R. R. McKew, Flat No. 1, 19 McKeon St., Maroubra Bay.
 2AXW—C. F. N. Wade (Lt.-Col.), 4 Hope Ave., North Manly.
 2AYB—S. C. Burton, 52 Arcadia St., Penshurst.
 2ZAD—E. A. Druiitt, 43 Canal St., Griffith.
 2ZAP—E. Pearce, 19 Meehan Gardens, Narrabundah, Canberra, A.C.T.
- Victoria
 3BY—O. Hoist, 27 Bamba Rd., Caulfield, S.E.7.
 3VS—I. L. Griffin (Rev.), 2a Clifton Gr., Coburg, N.13.
 3AAC—W. R. Clifton, 9 Clarence St., Elsternwick.
 3ACD—R. A. Hipwell, Pier Street, Dromana.
 3AGR—J. M. Ray, 34 Newton St., Shepparton.
 3AXA—R. A. Watson, Back Beach Rd., Portsea.
 3AYB—R. L. Brownbill, 7 Henry St., East Geelong.
 3ZAH—R. L. Haymes, 97 Holmes Rd., Moonee Ponds.
- Queensland
 4XB—G. J. Bean, 69 Beryl Cres., Holland Park, S.E.3.
 Western Australia
 6KO—R. K. Westbrook, 25 French Ave., Merredin.
 6QO—F. R. Gray, 107 Kensington St., East Perth.
 6ZL—B. D. Woods, C/o. O.T.C. Wireless Station, Applecross.
- Tasmania
 7MA—M. G. Burchell, 53 Pitt Ave., Maraway-lee, Launceston.
- Territories
 9JH—J. F. Hanran, C/o. Dept. of Civil Aviation, Port Moresby.
 9PF—P. T. Filmer, Kavieng, New Ireland, T.N.G.

ALTERATIONS

- VK— New South Wales
 2BY—37 Jameson Street, Broken Hill South.
 2FV—26 George St., Greenwich Point, Sydney.
 2KP—2 Carrington Avenue, Caringbah.
 2MJ—22 Kurrajong Street, Sutherland.
 2QZ—2 Yerton Avenue, Hunter's Hill, Sydney.
 2TN—Flat No. 4, 5 William Street, Randwick.
 2VH—Gipps Road, Kelarville.
 2AKW—26 Davidson Street, Concord.
 2APO—55 Bridge Road, Hornsby.
 2ARD—C/o. "East Camp," Snowy Mountain Authority, Cooma.
 2ARY—13 Kelvin Avenue, Picnic Point, Panania.
 2AVO—Federal, via Lismore.
- Victoria
 3KY—29 Elizabeth Street, East Brighton, S.6.
 3OA—Station: 69 Fitzroy Street, Kerang; Postal: P.O. Box 81, Kerang.
 3AAP—26 Mitchell Street, Maidstone.
 3AFT—75 Berry Avenue, Chelsea.
 3AJH—132 Liberty Parade, West Heidelberg.
 3AKD—Main South Road, Drouin.
 3AMV—306 Victoria Street, Warragul.
 3ATL—Station: Congregational Church Hall, Cheringhap St., Geelong; Postal: 158 Kllgour St., Geelong.
 3AUB—Elmo Road, Montmorency.
- Queensland
 4CJ—Cr. Jone and Naughton Streets, Wandal, Rockhampton.
 4ES—Ford Street, Upper Mt. Gravatt, Brisbane.
 4IN—No. 87 Thorn Street, Kangaroo Point.
 4LT—Drayton Street, Nanao.
 4NG—Station: Millewa St., West Rockhampton; Postal: P.O. Box 250, Rockhampton.
- South Australia
 5MY—15 Mackay Avenue, Plympton.
 5RP—7 Glenloch Avenue, Westbourne Park.
- Western Australia
 6BY—Cr. Glenieig and Bombard Sts., Applecross.
 6FC—16 Brook Street, Kalamunda.
- Tasmania
 7BK—23 Dowsing Ave., Dowsing Point, Hobart.
 7WN—House No. 558, No. 2 Camp, Terraleah.
- Territories
 9GV—C/o. D.C.A. Mess, Lae.

DELETIONS

- New South Wales: VKs 2DR, 2SZ (now operating under 9PF), 2VV, 2AIZ, 2AKH, 2ALS, 2AMA (now operating under TMA), 2AVM.
 Victoria: VKs 3JW, 3OP, 3WV, 3AFR, 3AHP (now operating under 2AEO).
 Queensland: VKs 4JH (now operating under 9JH), 4LW, 4XX.
 South Australia: VK5CW (now operating under 3AAC).
 Territories: VK9RO.



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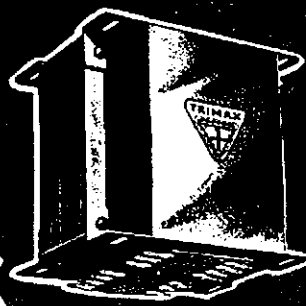
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VK-ZL DX CONTEST, 1954

N.Z.A.R.T. and W.I.A., the National Amateur organisations in New Zealand and Australia, invite world-wide participation in this year's VK-ZL DX Contest. The object is for the world to contact VK and ZL stations, and vice versa.

When: PHONE—24 hours from 1000 hours G.M.T. Saturday, 2nd October, to 1000 hours G.M.T. Sunday, 3rd October. C.W.—24 hours from 1000 hours G.M.T. Saturday, 9th October, to 1000 hours G.M.T. Sunday, 10th October.

RULES

1. There shall be three main sections to the Contest—(a) Transmitting C.w., (b) Transmitting Phone; (c) Receiving, Phone and C.w.

2. The Contest is open to all licensed Amateur transmitting stations in any part of the world. No prior entry need be made. Mobile Marine or other non-land-based stations are not permitted to enter the Contest.

3. All Amateur frequency bands may be used, but no cross-band operation is permitted.

4. Phone will be used for the first week-end and c.w. for the second week-end. Stations entering for both phone and c.w. sections must submit entirely separate logs for each.

5. Only one contact per band is permitted with any one station for contest purposes.

6. Only one licensed Amateur is permitted to operate any one station under the owner's call sign. Should two or more operators operate any particular station, each will be considered a competitor and must submit a separate log under his own call sign.

7. **Cyphers:** Before points may be claimed for a contact, serial numbers must be exchanged and acknowledged. The serial number of 5 or 6 figures will be made up of the RS (telemetry) or RST (c.w.) reports plus three figures which may begin with any number between 001 and 100 for the first contact and which will increase in value by one for each successive contact, e.g., if the number chosen for the first contact is 053, then for the second contact the number must be 054, for the third 055 and so on. If any contestant reaches 999, he will start again with 001.

8. **Scoring: For VK and ZL stations ONLY**—Fifteen points will be scored for the first contact on a specific band with any overseas country; fourteen points will be scored for the second contact on the same band with the same country; thirteen points for the third and so on to the fifteenth contact which will score one point. All contacts with that particular country on that band will thereafter count one point each. This scoring procedure will be repeated on each band to encourage multiband operation. There will be no VK-ZL contacts between each other. Official A.R.R.L. countries list will be used. **Note:** Points will not be entered in the log for each contact—totals for each country will be shown in the summary. Each **CALL AREA** in the U.S.A. will be a "country" for scoring purposes.

Overseas Scoring: One point will be scored for each contact on a specific band with any VK-ZL district. The final score will be derived by multiplying the total contacts on all bands by

the total number of VK-ZL districts worked on all bands. VK-ZL districts are: ZL—1, 2, 3, 4; VK—1, 2, 3, 4, 5, 6, 7, 9.

9. **Logs:** (a) Logs must show in this order: Date, time in G.M.T., band of operation, call of station worked, serial number sent, serial number received.

(b) A separate log must be submitted for each band. For each band an analysis sheet must be given showing: List of countries worked with numbers of contacts for each country and points claimed for each country worked, and total points for that band.

(c) A summary sheet to show: 1, station call sign; 2, name and address of the operator; 3, phone or c.w.; 4, list of points claimed for each band; 5, grand total of points; 6, brief description of equipment used during the Contest—transmitter, power, antennae, etc.

(d) A declaration that all Contest rules and regulations for Amateur Radio in your country have been observed and that the log is correct and true to the best of your belief.

10. The right is reserved to disqualify any entrant who, during the Contest, has not observed regulations or who has consistently departed from the accepted code of operating ethics.

11. The ruling of the Executive Council of N.Z.A.R.T. will be final in the event of any dispute.

12. **Awards:** N.Z.A.R.T. will award attractive certificates to the top scorer on each band and the top scorer in each VK and ZL district. Awards will be announced by N.Z.A.R.T. and W.I.A. Additional certificates will be awarded, depending upon the number of logs received.

13. Entries from VK and ZL stations should be posted to N.Z.A.R.T. Contest Manager, Box 469, Wellington, New Zealand, to arrive no later than 21st January, 1955.

Receiving Section

1. The rules for the receiving section are the same as for the transmitting section, but it is open to all members of any shortwave listeners' society in the world. No transmitting station is permitted to enter for the receiving section.

2. The Contest times and logging of stations once on each band per week-end are as for the transmitting section. Logs will take the same form as the transmitting section.

3. To count for points, the call sign of the station being called; the call sign, strength and tone of the calling station, together with the serial numbers sent by the calling station must be entered in the log. Scoring will be on the same basis as for transmitting stations.

4. It is not sufficient to log a station calling CQ.

5. VK receiving stations may log overseas stations and ZL stations, while ZL receiving stations may log overseas stations and VK stations.

6. Certificates will be awarded to the highest scorers in each country. Extra certificates may be issued depending upon the number of entries received.

AN AID FOR COMPUTING SCORE

No. of Contacts	Pts.	No. of Contacts	Pts.
1	15	11	110
2	29	12	114
3	42	13	117
4	54	14	119
5	65	15	120
6	75	16	121
7	84	17	122
8	92	18	123
9	99	19	124
10	105	20	125

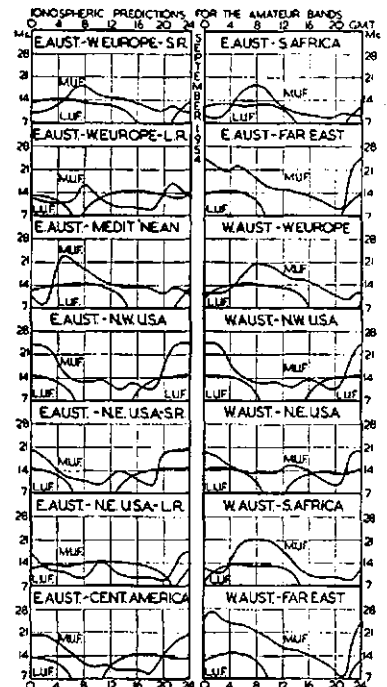
Wireless Operator Required for Flying Doctor Service

The Victorian Section of the Flying Doctor Service of Australia, which established and maintains the Flying Doctor Base at Wyndham, North-West Australia, is establishing an additional base at Derby, W.A.

Tenders have been accepted and it is expected that the building for the Wireless Control Station, and the Operator's Residence, will be completed early in the new year.

A Wireless Operator for the Base is required, and any member of the Institute interested is invited to communicate with the Secretary of the Section, Mr. J. W. Collings, 434 Collins Street, Melbourne. An up to date residence, providing for the operator and his family is being erected. This appointment offers a good opportunity for a young man possessing the necessary qualifications.

PREDICTION CHART FOR SEPT., 1954



FIFTY MEGACYCLES AND ABOVE

NEW SOUTH WALES

The July meeting of the V.h.f. Group took place at the usual location, Science House, in Gloucester Street. The evening was firstly devoted to clearing a number of agenda items dealing with future activities of the Group. Then Adrian ZHE explained his method of obtaining drive to the 228 final of his new 144 Mc. tx demonstrating the result on a nicely constructed rig. Finally there was a quiz session when those present joined in discussing unusual questions dealing with various aspects of radio theory, much to the amusement and enjoyment of all.

The Fox Hunt held on 4th July was marred by inclement weather. The fox, Horrie ZHL, was run to ground by John ZANF. The final location for lunch was at John 2WF's QTH at Bringelly. After lunch, details of the 144 Mc. gear for the 2WI link were discussed and a complete parts list made out. Those present were 2WJ as host, ZANF, ZHL, ZAPQ, ZAJZ, ZAJA, Ess Griffiths and Colin. This has enabled further work to be done in layout and determining the overall size of the units.

The 144 Mc. Mid-Winter Contest took place on the evenings of the 17th and 18th when a total of 25 stations took part—not as many as last year, but an enjoyable contest. The aim was to work as many stations as possible each night between 7 and 11 p.m., only one contact with any station each night to count. The results were as follows: ZANF 39, ZHL 37, ZHE 36, 2OA and ZAPQ 34, ZHO 31, 2LJ, 2AJZ and ZARZ 29, ZKX 27, ZACK and ZAWQ 17, ZARM 14, ZQZ 11, ZABR 10. Congratulations to John for a good effort; also to Horrie ZHL. Our Contest Manager was very pleased with the number of logs received, 60 per cent.—a very good response.

Now that the Mid-Winter Contest has passed, the next annual fixture of the Group is the Spring Field Day to be held on Six-Hour Day Week-end, 3rd October. The object of this fixture is that Sydney stations go further afield than usual to enable more of the country stations to contact them. This year the aim is to form a chain of 2 mx stations from Sydney north to the Hunter District, over the Blue Mountains to the Western Districts, to the South Western, Canberra and back to Sydney, covering as great an area as possible. Then after the chain has been established and a message passed through the circuit, each station will assist stations operating on either side of them in an endeavour to make longer distance contacts.

Plans are being made by the Group for the extension of this object to enable links to be made with stations which do not have a return circuit other than the link station they make contact with and it is hoped to extend links to say the North Coast and Inverell to VK3 who may then be able to extend links to VK5 and VK7.

Several country stations have signified their intention to take part and John ZANF, the Secretary of the Group, would like to hear from any station who wishes to take part so that arrangements can be made to perhaps place a portable station in a location to ensure continuity in the circuit.

We hear that Jim ZAJO at Coolamon had a f.b. contact with 3ATN at Birchip, a distance of 270 miles. A very good effort. This now makes the link through to VK3 possible for the Spring Field Day.

Lectures for the September and October meetings have been arranged and will be "Maps and Mapmaking" and "Points on the manufacture of Condensers" in that order. So keep the first Friday of the month in mind and come to the V.h.f. Group's meeting.

John ZANF continues to work Hugo 2WH on skeds each night. Adrian ZHE does likewise with Fred ZAGY at Newcastle. Bob 2OA is busy on the drawing board planning the layout of the 2WI 144 Mc. equipment. Ted ZABO operated portable down the South Coast to Mount Kerla with a very nice signal. Ted ZKK's tower is fast taking shape. New stations on the band were Norm 2ALJ, Wal 2EW and Jim 2AAS. Welcome to the band chaps.

A note on grounded grid amplifiers from John ZANF, which should interest those who are experimenting with v.h.f. rx's. The layout of grounded grid amplifiers in v.h.f. rx's is a fairly obvious one, but many Amateurs still seem to take the wrong path.

The idea is to isolate input and output circuits to prevent regeneration. As the grid is the grounded and shielding element, the plate circuit should be confined to one side of the shield and the cathode circuit to the other. The shield should run across the centre of the socket and all components in the cathode and heater circuit kept to one side of the shield.

The most common error made is with the 6J6. Here it is most convenient to run the heater chokes (which are essential) on the plate side of the shield. This should be avoided.

Even if it means some tricky bending, arrange the shield so that the heater pins are on the cathode side of the shield. It is most easily achieved by making pin 1 the active plate and grounding pin 2. The shield may then run between pin 2 and the space between pins 1 and 7. Now there is a suggestion that may make all the difference in that rx you intend to use for the Spring Field Day.

A few more frequencies to note: 2ALJ 144.2 Mc., 2ABR 144.48, 2JH 144.68, 2QZ 144.92, 2AQB 145.3, 2EW 145.9.—2AFQ.

VICTORIA

The main activity in VK3 continues to rest with the Western District gang. 3AGD at Coleraine has now a 5 over 5 up 80 ft. 3ATN at Birchip has a 30 element also up 80 ft. 3AKR at Westmere has a 4 over 4 over 4 up 40 ft. 3CI at Nagambie has a 32 element. 3PG also has a 32 element. 3LN has a 20 element and new stacked beams are in the course of construction at 3BW at Portarlington and 3BQ. This great enthusiasm for stacked arrays has resulted in many excellent contacts and really good and consistent signals are regularly heard from all of the above stations.

3ZAA has made a very excellent initiation to the band and is on every night with an 8/9 final feeding a 5 over 5 beam. Very little activity has been heard from any of the other Z calls with the exception of 3ZAC and 3ZAR.

The C.D.E.N. Fox Hunt last month resulted in the best turn up so far and at the conclusion of the Hunt, 22 of the gang enjoyed the hospitality of 3OJ and his wife Dorrie. On this occasion a mass start was tried with the fox car, 3LN, receiving only a ten minute start. On the first run, the fox car was successful in evading the hounds, but on the second run he was caught by 3ADU, followed by 3YS-3ABA combination, then 3ZAA and Norm Dench. On the final run to 3OJ's location, 3YS and 3ADU were again successful. These hunts will continue throughout the year on the second Wednesday of each month, so put a note on the callander and if you are home get on the band to help the mobiles with directions.

The V.h.f. meeting this month took the form of a visit to the manufacturing plant of Australian Paper Mills and the Group is indebted to Norm Dench for the excellent arrangements. All who participated thoroughly enjoyed an interesting and unusual evening. The VK3 gang are looking forward with anticipation to the proposed Australia-wide field day to be arranged by the VK2 boys in October.—3LN.

SOUTH AUSTRALIA

During this month of writing some activity on 576 Mc. should come forth from its chrysalis and should repay the efforts of Bob 6PU who succeeded in obtaining some score of co-axial line oscillators for the VK5 boys at a price within their pockets. Brian SCA has succeeded in using one as a mod. osc. and a second as a super-regen. to work John 5WY in the next room—some DX, what! And as Brian says, "If I can, who can't!" It has a disc-seal tube with a grounded grid, tuned cathode, tuned anode circuit and takes a couple of hundred volts comfortably. Should provide good training ground for my young 2nd op, Graeme, who is rapidly catching up on his younger years. Thanks Bob from the v.h.f. experimenters. I guess that you, Col, Keith, Ray and all the others will be having a thoroughly happy and interesting time.

888 Mc. also seems to be reviving from its rabbit-killer of last year and Tom STD reports that he is on the band every Sunday 1030 hours or immediately following the 5WI session; with Bob 5FR also on the lookout for contacts. Tom has made a regular schedule of this for over 18 months and hopes to continue indefinitely. So turn your eyes and beams to the East chaps and line Tom up.

Close at hand, as the crow flies, is Ian SZAA who wasted no time as you can see by the call sign and in spite of his 'Varsity career, now becomes an active Amateur; whilst much further afield literally, is Don SZAM at Radium Hill with ambitions on 144 Mc. and a fervent desire to educate the local inhabitants in the art of radio propagation. Should be able to make some contact with Berri Don when you get going. Hughie 5BC has the 829 in action and is reaching out into the surrounding country; some sort of a network with 5TL, 5BC, 5LE and SZAM should be the goal. I should think. Hughie has contacted Birchip again, but has to date no success with 3CI in spite of skeds; but Tom at Renmark is faithful to Hughie and doesn't get much further into the wide open spaces. Wait till you get into them yourself Tom, perhaps the signals will be homing pigeons!

News from the South East, concerns mainly the opinions on the tape recording and the

literature. By the time you read this chaps, the Institute will own a Fordagraph and I will be able to forward copies of the script to each of you instead of one miserable copy! The months of July and August have been hectic ones for me and I haven't been able to edit the recording on "Crystals," but hope on my holidays are close at hand and it should appear at the end of August.

April issue of "Radio and Television News" contains an excellent article on a 144 Mc. tx-rx using three 6J6s in the r.f. section with the usual line-up and a 6AK5, 6AQ5 modulator, and rx audio compound—tuning section of the rx uses a 6AK5 r.f. amplifier, 12AT7 osc., with the second half used as a mixer with output on 19 Mc. All stages are low impedance link coupled (including the osc. injection on 125-129 Mc.). As this was built for C.D. operation, it should appeal to the mobile-minded enthusiasts. My copy from the Adelaide Lending Library via SPS, so should be available to the city and country boys on application to the Library. "QST" features two pages of data and photos of the "plumbers" working over a 47 mile course on 10,000 Mc.—repeat 10,000 Mc. Klystrons feeding and being fed by parabolic reflectors make interesting reading.

Oh, well chaps, back to the pipe dreams—5XU.

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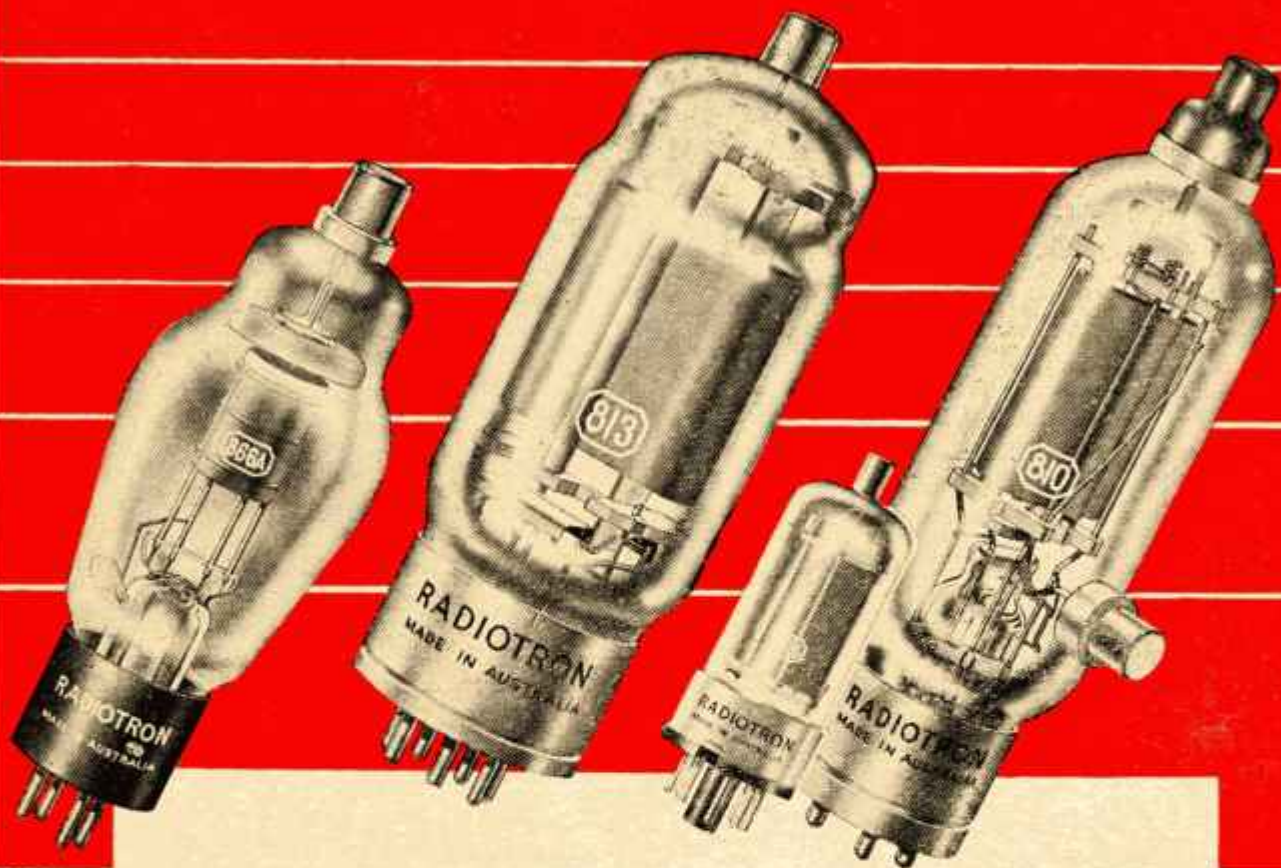
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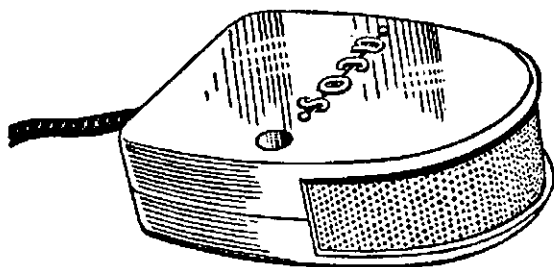
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DX ACTIVITY BY VK3AHH*

DX HIGHLIGHTS

During September, EA9DD, EA9DE, and EA9DF may be active from Ifni.

Cocos Island may again be available with an expedition by the Radio Club of Costa Rica. The call sign will be **T19BCCR** (from BERS195, SM5AQV).

Operation from Liechtenstein is planned by HB9MX during the period 28th August to 12th September 1954. Call sign will be HB1MX/HE and 7 and 14 Mc. will be used. (from BERS195, PA0RC.)

It is hoped that many VK Amateurs were able to benefit from DXpeditions on Crete (SV0WK, 14095 Kc., July-August) and Navassa Island (KC4AB, 14100 Kc., 9th August-16th August) (from 3CX, BERS195, PA0RC).

BAND CONDITIONS

3.5 Mc.: The DX fraternity has still been enjoying the good DX period on this band. As shown by the number of reports, hunting on 80 mx has been rather popular—maybe there is really something special in working DX while the majority of Amateurs on the band practice "back fence" chats, maybe other bands are too erratic—anyway the fact remains, and that is very gratifying!

Times for W-land were between 0700 and 1200z. Pacific Islands broke through around 0900-1200z, and Alaska between 1100 and 1200z. European conditions existed around 2000z.

Chas IAC sets a good pace for the month with ZK1BG*, W7*, VK9IS*, and Frank 5QL follows with DU7SV*, ZK1BG* and W7. Well-known 7 Mc. DXer Laurie 2AMB also spent some time on our d.c. band and reports VK1GA* and KH6AO. Neville 2APL heard DU7SV. Fred 5YS heard KL7VOZ, while VK1AC* was worked by Kevin 3AKR and Rob 5RG. Reg 7WN listened to Ws and KH6 on phone. Eric BERS195 heard DL4HQ (1955z) and VK1AC. 3AHH's log presents KL7VOZ*, DU7SV*, ZK1BG*, W2* and VK1AC*.

7 Mc.: No-conditions are really not as bad as you can hear in comments on 7 Mc. phone! Some competition from commercial stations of all descriptions does not make DXing easy—still our consistent 7 Mc. DXers were again able to get a good share out of the DX bag!

Times for Europe were 0500-0630z and 2000-2200z, with Africa around 1900-2100z. South America was workable around 0600-1000z and also around 1900z. Conditions to North America and the Pacific Islands were reasonable between 0600-1400z. Far East and South East Asia were also available if stations there were active.

Who has not worked a W on 7 Mc. c.w.? Yes, I know—our W friends won't mind if you don't mention normal contacts on this band.

Frank 2QL heads the list with VK1PG* and YV5DE. VK1DY 2AMB is the next in line with F08ACA, VK1PG*, VK1DY*, VS2CP*, KC6ZB*, and FK8AO, XE2LA, HLIAC, YV5BV. Reg 8YD is another well known DXer on this band, although this is his first report: EA9DF*, ZM6AS*, VP6GT*, YV5DE* and heard V9, GW, ZD8BX. Noel SZO QSOed JAs*, CO8AQ*, KL7*, KH6*. Don SADI contacted DU7SV*. From the western State we have Dave 6WT with Y12AM, Gs, SMS, OHIPZ, W3BVN (long path), DLs. Eric BERS195 heard LU1CA, EA9DF, KH6 and a long list of Europeans.

14 Mc.: Up here, the DX gang seems to be "enjoying" minimum sunspot conditions. The old story—band erratic, unreliable, but you can catch a few good ones if you happen to be listening at the right time! Judging by the quantity of reports, the band is as popular as ever, only the DX isn't there to the same extent. OK, let's proceed in the usual style: Times were for Europe, around 0600z and 0400z-0700z. Africa was reported between 0500 and 0700z. Periods for South America were 1000-0400z and 2200-0900z. Antarctica appeared around 0600-0700z. South East Asia was workable around 0700 and 0800z. And North American conditions were comparatively reliable between 0200-0700z.

What did I say? Quantity of reports, so here they are in brief—on c.w.: Chas IAC, GM*, CMA8A*, JAs*, KV4*, EA4*, VK1PM*, 457EB*, GISHEG*, T12TG* and V58RO* (during June). George IDY a long series of ZSs*, F*, VK1EG*, CR7IZ*, FB8BC*. Frank 2QL FB8XX* and VQ2AB, OQ5AC. Pete

2PA F*, KA/JA*, DUICE*, VS6CT*, VS1GG*, Gs*, JZ0KF*, F16AT*. Chas 2ABV VK1DY*, DU7SV*, VR3A*, KLT*. Alan 8CX VR3A*, ZSs*, ZC5* and KV4. Jack 3JJ V58RO* (during June). Ken SKR VS6CW*, VK1DY*, KV4*. Don 3PV/8APV (thanks for comprehensive list, OBI): G, DL, SMS, F, OZ, JA, EA5UU/MM*, ZSs, DU1DO, VK1EG*, ZK1AB, VQ2AB, VK1PG, VS6CR, XE1MJ, ZC5G, ZC5SF, ZM6AS, XE1CM, YV2CS, 5ASTC, YV5BZ*, PJ2AA, PJ2CK, KV4, KZ5CP. Lee 8X0 JJA, TTJ, VRS*, V5850* (June). ZS*, ZES*, HS*, VK1DY*, HR*, XE*. Fred 3YS Y12AM, F, Don 3ADI KV4*, OH6NZ*, HR1FM*, Mac 3ADM VES*, CT, Les 4XJ XE, VES, John 5HI G*, VK1EG*, VK1PG*, PA0GN*, VE*, Rob 3RG FK8AL*, VK1DY*, VK1EG*, ZSs*, VK1PG*, Ray 6RK JAs*, Austin 6WO HC1CF*, ZEJJO*, ZSs*, VK1EG*, Eric BERS195 VR3A, F08AC, VK1DY, JZ0KF, LU8ABL, FK8AC, CO2OZ, CSAR, VS6CR, XE1LA, XE1MJ.

And on phone: 2PA VS1FS*, KL7*, DLs*, DUICE*, VS6BE*, JAs*, 4STYL*, VK1PG*, KA*. 8PV/3APV T12AB, 5YS T12CG. 8ADI VU2RC*, HR1BG*, H1CTE*, VS1FE*, HSIWR*. Ken 8AQ ZEZ 5HI DU7SV*, CO2BK*, DJ*, ZSs*, ZEEJE*, Pat 7PM KL7*, 4STYL*, CO2*, VK1DY*. BERS195 XE2KW, W2JAC/MM, PK6CU (QTH?). Jim Hunt W2JAC/MM, CO2B, VP9BN, FB8BE, VK1DY, ZSs, 4XA, F, 4ST, 544, VU2RC, VS2, FU3AC.

21 Mc.: Both quality and quantity of reports suffered from QSB! It looks as if the band is not very useful for DX nowadays. Don't give up, chaps, it will open up again! W signals were reported around 0000-0300z plus VK-ZL short skip conditions.

Norm 2ALJ worked KH6ARN* and W5BHV*. 5YS mentions W4VUU/MM. 7PM heard W6. Jim Hunt heard KH6s, Ws, W4VUU/MM, W2JAC/MM, W3UQU/MM, DU7SV.

27 and 28 Mc.: Still the same; the layers will not co-operate. Both 2ALJ and Jim Hunt heard nothing despite consistent listening. Anyway thank you for reports!

GENERAL NEWS

According to a recent announcement, the Government plans to expand the Australian Research Installation at Mawson, Antarctica, and to withdraw the expedition on Heard Island next summer. FB8XX is active around 0600z (from 2QL, 3CX).

During September, SM5AQV will look for VK Q50s on 3.5 Mc. around 1900-2000z. LB5ZC is LA5ZC on Splitsbergen. OH is the prefix of Aland Islands. ZD2DCP is active on 14 Mc. daily 1800-2000z, as is EL2X 1800-2000z. Rhodes Island is represented by SV2RI (QSL via H.S.G.B.). QSLs for CR8AB should go to his father, CT1CB (thanks BERS195, PA0RC, SM5AQV for above).

Our "Black List" shows: Radio Pakistan 7008 Kc.; ETA 40 (c.w.); 7015 Kc.; BC station, unidentified 7032 Kc.; BC station, unidentified 7055 Kc. Keep those reports (non-Amateur stations on exclusive Amateur bands) rolling in, either through Divisional channels or directly to me! QTHs of Interest:

ZC5G—Box 441, Jesselton, North Borneo.
ZC5SF—G. H. Harrison, Marine Dept., Sandakan, North Borneo.

VK CALL SIGNS

Pending finalisation of negotiations between the W.I.A. and Mr. Stimpson (Editor of the American "Radio Amateur Call Book," Mr. Stimpson has deleted the VK Calls from the last issue of his publication.

Under the Copyrights Act the W.I.A. must receive payment for the service of supplying any publisher with an up-to-date VK list and the monthly amendment sheets in order to maintain validity of the copyright under the terms of the W.I.A.'s contract with the Postmaster General's Department of the Commonwealth of Australia.

It is expected that this matter will be satisfactorily concluded at an early date.

—FEDERAL EXECUTIVE.

CR6CJ—Julio N. de Matos, Box 244, Nova Lisboa, Angola.

EL2X—N. L. Raymond, C/o. P.A.A. Roberts Field, Liberia.

Rare QSLs were received by 2AHH: VK9OK, OD5LX, AB1US, CR8AF, DU7SV, HR1FV, YV5AP, ZC41P, 2AMB, LA6U (7 Mc.); 3CX; F18AE; 8PV/3APV: T12TG, JZ0KF; 8ZA; CR8AZ, PJ2, KP4JE; 5HI: HC1LV, JZ0KF, LTR1FM, CE3DZ, ZEZJY, ZD2DCP, 4X4FA, HR1DX, VP9BM; 5WO: CR9AF, OQ5VN, F18AE, LUSAQ, ZE3JO, 954AX; 6WT: EL2X; 7PM: FK8AB, HK4JR, HP3FL, HC1FS; BERS195: KC8CU, QO2DZ, VK1HM/ZCZ, ZB1Q, ZK2AA, 45TRA, W2JAC/MM; 3AHH: ZC5SF, VK9RH.

Another month's reports have been covered and I say thank you to VKs IAC, IDY, 2QL, 2PA, 2AHH, 2ALJ, 2AMB, 2APL, 2ARV, 3CX, 3JJ, 3KR, 3PV/3APV, 3XO, SYD, 3YS, 3ZA, 3ZO, SADI, 3ADM, 3AKR, 3AQJ, 4XJ, 5HI, 5RG, 5RK, 5WO, 6WT, 7PM, 7WN, and our s.w.l's. BERS195 and Jim Hunt.

S.W.L. NOTES

(Provisional)

The response to the recent W.I.A. campaign for S.W.L. Sections has been extremely good. Yet, it may be some time until an appropriate S.W.L. Column can be established, a column with the answers to all questions, technical puzzles, etc., of our s.w.l's, ranging from the curiosities of a crystal set to "why can't I hear with my 16 tubes rx what the little t.r.f. next door shows up?" from "how to get DX QSLs" to clear hints on operating technique. Thus, just to keep the ball rolling and the interest up, we shall give some space to our "DX apprentices"; after all, who could be more interested in your reports than your DX scribe?

Of course, our first notes should be directed to the real beginners in the game—those young 13-17 years old with a great enthusiasm, a few shillings in their pocket, and more enthusiasm!

What Receiver Should You Build or Buy?

Even if you can afford it, don't use a complicated apparatus with anything between 8 and 25 tubes, noise limiter, crystal filter, etc. Put it aside, get the circuit of a simple regenerative receiver with one or two tubes! Build it yourself; if necessary, consult the Amateur across the road, and if you really have an active Amateur living across the road, put a simple r.f. stage ahead of your receiver; he will tell you why!

Spend only your spare time with radio; always remember Amateur Radio is a hobby and your school work and other work comes first! Get an exercise book and enter data on the signals you have heard, for example: date, time, call sign, QTH, c.w. or phone. What? Yes, my friends, at your age there is no excuse, other than work, for not learning the "code." Generations before you have used for communication and generations after you will always use too! There are W.I.A. classes for c.w. and also the Slow Morse Transmissions (3504 Kc.) by the South Australian and Victorian Divisions (VKs 5RR, 5TL, 3GU, 5HE and 3AHH).

Do you know why we suggested a t.r.f. receiver for your first attempts? Well, for efficient operating on the bands the operator must have great practice and a sense of touch, otherwise he will always buy a better receiver (more expensive, too) without improving his results. Maybe my opinion is old-fashioned, but it's still the man at the receiver whose operating skill throws the balance to his side. Have you ever seen a Amateur operating his receiver like a car driver his steering wheel in a sharp curve? Look away, don't try to tell him that he is wrong; he will tell you dozens of reasons why he does it—to us, he just hasn't any "sense of touch" which you can best learn by using a t.r.f. for your first s.w.l. activity. Take your time in tuning the bands for DX and more log sheets of interesting call signs will be your result!

OK, enough for today, but before concluding these provisional S.W.L. Notes, I may mention that a well known U.S. Radio Magazine said that our S.W.L. Eric Trebilcock, BERS195, is probably the world's most famous shortwave listener, and his excellent results in nearly thirty years confirm it!

So, you young s.w.l's, Eric has set a high standard for s.w.l. reports from VK into the whole world, and it is up to you, to keep that standard up!

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z—zero time—G.M.T.

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 DX C.C. Manager: G. I. Morris, 50 Eighth Street, Parkdale, Vic.

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President: Jim Corbin, VK2YC.
 Secretary: Harry Hickin, VK2ACH, Box 1734 G.P.O., Sydney.
 Meeting Night: Fourth Friday of each month at Science House, Gloucester Street, Sydney.
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 Divisional Sub-Editor: D. E. Graham, VK6HK, 110 Edinboro St., Mt. Hawthorn.
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 Secretary: W. G. Tait, Box 371B, G.P.O. Hobart.
 Meeting Night: First Wednesday of each month at the W.I.A. Club Room, 147 Liverpool Street, Hobart.
 Divisional Sub-Editor: L. E. Edwards, VK7LE, 126 Strickland Ave., Hobart.
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FEDERAL

EMERGENCY OPERATION

Conditions and circumstances of National Emergency Operation are fully covered in the Handbook for Operators of Amateur Wireless Stations. Those relating to "Local" Emergency are less explicit.

In relation to this, Federal Executive sought clarification from the Amateur Administration. Although it is not possible to lay down inflexible rules to be observed, the following points are published in order that Amateur Station Operators will have some knowledge of what can be expected of them.

In an emergency of a "Local" nature, the Amateur licensee should always place himself under the direction of the civil authority co-ordinating all activities relating to the emergency. This is usually the local Police, though in some cases other officials such as the local Postmaster, Mayor, or Regional Fire Officer may be the directing authority. However, it is suggested that as a general rule the Amateur licensee should first consult with the local Police.

As the licensee is responsible for the operation of his station he should see that only authenticated traffic is passed and that his own call sign is used. Only frequencies within the Amateur bands should be used. The co-ordinating authority will be responsible for the traffic that is passed and no fees will be claimed or accepted by the Amateur Station licensee.

Recalling the fine tradition shown in the past by Amateurs in Australia, it is assumed that this outline will be of value to those worthy stalwarts who render valuable service in situations requiring immediate action.

ANOTHER ONE TO GO FOR!

The Amateur Radio Association of Trieste (A.R.A.T.) has instituted an award, known as the F.T.T. Certificate, which will be issued to any licensed Amateur submitting confirmation of any two-way communication with Amateur Stations in the Free Territory of Trieste. Contacts may be in any of the Amateur bands from 3.5 to 144 Mc.

Full details can be obtained from A.R.A.T., Box 301, Br./U.S. Zone, F.T.T., Trieste.

AMENDMENT TO FEDERAL CONSTITUTION

Under the direction of the Federal Council of the Wireless Institute of Australia, Federal Executive hereby gives notice that it is intended to alter the Federal Constitution (1947) of the W.I.A., as follows:

Section 20. By deleting after the word "and" in the second (2nd) line, the words "two other members," and inserting in lieu thereof, the words "four other members".

FEDERAL QSL BUREAU

RAY JONES, VK3RJ, MANAGER

Eric Macklin, ex-VK1EM of Macquarie Island a year or two back, will be making the trip to Mawson for the 1955 tour of duty. He will possibly have Hugh Oldham, ex-VK1WO as a colleague.

ZL4JA and ZL4MY expect to be in Australia for a couple of months commencing December next. ZL4JA made the trip this year and likes us so much that he is returning and bringing his pal with him. They plan to move around most of the Eastern States including Tasmania.

VK4IC, Willis Island—275 miles east of Cairns—is heard frequently on 14 Mc. phone, and requests QSLs via W.I.A. as Willis Island gets only one mail per year—usually in June. The only human beings thereon are two radio men and one meteorologist. They are always glad of a call, so don't pass them up although their location doesn't count as a new country.

KC6KU, in a recent QSL to Eric BERS195, requests SWL reports on his signals. His address is Jack Youngstrom, Kusae, Caroline Islands. Jack, an American, uses a Viking transmitter and is seeking VK6 and VK7 contacts. He has already contacted all other VK districts. Jack is having his first experience of Amateur Radio while located at the Carolines.

Leo Rand, W2JAC/MM, aboard S.S. Pioneer Glen, recently in Melbourne, solicits VK QSOS. He QSLs OK with an excellent card.

Frank Anear, VK6WZ, in a letter under date of 18th July is very pleased with a Geloso VFO which recently came to hand, and is more than pleased with the suggestion in a recent "A.R." to substitute a 6L8 as last tube in place of a 6V6. He has been off the air since early May re-building the rig and using the all band final described in October, 1953, "Amateur Radio."

Details of the awards available from the Radio Club of Cuba, and the Radio Club of Costa Rica, are available from this Bureau.

On 11th July, W6AM informed writer that two W4 Amateurs were due to be in HV (Vatican) about middle of July. It is not known if they were successful in getting on air from that locale.

W4QCW and W4VZQ were scheduled to arrive at KC4—Navassa Island—on 1st August for five days' operation. It was recently announced that KC4 is regarded as a new country. It is located between Cuba and Haiti and of course is U.S.A. owned. This information also from W6AM.

Enquiries reveal that Jim Carr, ex-VK1JC, has not sent out cards because one of his youngsters had inadvertently burned the log book!

NEW SOUTH WALES

The monthly meeting of the N.S.W. Division was held at Science House, Gloucester Street, Sydney, on Friday, 23rd July, but unfortunately, the attendance was not as good as usual despite the efforts of Council to provide an interesting lecture.

The meeting was opened by the President, Jim Corbin, 2YC, and after the usual formalities were dispensed with, the meeting was handed over to the lecturer for the evening, M. Michael Callaud, who gave a most informative and interesting lecture on the "Aqua Lung and Diving." M. Callaud gave the technical details of the Aqua Lung and recounted some of his experiences in diving both in Australian waters and also in the Mediterranean, and followed the descriptive part of his discourse with some explanatory films which gave a great insight into the work done in France in the perfection of the art. The films were a graphic representation of the inspection of the wrecks off Toulon following on World War II, and impressed most of the audience, especially the anglers who were fascinated by the fish, only to be assured that the fish in our 'arbour were both more sizeable and plentiful than in the Medi-

MY XYL SAYS!

WHY is it that if our hobby is purely amateur, quite a number of the boys attempt to carry on a professional conversation when on the air.

My XYL says that if a Ham is in professional radio outside his hobby, he usually tries to hide that fact when he is "Hamming," but some Amateurs, possibly from an inferiority complex, keep introducing a mass of technicalities into the ragchew which at times are the source of much amusement at the other end of the conversation.

Of course my XYL is ignorant of the finer points of Amateur Radio and can be forgiven, if not silenced!

—OIGLE.

terranean. This latter disclosure by M. Callaud is possibly responsible in part for the lack of signals on the bands.

Discussion took place on the v.h.f. equipment being constructed by the V.h.f. Group, it being reported that in the near future that the receiver will be complete, the transmitter to be completed in the near future. Finally the meeting was closed and members filled in the remaining time with the familiar ragchew which, as usual, concluded in the street.

SOUTH WESTERN ZONE

News is very scarce this month as even the old stalwarts have missed out on the zone hook-up this last two Wednesday nights. Ray 2APZ has acquired an SCR522 rx so we hope to hear 144 Mc. signals from Leeton in the very near future. Geoff and Ross at Tumut are hard at work getting 144 Mc. mobile gear going to their satisfaction. Lyn 2AQE has his gear all nicely fitted into a console cabinet; he has visions of moving the rig into the lounge now that things look presentable. Keith Dodd, at Tumut, has the call 2ZAA; congrats Keith and hope the v.h.f. gear gets you lots of contacts.

Arrangements are well in hand for the South Western Zone Convention at Tumut. It is to be held on 30th-31st October, so all are requested to keep the date well in mind; buy the XYL a new frock, and we hope to meet you all at Tumut on that date.

STOP PRESS.—JATN (Birchip) and 2ALO (Coolamon) made c.w. contact on 144 Mc. on 28/7/54—the Sydney link now looks good.

HUNTER BRANCH

The July meeting of the Hunter Branch of the N.S.W. Division W.I.A. was held on Friday, 9th July, at the Tighes Hill Technical College. Lionel Swain, 2CS, presided over the meeting, which was attended by 18 members and associates.

Three films were screened, "Battle of the Road," "Are You Safe at Home," and "The History of the Helicopter." Among the correspondence read was a letter of resignation by Harold 2LV. The meeting expressed its appreciation to Harold for the work he had done for the Branch in the past, both in the capacity of a Branch member and also as Secretary.

Max 2OT gave an interesting lecture on "Visual Alignment" and used varied equipment to illustrate and demonstrate his points during the lecture. Max ably showed that there is more to aligning a rx than to twiddle the i.f. slugs, meanwhile hoping for the best. The lecture provoked much discussion and many were the questions fired at Max at his conclusion.

The Social Committee held a meeting at the residence of Bill 2XT to discuss arrangements for the Hunter Branch Field Day on 3rd October and the Xmas Social to be held in December. The location of the Field Day is not as yet definitely known as the Committee's application for Blackhall's Park has yet to be confirmed. Definite details of both functions will be found in these notes in next month's "A.R."

The news of the doings of the Hunter Branch boys is not so plentiful this month for two reasons, one that there has been a noticeable falling off in activity and, secondly, my chief spy and collaborator, Ron 2ASJ, has been holidaying at Denman. Ron usually supplies me with quite a bit of news each month, so will have to see what I can do on my own. Bill 2XT has made many improvements to his TA12 and the signal that he is putting out on 20 mx is solid. Bill 2AXM is making adjustments to two modulators in an endeavour to use the best of the pair. Les 2AOR has his AT5 working OK but is re-building the modulator. Lionel 2CS is still rewriting his rig; when he will be back on is anybody's guess. Leo 2QE has disposed of his 2 mx gear and is concentrating on 7 Mc. Fred 2AGY still working Adrian 2HE on 2 mx. Charlie 2ARV is on his annual holidays and brought back some information from Wyong way. Doug 2ASA at Tuggerwong is now working three bands using a gamma match. Bert 2AIO at the Entrance has his new 20 mx beam skywards so listen out for him.

The Hunter Branch weekly Net is still operating on Monday evenings at 7.30 p.m. on 7140 Kc. with 2AWX as the control station. All Hunter Branch members are invited to join in the net for a ragchew.

The next meeting of the Hunter Branch will be held at Tighes Hill Technical College on 10th September at 8 p.m.

NORTH COAST AND TABLELANDS ZONE

Once again the impact of threatened flooding has hit the zone and for a while things looked very black indeed, but all concerned were relieved when the position eased and it became possible for normality to be reached. Crieff reported to have left his home, but as far as can be gleaned no damage was done. Ted 2AVG also on the job and was all geared up to work mobile if need be. There is no news from further North, so it appears that all is OK.

Alan 2FH has been holidaying at Port Macquarie and a convention was arranged, which was attended by 2AVG, 2PA and 2FH, your zone officer being tied up with sickness in the family. Peter 2PA getting around on 20 mx, hear the DX calling him most consistently. Terry 2AJS has been listening to his own transmission, declares it much better than he had thought, so we may hear more of him on the band these days. Web 2AQI is having regular skeys with the Inverell group on 144 Mc., where of course there has been quite a deal of interest shown in the band since 2ADT arrived. Bill 2AEV has been building new hand-switched final with 813 for use on 80 through 10 mx. Crieff 2XO busy with the Gieger counter looking for the elusive mineral; said counter being a home constructed job. Noel 2AHH now has 102 countries confirmed. 2PA working plenty Europeans 6-8 a.m. More and more notes are requested from the zone, so see what can be done chaps for next month and don't forget Urunga next Easter.

WESTERN SUBURBS

Barry 2AAB is back on the air again, but not so often at the week-end, must be a reason. 2YI has a beam and at the time of writing, it is 18 ft. above ground, but will soon be around the 30 ft. mark; it is doing well though and puts Harry back in there with the DX, and another Harry, 2OQ, will soon be knocking them over as in days of yore. Alex, from the same locality, is the proud owner of a new buggy, he can't decide whether the car or the AR88 take the pride of place. 2HU heard now and then as is 2AFE with a heart-rending discourse on "Fli Rice." Jack 2AKR is still in the game and will be there when the band opens again.

Leo 2KS heard on the "man's" band occasionally, wonder why? 2AGT not heard so often, but is another who will be on when things come good; maybe will buy a new banana case to support the beam. 2APT has been on holidays, has counted his apples and pears, but the trophies, hi; has other hobbies including one with a 'ong in it, but still anything is likely to happen up on Kelly's Hill. The beam is doing a fine job for him and he must be about No. 1 man towards W these days.

2AEK and 2NJ are happy with tape recorders, too busy to talk these nights except on recorders. 2IV spends quite a time away we hear. 2QX busy at times with the beam, nice work John. 2ABO and Alf are heard now and then, the signal is quite OK but the antenna will no doubt be improved. 2ACD still getting the beam up, but is working on gear for 80 for the R.D. Contest. All you fellows in this area should be in it this year; we need the logs, so don't forget.

2AOI is rarely heard, and 2AHU has given the game away. Harold 2AAH is still active when studies permit, beam near the ground and uses a vertical with which he manages a few contacts. Charlie 2AWQ is busy with Council affairs, but goes on 40 now and then. Noel 2AQH at Blacktown has unfortunately met with a car accident, is mending gradually and spends some of the time on the air talking to his friend, Laurie 2AKV at Kurragong Heights. Few signals heard from the Parramatta area, but we hope for reports one day. The most consistent is 2ID who really packs a signal, is adding a 2 cl. on 21 Mc. up top. Ken 2AXZ is a very busy boy with the Class, which reminds me, if any of you chaps want to learn Radio, get in touch with Ken Kimberley, either at his home address, it's in the new Call Book, or on the Class nights at the Railway Institute.

NOTE.—Will members of all zones please ensure that all letters and notes for these columns are sent to my QTH, 16 Loudon Street, Five Dock, by the 1st of the month as it is requested by our colleagues in VK3 that they must be in their hands to ensure publication in the issue for which they are intended. It is a matter of regret to me that some zones and portions of other zones are not represented in the notes, so I would be pleased if some of you fellows, both in these areas and others in the suburbs, would do the right thing and drop me a line. Thanks chaps.

If any zone officers have forthcoming functions they feel they would like reported, I would appreciate it if they would notify me so that I can arrange with the Editor before hand.—2ACD.

EASTERN SUBURBS

Compiling notes in this area is something like searching for the proverbial needle. Nobody volunteers appropriate "gen" so needs must the scribe twiddle the dial and keeps the ear open. Even at that the evenings are oft-times devoid of local activity, and as for daytime and lunch period activity—well, I don't know, being one of those who toils days. Firstly, the main point uppermost is a word of congratulation to VK3 for the excellent effort in the Call Book. 'Twas sorely needed. Now one no longer wonders where that bloke is although amendment is

already necessary. The Amateur population does not seem to stay put; especially the younger generation.

2ATA has been very active on 20 mx phone of late and Phil seems to be getting among the DX, albeit antenna conditions are a bit of a handicap (yes, we all wish for acres of earth avec beaucoup rhombic). Horrie 2FA says that 2ATA has gone to Lord Howe Island for a couple of months so perhaps he will be heard therefrom via portable? Horrie, at this time of writing, is recovering from hospitalisation and is slowly mending. He enjoys an occasional QSO with what DX is offering, to say nothing of that which isn't on the dial—until he calls. Any part of the globe is liable to come back to 2FA.

No names, no packdrill. Heard a local say he wouldn't put in one of these new-fangled ideas—a Faraday screen—in order to cut down radio-inductive QRM. New-fangled my foot! Brother, we used Faraday screens in rx's and tx's when some of us had our tube filaments lit by prehistoric electric eels! "QST," "Radio" and the Handbooks of two decades ago are where you can read all about it.

Heard Ray 2AIG saying on 20 mx that he is now using an 813 in the final. 2ASE was heard calling 2AX on c.w. on 40 mx, which could be a first appearance for some time, but there is reason to believe that Ern is active, but on 2 mx. Stations abounding in this region which have not been noticed, at least by this scribe, are 2AHQ, 2AHJ and 2ZQ. 2HP was heard on 40 mx with a second op. doing the talking. Hope the health is continuing good Harold. 2NO is not particularly active, but keeps 20 and 40 mx gear pepped up for when he can push the switch. Most of his time has been taken up by paint brushes—house kind—not art gallery. A visitor heard from his station at times is Doug 2LIOF who now gets about the skylanes per DC6B, and when at home puts in Amateur time on 40, 20 and 15 mx. The antenna situation at 2NO is not at present prolific and is reduced to a lone wire, 134 ft. end-fed.

A recent station appearing briefly was 2ZAN, operated specially on the Services stand at Sydney's Royal Show, by Lieut. Commander Thrum, R.A.N. Unless we miss our guess, another VK2 call will be in the offering some day as it looks as if the Amateur bug has bitten. It will be a change from teleprinters anyway. OM. 2ABJ has been busy with line filters chasing the demon b.c.l. and found that by earthing one side of his co-axial feedline the trouble was immediately cured. He is planning a negative peak clipper. 2TN often talks by radio to the Waverley Club, which is slap next door. Say Ivan, what about some string and a couple of tin cans?

VICTORIA

The "Grouch Night" was very poorly attended, only about 50 being present, including 2AYE. Of the hundred or more absentees, none sent an apology. Membership increased considerably. Messrs. Boarse, Bowley and Cunningham are now full members, and Messrs. Bedson, Mayle, de Salley, Hawthorn, Higgins, Jansen, Kinsley, Brown-Parker, Wilson and Wolf are Associates. If the spelling of any name is incorrect, my apologies.

Commercial stations are still operating in the Amateur bands and 3ZA, 3MC and 3ARV are logging these stations, and will report instances with the view to having the trouble cleared. I wish them luck.

It is anticipated that, in the near future, arrangements will be finalised to have photographs in "A.R.," each Division supplying the photo in turn.

The Slow Morse Transmission is now made on 3550 Kc., so you chaps who use this service, look further up the dial.

The Division has recorded their thanks to Ken Millbourn for the presentation of an audio oscillator for the code class.

By the time this is in print, the S.W.I. Group should be formed. Members of this Group will be given official receiving station numbers.

Steps are being taken to start a new award—Worked All Australian States on all h.f. bands, i.e. 80, 40, 20, 15, 10 or 11, and 6 mx. Can't see many certificates being issued. Space does not permit a full explanation at present.

Amongst the grouches were b.c. harmonics, c.w. abbreviations from phone stations, key clicks and the use of the word "Ham." 3TX objects to the c.w. expressions, but I still want to know the meaning of the one he used. About the key clicks, well I wouldn't like to say, but there is a couple of bobby-dazzlers in this neighbourhood. The word "Ham" is disliked by the President, Secretary and Treasurer of the Society for the abolition of that awful word. So far I've recruited only two members. Thanks for assistance Max 3ZS. I'll collect your dues later.

Somebody asked an embarrassing question about the C.E.D.N. Apart from the Fox Hunt, there is apparently no activity. I think it was the same fellow who asked what is being done about the Olympic Games Committee. The bucks were passed to Council.

Have a note made at the meeting which reads: "Librarian looking for Mugs." Expect this should read "Mags." Anyhow, if you have any mags belonging to the Institute, please return them pronto.

The Central Western Zone Convention will be held at Reid's Lookout in the Gramplains on 10th October. An invitation is issued to all to be present. The State Convention will be held on 27th and 28th November at Ballarat. We'll be seeing you.

Those who missed the July Tx Hunt missed a treat. Mr. and Mrs. SLN went to town and if the idea was to toss 3VZ and 3JE, they certainly succeeded. Len borrowed a car from someplace and set the gear up in the boot thereof. The antenna went from the car about 200 yards across the Meribyrnong River, along the river for another 100 yards and then back again. Len provided a ferry service—3d. per person per trip—for those hunters wishing to cross the river. As for decoys, you couldn't move without falling over co-ax, batteries or spectators. Even had a box in a tree and a ladder for those who wished to check the contents thereof. 3ALY was first in, followed by 3ADU about five seconds behind. The 3VZ-3JE combine was third with three minutes to go. Reg. Bowen made it just before closing time. Others still haven't found the gosh-darn thing. Phyl called afternoon tea with a burst of c.w. on a car horn.

Don't see any point in advertising the Dinner to be held on 12th November. 3ZS is doing very well. He even talked me into it.

After reading the VK5 notes last month, which I do after reading everything else, I contacted my spy, VK5XZ/R/T4 and nabbed a copy of the "Advertiser," dated 8/7/54. Just to see what 5PS did write each week. Well I hunted through and didn't find a thing. What did, however, catch my eye was a picture of a lass clad only in the products of Messrs. Hickory. This picture was framed with an article labelled Wireless Institute of Australia. The page was headed the Marion March Page. Now look here, Pansy, or should it be Marion, although I think Priscilla sounds better, we of the Magazine Committee are sorry, but we cannot devote space to your recipes or household hints. Nor for that matter would Doc be very pleased if we print your report that "SMD was wearing a duck-egg blue shirt and a pink bow tie." No sorry, but definitely no fashion notes either. Now wriggle out of that! Oh, how apt, after the snake business.

Last month I sermonised on the lack of young blood coming into the Institute and hinted that there was more to follow. Well by deleting a few VK5 notes, I might be able to squeeze this in. A Group of us turned on a show for a local Youth Club. We took along practically every piece of equipment we could carry and gave them a night and a half. We have a letter in a dainty feminine hand to prove it. Yours truly was "dubbed in" to do the talking, only because 3AHC did a fancy piece of duck-shoving. Anyhow, we wanted his rx. The other participants were 3RN, 3AAF and 4OM. Come to think of it we enjoyed ourselves too and also learned a lot if the occasion arises and we have to do a similar job again. What about a few more groups forming and doing something along the same lines.

NORTH EASTERN ZONE

It is understood that Jim 3JK has prepared an article on the modification of Command rx's and tx's for "A.R." That is what the Editor likes to see OM (Definitely—Ed.) Hugh 3AHF is believed to be after a bit of DX on 20 mx, and Vic 3ABX has been on 40 mx. Rex 3UR is still home-based in Benalla and Jack 3PF had his new masts painted, but not up at time of writing. Although no news of Murray's (3HZ) Amateur activities, both the OM and the XYL have been mentioned in the provincial news-sheet. Alex 3AT has not been heard of lately, and the prevailing weather put Les 3ALE off the July hook-up before it was ascertained what had become of Johnny 3ACK.

Chas 3ACW has been keeping up other interests than radio, as noted in local paper, while Doug 3JJ has put up two new 50 ft. masts, before temporarily leaving Mangalore, with help from Ken 4KR, Peter 3AFP, Alan 3UI, Keith 3JC and Syd 3CI who must have been after a change from his extensive and generally successful operations on 2 mx.

Col 3WQ reports doing a little elementary radio construction as well as looking for some new Associate around Numurkah. Our Associate Fern, in Cobram, reported that he had satisfactory papers on radio theory and regulations in the last A.O.C.P. exams, but the telegraphy will probably require another run in October. "An ill wind blows no one any

good," and the good part of this is that it should encourage Associate Clarry with his studies for that exam.

Possibly the prevailing cold weather did not encourage Stan 3AGT to join an evening hook-up. It does generally limit the operations of Des 3BP to the warmer daylight hours and either this, or work, usually handicaps Des 3CO on our hook-ups. Frank 3ZU is considering setting up a temporary rig in Yarrowonga. Henry 3HP has been quite active up in Springhurst, however Jack 3AKC has been missed lately and nothing is available on Howard 3YV or Gordon 3XU. It is understood that Ron 3AQQ will be connected to AC mains shortly so that will fix part of his power problem. Tom 3TS and George 3GD have been in the elusive category of late, but Lex 3AIL is taking an active interest in our activities, if not yet transmitting.

FAR NORTHERN ZONE

Activity in the zone has been mainly maintained by Chas 3TI, Jim 3AFP, Bill 3AJU and Frank 3FC. Chas has been very busy building and re-building gear and adjusting his 20 mx beam. His two mx converter is taking shape and we have heard some signals from the local D.C.A., so it won't be long before it is in the band. Bill has been active on 80 mx for the past few months. Jim heard on 40 mx most week-ends. Noel 3AUG has not been near his shack since February, however he will be having a few contacts on R.D. day.

Graeme 3SN is building modulator and putting the finishing touches to his tx. He has been working his cobber, Charlie, at Macquarie Island. Ian 3AMJ is very quiet and has not been heard on the bands. John 3AKF, a new comer to the zone, is working on 80 mx. Max 3GZ has at long last managed to build a shack and is in the process of installing the gear. He hopes to be active on the bands in time for the R.D. Contest. Harry 3MF is still inactive, but we have hopes he will get busy and grind out a signal in the very near future.

CENTRAL WESTERN ZONE

After much deliberation a date and place has been fixed for this year's Zone Convention. At last year's meeting, it was decided to hold the next convention picnic style, by way of a change. So this year we intend holding the Seventh Annual Convention on Sunday, 10th October, at Reid's Lookout in the Gramplains Ranges. In choosing this spot, we feel the v.h.f. boys will not be left out of it during the fun and games.

Reed's Lookout (alt. 2,330 ft.) is an ideal site for v.h.f. work and also h.f. operation. There is plenty of room there and a shelter and a fireplace if the elements are against us.

Interstate V.h.f. Groups will be notified of the date so we have hopes for some good Interstate break-throughs on 2 mx. So roll up chaps and bring v.h.f. gear and also h.f. gear as a Scramble is on the menu. For those wishing to dispose of unwanted gear, there will be a gear swap and the afternoon will conclude with the general meeting. An invitation is extended to all other zone members and we hope to see the usual faces plus a lot more new ones. All we ask is that all personnel attending, bring along your own eats, etc., although hot water will be available. Be in it chaps, the mountain air will do you the world of good.

Trev 3ATR is wrangling with his new 2 mx converter and should be well and truly on 2 mx by the time this reaches print. His latest alterations to the 80 mx mod. are f.b. and now his only query is how does one dry out a xtal mike suffering from that humidity complex? Herb 3NN has his 2 mx tx working, but is not real happy with same due to the final 7193s occasionally taking off. Bill 3AKW has had the same trouble except the rig is one of those big new commercial jobs, hi, Bill! Quite a few of us Central Westerners were fortunate in the disposals hand-out. Nev. 3ACN, Merv. 3AFO, Herb 3NN and Bob 3ARM were among the lucky ones. Charlie VKIAC is still holding up remarkably well on the zone hook-ups, but it seems that very shortly conditions may prevent Charlie participating in the zone hook-up. See you next Wednesday night, 80 mx, at 1830 hours.

SOUTH AUSTRALIA

In view of the fact that a certain person from across the border is stealing my thunder, I will open the notes this month by announcing that the general meeting of the most progressive Division of the W.I.A. (you thought that I was going to say the premier Division, didn't you) for July took the form of a buy and sell night, or as they say in this city of virtue, a tender night. For the benefit of any misguided readers from over the border, the reason that we have to be so careful on this matter is because in this city of churches, no one can buy or sell

in public without a license from the Government. A very representative gathering of members filled the club rooms, I hesitate to give any numbers because numbers can be made to lie, but at a guess I would say there were 130 present, in fact one more than at the last VK3 meeting, if the notes from that small Division can be accepted as factual.

The two gentlemen in charge of proceedings, Dougal 3EV and Ross 3LW, kicked off the tenders in a somewhat subdued manner, for them, and it took me some time to wake up that there was a YL (Miss Smith) in the audience. As a matter of fact, I did not have a suspicion until Ross was holding up an old bottle (211E) and a member of the audience asked what it was good for and what he could do with it. Ross replied in an extremely gentlemanly manner and went at great lengths to explain, an action quite out of keeping with our usual tender nights. About an hour later, Ross asked for the old bottle back and offered to tell the member just what he could do with it, accompanied with actions, and then I knew that the YL had left.

As is always the thing, we had by far too much gear to dispose of in one night, and quite a number of chaps had to take their gear home. This is one of the unfortunate happenings at all of these types of evenings, either there is too much or there is too little. Old-timer Bobby Bruce sent along a huge box of gear for disposal and generously told us to pay the proceeds into the Divisional funds, a gesture that was appreciated by Council and members. The night concluded at the late hour of 11.45 p.m. and proved once again just how successful these nights have become and between you and me, just how much rubbish in your shack can become a real bargain to someone else. Try it and see for yourself one night.

It's a peculiar thing but a Prophet is always without honour in his own country. I quote this truth because it has been forcibly brought home to me that no matter how many pearls of wisdom, how many funny ha-ha's, how much philosophy, or to put it more to the point, how much heifer dust flows from my pen, nobody ever puts me on the back and says, "Well written young fellow," or "I certainly got a laugh out of last month's notes," etc. etc. However, let some struggling scribe from across the border, who evidently holds his pen between his six toes on his left leg, write even one line insultingly addressed to me, then I have to go into hiding for a week because every Cedric, Algernon, and Wilberforce in VK5 rushes up to me and says, "Boy, oh boy, did that VK3 Joker put you back in your box," or "What does it feel like when you get it slapped right back in your lap." Doc EMD even added insult to injury by saying in a good sweet syrupy voice, "That VK3 chap is writing a good stuff these days, isn't he" and I have to say "Yes, I got quite a laugh out of his notes this month." I then go into a fit of hysterical laughter which deceives nobody and only leaves me holding the bag. To think that I met this joker the last time I was in VK5 and maudlin sentiment caused me to put the gun back in my holster. If ever I have regretted that stupidity, I have this month. I never saw a bit of rubbish at Dry Creek until I read his notes, and now everywhere I turn rubbish looms up. Woe is me. I now have to wear a hat out there in case someone grabs me and puts me in the incinerator.

Joe 5JO had a short sojourn from his vocation this month with a touch of conjunctivitis. He is about again and looks OK but was a little put out when I suggested that he should refrain from looking through keyholes. I was only trying to help! Charlie 5ON, our newest recruit to the Council, is handling 5WI these days and is taking the job real seriously. I have heard a couple of his broadcasts and can confirm the general opinion that he is doing a good job. This job is not an easy one, and could be made a lot easier if you jokers would pass on to him any bits of information, etc., which he could use in the session. What about it fellows? LU 5717 is the phone number. (Anything about Pansy, please pass on to me.—Ed.)

WOOMERA RADIO CLUB

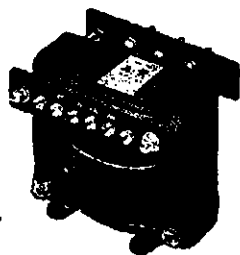
The Hon. Secretary, Max Newell, writes to say that he could not make it last month with the notes on account of being confined to his couch of virtue with a bad attack of the 'fin. He tells me that things have been rather quiet the past couple of months due principally to the preparations for the R.D. Contest and the boys up there make no secret of the fact that they will be flat out to win it. The month of August means that the Club is one year old and the first general meeting will be to hand. It seems incredible that the Club has been in action for one whole year and all connected with it must feel proud and well satisfied with the year's work.

The ex-Secretary, Ron Catmur, has been very quiet since he relinquished the reins of office and quite a number of Amateurs have commented on the fact that they miss his monkey

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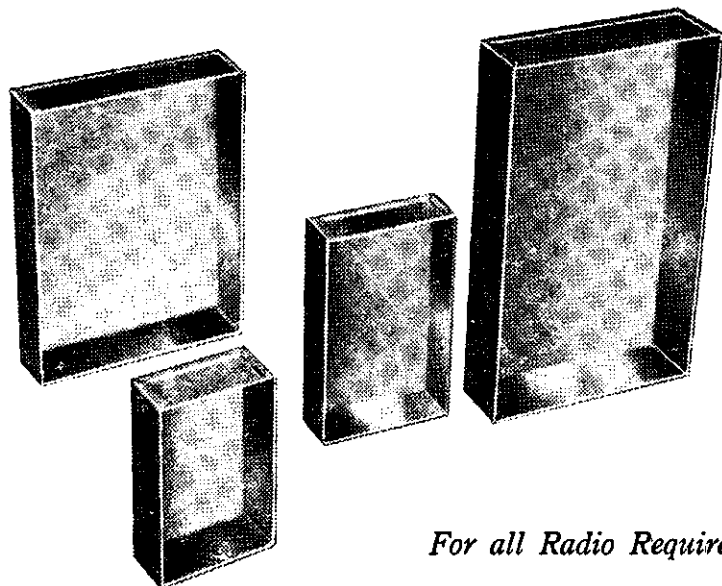
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chatter and hope that he will be back on the air soon. Ted 5JE has really been on the ball lately and the Club has seen him more in the last couple of weeks than ever before, which is all to the good as more interest shown by the members in the Club means more good work for its continuance. Ray Farmer is another one who has been fairly quiet this month, but rumour has it that it may be for an ulterior motive, to wit, the "Farmer Special," which is not a tx or rx but a sleek automobile that is reported to have towed the Ark to the waters edge. Ray has ideas of using the car later in the year for a little mobile experimenting, and it should be a real faithful bomb because it has never given him a moment's trouble on the road as yet, mainly because it has not got that far!

Len 5OD still remains the most consistent operator of 5WC, but he was given leave by the boys to go to the big smoke recently on the pretext of seeing the XYL, but the real reason was to pick up the beam motor. To think that such duplicity should thrive in such desert country. Included in the letter from Max was a QSL card from VKIEG addressed to 6PS care of 5WC, and now they want to bill me up for a year's subscription. Listen fellows, you have heard of getting blood out of a stone? Well, I am aneem—aneem—aneem—well, anyway you haven't got a hope!!

I also received a short note from Frank 5MZ who tells me that he is home from the hospital now, but is still feeling the effects of the accident. He is making good progress, however, and although it looks like being a long job, he finds that listening on the bands has been a great help. The extent of his injuries were right leg broken, both bones between the ankle and knee, eleven ribs broken on the right side, 32 stitches and plastic surgery on his scalp, left ankle bruised and chipped bone, severe shock and lacerations, and his right arm affected in-as-much as he has lost his grip and finds it difficult to write for too long. Well, all I can say is that these Bentleys are tough guys and I wish that I had half his spirit. Joe 5JO and Charlie 5ON have been a tower of strength to Frank and his XYL, paying several visits to the hospital and making it possible for him to listen in on the Amateur bands by fixing up his rx after it had gone on the blink. There you are fellows, that's the "gen" on Frank, and don't forget that although he is not on 40 mx as yet, he will be listening a good deal.

It is my custom as soon as I receive the magazine to turn first to the Federal page and read the words of wisdom contained therein. Aside from a "Vive Barbier" and a couple of other small insults that have greeted my eye now and again, I find myself quite pleased and satisfied with literary style and news value submitted by the scribe or scribes concerned. "That's quite alright, credit where credit is due." Ho hum. However, and it is a big how-ever, my faith in the page received a rude shock when my eyes lighted upon the statement in the June copy that television would probably come to the two major cities, Melbourne and Sydney, first, or words to that effect. Major cities, wouldn't it, how would you be? After reading that overstatement I ran around for days like a bee with a bent sting. Why listen fellows, were you serious in the remark—you were?—well where was Pincott, where was Higginbotham? Don't tell me, I know, urging you on if the truth is only known. Compilation Committee! The Greeks have another name for it and it doesn't start with a C.

The news of the passing of Hal 5AW came as a shock to a great many of the Amateurs throughout VK and the letters and telegrams

of sympathy came from all parts of VK. Unfortunately a number did not put their call signs on the cards, etc., and Mrs. Austin is finding it hard to recognise all the names of those who extended the gesture of sympathy to her. Whilst most of them have been sorted out by close friends of Hal, there will naturally be a few who will remain unknown. To these good people may I pass on the grateful thanks of Mrs. Austin, who assures me that the expressions of sympathy did much to help her over a trying and sad period.

UPPER MURRAY AREAS

The July meeting of the Upper Murray gang was held at the domicile of Tom 5TL and took the form of a discussion around the fire, a good idea on nights like those that we have been experiencing this last two months. In fact, I think that I will try my hand at lighting a fire in the middle of the clubroom on our next meeting. I don't think that anybody will object especially if I show them how to start the fire using two bits of wood instead of matches. It was one of the first things that they taught me when I joined the girl guides. I learnt several other tricks as well, but let's keep the Upper Murray notes select and also remember that Mr. Pincott is with us. Three hearty hisses and hoots.

5CF at long last managed to get on the air and Murray was just nicely set to work with Fred 5MA when the power went off and stayed off for about seven hours. Perhaps he has heard about Alfred and the spider, or was it Bruce and the ocean. Oh no, I am sorry, of course it was Canute and the cakes. Anyway Murray, little watermelons will grow again. Or should it be bananas? 5XO has had a period of inactivity due to being a victim of the flu and all hope that Alec is now fit and well again. 5BC has been heard on 3.5 Mc. with a power of 5w, but I believe that Hughie is only using this band as a means of making his own arrangements for his contacts on 144 Mc. Apparently the gang are moving to this band in force judging by the call signs heard there lately. 5TL is another one who has been frequenting 3.5 Mc. and reports hearing 5BG, 5RR, 5AP, 5FM, 5LD and 5MA. Tom thinks that this looks good for the coming R.D. Contest, but I can only say "time will tell."

Best Technical Article

Some time back, VK5JD donated £1 for the best technical article received for inclusion in "Amateur Radio," over a period of six months.

It was later decided to extend the period until the 30th June, 1954, to enable a greater number of articles to be eligible for the award.

The Magazine Committee have decided that the prize be jointly awarded for an article by E. Cornelius (VK6EC) on "Amateur Television" and "The Complete Amateur" by T. Athey.

The Victorian Council have made available an additional £1 and both these gentlemen will receive their prizes in the next few weeks.

Our congratulations go to both members on their informative articles.

5MA has been heard at odd times on various bands Fred manages to get his share of activity in each month. 5RE has little to report and besides a little activity on the air combined with sick bed visiting, Hurtle maintains his usual calm and sedate progress along the sea of life. 5KW has joined the ranks of the 3.5 Mc. boys although Harry is keeping a wary ear on b.c.i. in case it rears its ugly head. Believe it or not, a certain Amateur in this area has acquired another motor bike. I am not permitted to release the name of the said Amateur as yet, but the bike will automatically be known as "Rattling Salvation II." Shush, not a word to Bessy!

I suppose in every State of the Commonwealth there are the odd one or two Hams who won't have a bar of the W.I.A. and at times go out of their way to rubbish it both on the air and off it. I can understand the genuine groucher who thinks that he has a case against the Institute and won't join up because of it. I can understand the feelings of the odd one who at some time or other has had a bit of a dog-fight, perhaps with Council or with an individual member, and because of this won't join up, but the chap that I can't understand is the one who carries a chip on his shoulder for years against the W.I.A. and when asked why, just launches off into a large scale attack on the Council, the members, etc., all based upon hearsay, or rumour. I heard one of this ilk on the air the other day on 40 mx and he had found a new technique of rubbishing the W.I.A. He would contact a station, and as soon as the formalities were over and done with, he would ask the station for his QTH "because he wanted to check it against the new W.I.A. Call Book as he had found quite a number of mistakes in it, and he wanted an up-to-date call sign book not an apology for one!!" Wouldn't it! When will these characters grow up? If they would only realise that in trying to rubbish the W.I.A. they are only rubbishing themselves. I don't think for one second that the W.I.A. is the perfect answer to the Radio Amateur's prayer, but this I do know, it is as near perfect as it is possible to get under the set-up in VK, and all those who are happy in knocking it so hard at times would be keeping stamps, or pressing butterfly wings for a hobby if it was not for the W.I.A.

SOUTH EAST AREAS

5TW has had a quiet month, but if my information is correct, Tom is getting himself all nicely set for a flying start in the coming R.D. Contest. 5CH is making a Q-5'er for his BC348 and is also making good progress with his new shack. When will we be seeing you again Claude? 5FD has nothing to report for this month although John is still getting ready for the R.D. Contest. 5JA still refuses to break his self imposed silence and my only hope for news of John is the R.D. Contest. If he does not bob up for this I will have to give him away. 5KU is well settled in his new shack and Erg is managing to work an occasional new one. I suppose that in a couple of months he will be considering his other hobby of gliding and then radio will be taking a back seat. 5MS has cleared up all of his little troubles and is ready for all contests. Stuart should be first favourite for the R.D. Contest, going on his past performances. 5CJ is gradually getting all of his radio gear into its rightful place in his new home and even his XYL is on his side because she has informed Col. that the wire, poles, etc., are cluttering up the yard. How lucky can you be?

In closing these monthly notes for September it is extremely embarrassing for me to keep drawing the gentle reader's attention to the talent that exists in VK5, but did you read

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the Editorial by our President in last month's magazine? Not bad eh? I didn't think that he had it in him. I asked Gordon if he was related to the clergyman who was walking down the aisle and tripped over his surplice, but he assured me that he was not. Apparently playing the church organ has taught him a thing or two. Nice work Shylock, I lifts my cassock to you.

WESTERN AUSTRALIA

At the July meeting of the Institute, members were entertained by Mal Murray, 6MY, with a lecture on "Welding and Electronic Control of Welding." Mal produced quite a few samples of the three main types of welding—metallic arc, inert arc and resistance or "spot" welding, and his talk aroused quite a deal of interest in the finer points of the art. The film "Gateway to the Heavens" followed; this covering the development of astronomy from the discovery of the telescope to modern times. Walter Coxon, 6AG, concluded the evening with a short talk, "Faxes from the Past," a few anecdotes of Radio in W.A. in the days of "King Spark." He recalled the objection raised when a license fee of one guinea was proposed for the issue of an Amateur Station license. It doesn't appear that the objection was too successful—although at the time was apparently well founded, as the licensing fee for a commercial ship station was only 5/-.

The combined Annual Dinner of the Institute and Radio Society of W.A. was held at the "Marrell" in Hay Street on 23rd July. Although attendance was poor compared with previous years, those who were there voted it a "good show" and would be looking forward to the next. The Committee had organised a number of quizzes and competitions to keep the evening moving—one of which was to guess the number of matches in a box by the rattle when same was shaken. The correct answer of one would have been a little easier to guess if the box had not been filled with small broken pieces of matches!

It appears that the new Federal Contest Committee is "on the ball" this year with their clarification of Rule 5 of the R.D. Contest in regard to operating under another station's call sign for contest purposes. This had been a bone of contention for some time and has caused a certain amount of bad feeling in certain quarters. Good work!

The proposal to provide an emergency network of Amateur Stations on yachts taking part in the annual Fremantle-Bunbury yacht race does not seem to have attracted many—or any takers. The gear is there for the lending, but apparently the gang don't consider themselves to be very good sailors! Remember if you're interested, 6RU, 6OR or 6AG are the sub-committee who can supply details.

Well, the R.D. Contest has come and gone for another year, although of course as I write these notes there is still some few days to go before the event comes off. Naturally we all hope that VK6 has carried the day again, and if not it certainly won't be through want of trying! But I'm not going to resort to crystal ball stuff at this stage. May the best State win! An item of importance which should be mentioned, although somewhat belatedly, is the mention of Jack Hoare, 6OR, in this year's Birthday Honours List. Jack was awarded an M.B.E. for his fine record of service in the Army. Congratulations!

6AP has been giving the locals a check on their 7 Mc. transmissions per the medium of a tape recorder. It certainly helps in audio adjustments if this facility is available. One of the inactive types, Ted 6TP, did a good job on the Dinner Committee with 6GM. At present he is working on a new tx so the call may come out for an airing shortly. 6RU has been stoking up the Command tx on 80 mx to the tune of RST 589 from DU7SV; not too bad for 15 watts. Jim vows he is going to disconnect 6WT's end of their common 40 mx two half waves in phase for the R.D. to reduce losses! Something unusual in the way of an antenna, this job is strong from one station's tower to the other, across the intervening neighbour's yard with a phasing stub in the centre. Separate sets of feeders at each end enable either to use the aerial when he so desires. I don't know what would happen if both used the thing together! 6HR, of "Poles and Holes" fame has been with the majority of VK6s—inactive of late, but I hope you gave that beam an airing on the 14th Lev.

6RK confounded the experts by coming on 80 mx c.w. with a colossal signal. Knocked off a ZL or two in fine style then disappeared. Was that your second 80 mx c.w. QSO post-war Roger? I believe the Bunbury boys—6JG and 6FD to wit—have put a 2 m link into operation. Things may be right here for a spot of DX. What about it? 6BS, of Manmanning, has power supply problems with the best of them. A 32v. lighting plant with genmotors,

220v. home generated DC and 80y. at 400 cycles AC are all called on to power the rig. But in spite of these limitations Basil manages 90 or so watts on most bands. I believe the view from the top of his 45 ft. tower enables one to pick up landmarks 40 miles away, so maybe that's some compensation. Another with what could be a sticky power problem is 6MO, of Waterloo. Allan would have to contend with 115v. DC if the authorities at the Magnetic Observatory did not supply rotary inverters. Associate Wally, 6ZAA, has his rx converted for 144 Mc. and has received signals, but the tx has been giving trouble. I think a job re-crystallisation is under way there. Well that's the end of it for another month. Still haven't received any gen from anybody for insertion, so apparently nothing happens here in the West.

TASMANIA

The July meeting, which was held at the Club Rooms, was one of the best attended for many months. Hardly a chair was vacant and a number of faces which had been in hiding for some time were shining brightly in the back row, notably that of TDH, nice to see you at meetings again Dave. I don't think there is much doubt that the good attendances recently are due mainly to the excellent lectures that are being arranged by the lecture committee.

On this occasion an illustrated talk was given by Mr. George Hale, of the Tasmanian Museum Geology Section, the subject being the detection of radio-active minerals by Geiger counters. Mr. Hale proved himself to be thoroughly conversant with his subject and it was not until 10 p.m. that the questions were finished and the various exhibits inspected. Actually, I have my own theories on this mineral detection business. Since the Gamma rays given off are electro-magnetic radiations, they could be detected by a receiver using the superhet. principle. The line-up may be as follows: The Gamma rays would be mixed in the first converter with x-rays where they could be converted to light rays. The l.f. channel would consist of a telescope and the 2nd detector the human eye. It would therefore only be necessary to place the l.f. channel to the eye to detect the radio-active minerals buried underground!

Of course some chaps may wish to go one better by using double conversion. In the 2nd mixer the light rays may be converted to radio waves by mixing with infra-red rays and by using the ordinary Amateur rx to detect the radio waves in the normal way. The source of infra-red rays may be from anything hot, such as a hot water bottle, Indian curry or one of 7ML's jokes, but now I'm getting facetious. I intend to try out this gadget on the property of TTY, as he reports hearing the same noise that comes from a very excited Geiger counter on his AR8. You know there's something in this scientific business.

The August meeting was held at the University Lecture Room at Sandy Bay and after a brief half hour of business, the meeting was addressed by TKM, Ken McCracken, who deputised for Dr. A. G. Fenton, of the Cosmic Ray Laboratory. Dr. Fenton was unfortunately not able to attend, but Ken made an excellent job of explaining the whys and wherefores of cosmic rays. After a brief theoretical treatment of the subject, the gathering moved to the Cosmic Ray Laboratory nearby, where the practical aspect was examined and explained. The evening was perhaps the most interesting of any so far—it was to me anyway, and I thoroughly enjoyed myself. Supper was served by courtesy of the University.

An attempt will be made to get the new 7WI tx and shack completed for the R.D. Contest, and by the time this appears in print, the shack should be a going concern. 7AL and 7FJ made a survey of the aerial position and reported favourably, recommending two "A" section masts on the roof with feeders coming down the light well to the shack.

Gossip Section—Sam 7UW recently on a visit to Hobart from the N.W. Coast—glad to meet you Sam, if only per phone. Chas 7CF also a Hobart visitor from his Queenstown haunt, how did the new Vanguard go on the way home Chas? Ian 7KB reported buying enough gear for a small c.w. rig. I sort of hoped and thought the bug might bite again Ian. Keith 7RX building the rig into a steel cabinet—why hide all that beautiful work Keith? 7AF may now R.I.P.—the manhole covers have now been fixed. That's all for now; back to the rathouse.

NORTHERN ZONE

7RB has been heard on again lately now that the house is completed. 7KW has been doing some building in the 144 Mc. and 80 Mc. sphere and his new 144 Mc. tx should be about right for his hidden tx jaunts. 7LZ lately decided on a more elaborate pole to complete his antenna systems and the said pole is now safely aloft braving our winter elements. 7PF is seen just in passing these days as building has all

his attention, but a 144 Mc. antenna is pointed mainland-wards, though, from his new QTH. 7BQ is still wrestling with crystal converts. 7TE has purchased a new coil kit for the super rx and just about ready to go. 7EJ has been heard once again from the North-West Coast—good to hear you Ted.

7FM had the police down to Kelso a few weeks ago looking for a missing "long wire" antenna. His fellow work associate, 7PM, did not know anything about it, but has his eye beam up in a new QTH, right on the waterfront. His mail now, believe it or not, arrives in a private bag! 7GM is re-building still, and the locals are listening till he breaks the ether. 7RK, our DX man, has forsaken the key for the key board and plays a merry tune at some of the local balls. As President recently, he arrived in dinner suit and we all felt we were at the wrong meeting until we discovered the wearer. One of our Associates, Harry Solomon, has gained a place in the Morse code classes at the local Technical College—"so look out ticket here I come!" Les Hodgekison is waiting for the results of his "Limited" to arrive—his hoping.

HAMADS

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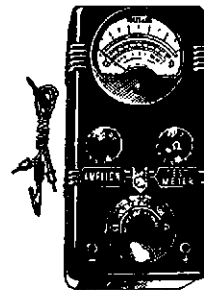
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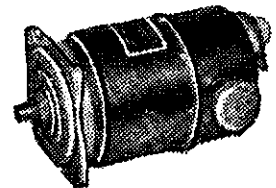
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EDITORIAL



THE AMATEUR EXPERIMENTER

The oft repeated statement that the costly instruments demanded by the advances made in the electronic art in recent years have sounded the death knell of the Amateur Experimenter is based on a false concept.

Admittedly only highly skilled personnel working in well equipped laboratories will be able to carry research to the ultimate degree of accuracy in quantitative measurement and evaluation. However, the Amateur, with his great enthusiasm and pioneering spirit, can, and will, still be out in front searching for new worlds to conquer.

The Amateur has always been judged by his ability to improvise under adverse conditions. Armed with the humble multimeter, a sim-

ple grid dip oscillator, and a good frequency meter, the Amateur has a wide field from which to choose. By invoking the aid of the Disposal Stores and the junk box, and using the ingenuity for which the Amateur is renowned, such items as c.r.o.'s and v.t.v.'s. are not beyond reach.

In a nut shell, although plumbing may represent a real hazard in the u.h.f. field, it is not insurmountable and in any case there are many facets of u.h.f., v.h.f., antenna and modulation techniques still unexplored.

The true Amateur Experimenter will never reach the end of the road, but will forever leave behind a trail of achievement.

FEDERAL EXECUTIVE.

THE CONTENTS

The New Look in Frequency Modulation, Part One—The Transmitter	2	DX Activity by VK3AHH	10
The Complete Amateur—Frequency Meter	5	Prediction Chart for October, '54 10	
Author's Reply Re Screen Modulation	7	Fifty Megacycles and Above	12
W.I.A. Federal President's Report for 1953-54	8	Amateur Call Signs	13
		Federal, QSL, and Divisional Notes	15
		Correspondence	20

The New Look in Frequency Modulation

PART ONE—THE TRANSMITTER

BY JOHN MILLER,* VK2ANF

FREQUENCY modulation techniques have been available to Amateurs for a number of years, but for various reasons, little attention has been given to frequency modulation. Results obtained in the past have been rather discouraging, mainly owing to the use of a.m. receivers having rather poor selectivity.

On the v.h.f. bands, some attention was given to f.m. a few years ago, but here receivers were even broader, and large deviation was required to fill the slope of the selectivity curve. Such wide deviation is not readily achieved with crystal control, and v.f.o. control on v.h.f. is not particularly successful.

With the modern technique on v.h.f., stable crystal locked converters and relatively selective i.f. channels are used so that n.b.f.m. becomes practicable. Better still, modern types of discriminators offer very good results with a minimum of effort and complication.

The advantages of n.b.f.m., particularly on v.h.f., are many. B.c.i. of the stray rectification type (the most prominent on v.h.f.) vanishes when f.m. is used, thus allowing running the full 100 watts, plus a high gain beam, without running into this most annoying and prevalent form of interference. However, most important is the weak signal performance available with n.b.f.m.

Results over a difficult 180 mile path on 144 megacycles have proved that n.b.f.m. is considerably superior to a.m. from the point of view of signal to noise ratio, and readability. This is, of course, when using a discriminator in the receiver.

The simplicity of the transmitter for f.m. is very attractive, particularly as subsequent changes to higher power require no change to the modulator, whilst economy in power supplies, modulators and all the associated components must be counted as a distinct advantage. The further advantage of the suppression of pulse noise, e.g. car ignition, is too well known to require further comment.

The n.b.f.m. exciter to be described was evolved after considerable experiment with some 12 different types of modulators of the f.m. or p.m. variety. It has proved considerably better than anything tried to date from the point of view of both quality and amount of deviation available. The principle involved is not original, but the method by which it is achieved appears to be so, at least as far as the phase modulation is concerned.

Fig. 1 shows the circuit of the exciter as used at the writer's station to drive a transmitter running 80 watts on 144 megacycles. Sufficient deviation is obtained to be copied on receivers using i.f. channels of 10 or 12 megacycles and has been copied on a straight super regenerative receiver!

The 12AT7 is used as a Pierce crystal oscillator, which type has proved the most suitable for this system of f.m. The second half serves as an isolating

amplifier to prevent interaction between the oscillator and the diode when used for phase modulation. Due to the omission of a tuned circuit in this stage, the output is a trifle low to drive a multiplier, so a third stage is added, having an 8 megacycle tuned circuit at its plate. This is capacitively coupled to what would normally be the crystal oscillator in the transmitter proper, this stage running as an ordinary multiplier.

It is possible to omit the pentode output stage, placing a tuned circuit in the second half of the 12AT7 and applying the diode to the plate of the Pierce oscillator, this however is likely to cause loading on the oscillator sufficient to pull it out of oscillation or seriously reduce its output.

A diode, which may be a germanium crystal, 1N34 or equivalent, or a thermionic diode such as the EA50, is used as the modulator element. In the f.m. condition it is in series with a small condenser between the oscillator grid and ground. Variation of the internal impedance of the diode by means of applied bias in the form of the audio modulating signal, causes a variation in the shunting effect of the 50 pF. condenser, thus giving rise to frequency variations.

No standing d.c. bias is required, sufficient being developed by rectification of the r.f. present. The Pierce oscillator is particularly suitable in this application as the frequency of oscillation is very sensitive to variations in the grid to cathode capacitance. Variation in oscillator feedback also results, giving rise to a.m. at the same time, but the class C operation of subsequent stages removes this effect. Modulation produced by this connection is straight f.m. and

requires no de-emphasis at the receiver, making it particularly suitable for use with a.m. receivers. The quality is excellent, distortion being very low, so long as the deviation is kept within reasonable limits. The amount of deviation available at 144 Mc. is ample for all but the broadest receivers.

The p.m. connection is of considerable interest as it may be applied to any stage and has no effect on the frequency determining element, thus obviating pulling of the frequency. Systems using the grid and cathode of the class C stage were tried, but the application of audio voltage to the grid upset the characteristics of the valve and the amount of deviation was limited, due to severe distortion arising when the grid was driven sufficiently negative to completely block the stage, thus removing the excitation to the following stage. This effect gives rise to an objectionable "burp" on peaks and causes large side-band splatter, as the effect is in every way similar to normal a.m. over-modulation in the negative direction.

By using the diode as a separate element, this effect is overcome and the amount of deviation may be considerably increased without any ill effects. It is most important that the diode be applied to a stage not associated with a tuned tank circuit. The whole principle of operation of this system of phase modulation depends on the diode being fed with a distorted r.f. waveform, such as results in a class C amplifier running with a reactive load. Smoothing the waveform into a sine wave results in no p.m. being obtained. This is the reason the second half of the 12AT7 has no tuned plate circuit.

Modulation produced by this connection is true phase modulation, having

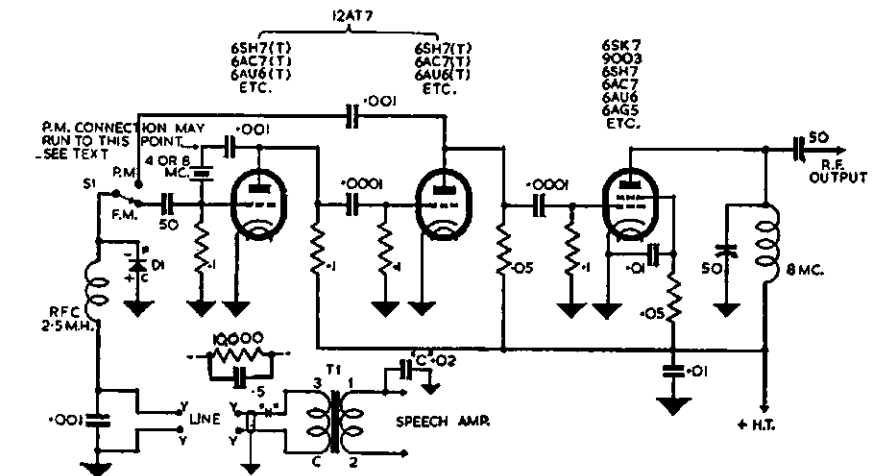


Fig. 1.

D1—Germanium diode types 1N34, GEX45/1, GEX34, CG1, QA50, or small thermionic diode, e.g. EA50, 6AL5, etc.

S1—F.m./p.m. switch, may be omitted, the connection being made permanently for either f.m. or p.m.

C—De-emphasis condenser. Not used for f.m. May be switched if desired.

The last stage in the exciter may be omitted, running p.m. connection to the first half of the 12AT7 instead of via the 0.01 uF. condenser to the second half. In this case the plate of the second half requires an 8 Mc. tuned circuit.

The 0.5 uF. condenser and 10,000 ohm resistor are only required if the crystal shows signs of going out of oscillation when using p.m. on the crystal stage.

the usual pre-emphasis of highs. This is very useful when using an f.m. receiver containing built-in de-emphasis, as the noise level is considerably reduced and the signal to noise ratio therefore improved even further. If it is desired to use p.m. and to be received on normal a.m. receivers, then the signal may be de-emphasised at the transmitter. The condenser C on the primary of the diode transformer is quite suitable though not academically correct. It should not be used with the f.m. connection, and if both are desired then a switch may be incorporated to connect this condenser when required. Deviation using the p.m. connection is very much greater than that obtained using the f.m. connection, and is in fact greater than that obtained by any other method tried. Like the f.m. connection, the diode produced p.m. has very low distortion.

One important requirement of the diode, particularly in its use as a phase

Somewhat less deviation is available by this connection due to the raising of the diode impedance, and also due to the limitation presented by oscillator failure on peaks of modulation. However, it works out quite well in some cases where very active crystals are used, and allows the use of one less stage.

Every effort should be made to keep r.f. out of the speech amplifier and the use of grid stoppers as shown is a must. Also, r.f. from the final amplifier, particularly at 144 megacycles, should be kept out of the diode circuit, otherwise hum and distortion will arise, even though the usual feedback howl may be absent.

A word regarding tube types. For the oscillator, a high gm triode, or triode connected pentode is the best, the other stages may be any of the usual small triodes and pentodes.

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One station is using three of the cheap and plentiful 6SH7s, the first two as triodes and the last one as a pentode.

Should difficulty be experienced in making the crystal oscillate in the Pierce, a small condenser may be connected between grid and ground to increase the feedback, but it must be disconnected when using the diode in the f.m. connection.

So much for the diode modulator. It must be emphasised that the unit has been developed experimentally and that it offers a useful field for further experiment. No claim is made that the diode is operating under optimum condition as sufficient work has not yet been done on the circuit in the way of quantitative analysis. However, for the experimentally inclined, the circuit offers interesting possibilities and it really works!

In conclusion, the writer wishes to place on record the valuable assistance rendered by Amateurs operating on the 144 Mc. band in Sydney who have patiently listened and reported on the various effects obtained with various connections for the diode. In particular, the co-operation of VK2WH, of Forbes, has been of value in testing the effectiveness of the system over the long path from Sydney.

The second part of the article, to appear in a subsequent issue, will deal with reception of both f.m. and p.m. using the gated beam discriminator.

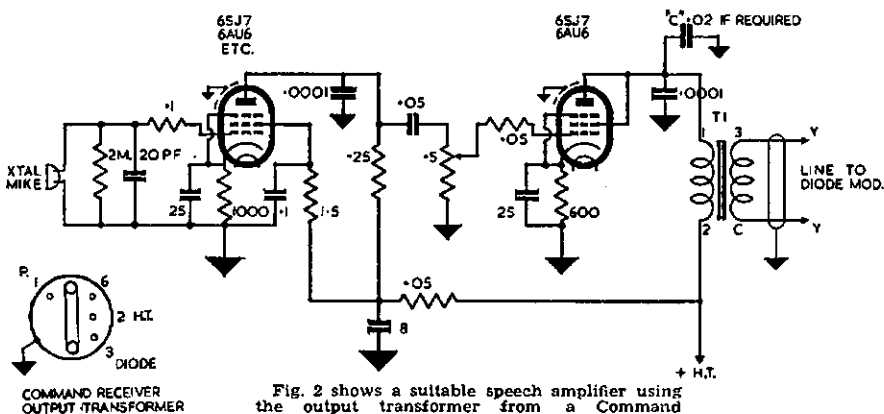


Fig. 2 shows a suitable speech amplifier using the output transformer from a Command Receiver.

modulator, is that the diode should be connected in a low impedance circuit, hence the use of a transformer to couple from the speech amplifier. The load presented by the diode is fairly low, so that a step down transformer should be used in order to present a reasonably high impedance to the final speech amplifier, which incidentally is run as a power amplifier, although it is not called upon to deliver very much power. A method used with some success is to use a normal 600 ohm line output transformer, the said 600 ohm line being run to the diode and associated components. The step down ratio of the transformer is most uncritical and offers a field for experiment. The transformer used by the writer is that from the Command Receiver. Pins 1 and 2 are the primary and pin 3 and the case, connect to the secondary.

As previously mentioned, the diode may be connected to the plate of the Pierce oscillator to obtain p.m., but generally it will be found that it is necessary to decrease the loading offered by the diode circuit to prevent pulling out the oscillator. This may be accomplished by inserting a resistor in series with the transformer secondary, shunting the resistor with a large value of capacitance to prevent audio loss. 10,000 ohms has been found suitable for most cases and it should be connected at "X".



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THE COMPLETE AMATEUR

PART TWO

BY TOM ATHEY,* VK4UT, A.I.R.E. (Aust.)

SECTION TWO

Frequency Meter

Portion of the Handbook on Regulations reads: "For this purpose he must, unless exempted by the Department from doing so, maintain in good order, apparatus of a type approved by the Department, the minimum requirement being, for all frequency bands below 50 Mc., a heterodyne frequency meter, preferably of the crystal calibrator type . . ." (Section 99 Part 5).

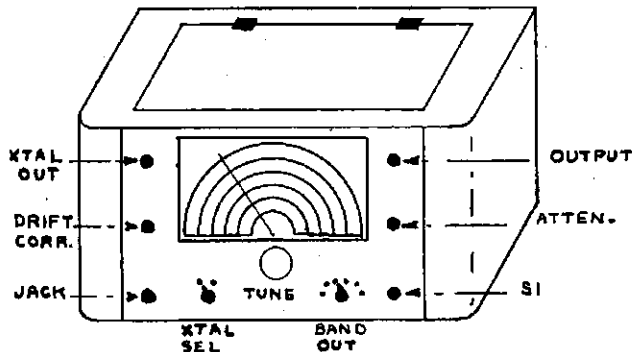
As you can see it is very necessary that the above regulation must be carried out by all intending Amateurs. Since commencing this series the writer has received a letter from a VK5 asking to include in the articles a simple heterodyne frequency meter suitable for Aussie conditions, as so many of those edited in the Handbooks are made with parts, in the main, unobtainable in Australia. So OM, here is a contribution on these lines. The author does not favour the combined monitor and will cover that subject in the final article on monitoring.

However, as it is the intention of the author to devote his energies to the latter type, here is his suggestion for the Complete Amateur Frequency Meter.

The Amateur requires a frequency meter that will cover the bands we are permitted to work on. Hence there is no need to cover bands outside of these limitations. Those required are as under:

Metre Band	Mc.	Mc.	
80	3.45 to 4		Fundamental
40	6.9	" 8	2nd Har.
20 & 15	13.8	" 16	4th Har.
11 & 10	27.6	" 32	8th Har.
6	48.3	" 56	14th Har.
2	138.0	" 160	40th Har.

Thus it will be seen that if we can get a heterodyne oscillator to cover all these bands, we have arrived at the condition required by the Australian Amateur. In the v.f.o. portion of the schematic shown, you will see that the use of any tapped coils has been avoided as this leads to confusion in selecting the right band.



This meter is a fairly simple type to make up and not beyond the capability of the average Amateur or newcomer. It's needless for me to say just how much importance one must attach to the meter. As quoted in portion of the Regulations in the opening of this article, the type required is fairly obvious. Therefore this one will fulfill all of these requirements.

There are two types that fulfill the requirements: The beat frequency type and the v.f.o. type with a calibrating crystal. It is not intended to go into the former type as it was fully and very capably covered in an issue of "A.R." some month ago. Briefly it consisted of two oscillators, one crystal controlled, beating against one another, and by utilising the principle of the superhet (sum and difference) and using the sum to produce a frequency that coincides with the band edge. Then by varying the oscillator (not crystal controlled), producing a variation in the frequency. This type is quite stable, but has its limitations, mainly from the identification of the correct side of the beat.

Very often you may measure a frequency, only to find that you have forgotten to shift from the right tap, or that you have misread the meter because you have been reading it as the bandspread when you should have been reading it without it. So the tapping or bandspread has been left out.

The inductance, together with the capacity, will cover the fundamental frequency allowing about 180 degrees of dial movement. This is, of course, if your combination of L and C follow the specified amounts. But as I have stressed before, there is no need for you to stick strictly to the specifications. The main feature is that you build it as economically as you can without losing the main feature—stability—and to get this you must use the very best parts in your oscillator.

You cannot beat good parts and clean secure, well-soldered joints. Good layout is also a feature in a frequency meter. A rough sketch of a layout that will meet the requirements of this meter has been made and it should satisfy the most fastidious.

Obtain an instrument case advertised in the monthly journals or in "A.R."

One about 12" x 8" x 6" with a front panel and a lift-up lid will do fine. As this is a job that you will often be using and mounting on the bench or operating table, a good appearance will make for a workmanlike finish to the rig. As in the v.f.o., a good dial (one without backlash) is essential and it must be capable of being calibrated, too.

HETERODYNE OSCILLATOR AND HARMONIC AMPLIFIER

The oscillator valve is an 6SK7 and uses a conventional Hartley oscillator circuit. The inductance is wound on a good solid piece of insulating tubing to the specifications given. If you have a porcelain former that will meet the bill you can use it as this type of former is supreme. However a piece of tube made from plastic or such like material will do just as well. Wind the former with the specified wire size, making sure that the wire is tight and that the turns do not slip. (A good way to ensure this is to heat the wire first to a temperature that you can handle, then wind the coil.) The wire's natural contraction when cold will usually take up the slack and make a very firm job. One point; if you use plastic, watch out the wire is not too hot and cut or melt into the former.

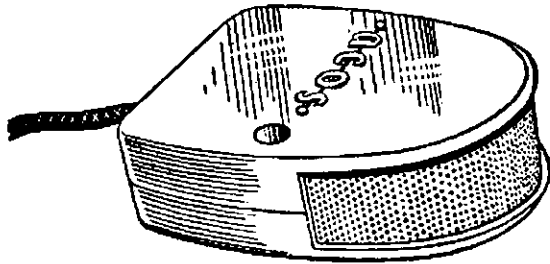
Mount the main tuning gang in the centre of the panel. Do not rely on the suspension on the panel to hold the gang, but mount it on the sub-chassis in such a way that there is not any movement in its suspension. Now mount the coil directly beneath the gang, again making sure that the coil is rigid. So much for the inductance and capacitance.

In the schematic you will see that the frequency is controlled by the use of four condensers. These are mounted in shunt across the coil. Two are brought out to the panel and the other two are fixed in such a way that they are mounted firmly across the gang used for tuning the meter. Thus it is possible to set the range and then have one main control and one to act as a drift corrector. C2 is the tuning gang, C1 the variable padder, C3 the fixed padder, and C4 the drift corrector.

The valve being used as an e.c.o. requires that the screen voltage be kept to a very stable voltage. This is accomplished by regulating the supply to the screen with a VR tube. The voltage to the harmonic amplifier is also held at this level by the same means.

Looking at the schematic, the output is taken from the plate of the 6SK7, using an r.f.c. as a broadly resonant coil. It is capacity coupled to the grid of the harmonic amplifier valve—a 6AC7. This valve, having a very high mu, is a natural for this position. It readily acts as a multiplier or a generator of harmonics. The output of the 6AC7 is fed in turn to a series of switched coils, again broadly resonant to the band each one is wound for. Output is capacity coupled to a level control, and in turn brought out to a terminal mounted on the front panel. A short piece of wire, about 8 gauge, will act as an aerial or you can feed the output direct to the

* Ex-Instructor Q'land Division W.I.A. Classes; 41 Mountford St., New Farm, Brisbane.



A NEW SENSATIONAL CRYSTAL MICROPHONE!

ACOS MIC 35 (HAND AND/OR DESK TYPE)

**AT THE
AMAZING
PRICE OF
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A general purpose Microphone with high sensitivity and substantially flat characteristics. Housed in an attractive die cast case of very robust construction, is particularly suitable for Amateur Transmitters, Public Address Equipment, etc.

Provided with built-in shunt resistance of 2 megohm giving response substantially flat from 50/5,000 cps. Resistance of the input circuit will reduce the low frequency response. A grid leak of 1 megohm will reduce the output at 500 cps by 3 db and pro rata at lower frequencies.

Approximate capacitance of the microphone is 750pF and cable capacitance will reduce output proportionately.

Frequency response Substantially flat from 50/5,000 cps.

Output level = 55 db ref. 1 volt/dyne/cm².

Load resistance 2 megohms included.

Cable This microphone is supplied with approximately 4ft. (1.2 metres) of co-axial cable (type Unirad 32).

Weight Microphone only — 6oz. (approx. 170 grammes) complete with packing 7oz. (approx. 198 grammes).

Dimensions Microphone only 2 7/8in x 2 1/8in x 7/8in plus cable.

Complete with packing 3 3/8in x 2 1/2in x 2 1/2in.

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and, in fact, all reliable and necessary components.



208 LT. LONSDALE ST. (between Swanston and Elizabeth Sts.) MELB. FB 3731

job by a link. Wiring the rest of the frequency meter is obvious. You need about 250 volts h.t. and the screens need from 75 to 100 volts, depending on the type of VR tube you are using. Either a VR75 or a VR105 will do; the VR75 for preference. This has been not too hard so far, has it? And the cost is quite reasonable.

THE CRYSTAL CALIBRATOR

Again turning to the schematic, you will see that we use another 6SK7 valve as the crystal oscillator. Either one or two crystals can be used here. If you decide to use only one, use the 100 Kc. crystal as this will enable you to mark off the 100 Kc. intervals. But if you use two, get one to mark the band edge

is capacity coupled to the first grid of the 6SL7, the first half of the twin triode acting as a crystal frequency amplifier.

Provision is made to accommodate output from the crystal oscillator, so that the crystal frequency can be used to identify the band-edge on your receiver. A small condenser (C12) is used as a means to couple the crystal output into the harmonic amplifier so that the two frequencies (i.e. the heterodyne meter and the crystal oscillator) can be beaten together, producing the intervals as required. Control of the crystal oscillator is made by the toggle switch in the screen h.t. lead.

The second half of the twin triode is used as a detector amplifier and it en-

your dial on the 3.4 to 4.0 Mc. fundamental band. Most of the larger broadcasting stations are very accurate as to their frequency control (within 10 cycles of their given frequency), so you can get your meter down to a good degree of accuracy.

For a further check, use the known frequencies that WWV works on. This way it will afford you a check on the higher order of frequencies on your meter. Log your dial in pencil first and then re-check before you ink in. Finally use Indian ink to mark the frequencies. Then check the crystal marker spots. Having done this and found them to fall where they should, mark them in with Red Indian ink. This way you can keep the crystal marker points separate and clear from those of the actual frequency meter.

I think that this covers the job fairly well, chaps. The meter just described to you should fill the bill for an Amateur's shack job and should not cost too much. All parts are readily available on the Australian market and many of them can be substituted with other brands of gear also marketed in Australia.

ERRATA IN SECTION I

In the schematic on page 5 of the September issue, J1 should be shown as between junction of the 0.01 uF. condenser and the combination junction point of R24, the 0.5 megohm pot., and the 100 pF. feedback condenser.

In the text (third column of same page), a 6SN7 is quoted as being used for the b.f.o. and "guess meter, but the circuit shows a 6C4. The schematic is correct as the author changed the circuit but omitted to amend the text. As the "guess meter" is in a bridge circuit of the plate supply of the 6N8, only the b.f.o. requires a tube, hence the use of the 6C4.

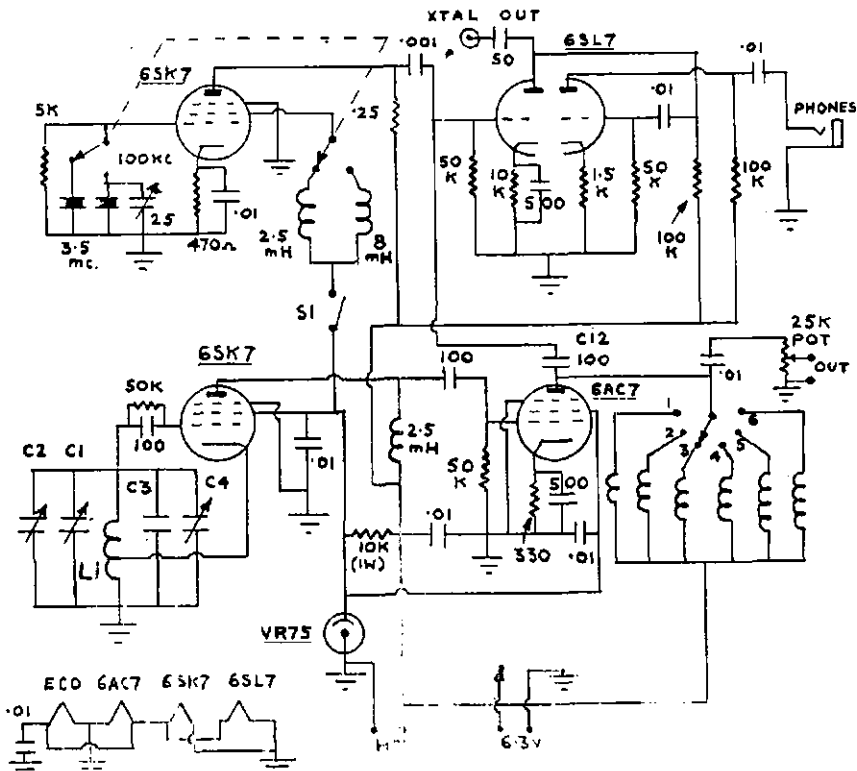
AUTHOR'S REPLY RE SCREEN MODULATION

The author of "A New Modulator for the Type 3," E. A. Barbier, VK5MD, has some further remarks with regard to screen modulation. Following are his comments.

Just a further point in relation to "A New Modulator for the Type 3." Mr. J. A. Gazard's remarks as to the theory of screen modulation of course cannot be questioned. In practice, however, the no load voltage of 250 volts from the Type 3 power supply drops very considerably with the addition of the modulator described, and the voltage measured at the screen pin of the 6L6 power amplifier tube is well below 200 volts.

Type 3 owners, therefore, need have no fears that the screen of the 6L6 will be overloaded, or that the tube will burn up. Any fears they have can be quietened by measuring the voltage of the screen of the 6L6, with the modulator running.

In adapting this modulator to other types of transmitters, it would be, of course, necessary to keep Mr. Gazard's remarks in mind.



Schematic of Frequency Meter.

C1—75 pF. trimmer

C2—100 pF. bandset.

C3—220 pF. band padder.

C4—25 pF. drift corrector.

L1—18 turns 18 gauge B. & S. enamel, 1 inch former, length 1½ inches. Cathode tap, 5 turns from ground.

Output Coils—

1—2.5 mH. R.F.C.

2—2.5 mH. R.F.C.

3—2.5 mH. R.F.C.

4—24 turns, 18 gauge, close wound, ¼ inch diameter.

5—11 turns, 18 gauge, ¼ inch diameter, close wound.

6—2 turns, 16 S.W.G., ¼ inch diameter, ½ inch long.

(3.5 Mc.) and then the other (100 Kc.) can be used to identify the 100 Kc. intervals from the band edge. A small variable condenser is tied across the 100 Kc. crystal so that the exact 100 Kc. interval can be brought into line with a signal from a known frequency standard (such as WWV).

The oscillator is an e.c.o., similar in its operation to the heterodyne oscillator. The controlled screen voltage is picked up from the regulated supply and fed to the screen through the broadly resonant coil (r.f.c.) in the screen circuit. Using two crystals it will be necessary to use two coils here, one for each frequency. The output from the plate

ables a pair of phones to be plugged in and so permit identification of the crystal beats.

The rest is straight forward. Just wire your meter up as per the schematic.

CALIBRATION

The best way to calibrate your frequency meter is to borrow a standard frequency meter from one of your Amateur pals. Then by a system of comparison of known frequencies, you can identify the band and mark your dial accordingly. If this is impossible, tune in a known frequency or a harmonic from one of the broadcasting stations and use this as a gauge to log

W.I.A. Federal President's Report for 1953-54

It is my privilege to submit for your information a report covering the activities of the Federal Executive during the past year.

May, 1953: Officers of the Federal Executive placed the case of the Australian Amateur before the Royal Commission on Television, and this was included in the Commission's report to the Government insofar as the "interference problem" was concerned.

Representations to the P.M.G. Department resulted in an agreement to issue a Technician License (subsequently termed the **Limited Amateur Operator's Certificate of Proficiency** by the Department), and clarification was reached with regard to the scope of "Duplex Operation."

June, 1953: Our gracious Queen Elizabeth II. was crowned during the month of June and it was gratifying to learn that honors were bestowed upon a number of members of the Institute. Congratulatory messages were delivered to the Queen on this great day in her life, these being routed by means of Amateur stations.

Preliminary proposals were submitted to Federal Council for the holding of a Region III. Congress during the Olympic Games to be held in Melbourne during 1956.

July, 1953: In pursuance of Television privileges for Amateurs, further representations were made to Mr. Anthony, M.H.R., Postmaster-General, to have provisions for this included in the Television Act or any other legislation for the introduction of Television services. This will be pursued further when the Government has determined its policy with regard to Television in Australia.

Representations were also made to the P.M.G. Department and the Department of External Affairs with regard to the growing interference in the frequency channels specifically allocated to Australian Amateurs under the terms of the Atlantic City Convention 1947. Success was gained concerning the operation of Radio Pakistan in the 7 Mc. band and Federal Executive is sure that the gradual but certain eradication of many other stations can be gained also if the reports coming in can give accurate information concerning the identity of the interfering stations.

August, 1953: On behalf of the Federal Council, Federal Executive successfully tendered for the right to publish the **Australian Radio Amateur Call Book** for the next five years. The first issue of this publication is already being sold throughout the Commonwealth and in New Zealand, and is one for which the Federal Council and the Executive can be justly proud.

September: After prolonged negotiations with the P.M.G. Department, amendments to Regulations 32 in the Handbook have been made permitting the use of other languages besides English to be used in conducting QSOs. At the same time, a reduction in the age limit was gained for applicants desiring to sit for the A.O.C.P.; where an applicant once had to be 18 years or more, this has now been reduced to 16 years.

The Executive forwarded an appropriately bound and embossed Official Log Book to each Division for use by the official W.I.A. stations. It is hoped that a current record of the activity of these stations and the experiments carried

out will ultimately prove a valuable historical record of the Divisional station.

October, 1953: Federal Secretary, Max Hull, VK3ZS, gave six months notice of his desire to vacate the post. As at this

WIRELESS INSTITUTE OF AUSTRALIA—FEDERAL EXECUTIVE Income and Expenditure Account for Twelve Months ended 28th February, 1954 No. 1 Account

EXPENDITURE		INCOME	
Badges	£86 14 8	Per Capita Payments	£175 3 4
Stationery	31 1 5	Sales of Badges and Log Sheets	170 4 11
Log Sheets	59 10 8		
Certificates	9 13 10		
Trophy Expenses	16 4 2		
Audit and Accounting	12 12 0		
Typing and Duplicating	9 3 0		
Honorarium	10 10 0		
Bank Charges	1 13 5		
Petty Cash and Postage	35 5 11		
Depreciation—			
Receiver	£3 0 0		
Trophies	2 3 3		
Typewriter	8 10 0		
Filing Cabinet	3 10 0		
	17 3 3		
Surplus transferred to Accumulated Funds	55 15 11		
	£345 8 3		£345 8 3

Statement of Receipts and Payments for Year ended 28th February, 1954 No. 2 Account

RECEIPTS		PAYMENTS	
Refunds of Expenses by Divisions	£248 13 3	1953 Convention—	
Surplus of Payments over Receipts transferred to Accumulated Funds	18 16 0	Delegates Expenses	£174 12 0
		Dinners	68 2 3
		Minutes	10 10 0
		Stationery	6 0 0
		Petty Cash	7 0 0
		Bank Charges	1 5 0
	£267 9 3		£267 9 3

Balance Sheet as at 28th February, 1954

Current Liabilities—		Current Assets—	
Creditors	£12 12 0	Petty Cash	£0 16 9
Accumulated Funds—		Bank No. 1	67 13 5
Balance 1/3/53 £499 11 11		Bank No. 2	3 11 3
Add surplus from No. 1 Account	55 15 11	Debtors	155 2 5
	£555 7 10	Badges	43 0 0
Less loss from No. 2 Account	18 16 0	Stationery, Certificates, and Log Sheets	108 0 0
	536 11 10	Fixed Assets (at cost less depreciation)—	
		Eddystone Model "640" Receiver	24 0 0
		Trophy, Remembrance Day	14 0 0
		Trophy, Ross Hull Memorial	37 0 0
		Filing Cabinet	28 0 0
		Typewriter	68 0 0
	£549 3 10		£549 3 10

I have examined the books and vouchers of the Wireless Institute of Australia (Federal Executive) and prepared the above Balance Sheet and attached statements. In my opinion, the Balance Sheet is properly drawn up so as to exhibit a true and correct view of the state of the Federal Executive's affairs and that the Income and Expenditure Account and Statement of Receipts and Payments are properly drawn up to exhibit a true and correct view of the results for the twelve months ended 28th February, 1954, according to the best of my knowledge and the explanations given to me, and as shown by the books.

1st April, 1954.

Reg. W. ELLIS, Dip. Com., F.C.A. (Aust.),
Chartered Accountant (Australia).

date, Max intends to stay on with the Executive and carry out other duties.

November, 1953: Federal Executive, with the concurrence of the Headquarters Divisional Council, co-opted members to form a Contest Advisory Panel to assist in unravelling some of the complexities existing the present Contest rules.

December, 1953: Draft certificates and colour washes were produced and preparation made for the printing of the WA-VK-CA Award for issuance to overseas Amateurs who can qualify.

Agreement was reached to amend the Federal Constitution to provide for two additional members with voting powers on the Executive. This should do much to lessen the load of the Federal Secretary and generally expedite the work of the Executive. Upon receipt of Federal Council's vote, the machinery will be set in motion to bring this change about.

January, 1954: The Ross Hull V.H.F. Memorial Contest Trophy was completed except for engraving, including a sturdy transit case to ship it to the winners from time to time. Arrangements have been made for the past winners to hold the trophy for a period of two or three months. The trophy is considered to be very handsome and one that every Amateur would be proud to hold. Credit is due to all those who had a hand in its design and production.

Investigations were commenced with relation to the standard of A.O.C.P. examinations compared to the standard of Institute training courses, with a view to keeping our courses up with modern trends.

February, 1954: Federal QSL Officer, Ray Jones, was honored by the Victorian Division with a Life Honorary Membership. This recognition of the long service to the Institute by a faithful and hardworking Federal Officer will meet with the approval of all who have had the pleasure of associating with Ray. Whilst on the subject of QSLs, it is interesting to note that in spite of the heavy slump in QSL cards being handled, due to bad conditions on the international bands, the members of the Institute have continued to hold a satisfactory level and the general interest in Amateur Radio has "weathered" the depression remarkably well. With probably continued better conditions from now, greater interest and activity on the bands should be noted.

March, 1954: A comprehensive document covering "The Duties and Powers of the Federal Councillor," prepared by the Federal Secretary by direction of the Federal Council was completed ready for publication. This document should do much to clarify the position of the Federal Councillor and remove some of the causes of misunderstandings in the past.

April, 1954: Generally speaking, interest throughout the year has been maintained in all branches of Institute activity. Members of the Emergency Networks have been called into action on several occasions, but the tardiness of the Divisions in implementing the Civil Defence Emergency Networks Plan which Federal Council directed the Executive to produce, is most discouraging. It is hoped that the incoming fiscal year will bring some much-needed activity in this field.

The Official Institute Traffic Network has once again proved its worth, much time being saved during the year by messages handled through this medium.

As my last year of office draws to a close, I am pleased to report that most of the directives of the 1953 Convention have been completed. In some cases minor propositions have been left for completion during the 1954-55 period for financial reasons.

The Federal Executive's financial position is quite satisfactory in spite of the heavy programme undertaken. As a result of not having to prepare for a Federal Convention this year, members of the Executive have been able to devote more time to preparation of new material for the forthcoming year and much constructive work has already been completed.

This report would not be complete without reference to the fine co-operative efforts of all Federal Officers, Federal Councillors, members of the Magazine Committee and our Advertising Representative, Miss Touzeau.

Without all the hard work of these unselfish members, our Institute could not hope to continue in its healthy financial state. In all Divisions, also, due credit goes to all those active members under the jurisdiction of their Councils.

I relinquish office with regret and assure the Council that my services will always be available to the Institute. I thank you one and all for the happy years spent with you.

GEORGE GLOVER, VK3AG, Fed. President.

FEDERAL QSL MANAGER'S REPORT

This Bureau again functioned smoothly during the year and no major difficulties were encountered. Associations with Divisional Bureaux were extremely pleasant and co-operative. A dispute about domestic distribution of cards in one Division was ironed out to the satisfaction of all concerned. Relations with the Federal Executive were also harmonious and co-operative.

Traffic through the Bureau again declined. The falling away in traffic over the past six years closely follows the overall deterioration in conditions on the main International bands during the period, and cards handled show a fall since the same period last year. This closely reflects the descent into the trough of the solar cycle. Cards handled for the year totalled 21,168; a comparison over the past six years being rather interesting: 1947 73,000, 1948 65,000, 1949 57,000, 1950 46,000, 1951 38,000, 1952 25,000, 1953 21,000.

Bureau costs were again kept down to the low figure of £8/1/2, representing an average cost of 6.9 pence per 100 cards handled.

Only one change in the personnel of the Divisional Bureaux was reported, Miss Claire O'Brien taking over the outward duties for the VK4 Division.

Cards from the U.S.S.R. satellite countries continue to come to hand regularly, but nothing was received from the U.S.S.R. itself.

Preliminary action on 26 Certificate applications was taken during the year. Items of interest to Divisional Managers and members generally were regularly promulgated in the Federal QSL Notes in "Amateur Radio."

R. E. JONES, Federal QSL Manager.

FEDERAL CONTEST MANGER'S REPORT

In August, 1953, an urgent request was made to me to take over Federal Contest matters as the Divisional Council had been unable to form a Contest Committee.

The rules of the VK-ZL Contest had already been drafted and despatched by the Council although unfortunately they were too late for publication in any overseas magazines.

A survey was made of the rules of the balance of the Contests on the Federal Calendar. VK-ZL Contest: The rules of this Contest appear to be reasonable and should not require any alteration for many years.

E.D. Contest: The rules of this Contest do require some revision, particularly in the scoring. At present the larger Divisions have no chance of winning the trophy.

National Field Day: A slight variation in the method of scoring was tried in an endeavour to encourage lower power operation and possibly bring more operators into the field. The inverse multiplier had the effect of equalising the scores of the various competitors, but did not seem to bring in any additional entries as was hoped. The contest is not well supported and due to the disposition of the awards, practically every competitor receives a certificate.

Ross Hull Contest: This is the only Federal V.H.F. Contest and is always well supported by those who operate on the v.h.f. bands. The scoring now appears to be fairly equitable, but as conditions on the 50 Mc. band are very variable, only time will tell.

Owing to lack of assistance I had to check all logs and issue certificates myself. This slowed up the issue of the certificates, but all with the exception of four for the VK-ZL Contest have now been despatched. Unfortunately one or two errors were made when the final results were compiled, but all have been rectified.—V. H. Wilson, Fed. Contest Manager.

[The Federal Executive have expressed the thanks of all members to Mr. Wilson for his work in this regard.]

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DX ACTIVITY BY VK3AHH†

PROPAGATION REPORT

3.5 Mc.: During the month communication on this band was possible to North America, Pacific Islands, Alaska, and the Far East. Reception of one South American and one European station has also been reported. Additionally, depending upon the availability of stations, the period for all above-mentioned regions except Europe was between 0900 and 1300z. European break-throughs were reported around 1830-2030z.

7 Mc.: This band demonstrated European conditions over the long path between 0600 and 0730z, and over the short route around 2100-2200z. More or less consistent signals from North America, Pacific Islands and the Far East were present between 0600z and 1300z. Central and South American stations broke through around 0545-0800z, while Africa was represented around 2200z.

14 Mc.: Erratic conditions prevailed during the month. As was to be expected, communication to North America (0100-0700z) deteriorated, and occasional break-throughs to Europe were reported during the periods 0500-0800z, 1200-1300z, and 1600-1900z. Times for Central and South America were around 1800z, and 0100-0800z. African contacts were possible around 0500-0800z.

21 Mc.: Irregular conditions are still the order. However, some brief and unreliable break-throughs to North America, Pacific Islands, and Central America occurred between 2200z and 0400z, with Californian signals of reasonable strength around 2200-0100z.

27/28 Mc.: No DX signals have been heard by consistent observers in N.S.W. and Vic.

NEWS AND NOTES

Activity from Navassa Island is anticipated to last a few months, with KC4AB until Nov.-Dec., and KC4AC from about 1st Nov.

Trommelin Island can still be expected to be represented at some future date, by FB8BK.

Thanks are offered to Mr. G. W. Baty, Snr., for a letter with comprehensive information on his son's activity as VR3A. Ray had over 4,000 contacts since arriving on Fanning Island, early this year. VR3A's antenna and the cable to the cable station are in one vertical plane with the obvious consequences! Another source of local QRM is a number of motors and generators belonging to the power supply of the island. Ray wants to have 73 and best wishes conveyed to his many friends among our readers, and says that VR3A QSLs will be a high priority for 1955. Thank you, Ray, and we do hope that you will, after all, have a happy time as the only c.w. representative on Fanning Island! Ray also mentions that VR3C will not be active for approximately six months due to his duties on Washington Island.

During the month of August very hot news floated around the air and Melbourne telephone lines (thanks Eric!) to the effect that ZM7 land, Tokelau Island, was to be pushed within reach of DXers by VR2BZ. Three days were scheduled and now it is all over! Latest information says that, unfortunately, no VK was lucky enough. Still, there is hoping for better luck next time, and, for the present, let us follow the general trend around the DX world and praise VR2BZ for representing such a rare country!

Attention 80 mc DXers: KA, KB, KC, and KW stations now have permits for 80 mc c.w. operation.

Upon request, attention of 7 Mc. phone men is drawn to the fact that even 20w. to a dipole might produce an S9 signal in W land. What about also tuning around 7200-7300 Kc. for replies to a CQ?

Rhodes and Crete are kept on the air by SV2RI and SV9UN, respectively. DXers are getting distressed after hearing suspicion about those activities of a certain "UU" station from very rare spots. Details will be published in these notes as soon as they have been received officially.

According to rumours between continents, the call sign HV1AA has been issued. DX hunters will, no doubt, be on the job and look out for HB9LA's dotings as HB9LA/FC and A2LA belong to the past—sorry chaps, news was received far too late. But FRFV/FC who commenced on 29/7/54 may still be active (frequencies: c.w. 7021, 14090, and on phone 14121 Kc.).

KP6AK, Palmyra Island, is supposed to be on 14220 Kc.

Amateurs are concerned about foreign non-ham stations operating in exclusive Amateur bands, or do they only talk about the "commercial QRM"? OK chaps, if those signals

annoy you, please report their frequencies, call sign (if identifiable) type of emission, time and date of observation. Send those reports through Divisional channels or to me, for publication in the magazine. Your co-operation is vital! Oh, so far, meagre list will again be published when new reports have been received.

This month the magazine begins a new column—the S.W.L. Column, following the very successful first meeting of the S.W.L. Group of the Vic. Div. on 31st August. Congrats, boys, and carry on as you started off! Happy scribbling, John!

Talking of our apprentices, it is very gratifying to see the great interest shown by our L.A.O.C.P. licensees, or "Z-boys," in learning the c.w. You are on the right road, fellows! The complete Amateur will always be defined as a person with some c.w. ability (14 words per minute is not fast!) together with some technical knowledge. So, keep up the tradition of the pioneers of short-wave propagation and try those few dots and dashes!

Eh, phone men! Where have you gone to? Oh, no, no fear, this was only advice for new comers! As far as this DX page is concerned, it will continue in the proper fashion: fair play for everybody, whether c.w. or phone, whether 10 or 80 mx DX!

QTHs of Interest

KF8AP—Marcel Legat, Hydro Basé, Noumea, New Caledonia.

FB8AZ—Box 527, Saigon, Vietnam.

ZM6AS—Box 187, Apia, Western Samoa.

KC4AB—Via W4QCW.

ZP5BC—Box 133, Asuncion, Paraguay.

News for this section are always scarce, thus our special thanks go to the Southern California DX Club, s.w.l. BERS195, and VKs 3PV/3APV, 3ACN, 4SS.

ACTIVITIES

3.5 Mc.: Chas IAC, as usually, reports a good list with W4*, W2* and VK9SF* on phone. Frank 2Q1 follows with KH6PL*, JA1CR, LUSEL, W2, W4, W7, W8. Fred 3YS reports VK1DJ, JA6FE, DU7SV, ZK1EG and VK1AC*. Harry 3ZM mentions VK1GA*, Lance 3ZA worked W*, Neville 3ACN, John 3AGD and Gordon 3AGV phoned with VK1AC*. John 3ALP reports, in addition, VK9SF*, VK6FN*, while Don 3ALQ heard Ws on phone. Eric BERS195 heard DU7SV, JA1CR, KG6GX, VESDKD, W2. Jim Hunt adds W7SNV/KL7, KL7AIZ, VK1AC. Gerard Lane, of Nunawading, Vic., heard H1YJ. 3AHH worked KH6PL*, W8*, VK1AC*, and VK1DJ*.

7 Mc.: IAC mentions KH6*, KL7*, VE*, G4CP*, while 2QL managed a QSO with KC4AB* (congrats!) and HC1LE*, KZSCR*, DU7SV*, VQ2GW*, Gs* and heard KV4AA, YV5DE, YV5BJ, XE2LA. Laurie 2AMB presents the usually good list with VE3MA*, VE8CJ*, JA1CR*, KG6*, FK8AB*, FUSAC* (phone) and DU7SV. 3YS heard FK8AO, 3ZM worked KL7s*. 3ACN spoke to a long series of Ws*, FUSAC*. 3ALQ phoned with JAs*, FUSAC*, VR2BZ*, while Doug 5BY reports OQ5ZZ*. BERS195 listed FK8AB, KB6AY, KG6, KH6, KP4CC, KV4BB, VR2CG; and Jim Hunt KJ6AF, FUSAC, HP3FL, KC6AA, JAs, KL7.

14 Mc. c.w. reports are as follows: 1AC OH*, KR6*, VE*, VR2*, KV4BB*, JAs*, Peter 2FA SM3*, HS1D*, DU*, VS6*, OZ9BX/MM*, KAs*, VR2*, G3*, VS1GG*, JZ0KF*, FB8AT*, 2QL: ZM6AB*, ZS6AD*, VR2BZ/ZM7, JZ0PA, KJ6AB, HS1D, KV4AA*. Noel 2AHH: KV4AA*, TZ2MAR*, KP4A*, and FW8AB, SV0WL, ZESJJ, VP7NR, Neville 2APL: VE*, Alan 3CX: JA*, KA*, VS1SW*, KV4AA*, VR3A*, HS4HK*, ZM6AL* and FW8AB. Ken 3KR: XE1SA*, FK8AB*, VK1PG*, VS1GG*, DUICE*, JA*. Don 3PV/3APV: HB9, DJ/DL, F, G, OZ, SM, EA9EB, FB8AF, PA0, MB9BJ, OE3VP, ON4, G13HC, ST2AR, VR3A, YV5FV, JA*, XE1MJ, C3AR, 45THK, PJ2CC, KP4AL, KP4WD, 3YS: OZ9BX/MM, 3ZA: JZ0PA*, and CE0AD, YV5AB, ZK1AM. Bob 4RW: XE1MJ*, CO2CT*, KZ5GH*, Alan 4SS: FO3AC*, CO2CT*, ZC5SF*, KV4AA*, VR3A*, VR2BZ*, VR2AS*, VR2CY*, DU*, VS6*, KJ6AB, KX6NA*, KM6AX*, KM6OSA*, FK8*, VS2DW*, JZ0KF*, VK1PG*, XE1MJ*, XE1AX*, VS1GG*, KB6*, KG6*, ZM6AL*, KR6OH*, ZEK1J*, CE2Z2*, KP4AZ*, G*, OZ, SM*, DL*, ZK1J*, 45THK*, 457AK*, KR6AA*, VS1*, and VR2BZ/ZM7, CE0AD, LU, PV, KC4AB, VQ4, ZS, TI, VS4, OA8, OQ5, KZ5, John 5HI: OQ5RU*, VQ2GW*. Ray 8BK: JZ0PA*, BERS195: CR9AF, DU, FK8, HRIAA, HS1D, KG6, KJ6AB, KR6, LUBAJ, VK1DY, VK1PG, VR2CY, VS1, XE1CM, XE1MJ, XE1SA, VR2BZ/ZM7.

And on phone: 2PA: VS2DG*, 457YL*, JAs*, 2AHH: V1GG*, T2RC*, HRI6G*, YN4CB*, CO2GU*, CP5EK*, 2APL: VR2*, CO2GO*, FK8*, 3KR: KC6ZB*, 457YL*, T2CHV*, 3PV/3APV:

Gs, DLs, GW, ON4, Fc, OA4AP, CM9AA, SM, 8ACN: T22PP*, CO2CY*, ZM6AT*, XE2KW*, 457YL*, VK1HM*, VR2*, YS1MS*, VS6*, ZC5VR*, VEs*, Harold 8AHC: CT1CL*, Ken 8AQJ: FK8* and ZM6AA, ZM6AT, ZSs, 4RW: HK4DF*, ZK1E1*, 5HI, KZ5WZ*, CO2GO*, CM9AA*, HP3BC*, ZM6AT*, VQ2DT*, VQ2FU*, VR1DX*, FB8CA*, ZS*, KX6s*, KAs*, Pat 7PM: HCL1W, YN4CB*, VR2*, ZM6AP*, 457YL*, and ZSs, XEs, 9OK: YS*, BERS195s, KC6ZB, T2CHV, ZM6AT, 457YL, KR6AF. Jim Hunt: CO2GO, CO2BK, KL7s, VEs, VR2, T2RC, CM9AA, DU, JAs, KAs, VS6, ZC5VR, VK1EG, ZSs, ZM6AT, VS2DQ, 457YL, VP7NS, HRIAA, YN4CB, HP3FL, C3AR, KV4BB, CS3AC, KW6, VP5DX, ZEEJE, VS1, OH.

21 Mc.: Norm 2ALJ reports KH6*, W6LHI*, W6MZV/MM*, Noel 2AQH worked a number of W6s*, W6s* and a JA2*. Reg 3GX worked W6MZV/MM*. 3YT heard Ws, XE, TI, KH6, VS1, and ZM6. 7PM mentions W6*, W6*, VE4* and KH6* proving that the new vee beam works as well as the old one, or does it Pat? Jim Hunt heard Ws, KW6EB, KH6s, VS1FE, KA2, JA6.

27/28 Mc.: Only two reports have been received, namely from 2ALJ and Jim Hunt. Both mention no DX conditions.

The final courtesy of a QSO is a QSL card! New DX cards have arrived at 2AMB: LA3C (7 Mc.); 5HI: 4X4DH, VS6CR, ZE2JE, 457LE, VR3A, 5RK: VU2JG, BERS105: E181, HB1MC (3.5 Mc.), KC6AA, LU3EV, VU2KV, XE1MJ, YV5AO, ZBKIK, ZD4AB, ZK2AC, 3AHH: W7VOZ/KL7 (3.5 Mc.), 457LE.

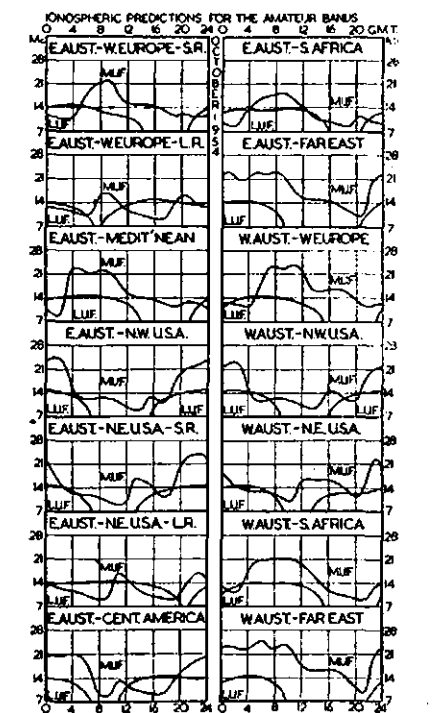
Thanks to VKs 1AC, 2PA, 2QL, 2AHH, 2AMB, 2APL, 2AQH, 3CX, 3G, 3KR, 3PV/3APV, 3YS, 3YT, 3ZA, 3ZM, 3ACN, 3AGD, 3AGV, 3AHC, 3ALP, 3ALQ, 3AQJ, 4RW, 4SS, 5BY, 5HI, 5RK, 7PM, 9OK, and s.w.l.s. BERS195, Jim Hunt (VK3), Gerard Lane (VK3).

CAN YOU ASSIST?

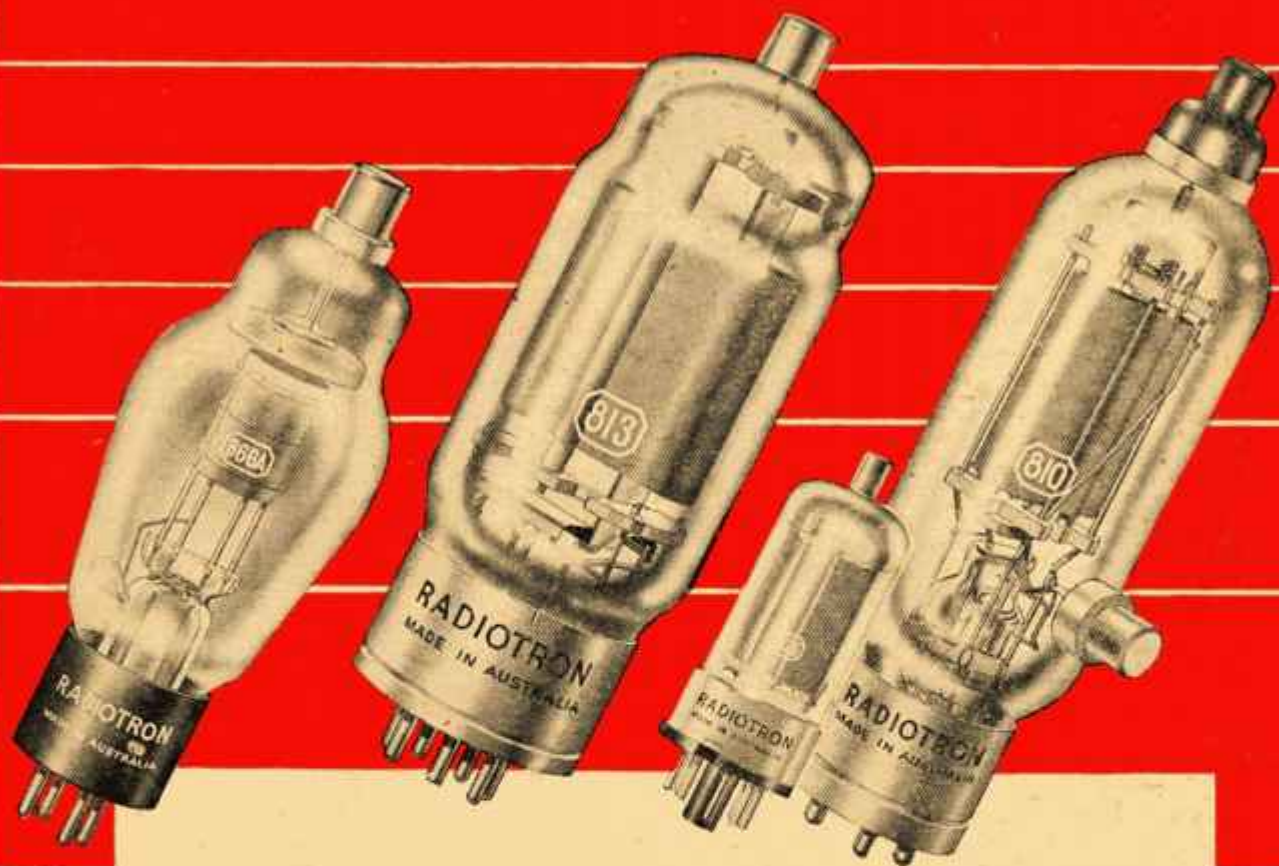
Wanted an Actuary or person with a knowledge of statistics interested in making a Mathematical Analysis of Remembrance Day Contest results and evolving a system capable of provoking more entries and maintaining equality between Divisions.

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NEW SOUTH WALES

The lecture given at the August meeting of the V.h.f. Group by Mr. Ron Coppett on Jet Engines was most interesting and brought those present up to date on the operation of gas turbine engines. Using various components of a Goblin engine to illustrate points of particular interest, also a demonstration of the latest type of ignition using a high intensity spark was most impressive and the hope is expressed that it is never fitted to motor cars.

The August points-per-mile contest result was as follows: 20A at Mt. Tomah, 1st; 2HL, Mangrove Mt., 2nd; and as there were only two stations operating in the field with Bob 20A making the greatest number of contacts, Bob was declared the winner without a tally of the number of points being made.

Spring Field Day, 3rd October

Details of the Spring Field Day on Sunday, 3rd October are: The day's activities will commence at 10 a.m. when each station will contact their neighbouring stations, passing on the information as to the extent the chain has been formed, endeavouring to have the chain complete by 10.30 a.m. On receipt of the information that the chain is complete and contact has been made with VK3, a message of greeting will be originated by a Sydney station to the President of VK3, VK5 and VK7 Divisions from the President of the VK2 Division. The message will be passed both through the northern and southern circuits to 2AJC at Coolamon and 2FN at the Granites near Tumut, or to other stations who have contact with VK3. After passing the message on, each station will report back to the station he received the message from and each will continue to relay information on the progress made, back through the chain to Sydney.

In this way the message should be passed into VK3 by 11.30 a.m. when it is hoped information on the message reaching its destination will be passed back in a similar manner.

Stations operating in the chain will be 2FN at the Granites near Tumut, 2ZAA at Kendall, 2AJC Coolamon, 2TA at Young, 2WH Forbes, 2YR Mt. Conobolas, 2ANF Mt. Yorke, 2LG Mt. Tomah, 2AGY Newcastle, 2ATP Barrington Tops, 2RU Gosford, 2OA Mt. Gibraltar, 2HL Goulburn area, 2HE Mt. Kosciusko, 2AOA and 2YM Mt. Franklin, 2GU Canberra, 2BQ Tumut, with other stations not listed joining in to form further links. After the message has been cleared by all stations, endeavours will be made to establish long distance contacts over paths where previous contacts have not been made.

The offer of the use of the lecture room and facilities in the Radio and Electrical Section of Petersham Technical College, Crystal St., Petersham, for the V.h.f. Group's meetings has been accepted and future meetings of the Group will take place at that address. For this excellent opportunity, we owe our thanks to Max 2OT who arranged the necessary approval from the authorities concerned.

2HL is building a xtal controlled converter on the rear of a Command rx for portable/mobile work and reports good progress. 2HE is busily completing a portable tx for the Spring Field Day trip to Mt. Kosciusko. 2AOA and 2YM are doing likewise for their trip to Mt. Franklin. 2OA is considering very deeply the construction of a turnstile antenna. 2HO is getting the bugs out of his f.m. 2QZ has projects under way which will tell you about later, maybe Bob will put it in an article for "A.R." Sad news comes from 2XX' where Ted's

new 50 ft. tower, lying alongside the shack ready for erection, was badly damaged by a tree which came down in the wrong direction when being removed to make way for the tower; must have been the home of the grem-lins, Ted, Steve 2YR and Cec Cronan had a fortnight's tour of VK3 and country districts of New South Wales, visiting many shacks and operating 2 mx mobile, giving many country stations their first contact with a 2 mx mobile.

In regards to 50 Mc., Jack 2JH relays the 2 mx Sunday evening broadcast and would welcome reports on reception, so what about keeping a watch on the band and give Jack a call.—2APQ.

VICTORIA

The August meeting of the V.h.f. Group proved to be one of the best attended meetings, yet and the full seating accommodation was taxed by members wishing to hear the lecture given by Jack Davies, VK3JD, on mobile v.h.f. gear and they were certainly not disappointed for when Jack really warmed up to the lecture, hints came so thick and fast that the pencil and paper were in great evidency in the audience, trying to keep up with his recommendations. Jack demonstrated and lectured on noise limiters and other interference suppression devices peculiar to v.h.f. mobile. Of great interest was the use of a single crystal to crystal lock the i.f. frequency at its fundamental and using the same crystal and its harmonic to lock the converter oscillator. This, of course, was only suitable for fixed frequency reception, but the idea could be well utilised in the normal double conversion superhet. rx.

The gear demonstrated had double conversion rx, modulator and tx, and the chassis was 8 x 10 x 4 in. and by the use of miniaturised components of sections were ideally placed for servicing. The meeting closed with a discussion on the first field day for the season and it was proposed that it take place on Sunday, 3rd October, and this date will coincide with the request from VK2APQ for the nation-wide field day on that date.

A letter was also received from 3AFO asking for 2 mx activity on the following Sunday, 10th October, when the Central Western Zone Convention is to be held at Reed's Lookout in the Grampians. Utmost participation will be arranged for each Sunday, but it is unfortunate that these dates clash with other W.I.A. contests, namely, the VK-ZL one. Surely we should not have to double bank our activities when the Institute arranged annual contests are on. The VK-ZL is arranged with the I.A.R.U. for the first and second week-ends in October, and has been on that date in all the post-war years.

It is pleasing to find that already six out of the seven metropolitan Z calls have been heard on the band. The most enthusiastic being 3ZAA who is on the band almost every evening. It is pleasing to see such excellent enthusiasm.

A slight re-arrangement was used on this month's fox hunt when the cars started in mass formation and the hunt was run without a control station. This proved, however, that the control station is very advantageous to the cars who have lost contact with the fox and an endeavour will be made in future hunts to provide a strong home station so that lost cars can get into a position to contact him and thus obtain information from him as to the direction of the fox. The successful hounds on this occasion were Norm Dench and 3ZAA, followed by 3ADU, who found the fox during his stationary period. On the second run, 3ADU and 3ZAA were a dead heat in running down the fox car,

3LN, whilst he was mobile; they were quickly followed by the 3YS-3ABA combination. On the third run, 3YS and 3ADU were again successful in locating the fox, whilst he was stationary at the conclusion of the run. The post mortem was held at the home of Laurie 3ALY, and after waiting for 3ZAA and Norm Dench, who had gone 180 degrees out of phase, the gang had a very enjoyable evening and supper, and the thanks of the Group go to Laurie and Marij for their excellent hospitality. In all, 15 of the gang turned up at the final location. These hunts will continue on the second Wednesday evening of every month, so if you are at home that evening, get on the band and try and assist mobiles with some directions.

We would be pleased to get some information re activity on 288 Mc. What about passing it on chaps? The Western District is still a very active section on the 2 mx band, where 3ATN, 3ANG, 3AKR, 3RR, 3HG, 3DF and 3ACE keep activity alive and some excellent beam antennae are in the course of erection. With the advent of the fox hunts during the winter time, it appears that the field days this year should be very well supported by the Group and as activity is so well spread in the country throughout Victoria, it is anticipated that some excellent 2X will eventuate during this summer season.—3LN.

SOUTH AUSTRALIA

With the possibility of the U.K. having b.c. stations in the v.h.f. bands, some interesting circuits are appearing in "Wireless World" incorporating new tubes. One of the problems of simple converter stages is reducing radiation of the oscillator to very small values. This involves using a r.f. stage with very good inter-stage shielding—usually a pentode and its high noise due to partition effects—a grounded grid triode with low amplification, or a double triode in a cascade neutralised circuit. The triode is to be preferred and a double triode type ECC85 has been incorporated by Mullard in a most interesting arrangement. The first half is used as a cathode input, grounded grid, plate tuned r.f. amplifier; the second half as a combined mixer and oscillator. "With this arrangement both osc. radiation and noise are reduced by feeding the signal from the r.f. stage to a null point on the osc. coll. In addition to having high slope and input resistance, the ECC85 has an amplification factor of 57." The full circuit is in the July issue of "Wireless World."

On the home front, 2 mx has taken an upward surge and Interstate contacts with 3ATN at Birchip on Monday, 23rd August in the evening were made by Bill 5HD, using c.w.; Col 5RO heard 3ATN, but copy was difficult with a very weak signal; Col used a single 6J6 in mixer-osc. circuit with a 3 el. beam. Bill also heard another VK3 on freq. of approx. 144.17 Mc., but signal was too weak to identify the call.

Hughie 5BC was heard on phone R4-5 for three hours on the same evening—working Bill? Looks as though I'll have to rob the canaries of their 5 el. perch, borrow back my converter from Clem, finish it and have a listen myself. I'll have to dust off the xtal ball and make some predictions when everybody is going to be on! Tom 5TL still with us and wondering if 2 mx signals can get through the haze of dust and flies. 5MA quiescent, 5KU no hear, see or speak!

Much discussion about the Ross Hull Contest by the Contest Committee and some new ideas on operation and scoring were brought forward. Any ideas chaps? If so, send them along to the Federal Contest Committee, Box 1234K, G.P.O., Adelaide. Don't grizzle about the rules, etc., unless you have made a contribution—now is the time. The Committee meets on the last Tuesday each month.—5XU.

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WESTERN AUSTRALIA

144 Mc.: During August, the first contacts with the limited boys were chalked up. Cec 6ZAZ put in an appearance on 144 Mc. with a mod. osc.—pair of 7193s and worked a number of the locals. Tests with 6BS at Mannering (105 miles) proved negative, but the stabilised gear is progressing apace and should be in operation shortly. 6ZAA has been having a run of "outs"—what with a dud 12AT7 bought for new, and coax open internally—things have not been smooth going for Wai. He has put an S7 signal from his m.o.p.a. 7193s/815 up to 6HK, so great things are expected from the new xtal multiplier chain under construction. Quite a number of AR301 rx's went off recently from surplus sales, so there may well be more listeners on 144 Mc. than one thinks. Both 6ZAA and 6ZAZ are using these at present. A newcomer to 144 Mc., but not to Amateur Radio, was 6AW testing a modified TR1143. Denis has been having a good time working the locals, and plans are to hand to improve on the 3 cl. beam at present in use. 6FC made a comeback recently on 2 mx. Frank threw up a dipole and roared in with a very fine signal.

6AG's Sunday night appearances have been curtailed of late with holiday excursions to Rott-nest Island. ERK and 6CB very silent lately, 6JT once again on with the net at 2000 hours on Sundays after his trip to Cocos Island. The path from 6BS to Perth on 144 Mc. seems to be open about 80 per cent. of the time with S8-9 sigs as tests by 6BO and 6HK would indicate. Basil plans to stoke up an 8012 before long.

50 Mc.: The tempo here should be improving from now on with the advent of summer and ionospheric DX. One item of interest concerns the possibility of an Oceania/Africa contact on 50 Mc. ZSISW in a QSO with 6GU on 14 Mc. phone stated that he could guarantee at least ten active operators in ZS who would be interested in the possibilities of a QSO VK-ZS. ZSISW himself has a stacked array atop a 110 ft. tower, so look out! More details as to frequencies, gear, etc., may be forthcoming later.

That also reminds me of the promise of FK8AB to be on this year, besides the rumour of VS activity. Looks like this is going to be our last complete DX season on 50-54 Mc. chaps so best we make the most of it. The proposed change to 58-60 Mc. on 1/1/56 should provide some interest though as it will of course take place right in the middle of the DX season.

6GU is still planning to put the 807s on 50 Mc. 6CC still to be heard occasionally, but

will be very busy in the next couple of months with exams. Ian 6IG put in a surprise appearance one evening using 6LW's portable rig, which is about the nearest we've come to hearing Wai again. For those with short memories, 6LW was one of the mainstays of 50 Mc. activity in this State after the war, and chalked up the first Interstate 50 Mc. QSO from Perth in December, 1948. My, six years ago!

CSJ is to re-build using 35Ts in the final and modulator. 6LM heard on 20 mx, what about putting up the 50 Mc. beam again Lionel now that you're installed in the new QTH? 6FM has nearly finished the beam, 4 over 4 on 50 Mc. and 16 el. phased array on 144 Mc. Ron has also been churning out some information on temperature inversions versus propagation conditions on 144 Mc., which may develop into something worthwhile from the prediction point of view.

AMATEUR CALL SIGNS FOR MONTH OF AUGUST, 1954 ADDITIONS

- VK— New South Wales
2IB—G. L. Rhodes, 6 Bourke St., Turramurra.
2AAU—J. Wakefield, Hargrave St., Armidale.
2ACS—E. C. Savage, 32 The Circle, Griffith.
2AIV—W. H. Kennedy, Portable; Broad St., Eugowra.
2AQT—H. C. Daynes, 8 Waratah St., O'Connor, Canberra, A.C.T.
2AXD—E. A. Drutt, 43 Canal St., Griffith.
Victoria
3AHT—W. B. Magnusson, 359 Williamstown Rd., Yarraville.
3ZAS—C. R. Stillwell, 32 Hopper St., Bendigo.
Queensland
4EB—P. Bobliff, 45 Dansie St., Greenslopes, Brisbane.
4HN—W. E. Evans, C/o. Railways Dept., Stuart, Townsville.
4PH—P. W. Hay, 1 New St., Toowoomba.
4RZ—J. M. Atkinson, Parker St., Labrador, South Port.
4TR—C. R. West, 196 Goldsmith St., Mackay.
4UT—T. D. Athey, 41 Mountford Rd., New Farm, South Australia
5FF—R. F. Farmer, Portable, C/o. Mr. C. W. Farmer, 7 Kirkcaldy Rd., Grange.
5OD—Port Pirie Amateur Radio Society, C/o. 51 Alexander St., Port Pirie.

- Western Australia
6AF—R.A.A.F. Pearce Amateur Radio Club, R.A.A.F. Station, Pearce, W.A.
Tasmania
7BI—B. Sctrine, C/o. Station 7SD, Scottsdale, Territories
1DJ—D. H. Johns, Macquarie Island.
1TF—T. F. Firmstone, Macquarie Island.

ALTERATIONS

- VK— New South Wales
2JX—"Kuranda," Blaxland Road, Wentworth Falls.
2LI—8 Millford Street, Randwick.
2MF—Markham Street, South Armidale.
2RL—541 Darling Street, Rozelle.
2SH—9 Bridge Street, Port Macquarie.
2TY—9 Melbee Street, Rutherford, 3N.
2VC—9 Macfarlane Parade, Sylvania.
2AAR—15 Robinson Street, Kogarah East.
2AGJ—Station: Wickham's Hill, Griffith; Postal: P.O. Box 631, Griffith.
2AIQ—Cr. Orient and Adelaide Streets, Padstow.
2AOB—26 Sherlock Avenue, Panania.
2AQS—Police Station, Binnaway, 6W.
2ARI—9 Abbott Street, Cammeray.
2AWX—Station: Technical College, Tighes Hill; Postal: Secretary, 174 Alexander St., Wallsend, Newcastle.
Victoria
3KN—4 St. Leonards Court, South Yarra, S.E.I.
3KV—251 Barkly Street, St. Kilda, S.2.
3NR—"Talisman," Kallista.
3TV—22 Heath Avenue, Oakleigh.
3UR—60 View Street, Bendigo.
3ACD—Boundary and Jetty Roads, Dromana.
3AFW—79 Spencer Street, Essendon.
3AKN—Portable, 4 St. Leonards Court, South Yarra, S.E.I.
3ANL—Majorca Road, Maryborough, Queensland
4CB—14 Unity Street, Maryborough.
4DG—Portable, C/o. Post Office, Quillpie.
4FE—Thursday Island.
4LN—Nash Street, Gympie.
South Australia
5MK—8 Welwyn Road, Manningham, Western Australia
6GA—41 Balfour Street, Kalgoorlie, Tasmania
7SD—87 Bass Street, Warrane.

DELETIONS

- New South Wales: VKs 2AUC (now VK4EB), 2ZAD (now VK2AXD).
Victoria: VKs 3BI (now VK7BI), 3GT, 3AFD.

This section cut out...Sourcing

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FEDERAL, QSL, and DIVISIONAL NOTES



FEDERAL

V.H.F.-U.H.F. DISTANCE RECORDS

Now that Limited A.O.C.P. licensees are operating on the v.h.f.-u.h.f. bands, interest in performances, distance records, etc., will be greatly increased. It has been proposed that a paragraph should be printed in each issue of "Amateur Radio" giving a summary of the record performance on each band. Federal Executive requests those v.h.f.-u.h.f. enthusiasts who have noteworthy contacts to forward details to their Divisional Headquarters so that a complete survey can be made.

When forwarding information, the following details should be included: (a) Date-Time of Contact, (b) Station Calls (c) Approximate Air-Line Distance. This will greatly facilitate in making the final summary.

SLOW MORSE ON 144 Mc.

Following representations to the Amateur Administration, permission has been granted to the Wireless Institute to provide Slow Morse transmissions on 144 Mc. This should be of great benefit to those members who are now operating on this and higher frequencies.

T.V.I. BOOKS

Federal Executive has received information that a further supply of T.V.I. Books by Remington Rand are due to arrive in November. Members of the Institute desirous of having this informative book should reserve a copy by writing to the Federal Secretary, enclosing 7d. in stamps.

FEDERAL QSL BUREAU

RAY JONES, VK3RJ, MANAGER

The present address of R. E. Bellon, who in approximately 1927 was OA2RB, with address at 92 Laurence Street, Lithgow, N.S.W., is urgently required by this Bureau. Any reader knowing same kindly advise or ask him to contact the Federal QSL Manager.

Ray Baty, VR3A (ex-VR3D), has 6,000 QSLs on the way from Sydney. When he receives them about mid October, Ray will settle down to the steady job of filling and despatching about 4,000 of them.

VR2EZ landed at Tokelau Island and was on the air as VR2EZ/ZM6 for a period during mid September.

The correct address of the QSL Bureau for DM is Postbox 666, Halle (Saale), Germany.

The Syrian Radio Amateurs, whose QSL Bureau is Box 35, Damascus, Syria, wishes it to be known that an International Fair took place in Damascus during September. A 500w. station was erected in the Fair grounds and using the call sign YK1DF worked every day from 1800-2400 Cairo time on 14 Mc. band. The Syrian Radio Amateurs' Managing Board will award an assortment of Oriental gifts to a foreign Amateur who worked this station. The award will be decided by lottery. The information comes from Lieut. Col. Tarek Keyhani, YK1AJ.

The Mexican National Amateur Society (L.M.R.E.) held a successful Convention in May last. The total attendance at Acapulco was 400. Of this number, 116 were active Amateurs and 128 inactive, making a total attendance of 244 Amateurs. Among the number were 55 foreign call signs. The well known and popular Vice-President, Dr. Jose Polak, XE1VA, who organised the Convention, did not run for re-election. Dr. Manuel Medina, XE1N, was unanimously re-elected President.

A son of Slim Herbert, ZL1MB, will be taking part in the six-day amateur cycle race to be staged in Sydney during November.

Cards through the Federal Bureau during August, reached an all-time low of 700!! Compare this with the peak month during 1947 when cards numbered 8,000. Is no DX being worked, or are stations tardy with QSLs? I can visualise myself being out of a job soon if things do not look up.

Writer recently was pleased and honored to receive the only card that Adrien FW8AB, of Wallis Island, has sent out (his own statement). Adrien will soon be returning to France.

ON4QX complains bitterly that many VK stations are not replying to his cards and are even hanging on to the reply coupons he encloses. Out of many QSLs sent, he has only received those of VK2GW and VK2AHH in return. Fair go chaps.

The International DX Club World Wide Contest is scheduled as follows: Phone—0200z 23rd October, to 0200z 25th October. C.W.—0200z, 30th October, to 0200z 1st November.

SILENT KEY

It is with deep regret that we record the passing of:—

Ex-VK3PP—Capt. Arthur E. T. Payne. Died 8/9/54.

Ray VK9RH, of Norfolk Island, was rushed to Sydney by plane around end of August for urgent appendix removal. Ray is making a fair recovery.

Eagle eyed Treb., of BERS195, has spotted a discrepancy in the published dates for the VK-ZL contest entries. In "Break In" the closing date for entries is given as 31st December, while "A.R." says 21st January. Guess a correction will appear shortly.

VR2CY, Dan Allen, Beach Road, Suva, who works for Cable and Wireless, is an ex-member of Number 11 and 20 R.A.A.F. Flying Boat Squadrons, and poked around the island bases during 1941-42.

Eddie Hickford, ZK2AC, O.I.C. Radio, and Postmaster, Nieuwe Island, who replaced ZK2AA, operates 7 Mc. c.w. with 100w., but is not DX minded. He much prefers keeping skeeds with his friends in ZL, and that is about his only reason for frequenting the Amateur band, although he QSLs all DX contacts made.

NEW SOUTH WALES

The monthly general meeting of the Wireless Institute, N.S.W. Division was held at Science House, Gloucester St., Sydney, on Friday, 27th August. The audience was a capacity one. In fact extra seating accommodation had to be obtained from adjoining rooms. The President, 2YC, opened the meeting at 8 p.m. and welcomed all visitors, among whom was 4FU who is holidaying near Sydney, and Don 2NO; the visitors being welcomed in the customary manner. The minutes were read by the Secretary and after a short discussion on matters pertaining to the minutes they were adopted. In view of the great amount of interest displayed by members on the question of increased power, the President opened discussion on this matter and although the time allotted was perforce short in duration, several speakers gave their views on the question, and it was felt that members would have some ideas to consider before the question comes up for discussion again.

The lecture at this meeting was given by our old friend, Angus Robertson, 2IQ, who in his inimitable style delivered a very interesting discourse on "The Fundamental Theory of Antennae." Angus dealt with the basic theory of antennae, phasing of antennae and an interesting discussion on vertical antennae, all explained in detail with the aid of vector diagrams, and following that answered a number of interesting questions put by members. This was followed by yet another concise lecture by the same gentleman on his pet subject, "Inter-modulation Distortion in Amplifiers," this being dealt with in the same efficient manner. These lectures were recorded by Hec 2ACI and will no doubt be made available in the future to the country centres as previously. The inevitable happened, more questions and finally the meeting was closed with little time left for discussion and ragchewing, but all present agreed that a very enjoyable and instructive night had been spent.

WESTERN SUBURBS

Despite the fact that there is a lot of activity in this area, we still get no reports on the local doings, so have to recourse to the scandal gathering ability of the XYL and self, but do appeal to some of the chaps to let us have some copy by the first of the month as it is difficult to listen on all bands at once, and in any case we do like a little activity on our own gear, more especially when the 14 Mc. band does occasionally open in the direction of the "old dirt." Our gleanings reveal that 2AXZ has found the 20 mx band once again. Ken has been busy with the A.O.C.P. class, so can be forgiven. 2AAB still gets around on 20 and 40 mx, both on phone and c.w. 2APT doing good things with the beam on top of Kelly's Hill, is really line of sight to W land and despite really formidable power lines, can get a reasonable signal into G land. 2AEK and 2NJ are tape

recorder happy still, but the merest trace of real DX will, I feel sure, transfer their attention again.

2IX has his antenna much higher and has a nice signal these days, also appears to have increased the modulation a little. 2ZF, our local exponent of s.s.c., also doing well and can be heard at the h.f. end of the band doing nicely for himself using that medium; Noel is looking for more converts to the system and will put anyone on the track who is sufficiently interested to contact him. 2OQ, the man who came back again, is getting organised properly, yes the beam is in the air and although only 12 feet is doing a fine job. 2FM is still busy polishing the car, appears to be a little browned off but will return. 2AYH went to see 2OQ and returned home with the beam virus in his blood, another going up soon. A further chap who is putting a beam up is Tom 2HX, but he is quite a busy boy and it will be in the air soon. 2JU was very busy in the R.D. Contest and John amassed a very nice total of points, 2AGU is never heard these days, but the G boys are asking of you Harry, so you should do something about it. 2ABO gets on occasionally, but like 2CE gets on the v.h.f. bands more frequently.

NORTH COAST AND TABLELANDS

Zone officer 2AHH sends the lone report from this large slice of N.S.W. and in doing so complains that for some months he has been unable to hear many stations in the zone and requests that more reports be forthcoming from other areas. Noel has been working much DX of late on 14 Mc. In the afternoon and has worked into Europe and South America with ease. In a letter from 2XO, Noel learns that Crieft is still off colour, sorry to hear that, and it appears that he may take his long service leave and take a health trip to ZL. We all wish you well Crieft and hope to see you at the next Urunga "Do", we hear the "Do Me" has been repaired in Royal colours. Don't forget chaps the next North Coast Convention will be held at Urunga at Easter 1955, so make your arrangements early as the organisers will be only pleased to make your plans for you.

Bill 2AEY is prospecting for uranium these days. Hart 2JC and family will be at Urunga for a holiday this month. Rod 2ACU has been in Sydney, in fact he was at the meeting early, but owing to commitments had to leave promptly. 2NI has been holidaying recently at Port Macquarie, and 2PA has been working quite a deal of DX from that location. Len 2AWS is another from Port who is getting organised on a 7AI2; he and 2PA have identical tx's and set-ups, the idea being that in the event of another emergency there are available a spare tx, modulator and genemotor. This is a commendable scheme and is one we feel could well be copied in other areas to the benefit of all in times of emergency. Ken 2APB is expected to be heard soon with a new tx.

HUNTER BRANCH

The August meeting of the Hunter Branch was held at the Tighes Hill College on 13/8/54. The meeting was one of the best attended of the year, 28 members and associates being present to see four films and hear a lecture by 2AXM on converters and their construction. The four films ran for nearly two hours and

MY XYL SAYS!

WHY is it that some Amateurs go to a terrific trouble on the air to emphasise the superlative efficiency of their rig and modulator, only to finish up by saying that they are using a carbon microphone, "which sounds pretty good."

My XYL says that it is equivalent to buying a 1954 model car and fitting it with solid tyres and kidding oneself that the roads are smooth.

Of course my XYL is ignorant of the finer points of Amateur Radio and can be forgiven, if not silenced!

—OIGLE.

included such titles as "Calling All Motor Cyclists," "Australia's Tropical Wonderland," "Charting the Seas," and a locally made colour film on the visit of Her Majesty the Queen to Newcastle. It was announced that the College would be holding an "At Home" on the following Saturday at which a demonstration of closed circuit TV will be given. Quite a number of members and associates availed themselves of the opportunity to see this demonstration, those sighted being 2AGD, 2OT, 2WU, Rodney Prout and Luke Wild.

The Branch and Social Committee met at the home of Bill 2XT to discuss the arrangements for the Hunter Branch Field Day and Christmas Social. The Field Day will be held on Sunday, 3/10/54 at Blackhall's Park. This Field Day will take the form of a picnic outing with some radio quiz's for the OMs and competitions for the XYLs, YLs and harmonics. The Christmas Social will be held on Saturday 4/12/54 at the Charlestown Institute and will be conducted in the same manner as the successful socials on previous years.

Associate Syd Daniels, one of 2ASJ's second ops., has just returned to Newcastle after a month with Bill 2AEY at Taree. Associate Jack Hamilton has had a spell in bed with pleurisy, but is now up and about. Frank Stabbs is still on the sick list, but we are hoping it won't be long before he is back at the meetings. The surprise of the month was to hear Tom 2ZT on the air again on 40 mx, even though it was only a few words from 2AUH's shack. Let's hear you from your own shack Tom, soon. Leo has the converter bug, and on the grape vine we hear that he is somewhat of an expert on them. Leo 2QB is now v.f.o. controlled, so don't be surprised if he is not on the old txal frequency. Ron 2ASJ is still at Denman and reports are that the country air has effected a great improvement in his health and voice and we are all looking forward to hearing you on the air soon. Charlie 2ARV has acquired an AT5 which he is busy converting. Chas is also building a c.r.o. Bill 2AXM has gone to "Banana Land" to live and will settle possibly at Cairns.

The next Hunter Branch meeting will be held at Tighes Hill Technical College on 8/10/54, films will be shown and a lecturer from Sydney will be heard. Don't forget the weekly hook-up of the Branch on 40 mx—the frequency is 7693 Kc. at 2000 hrs. each Monday with 2AWX as the control station.

SOUTH WESTERN ZONE

The South Western Zone was well represented in the recent R.D. Contest as quite a few of the boys were heard, good work all. Ted Druffit, of Griffith, who was the holder of limited call 2ZAD was successful in the last examination in passing his c.w. and so Ted is now waiting on the new call sign so that he can consign the limited license to the w.p.b. Nice work Ted and hearty congratulations. Hope the hole in the forehead heals up now old chap.

The Griffith Radio Club, 2AGJ, has also made an appearance on the air, under the leadership of Stewart 2PL, congrats to all the boys at the club and we hope to hear of more new tickets soon. Don 2RS at Albury has 144 Mc. gear working, also Ray 2APZ at Leeton has a 522 tx in operation by this. Let's hope that we may soon be able to hold the zone hook-up on 144 Mc. soon. Your scribe had the pleasure of a visit from Steve Adams, 2YR and Ces Cronin, who at the time of writing were down in VK3. I had the pleasure of working a 144 Mc. mobile station, 2YR, and was able to direct Steve and Ces right to the shack door from Wagga. The mobile gear in use is really a sight for sore eyes; much interest was shown by the onlookers at Coolamon while the ute was parked in front of the 2AJO domicile. Associate Jock Ashley at Coolamon has been busy rack building for his rx's, we hope you will be building one soon for the tx.

Must add a reminder about the South Western Zone Convention to be held at Tumut on 30 and 31/10/54, get your reservations NOW from Ross 2FN or Geoff 2BQ, both at Tumut. For the v.h.f. gang, bring along the 144 Mc. gear, we have something special lined up for the occasion.

NORTHERN SUBURBS

Bert 2AGW has really lined things up now, signal much improved in all directions and the beam is again rotatable. 2JN back on the air now that his cobber 2ARI is again audible from the new location. 2AJL heard occasionally, but is quite busy on other pursuits. Ralph 2ACN also has fine signal, but we only hear it on Friday nights. Bill 2SV has not been so good, but it appears that he is having a holiday so hope the recovery will be permanent. 2AWN is not very active, but rattled up a few points for the boys in the R.D. Contest. 2ACI gets around on all bands, most of his time is spent in the garden and putting up yet another antenna, the score now is 132 we think. 2GR

heard one brief day, but it appears as though sanction was withdrawn, what about it Tom? 2JP now has means of locomotion and is not heard, but no doubt Jack will soon be in on the DX. 2BG still putting out the good signal on 20 and 40 mx, another beam coming up there. 2QR is quiet, but no doubt Bob will once again take the air as conditions improve and work permitting. 2AZN is still apparently constructing the new rx, will be really something. 2AAJ thinking seriously of a beam, a nice steel tower is to be built soon. 2AIE from the northern suburb of Hornsby gets the DX back with the folded dipoles.

EASTERN SUBURBS

2ATA, who has been active in this area of late, is heard mainly at week-ends from Lord Howe Island, using the same call sign, but with one of those natty little Type A Mark III. outfits. His c.w. signal is sizeable on 7 Mc. in Sydney, and for phone uses a form of cathode modulation. 2ABD gets around the globe, being recently in ZSE land, but sooner or later he shows up from his home station in Sydney. Heard him on 7 Mc. talking over 144 Mc. activity with 2WH. Hugo says he can burn pea lamps out in dipoles held 80 YARDS (yes, not feet) in front of the 32 el. colossus. 2CF, who was active in recent years in the North Bondi region, has moved elsewhere, his 7 Mc. phone now sounding much more distant.

The R.D. Contest brought hibernating beavers and moles from their hideouts in great style. Noticed quite a few in this area, and it goes to prove that the genus Amateur might lie down, but he is not really an extinct volcano. Congratulations to Bill Boone, of Matraville, who has made the grade with the "limited," and already is making plans to get going on 2 mx. After a lengthy period of enforced non-attendance at Divisional monthly meetings, this scribe was able to drop in to the August get-together and enjoyed an interesting three hours recapitulation of old-time faces and call signs, also the pleasure of meeting in person a few met hitherto only by radio. Congratulations to President 2YC for his dynamic energy in welding the Division solidly together. The result of hard work is reflected in the keen interest fare dispensed by capable lecturers and in the general affairs of Amateur Radio.

Rumour has it that old-timer Otto 2HH recently picked up a whale of a bargain at an auction, and that ere long a new tx will be on the air. It's about time that Mac 2MY emerged from the ranks of the inactive and got going on one or another of the DX bands. An item of good news is that Horrie 2FA is back on deck after return from hospital, albeit a bit shaky on the pins. Don't go overdoing it OM. Who is number one Good Samaritan in this area? This scribe nominates Andy 2AX for the honour, for he seems always to be busy putting things right for others who strike trouble with perk boxes. Heard 2AJG on 40, or was it 20 mx, after the c.w. DX. Laurie doesn't seem to be very active, which is understandable, it being a case of knocking off to carry bricks.

A likely convert to Amateur Radio in this area is Lieut. Commandant Greg Thrum, R.A.N., Staff Officer Communications, who intends acquiring a permanent VK call sign in the near future. On Friday night, 27th August last, he advised the W.I.A. N.S.W. general meeting of plans to put Amateur Radio before the public again through a Naval station, this time during Trafalgar Day at Garden Island. Helping in the project will be Reserve Lieut. Ian Marshall, 2JI. Anchor's away boys!

Another local who now seems to have gone DX is 2ALF, heard on 7 Mc. from Mullumbimby instead of Coogee, and Les 2AZ, who was very active on v.h.f.s. from Brighton district is heard at times on 3.5 Mc. phone from his location near Liverpool. Finally, what about some "gen" regarding your gear, etc., you Easterners? Drop a line to 2NO for inclusion in these notes.

VICTORIA

Once again the time has arrived when I must grasp the pen firmly between the toes of my two left feet and impart what news I can glean from the vast pile of notes which my spies have submitted. Wishful thinking I know, but don't tell 5Ps.

Missed the last meeting, but believe the travel talk was greatly enjoyed by all present. John Tutton, 3ZC, showed part of his collection of coloured photographs. As he still has a lot which we have not seen, there is a possibility that his talk will be continued at a later date. As for new members, etc., I haven't a clue, so I'll have to beg their forgiveness.

The big news for this month is that preliminary arrangements for the Senior State's Convention, to be held at Ballarat, have been made, and they follow for the benefit of all interested parties—

OBITUARY

CAPT. ARTHUR E. T. PAYNE

The death occurred on 8th September, 1954, of Capt. Arthur Ernest Tyndall Payne, Patron of the Victorian Division of the Wireless Institute of Australia, at the age of 81 years.

The late Capt. Payne held the call sign VK3RP from 1927 until 1939 when he moved from his residence at "Scotsburn," Toorak, to his property at "Yarra View," Lilydale. He will best be remembered by the older members for his benefaction to the Division, as a result of which VK3SWI first became a reality and the instrument and technical libraries were established.

VK3RP was probably one of the best equipped stations in Australia and in the early '30s established a record for consistent working with W9GV, Dr. C. E. Seeleth, of Chicago, with a score of over 400 contacts on 40 mx—no mean achievement in those days.

Amateurs generally, and the Wireless Institute of Australia in particular, regret the passing of another old-timer.

STATE CONVENTION

The Annual State Convention will be held at Ballarat on the week-end of November 27-28. This year the hosts will be the South Western Zone, and an attractive programme to cater for all tastes is being arranged. The Council of the Division requests that agenda items of interest to all Amateurs be forwarded to the Secretary, as soon as possible. It is requested that members going to the Convention send their names to Bill Sadler, 208 Eyre Street, Ballarat, so as he can make the necessary reservations at the hotels, etc. Please state how many in your party, the number of children, and ladies. Do it now.

A nominal deposit of 10/- must accompany your reservation, and this will be credited to you when you pay your hotel charges.

The Convention Dinner will be held at Craig's Hotel, commencing at 6 p.m. A full itemised programme will be published in the next issue of this magazine.

Hidden Tx Hunt.—Once again 3VZ was successful in being first in getting monotonous isn't it—with 3ADU and 3JO equal second. The tx was hidden near Edwards Lake and although Jack arrived on the location 20 minutes after the start, it took a further thirty minutes to find the thing.

Where the devil does time go to. I've just realised that I've not sent in a log for the R.D. Contest, and it's too late now. After the trouble I had to make those twelve contacts, "I yam disgusted."

By diverse means, I learn that the backroom boys in a certain broadcasting station to the west have been given a major problem by one of their number—the one who has to wear a hat. It appears they are trying to develop a fool proof automatic lift for his special benefit. No matter which button he pushes, he finishes, either in the basement or on the roof. Me thinks he is mixed in his numbers. Try labelling all the buttons 288 and see what happens.

Went and paid respects to the Hon. Fed. Sec., the filing cabinet and the typewriter recently. Doug, you are welcome to that job. Cannot see you getting those 24Gs working during the next few years; still it could have its compensations. If you save up all the money you won't be spending on picture shows, odd bits and pieces for the shack, seedlings for the garden, paint for the house, and discs for your recorder, you'll finish up with enough to buy one of those sooper-doooper 680Kx from your predecessor.

What's the sudden rush on new modulators all about? In recent weeks 3AXK, 3ABO, 3ALIC and 3ITX have produced new set-ups. 3AHC went a step further and tossed out his 10w. "wonder box" in favour of a Type 3. Very sorry to report that Charlie 3BH is in the Dandenong Hospital for a few weeks. We all wish you a speedy recovery and hope to hear you about again very soon. Must correct a mistake in last month's notes: 3OM was the gentleman in the demonstration party, not 4OM. Sorry Ron, 'twas a printer's error.

Eleven logs were received for the Two-Band Scramble held on 8th July. The winner was 3ADU with 45 points. Logs were also received from 3AGD, 3BQ, 3YS, 3ARJ, 3YQ, 3ATK, 3ACN, 3XB, 3AQJ and 3AJU. This information was supplied by Don 3ALQ, VK3 Contest Manager.

VK3 S.W. LISTENERS' GROUP

On Tuesday evening, 21st August, approx. 30 persons attended the inaugural meeting arranged by the Division to launch a Listening Group, as approved by Council. The response was very heartening and the enthusiasm shown by all in appreciation of such a move speaks well for

the success of the Group. An outline of the W.I.A. activities and functions on a Federal and Divisional basis was given in concise detail by Federal Secretary Doug 3DU, ably assisted by Gordon 3TF (Vic. President) and Col 3FO (Vic. Secretary). Also present were Hans 3AHH (DX Notes Editor and Councillor), George 3KJ (Treasurer) and Ron 3OM. We were very pleased to see the young chaps from the various schools present. Good listening chaps.

After discussion on various portions of the frequency spectrums in which the Group members confined their listening, it was revealed that the following fields were covered: B.C. DX 6, B.C. 8, S.W. B.C. 11, Amateur up to 30 Mc. 19, Amateur 50 Mc. and above 5, which indicated that the Amateur bands received the major portion of their listening time. With the approach of the VK-ZL DX Contest in October, emphasis was placed on the Receiving Section, and all present were urged to participate and present a log. The experience gained from this Contest will assist them in entering the "CQ" Contest later in October.

Office-bearers for the Group are as follows: President, L. Poyner; First Vice-President, B. Ackland; Second Vice-President, D. Rankin; Secretary, G. Lane; and "A.R." Magazine Correspondent, John Wilson.

During the course of the evening, suggestions were brought forward regarding the possibility of official s.w.l. cards and report forms. Every s.w.l. station who is a member of the W.I.A. will receive official station numbers.

By the way chaps, any s.w.l. who is a member of this Group and has 100 verifications from Amateur Stations anywhere in the world is eligible for the W.I.A. Receiving Certificate. The verifications can be in the form of QSL cards or letters of confirmation. So chaps, who will be the first of this Group to obtain this award?

The next meeting of the S.w.l. Group is to be held in the Clubrooms, 191 Queen St., on Tuesday, 26th October. Any person interested in s.w.l., please come along and be in the fun. At this meeting two-way contacts with 3WI will be made. Ron 3OM will go mobile on 40 mc and later Col 3FO will go mobile on 50 Mc. Ron 3OM is also bringing along a t.r.f. set for all to hear and see, so for the young chaps this will be a treat.

News on the Bands—DX or Otherwise

Seeing that the members are s.w.l. on all bands from b.c. to b.c. s.w. to Amateur bands, here are some good ones to hear. From Bill Williams I received the following schedule for Radio Saigon. They are operating on 15430 Kc. in the 19 mc band from 0845-1015 GMT from Sunday through Saturday. S9 signals are heard at my location from the C.B.C. tx at Sackville, New Brunswick, Canada, beamed to Eastern Australia on Wednesdays and Sundays from 0830-0945 GMT. They are CKLO 8.63 Mc. (31.15 mc) and CKNA 5.97 Mc. (50.25 mc). Also Sundays the Happy Station, PCJ, Hilversum, Holland on 19.71 mc. A very attractive card has been received from this station and it also states that they are on 11.73 Mc. (25.97 mc) and 6.025 Mc. (49.78 mc), but the latter two channels are not audible at this location.

On the Amateur bands, 32P was heard in an S9 contact with ZL. Others very active in VK3 on 80 mc were 3HE, 3DQ, 3AMM, 3AWZ, 2AFQ, 2ASA and 5TJ. On 40 mc, the commercials are bad. Regarding interference on the Amateur bands, chaps please log these commercials, giving correct frequency and time of operation and let us have them. The more logs we have on them, the better.

On 20 mc, VK1HM, VK1DY, FB8XX, CR7IZ, ZK1AB, KZ3CP and FO8AC. So chaps keep your reports coming in. All your DX logs that are of interest and station frequencies and schedules, please bring them in to the next meeting or send them to me: S.w.l. "A.R." Correspondent, John A. Wilson, 37 Rayment St., Alphington, N.20, Vic., no later than the 28th of each month so as to be ready for next month's publication. Also please send me a short description of your receiver, antenna, etc., so I can file them in my index for further use.

Try listening to the W.I.A. slow morse transmissions on 3550 Kc. in the 80 mc band. It's good practice and good fun learning too!

NORTH EASTERN ZONE

Lex 3AIL is now an active transmitting Amateur, having opened on 24th August. Vic. 3ABX still does a little on the bands, but Jack 3PF has been quiet lately, and Chas 3ACW is away on holidays at time of writing. Murray 3HZ does some 6 mc work when opportunity permits, and Alan 3UT is constructing new tx's for 6 and 2 mc with 815 and 829 finals respectively, also together with Jim 3JK and Syd 3CI, he intends to go to Mt. Stanley on 2nd-8rd October to help with the proposed VK2 2 mc activities.

Les 3ALE operates on 14 and 21 Mc., while Keith 3JC is reported to be specialising on 14

Mc., from whence Ken SKR gets most of his DX. Alex 3AT is still about, and Tern 3TS gets round social functions. George 3GD must be sticking to Radio, although he has not been heard; for that matter, neither has Stan 3AGT been noted, however Johnny 3ACK has been heard on 80 mc. Peter 3APF is still on the b.c. work.

Des 3BP has been heard working Henry 3HP on 80 mc, low power. Howard 3YV and Jack 3AKC have not been contacted lately, and Gordon 3XU is believed to be now in VK2, although not so far out of the zone. Doug 3IJ is back at Mangalore again, after having, amongst other things, seen Des 3CO recently.

Frank 3ZU is understood to be having some luck with the housing position, and Rex 3UR has now been able to leave Benalla for Bendigo, while Col 3WQ is on the trail of new Associates, as well as cheering Clarry and Vern along with their studies. Fortune should turn up some news of Jim at Melpoll soon. Hugh 3AHF is still successfully battling along with his local noise level. Nothing further has been heard of developments with Ron 3AQG and the a.c. power.

CENTRAL WESTERN ZONE

Now the R.D. Contest has come and gone, the boys are drifting back to the mikes once again, having chopped the wood, mown the lawns and vowing to the XYL never to enter into another contest again—much. The results should spur us on to bigger and better things next August.

It is with deep regret that we learned of our friend, Don Sullivan, who was killed in a level crossing accident recently at Talliem Bend, S.A. Don was an Associate member from Bordertown and will be well remembered for his participation in our C.W. Zone Convention. Our sympathies are extended to his relatives and friends.

Bob 3ARM has a consistent S9 sig on 80 mc now. Jim 3DP has built a new modulator and is now one of the strongest stations heard in the hook-up. Dick 3RR is back on the lower frequencies again and is busy getting some v.h.f. portable gear ready to take out to Reed's Lookout on the 10th October. Speaking of the 10th, chaps, don't forget that is the date for our Convention, the place Reed's Lookout. We are hoping for a good roll up, so keep that Sunday clear, it is only about one week off. Bring your thermos and sandwiches along with some v.h.f. gear and 40-80 mc gear, the latter so as to participate in the scramble. The full Convention programme appeared in last month's zone notes. We are hoping to see plenty of visitors from other zones too, remember all welcome.

EASTERN ZONE

Seeing as I received a number of menacing looks, some threatening phone calls and a couple of anonymous letters last month, I thought it must be time to send in some notes. Ron ("Grid Drive") Jardine is still battling along with a paucity 85w., however his signal has lost some of its punch since he put in the new v.f.o. and modified his rig to suit. The local wool-baron, Lindsay 3IO, is still getting good results from the Type 3 and has done some very successful alterations to the Type A, while the local bull-baron, Ossie 3AHH, has got his modulator working at last, however that rx is not working yet. We were all sorry to hear that Bill 3WE may not be able to get to the Zone Convention at Traralgon in November, however you never know your luck Bill.

Graham 3QZ is a busy man these days arranging matters for the Convention, no doubt he is getting plenty of help from the other boys down there. The Sale boys are quiet these days with the exception of Bill 3IY who is often heard with his usual good signal. The annual meeting of the local sub-branch was held at Keith 3SS' place and a very good number attended. The Bairnsdale boys were there in force and Laurie Daniels, of Maffra, was elected President for the next year, while the other office-bearers were left unchanged. After the business of the evening had been completed, Alan 3AFA showed some very interesting films which were enjoyed by all. Mrs. Scott served

SCIENCE WITH HONORS

The degree of Bachelor of Science with Honors was conferred for the first time at the Melbourne University during September.

It was conferred upon Ian Masson Bassett and Quentin Noel Porter, VK3IM, by the Deputy Chancellor, Mr. C. M. Gilray, during the Conferring of Degrees ceremony in the Union Theatre.

Quentin VK3IM is a prominent member of the v.h.f. fraternity.

a delightful supper, after which the evening closed. We will be seeing you at the Eastern Zone Convention at Traralgon on November 6 and 7.

QUEENSLAND

To those of you who read these notes, I hope you don't take me to task for the failure of last month's notes to appear, my only excuse is a period of hospitalisation which prevented me from meeting the dead line. But then no one believes excuses. While on the subject of ill health, seems as if we in this Division are fast becoming a bunch of crocks, as the latest to the fold is Harold 4HM who has to take things easy from now on. I'm also informed Ernie Moore, our Secretary, is also not enjoying good health. What with the weather, cyclones and what have you, plus atrocious band conditions, life is losing its punch. But maybe next year.

To pass on to more pleasant things, by the time you read this, our old friend "Don Pedro" or, to the uninitiated Jim 4PR, will be a happy bridegroom. I know you will all join me in wishing Jim the best in his venture into matrimony and to borrow a phrase from Warwick Parsons, "DX before dishes Jim!" But don't call the first one "C.W." please!

July saw a visitor from VK5 in Les 6LC who stayed in this land of sunshine with Don 4GP. I hope he wasn't a spy from VK5 land for Warwick as that would be really below the belt. But I believe Les had some good suggestions for this Division, so everything must have been in order.

Must welcome Alan Simpson and Ron 4AQ to membership in this Division, being a couple of the new members we have obtained these last few months, also to the new group in the Downs, with 4GG. Would like to hear from you chaps up that way each month on your doings, for inclusion in these notes, so what say? Also, I'd like to hear from Rocky and Townsville groups. Others are interested in your doings, so if you can get the news to me before the end of the month, I can do something about publicising your activities.

Bill 4WD paid us a brief visit from Rocky and intimated they were getting into the swing up there and look like becoming a very active part of our Division in the very near future. He had some just grievances about the governing Council here in Brisbane, but I believe Bill 4YA will have everything straight for them by the time these notes are to hand.

My spy from Ipswich seems to have hibernated this winter as I've not heard a squeak from him in months. I'll have to send a spy to spy on him now.

August meeting was a very cramped affair in the Y.M.C.A. owing to our normal room being booked over our heads, but Noel 4NP was able to give a very interesting lecture on Remote Control, and I don't think anyone noticed it cramped after Noel got under way, unless it was himself, and I'm certain we will see a few more controlled models in the air around Brisbane from now on by the interest and the questions asked.

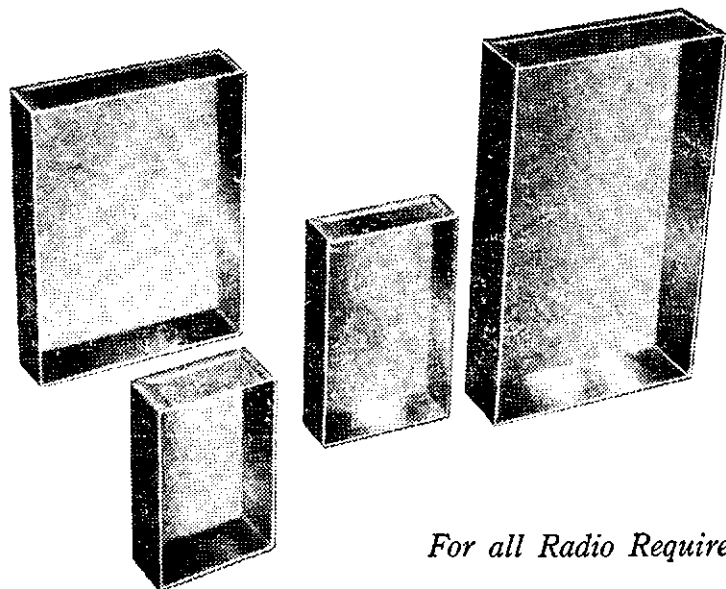
September Vince 4VJ gave a lecture on "Deep Sea Fishing." For October, Don 4GP lectures on "Matching Impedances," an interesting lecture which is recommended to you.

I won't comment on the R.D. Contest, excepting the VK4 Contest Committee thanks you all for your logs, and hope your efforts were worthwhile. Next year they hope to have a better and bigger prize list for the participants. Well chaps, this is brief, but its back again, so bear with me. Our thought for the month is from our friend, Willie Shakespeare—I st met that he Should leave the helm, and like a fearful lad With tearful eyes, add water to the sea— While in his mean, the ship splits on the rock— Which industry and courage might have saved.

SOUTH AUSTRALIA

The monthly general meeting of the VK5 Division, known to all and sundry as the Division with the "OOMPH," was held at the clubrooms to the usual capacity house. The number of members present is not known exactly, but you can take it from me that there were at least two more than the number present at any meeting of the VK3 Division! The lecturer for the evening was Mr. W. P. Kempster (GC3BHJ) and his subject "The Development of Television in England and the Continent." The lecture was profusely illustrated with slides and gave circuits and details of several sets, together with information on band-pass filters and full information on the development of the modern camera tube, the Iconoscope. Mr. Kempster spoke with authority on the subject and held the attention of all present throughout the lecture, and the nature and number of questions asked by members at its conclusion was a clear indication of the interest of those present, and

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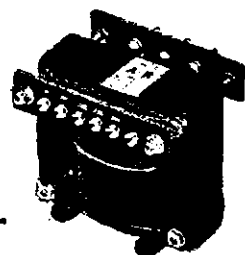
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also of the "down to earth" style of the lecturer. The vote of thanks proposed by Clem 5GL in his usual succinct manner was received by members with sustained applause. To save the VK3 scribe looking up that word in the dictionary, it means compressed into few words, brief, concise, and can be aptly applied to my notes!!

Very little general business came up for discussion after the lecture, and the President 5XU, better known as Pastor Bowen, discussed the A.O.C.P. examination papers and outlined the details of his report on this matter which he had submitted to Council at their request. The question of visiting sick members was discussed with the idea of forming some form of committee to ensure that regular visits could be made, but after some discussion it was found that as far as the VK3 Division was concerned it was not at all necessary, as most members who had been on the sick list at various times reported that they had never lacked visitors, and were more than grateful for the many acts of kindness shown to them by members and non-members alike. The meeting closed at a reasonable hour and was continued in the official meeting room, to what one XYL called in my hearing a very unreasonable closing hour.

Among the welcome visitors were Alan Walker (G3GTS), K. Broadbridge (VR2CS), R. Peters (FJJ), D. Pitt, and E. Waterman. The two gentlemen from Fiji are ex-members of the best (best broadcasting station in the State) and are putting to good use the lessons learnt there, at a broadcasting station in Fiji. I am sorry that I was not at the meeting fellows, I would have liked to brush up my native talk with you. You will remember that I was once known as "Mogobo-Mugumbi," which may be loosely translated as "He on whom it is unsafe to try any Oompos-Boompus" (VK3 scribe please note). Anyway, hope to see you again.

Called in to see Frank 5MZ recently and was pleased to find that he is as well as can be expected, when you consider just what he went through during and after the nasty accident. He cannot say enough about the various chaps who have visited him and gone out of their way to make his lay-up as pleasant as they possibly could. Gordon 5HM brought over a rx for Frank to while away the time. He still has his leg in plaster, but can hobble out to his shack on a crutch and have an occasional QSO on 40 mx, so any of his VK3 friends will be able to find him on that band any time that it is open to VK5.

A VE station made quite a nuisance of himself in VK3 recently by trying to hook up various VK5 stations in contacts which could have led to trouble in huge junks for all concerned. I thought that the various boys concerned handled the embarrassingly awkward situations created with splendid diplomacy, and proved without doubt that they had no desire to put Amateur Radio in the position of being a sitting shot for anybody with a suitable gun. Nice work boys.

SOUTH EAST AREAS

The Mount Gambier gang this month have had a couple of meeting nights and have decided to hold one meeting each month on the last Thursday of the month. The first meeting was held early in the month and was attended by all the local Amateurs and several W.I.A. Associate members. This meeting proved so successful that it was decided to hold another one, and all except one member attended. The meeting consisted mostly of earbashing, although Stuart 5MS gave a short talk on how to keep awake for 36 hours in the R.D. Contest and raise 900 odd points in the last 24 hours. I am permitted to let out the secret providing that I do not tell anybody in VK6, and as I know for a fact that no self respecting VK6 reads my notes, then all will be safe. The secret is food and cups of tea, and Stuart demonstrated his statements by beating Col 5CJ by a short head for the last piece of Mrs. Stanke's sponge cake. This eating business was suggested by John 5FD at the first meeting, and the matter was taken up most enthusiastically by all present, in fact the amount of food brought along by the members gave the impression that they had all come for the week.

Anyway, the idea of a regular monthly meeting is good news and will do a lot toward bringing the W.I.A. members together in the S.E. areas. I think that I will suggest to the VK5 Council that possibly they could see their way clear to send a member of the Council to Mt. Gambier on the last Thursday of the month, with all expenses paid, and then I could sample some of Mrs. Stanke's sponge cake! 5TW had a bit of bother on 40 mx with his 8w. of phone during the R.D. Contest, but Tom thoroughly enjoyed himself whilst it lasted. 5CH came out of retirement for the R.D. Contest and it was good to hear Claude's signal once again. 5FD was another one to make the effort on 15th August with an excellent signal; John was heard trying to get his 50th contact right on the "death knock." 5KU stuck to c.w. during

the Contest and did real well, although he used a whole tin of coffee and milk during the 24 hours. The hot water was obtained from his room heater. I would like to see this room of Erg's, it seems to be well fitted out.

5JA managed to get along to the first meeting night and so that gives me high hopes for John, because meeting all the boys now and again is considered to be one of the best means of getting the "bug" again. 5CJ is almost settled down in the new location and is busy fitting out his "temporary" shack for comfort.

It has often been reported that some of the XYLs of the local boys have been taking the magazine out of the letter box and getting a first read. I used to think that this was all to the good and tried in my humble manner to foster such an idea. However, I now take a dim view of the habit because on the 1st of September (this date is indelibly printed on my unhappy mind as the start of my XYL's waning affections), I came home from my daily toil, entered the wide foyer, ahem, and after she had lifted me up and kissed me, I noticed that she had a copy of "A.R." in her hands. I was overcome with emotion at the thought that she at last realised my journalistic worth and commented on same. "Oh, no," she said. "I was anxious to see what the VK3 notes had to say about you, and I have not been able to stop laughing since I read it." With her laughter tinkling like little bells in my ears, I staggered away into my shack and read the libel about me. I am hurt, I am wronged, and I will stay that way until next month!

Jim 5JK has not been very active these last few months, due to a variety of causes, mostly because of his own sickness and that of his immediate family. Unfortunately for Jim, he was just starting to sail into calmer waters, having recovered from his own bout of sickness, when his XYL went down with pleurisy and at the moment of writing was far from well. Hope that all is OK now OM.

The Contest Committee of the W.I.A. has been meeting fairly regularly since taking over the reins of management, and are sincerely endeavouring to do a good job. They took over office a little on the late side to do much about the R.D. Contest with respect to several controversial portions of the rules, but will be right on the ball next year. The Ross Hull Memorial Contest has been receiving plenty of attention at the last two meetings and this year's contest has been streamlined and an attempt has been made to make it more appealing to the average Amateur. The Field Day is the sticky one at the moment, but all the Committee feel confident that they have the answer. However, from my own observation as a somewhat useless member of the Committee, I am sure of one thing, and that is that unless we know just what is the opinion of the various Divisional members on all contests, or to put it plainly, just what it is about the various contests that they like or dislike, particularly the dislikes, then we won't get to the first base. Look, we are a bunch of average Amateurs who have had this job of contest handling shoved in our lap and we want to do a good job, not because we want to do a better job than any other Division, but because we want to do a good job for Amateur Radio as a whole. If you can spare the time drop us a line, tell us what you want, tell us what you don't want, in fact tell us anything you feel like telling us and in that way we will have all sides of the question. We won't promise to use all your suggestions and we won't promise to always agree with you, but this we will do, we will acknowledge all your suggestions or kicks, and we will guarantee to do our best for the W.I.A. as a unit and not as a Division. What about it fellows? Incidentally, don't forget that whatever we do regarding contests, the final say remains with the V.I.P's.

So much mention has been made in certain quarters of my alleged affinity with snakes that I feel the time has come for me to tell the whole story. When the h.b.s.s. was installing the wiring at its new h.b. house, three well known Amateurs—Laurie 5SL, Brian 5FQ and Wyk 5WM—were feeding lead cables through the ducts from the studio to the control room. At the other end of the duct sat that debonair and handsome wire-jerker, known as "Pansy." The ducts had been put in the concrete floors long before the walls had been erected, and of course all types of insects, mice, rats, etc., had rather fancied the said ducts as a comfortable home for the rest of their life. Well, to make a short story longer, the boys fed the cables through inch by inch, and "Pansy" kept looking down the duct, and in fact now and again putting in his hand to try and grasp the fast approaching cables. Finally "Pansy" could see the cable coming toward him and called out, "Here it comes boys, steady a bit." These few words were the last that anybody heard from the debonair and handsome wire-jerker because at this moment out of the duct came a six foot brown snake noticeably protesting at being prodded in the rear by the lead cables. As "Pansy" zipped through the next town to

Dry Creek, it was noticed that he was decidedly white around the gills, but was maintaining a steady 40 m.p.h. Well, that's the story that a certain VK3 scribe got, but it is a lie. There was a snake, it was in the duct, but there was no "Pansy." He was framed by somebody who is in league with the VK3 joker! True as true.

UPPER MURRAY AREA

The August meeting night of the Upper Murray boys was altered to one night earlier for various reasons, and for various reasons the attendance was down to three plus the XYL of Harry 5KW, at whose home the meeting was held. Work accounted for Hughie 5BC, a stretch off from work accounted for Fred 5MA, who was recuperating from an attack of flu, and no known reasons accounted for the absence of Alec 5XO and Murray 5CF. This naturally meant that Hurtle 5RE and Tom 5TL were left to hold the fort and also made the meeting a little on the informal side. All present were invited to draw up their chairs to the fire and indulge in a three cornered "talk and listen" session. It goes without saying that there was more talking than listening and everybody thoroughly enjoyed themselves. Harry produced a selection of 35 mm. transparencies covering local views and projected them on the wall for the opinion of all present. The meeting concluded after the usual white ant performance at the supper table, and between you and me the attendance might have been small, but the supper table at the conclusion of the night gave it the lie. Mrs. 5KW still cannot believe the evidence of her eyes and ears!

5XO has not been heard on any of the bands this month, but he must have been on at some time or other because Alec submitted a log for the R.D. Contest. Both Tom and Harry tried to raise him on the telephone several times, but had no luck, and finally Tom had to write him a letter; wouldn't it? 5KW, who is known in some quarters as the "experimenting experimenter," has again been very busy and has put all of his converters on one chassis and Harry is well pleased with the job. 5RE has been on the sick list and unfortunately picked the time of the R.D. Contest to take to his bed. Hurtle only just managed to get back on his feet again when his XYL decided to become incapacitated and he was forced to take over the duties of the house. Hope all are well now OM. 5TL tells me that the 5WI broadcasts on 3.5 Mc. are reaching the Upper Murray areas better now, and also that this band is brightening up considerably as he has heard Dougal 5BY, Pete 5FM, and Launce 5LD fighting their way through the VK3 activity and also the competition from the ZLs.

The first indication of a VK3 invasion, was the loud ringing of a handbell from the interior of a Morris 8/40 with a VK3 number plate, and then the dis-embarkation of Robby 3AVZ, John 3AJI and Reg 3MZ, who was the wielder of the bell. It appears from reports to hand that John decided to come over to VK5 for the purpose of plighting his troth, or words to that effect, and apparently the other two came over to lend him moral support and also to meet up with several of the VK3 boys that they had met on the air. Reg 3MZ made straight for Frank 5MZ to see how he was getting on after his accident with the loud ringings of the said handbell. They next called on Joe 5JO and mowed into a batch of pasties that his XYL had just baked, with disastrous results to the pasties, and then finished up at Charlie's (5ON) and thoroughly enjoyed themselves. If the wire recording that I heard is any indication. They left Melbourne at 8 p.m. on Friday, arrived Adelaide 8 a.m. Saturday, left 8 a.m. on Sunday, and hoped to be home by 8 p.m. that night. What it is to be in love. Best wishes John for the future, and we are glad to see that you knew the right State from which to pick your bride-to-be. Laugh that off Pincott! [Mr. Pincott is an ex-South Aussie, but he chose a VK3 lassie.—Ed.]

WESTERN AUSTRALIA

At the August meeting of the Division those present were entertained by Mr. E. K. Beecham with a talk and demonstration entitled, "The Description and Application of the Cardiograph." The only unfortunate part about this was the lack of sufficient recording paper on the machine to accommodate all the volunteers who wanted to have their heart-beats recorded for posterity! However, 6RU filled the bill of a willing victim much to the interest of the remainder of the meeting. A hearty vote of thanks to Mr. Beecham was moved by Tom 6MK. Tom later brought to the notice of the meeting that in the latest issue of the American Call Book Magazine the only omissions were call signs and addresses of Amateurs in the U.S.S.R.—and Australia! Judging by a note which appeared in September "A.R." steps are being taken to remedy this deplorable state of affairs.

The idea of token QSL cards to be forwarded to those black-listed calls, for noting and return has met with approval, but I don't suppose it would make much difference to some of the "sure QSL OM" types.

The R.D. Contest provided the usual thoroughly enjoyable dog-fight with this Division emerging in what is, we hope, a favorable position. It looks like being a close thing with VKS, whose top scorers put up a really formidable total. My word, if they do carry the day, SPS will have something to write about. Congratulations are the order of the day to 6FL, 6RU, 6DX, 6MK and 6TK for making the top scores. 6FL put up a fine effort after blowing up two rx's and finished with a score of 820 points. 6MK's score of 530 approx. was all the more meritorious by virtue of the fact that all of it was made on phone and all but about ten contacts on 14 Mc.

6RU did not have luck all his way, as about midnight on the Saturday night his modulation transformer went up in smoke. A small rx-type power tranny was hastily pressed into service and Jim rushed back to the fray, only to be greeted by a cloud of smoke and fumes from a minor h.t. supply. A new electrolytic and transformer culled from the house b.c. set soon remedied this however! Who said the present-day Amateur is not resourceful?

6GU lost a rectifier and during the Contest had considerable difficulty in convincing an enthusiastic W that he couldn't be in it! 6NF had trouble from VIP only a few yards distant during the R.D.—is now engaged in a re-build to rack and panel style. We might hear something of that single sideband when the operation is complete. 6EZ still puts in a surprisingly good signal on 14 Mc. over the 30 miles from Safety Bay. 6WT bashing the c.w. on 7 Mc. and looking for the elusive South American. Dave uses a 600 Hz. modulator the 813 strictly. 6HC heard on 7 Mc. c.w. also with a bit of a chirp. Some people claim this makes the signal easy to identify! Lee!

6WZ popped up on 7 Mc. one evening and disappeared just as quickly. Believe 6FB has a turret switching rig for all bands in operation now. 6EC comes up on 3.5 Mc. for Sunday morning checks with 6AG/6WI. Eric has been having some bother getting his "Station" t.v. camera tube in operation, but the results should be worth seeing when the gear is complete. 6WJ has joined the ranks of the "night owls" by working a G at 2 a.m. on 14 Mc. phone—and that's it for this month.

TASMANIA

From 17th to 21st of August saw great activity in the Amateur field at Queenstown for we had a Scientific and Industrial Exhibition. Some months prior to the big do, "Brack" YBR heard a whisper that the local Technical-High School were having an exhibition this year instead of the Annual Fair. This whisper gradually grew into a noise that crossed the State to the ears of a Government Member—Hon. Tom, who promptly coerced, blackguarded, and otherwise enticed industrial people to exhibit an exhibit. I understand that at one stage a University professor was prepared to transport the entire Uni. instead of the one department as desired!

However, in due course, all arrangements were made, two large halls had allotted spaces, and we found our position on the plan of the Capitol Hall marked "Amateur Wireless Station." A three-way was then held between "Brack" YBR, Chas 7CF and Len 7LS. It was decided to use "Brack's" tx, Chas' rx and Len's tx would be available for dismantling and demonstration. As the big date drew near, "Brack," being newly initiated into Amateur Radio and very enthusiastic, talked inversely, so that when the last joint was being soldered on the rig he did not even notice the "Mercury" photographer flash his bulb! Came the time to tune the long wire, which consisted of a piece of p.v.c. across the hall to a single strand running to a convenient chimney, installed in the rain, during the afternoon by 7LS (the wire not the chimney). The net goes and actual result was nil. "Brack" promptly jumped to aerial tuning coil with the soldering iron. Chas gave some learned suggestions and Len had some silent doubts that the "dry" joint might not be too dry. After various experiments, it was discovered by the aid of the infallible lead pencil that the sky wire was connected to the earthy end of the aerial coil. R.f. began to flow, the absorption meter moved up steadily, and we were on!

The first night was not so good. Puzzled questions from bewildered spectators regarding "the peculiar crackling noises" were told that the model trains on the other side of the hall was the cause of the trouble. A voice then suggested that if we could frequency modulate the a.m. noise with pulse time, we might be able to contact the driver of the train.

The following nights were more successful and we thank our friends at Warrambool for

teeling up those first contacts, and all the other stations that were contacted, for the fine spirit and suitable remarks for the benefit of the listeners, also any other station that called us but got no reply; we apologise but could not hook them all. As "Brack" remarked, he had been talking from 7 p.m. to 9.30 p.m. and was dry. He received scant sympathy and was out again the next night as chief announcer.

Well, the Exhibition reached its close on the Saturday night and everybody was tired but happy and said that "Brack" had really talked well. Thanks again, fellers, and now "VKTWI Portable" returns to Hobart.

NORTH WESTERN ZONE

Once again the R.D. Contest is over and a hard battle it was with many good long-distance signals coming through. I believe that a record number of Tasmanian operators were active for the occasion. On 27th August the annual meeting of the North West Zone was held at the home of 7AB, at Devonport, where there was a good attendance. It was unanimously agreed that existing officers were to continue for another year and the constitution was amended to allow for another Vice-President; 7JO was elected to the office in order to serve the Devonport members. A motion was passed to press for more disposals equipment to be made available to Tasmanian members.

A sumptuous supper was served by the ladies and a social evening followed. At the close of the evening, 7EJ moved a vote of thanks to those responsible on behalf of all present.

NORTHERN ZONE

Associate Henry Solomon has been seen around town nursing an injured hand after an affray with a nocturnal prowler—so pansies beware! Passing Henry's QTH one afternoon, I noticed quite a stack of arrays that would do justice to many an Amateur—if I may be excused from paraphrasing, Solomon is certainly "arrayed" in all his glory. 7AJ called in on 7EQ the other evening and over a log fire made skeds for nightly 144 Mc. contacts between Hobart and Launceston. 7FP not seen about much lately, but one sees him occasionally under the bonnet of his car. TLZ has been gadding about to the mainland on business. 7FM, of Kelso, has tired of chasing elusive long wire antennae, and spills off his motor cycle, has packed up his new tx No. 1000 Mark IV, and sent it to Hobart ready for his return. 7PM, also of Kelso, as active as ever on the DX bands, takes an evening off now and then and whilst escorting some of the fairer sex across the wharf recently, suddenly descended water-wards.

7GM has just about finished his mammoth re-build with a 14 tube double conversion rx. 7RB has been anxiously watching the Tamor floods, with thigh boots and pump in hand. 7XW has been busy splashing paint around the b.c. tx building as well as moving his Amateur tx upstairs at his QTH, complete with lounge next to the rack!! 7RK is keeping his fist in still, waiting for DX conditions to open. 7RL has taken on shoe-keeping to help pay the pawn bill for that outside transformer. 3SQ is over here for a few weeks on a job of work.

CORRESPONDENCE

The opinions expressed in these letters are the individual opinions of the writer, and do not necessarily coincide with those of the publishers.

CONTESTS

15 Whitlock Street,
Kalgoorlie, W.A.

Editor "A.R."
Dear Sir,

The matter of Contests I feel could, and I hope will, bring along a lot of views and comments. I have been an active Amateur for a number of years, perhaps so long that a lot of fellows will say, "You have had it, mate, and it's about time you passed the job over to the younger chaps." The latter part I believe, but how can we old timers hand over if the younger gang do not have the enthusiasm or perhaps the interest. I wonder if the younger fellows can see the futility of these 24-hour endurance tests? I know the R.D. Contest is only once a year, but on that day how lonely the XYL, YL or mother can be? What b.c.i. could be caused by inefficient transmissions and, above all else, how the marathon could cause ill health? It's not human to expect any sane person to stay awake for 24 hours. Why not limit our Australian Contests to 12 hours continuous, or perhaps six hours on and six hours off? Further, can anyone tell me what is gained by Contests? I do hope each Division will take this matter up and take a vote on Contest time generally, and then pass their views on to the Federal Executive.

—BILL BARBER, VK6DX.

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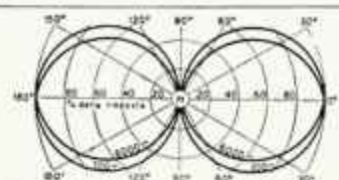
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Above: Polar diagram response curve of Cat. 416.

Below: Characteristic response graph of Cat. 416.



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EDITORIAL



"SHOULD WE HOLD A REGION III. CONGRESS"

Time is marching on, things are changing in the world and what was not wanted yesteryear may be sorely needed today; thus has life on earth progressed down through the ages.

In the realm of Communications, things are changing too. Agreements at International Telecommunications Conferences—long since ratified—are slowly being implemented. But so slow is the progress that, in between times, new services are springing into being; services that require a frequency allocation in the already grossly overloaded communications channels.

Almost monthly in contemporary journals overseas appears reports of the outcry of the Amateur services against the encroachment by communication services into the Amateur bands, on the one hand; and on the other hand refusal by other services to remove existing transmitters from the very bands agreed to at the last I.T.U. to be maintained expressly for the Amateur services on a world wide basis.

Now, what can the Amateur do against this international apathy? Individually, probably little or nothing. Collectively, as an organised body, quite a lot! At least a stoic effort can be made to preserve what once was the Amateurs' "private property," but what today is a mere shell of what the Amateur owned in the 1920's.

There are two major objectives which could be sought, both of which necessitate a lot of hard work and organisation, and a tenacity of purpose that would brook no interfer-

ence from disruptive or non co-operative external forces:—

- (a) An International Congress in Region III., and
- (b) Direct representation supporting the stronger northern hemisphere Amateur delegations at the next International Telecommunications Conference.

To implement a Congress for Region III., whilst being a formidable task, would be far from insurmountable. A lot of work and organisation, yes!—but worth every minute if it results in a cohesion of Region III. Societies to finance a delegation or representative to the next I.T.C. as a "fighting force" for the preservation of the Amateur frequency allocations.

And if a Region III. Congress can be organised, then why not hold it in 1956 during the Olympic Games when so many will be travelling to Australia from other countries—some of whom could be Amateurs.

As the third largest Amateur Society in the world, the W.I.A. must lead the way. The Radio Society of Great Britain held the first International Amateur Radio Union Conference at Lausanne, Switzerland, during May this year. The most important outcome was the establishment of a fund to enable the Societies in Region I. to send a delegation to the next I.T.U. Administrative Conference.

In the Southern Hemisphere little, but talk, has been accomplished. It is time Region III. sat up and took some notice. What do you—the member—have to say?

FEDERAL EXECUTIVE.

THE CONTENTS

The New Look in Frequency Modulation, Part Two—The Receiver	2	Amateur Call Signs	12
Victorian Division State Convention	5	DX Activity by VK3AHH	15
The Complete Amateur—A Small Efficient Audio Oscillator, and Newcomers' Introduction to Aerials	7	Prediction Chart for November ..	15
New Overtone Oscillator Circuit ..	11	Fifty Megacycles and Above	16
N.S.W. Hunter Branch Field Day ..	12	Ross A. Hull Memorial Contest, 1954-55	17
		South Australia Wins R.D. Contest ..	17
		Federal, QSL, and Divisional Notes	19
		Correspondence	24

The New Look in Frequency Modulation

PART TWO—THE RECEIVER

BY JOHN MILLER,* VK2ANF

PROBABLY the biggest stumbling block to the use of f.m. has been the complexity of both design and adjustment of f.m. receivers. Most of us have a fairly good a.m. receiver in the shack, but even mediocre f.m. receivers are rare enough to be objects of curiosity, so that reception of f.m. signals has been almost entirely on normal a.m. receivers—which is hardly to be considered a fair test of the effectiveness of any f.m. system!

Some a.m. receivers give excellent results on fairly wide deviation, whilst others give fair results on narrow band f.m. when using a crystal filter. Another method is to tune the f.m. signal into the null, switch on the b.f.o. and adjust it to exact zero beat, as for single side-band reception. The latter method is probably the best system for use with an a.m. receiver. However, none of these methods takes advantage of the most outstanding improvement which may be accomplished by the use of f.m., viz., the noise reducing qualities of a detector which is not sensitive to amplitude variations.

Discriminators of various types make full use of this advantage and all forms of noise are reduced to a minimum. Noise is almost entirely evident as amplitude modulation on the received carrier, the percentage of modulation being a function of the relative strengths of the noise and the signal. Thus when the signal is weak, noise modulation exceeds the voice modulation depth and consequently readability suffers to the point where it is lost altogether. Various types of audio peak limiters are in use and they assist to a large extent by reducing the peak noise amplitude to a value no greater than the peak carrier amplitude under modulation. Note that it is not possible to limit the peak noise amplitude to the average c.w. carrier amplitude, as this would remove also the positive audio peaks which are up to twice the amplitude of the carrier. This would not only produce severe distortion, but also remove the most important component of modulation. Under weak signal conditions, most of the negative audio modulating swing is lost as it takes the carrier level below the noise level so that by also removing the positive swing, most of the audio would be lost. Thus audio limiters, "noise limiters," have a definite limitation on a.m.

With frequency modulation however, the carrier amplitude does not vary so that it is possible to limit to the point where carrier amplitude variations and consequently noise modulation, are completely removed. It is not necessary to stop at limiting only to the same amplitude as the carrier; it may be carried past this point so that limiting takes place at a small fraction of the total carrier level. Under such conditions chopping the carrier level from say 10 microvolts to 1 microvolt can be made to produce no change at all in the signal fed to the detector. Thus, not only noise

Last month's article dealt with a simple but effective method of obtaining frequency modulation or phase modulation of a transmitter; this month a simple method of receiving f.m. will be described.

but also severe fading has no effect. The S meter may do a merry dance, but the audio signal remains constant in level. It should be understood that such severe limiting does not deteriorate the signal to noise ratio, in fact it considerably improves it.

These advantages are not realised when using an a.m. receiver to receive f.m., so that even under ideal conditions the f.m. signal can give no better results than an a.m. signal. However, by taking advantage of the noise reducing capabilities of an f.m. receiver, considerably better results may be obtained, both on fairly strong signals and weak signals, comparable in strength to the noise present. A further point is that ordinary amplitude limiters, as used in a.m. receivers, only act to any extent on noise of a pulsed character, e.g. ignition noise, whilst receiver noise and similar continuous types are not reduced at all. A limiter as used in f.m. receivers also reduces this form of noise.

It is important to realise the significance of the various classifications of f.m. Wide band f.m. as used for commercial broadcasting in the United States is most unsuitable for normal communication purposes, as, spreading the available carrier power over a wide band up to 150 Kc. causes a large reduction in signal to noise ratio. What is called narrow band f.m. in the commercial world is much more suitable for communication purposes as it restricts the bandwidth to 30 Kc. Even so, a receiver having a 30 Kc. bandwidth must be classified as a noisy receiver when compared to a.m. communication receivers having a bandwidth of perhaps down to 6 Kc. for normal phone work. Very narrow band f.m. as used by Amateurs has the distinct advantage of a very much improved signal to noise ratio before the signal ever gets to the detector and then, the use of a detector insensitive to amplitude variations adds the advantages already dealt with. There is no need to stop at 6 Kc.; the bandwidth may be further reduced with a gain in signal to noise ratio. With a.m. this reduces the higher audio frequencies as the bandwidth is progressively reduced, making the signal difficult to copy, but with f.m. a reduction in deviation does not have this effect and the full audio signal is retained, thus giving a further advantage over a.m.

It is true that the pulse noise rejection capabilities of an f.m. receiver decline as the bandwidth is reduced, but in practice this does not detract from the advantages to be obtained, to any extent worth worrying about.

To convert an a.m. receiver for reception of f.m. signals is very simple and it may be accomplished by the addition of a discriminator as an out-board unit or it may be built in to the receiver. Both the Foster Seely and the Ratio detectors have been used by Amateurs but they have the disadvantage of using a special type of transformer and further, require very careful alignment for which a vacuum tube voltmeter is a must. Further, unless temperature compensated, both of these detectors are prone to gradually fall out of balance, whereupon their operation is considerably effected. Transformers (phase discriminators) of the so-called narrow band variety have been and may still be available, but they are not suitable for the 3 Kc. deviation used by Amateurs. They are designed for use with 15 Kc. deviation (30 Kc. bandwidth) "narrow band" systems and their use for the very narrow band f.m. as used by Amateurs results in a very great drop in recovered audio, making them completely useless for the reception of weak signals. In fact, experiments run by a group of VK2 Amateurs some years ago resulted in the discovery that under weak signal conditions, reception by means of a crystal filter was superior to that when using such a discriminator. The Foster Seely discriminator also requires a limiter and even the ratio detector works better on weak signals by adding a limiter.

Discriminators of the type mentioned and numerous other types convert frequency variations to amplitude variations by means of the phase discriminator transformer in which voltages of differing phase are added, the vector sum of the two being applied to a normal diode detector. As the frequency is varied, so the phase angle changes between primary and secondary and the amplitude of primary and secondary voltages in series, when added, results in an amplitude variation in step with the frequency variation.

Still other types use two tuned circuits, one resonant above the centre frequency and one resonant below, so that the relative contribution of amplitude to each diode detector depends on the frequency of the incoming signal relative to the centre frequency. In practically all types, the detector is capable of responding only to amplitude variations, thus the need for a limiting stage ahead of the detector.

A fairly recent development is a type of f.m. detector which in itself is insensitive to amplitude variations, but very sensitive to phase variations. The device, known as a gated beam discriminator takes two forms. One characterised by a virtual electron gun forming a beam of electrons which is controlled by two gating elements, is the 6BN6, available in U.S.A. The other is the so-called detector developed by Philips. This valve has seven grids and in effect accomplishes the same job as the 6BN6 and in the same manner, except that it has no aperture electrode

*21 Sutherland Street, Lane Cove, N.S.W.

to form the electrons into a beam. The type number is EQ80 or 6BE7, and is available in Australia.

GATED BEAM DISCRIMINATOR

The principle of operation of the gated beam discriminator is quite intriguing and is worthy of description. Fig. 1 shows the circuit as used with the 6BE7. It will be noted that grids 2, 4 and 6 are connected internally and act as screen grids. Grids 1, 2 and 3 are the control grids, grid 7 is a suppressor. Taking first the triode section formed by the cathode, grid 1 and grid 2, it will be seen that the amount of current passed by this section will be a function of the "plate," or G2, voltage and the bias applied to G1.

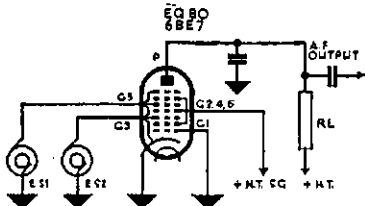


Fig. 1.

G2 also acts to screen the space charge between the cathode and G1 from any potentials appearing on the remaining grids. This is similar to the action in the normal pentode valve where variations in plate voltage are prevented by the screen grid from having any effect on the plate current. Thus the current passed by the first triode section of the 6BE7 is independent of voltages applied to the other electrodes, providing G2 is held at a steady d.c. potential.

Take now the second section which also forms a triode in which the virtual cathode is G2; G3 is the control grid and G4 the plate. Current passed by this section is a function of G4 voltage and the applied bias on G3. The maximum current it may pass is set by the first section, so that this section acts as a cathode having very sharp saturation qualities.

Imagine now a high amplitude sine wave fed to G3. On the negative swing the current flowing to G4 will be cut off whilst on the positive half cycle, current will rise until the maximum amount set by the first triode section is reached. At this point the current will remain constant until the positive half cycle has decayed considerably. The resultant waveform of current will approximate a square half cycle pulse each cycle. This is shown in Fig. 2a.

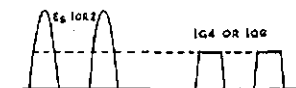


Fig. 2a.

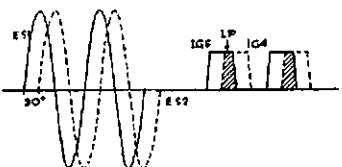


Fig. 2b.

Circuit	A.F. output at 75 Kc. dev.	Suppression of A.M.	Ratio, A.F. volts output to I.F. volts input
Foster Seely with limiter	10v.	12 times	500
Ratio detector	1v.	5 to 10 times	1,400
Detector EQ80	18v.	20 times	14,000

Table 1.—Comparison of F.M. Detectors.

The above table is portion of one appearing in a very interesting article entitled "F.M. Detector Circuits," Part 2, by C. J. Boers, Philips Technical Communications 2/1952. It shows the effectiveness of the EQ80 (6BE7) in terms of sensitivity, a.m. suppression, and voltage output.

Consider now section 3. Here G4 supplies the virtual cathode, G5 is the control grid and G6 and G7 and the plate form what is in effect a pentode. Plate current flow will be a function of G6 voltage and applied bias on G5. More important is that maximum current is set by the amount of current passed by the second section. If the second section is cut off, as it is when the negative half cycle is applied as in Fig. 2a, then no current could pass through section 3, regardless of what voltages appeared on its elements. Thus to study the action of the third section, it is necessary to apply a positive d.c. voltage to G3 in order to hold this section open.

Application of a high amplitude sine wave to G5 will produce a waveform similar to that of Fig. 2a, the third section behaving in the same manner as the second section, so long as section 2 is open. It is thus seen that for current to pass through to the plate of the 6BE7 it is necessary that both G3 and G5 be positive at the same time. These are the two gating elements.

It is also apparent that once the signal applied to grids 3 and 5 has sufficient amplitude to reach saturation and cut off levels, any variations of amplitude will not produce variations in the pulsed plate current. Some slight variation can occur due to variation of the slope of the sides of the waveform, but if the sides are almost vertical, as when the incoming signal is of very large amplitude, then this variation is small enough to be ignored.

Here then is the perfect limiter which will wipe off all amplitude modulation components of a signal, including the noise. Integrating the pulses of plate

current will result in a steady d.c. voltage being developed across the load resistance.

In Fig. 2a, both voltages fed to G3 and G5 are in phase so that both grids are open for a half cycle simultaneously. If the voltage applied to G5 is now made to be out of phase with that applied to G3, plate current can only flow during that fraction of the positive half cycle when both grids are positive. This is shown in Fig. 2b, the shaded portion indicating that period in time during which both grids are open. It will be noted that the width of the plate current pulse is now smaller, i.e., the duration of the pulse is shorter. The integrated d.c. plate current is thus of a lower value, as is the voltage across the load.

If the phase difference between grids 3 and 5 is now made greater, they will be open simultaneously for a shorter period still, with resultant fall in plate current, and in theory, if they are 180 degrees out of phase, then as the two grids are never open at the same time no plate current can flow. By feeding the two grids from a tuned transformer, connecting G3 to the secondary and G5 to the primary, then at resonance the voltages appearing on the two grids will show a phase difference of 90 degrees and the resultant current pulses will be quarter-cycle long and occur once each cycle.

If the frequency of the applied signal is now changed, the phase difference between the grids will change, resulting in a longer or shorter duration of the plate current pulse, depending on which way the frequency shifted. Thus varying the frequency will cause the d.c. plate current to rise and fall in step with the frequency variation as the

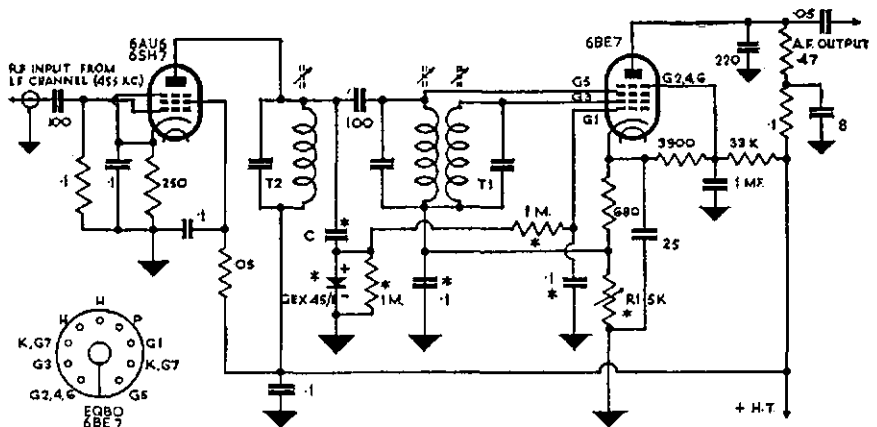


Fig. 8.

Components marked (*) may be omitted if muting is not required. In this case, earth mutes ends of both primary and secondary of T1, return G1 to the cathode of the 6BE7, omit R1 and earth the lower end of the 680 ohm cathode resistor.

T1—I.f. transformer to suit receiver i.f., high selectivity type.
T2—Single tuned circuit from i.f. transformer. R.f. choke may be substituted if effective.
C—Muting circuit coupling condenser. Two parallel wires about 1 inch long. Adjust for useful range of muting over R1.

ZEPHYR MICROPHONES

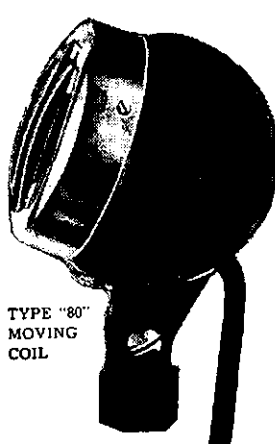


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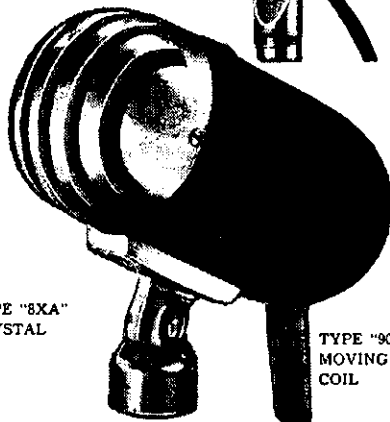
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pulse width varies. The 6BE7 is therefore ideal for use as a frequency modulation detector as it is quite insensitive to amplitude variations, yet fully sensitive to phase variations produced when a frequency modulated signal is fed to the transformer. It requires no limiter, and does not need any special transformers. The figures given in Table 1 show that it is superior to both the Foster Seely and Ratio detectors, the voltage output being quite ample to drive a power amplifier. Distortion is very low and best of all, it is very simple to align and stays put. Results are quite astonishing, particularly on weak signals, where the audio stands out clear above the noise, even though the same signal on a.m. is barely copyable. Limiting is effective with signals right down to the noise level amplitude, the silencing effect being very much in evidence on a c.w. signal which requires a b.f.o. to detect using an a.m. detector.

Fig. 3 shows the unit in use at the writer's station. The 6AU6 is usually worthwhile in order to feed a high signal level to the 6BE7 so that it actually limits on noise alone. It is essential that a high signal level be realised at the 6BE7 grids as it requires at least 8 volts of r.f. before limiting becomes effective. By using the 6AU6 preamplifier, the amount of coupling from the receiver may be reduced to prevent loading on the receiver i.f. channel, yet still maintain sufficient signal for efficient limiting.

The germanium diode is used to provide muting. It applies a positive bias to G1 which is normally sufficiently negative to cut off the plate current of the 6BE7. Once the signal is lost the positive bias disappears and the 6BE7 is cut off, completely silencing the receiver. The effect is quite impressive! R1 controls the signal level at which the 6BE7 is allowed to come into operation and is necessary when searching for extremely weak signals. The diode coupling condenser C should be adjusted to give a useful range over R1. The diode, plus associated components marked by an asterisk, may be omitted if muting is not required, the lower end of the cathode resistor being earthed and the first grid returned to the cathode. In this case, the lower ends of both primary and secondary of the transformer should be earthed.

The plate load of the 6AU6 may be an r.f. choke, or as shown, a tuned circuit. If an r.f. choke is used, it should be effective at the intermediate frequency used.

Once having built the unit, adjustment is very simple. R1 should be set so that no muting occurs and the signal level made as small as possible. This may be accomplished by disconnecting the input coupling to the 6AU6 and merely having the lead from the i.f. channel lying close to the input terminal. Some noise should be heard and this should be peaked by tuning both the primary of the transformer and the tuned circuit in the 6AU6 plate. An output meter may be used if desired.

Now reconnect the input to the 6AU6 and with the maximum signal level available from the receiver (a.v.c. off, r.f. gain up) tune in an f.m. signal accurately and align the secondary of the transformer for maximum recovered audio. That's all!

The discriminator may be aligned accurately by use of a v.t.v.m. if desired, the probe being connected to the plate of the 6BE7, but alignment by ear appears to be quite valid.

Limiting action should be checked by tuning a very weak signal, when a large drop in noise level should result. If no decrease takes place, then the signal level fed to the 6BE7 is insufficient and greater amplification should be used ahead of it.

The integrating condenser in the plate circuit also provides de-emphasis and it may require adjustment in capacity to suit a straight f.m. signal. However, the value shown is a good compromise and should give good results on either f.m. or p.m. transmissions.

Fig. 4 shows a substitute circuit which may be used with a 6BE6 pentagrid tube. The results are not to be compared with those of the 6BE7, but it still gives better results than an a.m. detector and tuning on the slope of the selectivity curve. Adjustment of the 6BE6 circuit involves merely tuning the circuit between grid 3 and ground for maximum audio signal when tuned accurately to an f.m. signal. The circuit for the 6BE6 is known as an Induction Detector and works on similar lines to the 6BE7 circuit, though it does not have the same excellent limiting capabilities.

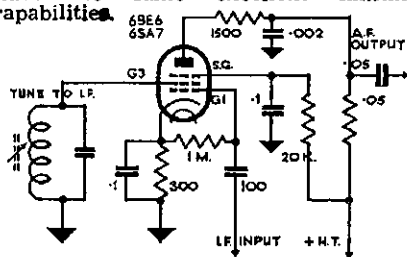


Fig. 4.

With the discriminator described, and the diode modulator described last month, we conclude the description of the New Look in Frequency Modulation. It is hoped that more attention may be given to n.b.f.m. in the future as it has much to offer in the way of improved reception and in particular, offers a very wide field for Amateur experimental work. Very narrow band f.m. (6 Kc.) has been neglected by the commercial world which appears to be quite unfamiliar with the advantages it offers. Perhaps the Amateurs could once again slip back into their old place and give a lead in developing what appears to be a very worthwhile system.

AWARDS FOR TECHNICAL ARTICLES

The Council of the Victorian Division, W.I.A., have decided to make an annual award of up to £5 available for the best article or articles printed in "Amateur Radio" from July issue to June issue of the following year. The judging to be carried out by the Magazine Committee of "Amateur Radio."

VICTORIAN DIVISION STATE CONVENTION

The Annual State Convention of the Victorian Division of the W.I.A. will be held at Ballarat on the week-end of 27th-28th November, 1954. The Convention will be opened by the President of the Division, Mr. Gordon Dennis, at 8 p.m. This year the South Western Zone are the hosts. Here is the programme:—

Saturday—

Afternoon—Arrival at 3AMH's shack, Walker Street, Ballarat North, where you will receive identification card and your hotel accommodation.

6 p.m.—The Annual Convention Dinner at Craig's Hotel. Cost approx. 7/6 per head.

7.45 p.m.—Opening of the Convention by the President.

The ladies and children will go to the pictures.

11.15 p.m.—Supper accompanied by the ladies.

Sunday—

10 a.m.—Meet at 3AMH's shack, Walker Street, Ballarat North.

10.30 a.m.—Transmitter Hunt on 80 mx for those interested; finish 12 noon.

Visit to the New S.E.C. power house.

A tour of Ballarat and environs per parlour coach (cost 2/- per head) has been arranged for those interested.

12.45 p.m.—Dinner at Craig's Hotel.

2 p.m.—All Visitors adjourn to the Ballarat Botanical Gardens.

A Treasure Hunt for the children.

A Scramble (any band). Each competitor allowed 10 minutes, and only one tx on at one time.

Guessing the frequency of an oscillator (tuned circuit).

Presentation of trophies, etc.

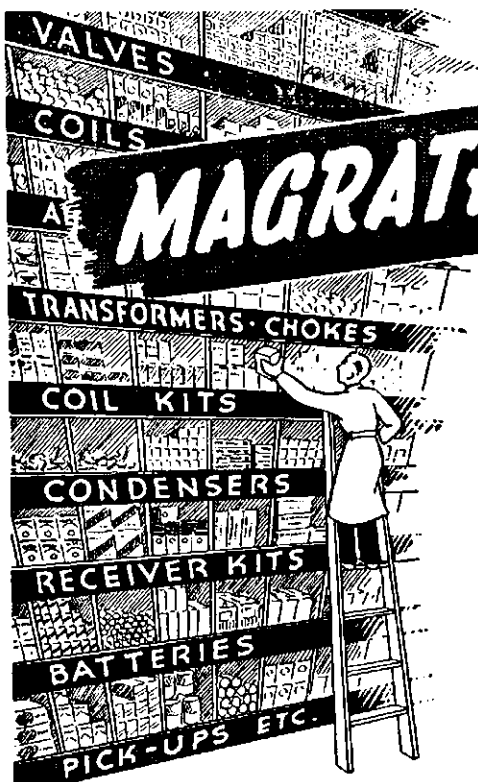
4 p.m.—Afternoon tea.

5 p.m.—Finish of Convention.

Those people who will be arriving on Sunday, are requested to send their QSL card to Bill Sadler, Walker Street, Ballarat North. Upon receipt, he will send you a map of Ballarat and further details. If you wish accommodation for the Saturday night, let him know immediately, and enclose 10/- as deposit and indicate how many will be in your party. This is most important.

During the business of the Convention, the Kinnear Trophy will be presented to the Zone which has won it for this year.

It is expected that there will be an attractive array of portable and mobile gear, both on the lower frequencies and v.h.f. bands. Let us make this 1954 Convention a bumper success.



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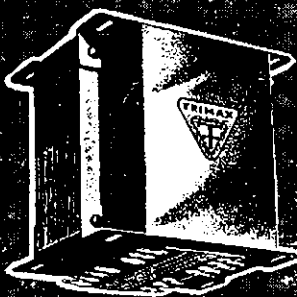
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THE COMPLETE AMATEUR

PART TWO

BY TOM ATHEY,* VK4UT, A.I.R.E. (Aust.)

SECTION THREE

A Small Efficient Audio Oscillator

This piece of equipment can be regarded almost as a must in the shack, particularly where it is necessary to check the output of your modulator. It permits you to feed a sustained note into the input of the speech amplifier and if sufficient care is made with the design of the audio oscillator, it will ensure that you get a sine wave pattern output from it. You should be able to adjust the clipping of your modulator to satisfactory levels and ensure an output that is clean and free from distortion.

Of course it must be understood that it will not measure noise and distortion in an amplifier. Equipment suitable for

3,000 cycles, thus giving adequate coverage on voice channels used in Amateur Radio.

It is somewhat similar to the well known Wein Bridge type, only it uses fixed condensers instead of variable ones, and relies on a carbon potentiometer for frequency variation. The circuit uses a 12AU7 valve and with a 6X4 rectifier.

It is well to note that the values quoted should be adhered to if possible. The whole unit can be built into a very compact unit that will take very little space on the operating table.

The circuit is simple and straight forward and needs little explanation. The transformer is a small type; the h.t. need not be higher than 180-0-180 volts at 30 mils. and only one filament winding is needed. The dial is a matter of individual choice and need not be a vernier action. One word of caution,

a note, say 50 cycles, and note the wave form. Now with the pattern on the c.r.o. feed your oscillator into the horizontal plates of the c.r.o. and line up the new pattern to match with that from the other oscillator. Do this for all points you require, say, 150, 200, 300, 500, 1,000, 2,000 and 3,000 cycles. This is all you really need for a modulator of your rig.

The amplitude of the regeneration is controlled by the amount of plate voltage fed to the second half of the 12AU7 valve and once set should require little future adjustment.

SECTION FOUR

Newcomers' Introduction to Aerials

Right here and now it must be clearly understood that this article is only a short summary on aerials. The theory of antenna propagation and the associate feeders are a feature that requires the type of explanation given by the W.I.A. Classes. In those Classes, the subject is fully covered by the capable instructors.

Therefore it is proposed to quote only a few of the more common types of aerials together with the general constructional data. To do this fully will require quite a bit of your time. Study which type you prefer to erect and consider what you may expect from your antenna.

First let us summarise what is required from an aerial. It must fit your location. It must be built in accordance with your capital. You must consider the orientation of the lobe patterns to see that you put your signal out where it will do the most good, and it must cover as many bands as possible—that is at first. Later on other aerials can be erected for each band, but at first one that will cover at least two bands is an excellent way to start.

Therefore the newcomer is faced with a choice of a few of the more simple types such as:—

1. The Wyndom, single wire fed.
2. The centre fed Doublet, 600 ohm feeders.
3. The twisted fed Doublet, 72 ohm feeders.
4. The folded Dipole, 300 ohm feeders.

These are the more simple types to start with. However, for those who require details on beam construction, I have included charts dealing with the spacing of elements and the types of feed these aerials require. It is a well known fact that if you can afford a beam antenna you will gain immensely in both reception and transmission. To give you full details on beams is beyond the scope of this article, so without any more ado, here is the summary.

THE WYNDOM AERIAL

This aerial was used very extensively by the Forces during the last war. It is

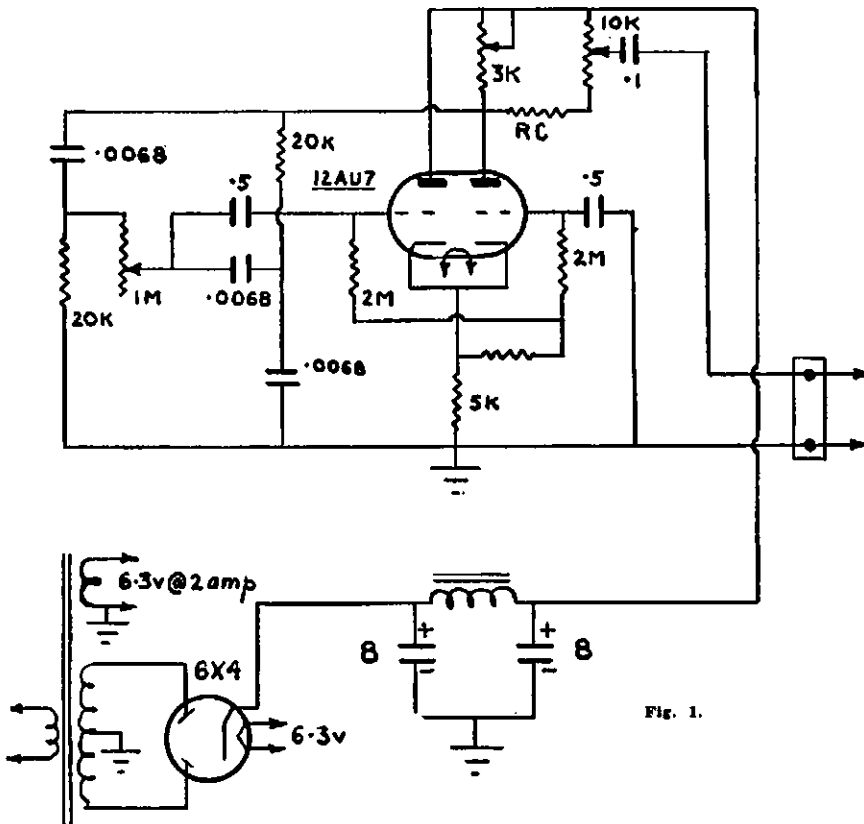


Fig. 1.

a test of this nature is somewhat beyond the scope of this article. However, if it is possible to obtain the use of one (i.e. an N. and D. meter), you may be quite surprised at the distortion present in your rig.

The schematic shown (Fig. 1) will meet most of the requirements of the average Amateur and permit him to build up a small efficient audio oscillator having a frequency range of 150-

use only good types of resistors and condensers.

There are three controls, viz., (1) Frequency control; (2) Amplitude of oscillation; (3) Output control.

CALIBRATION

After allowing a period of time to warm up, say 10 minutes, set about calibrating the oscillator. If you have a c.r.o. the task is easy. If this is possible borrow an audio oscillator from another Amateur and feed to the vertical plates

* Ex-Instructor Q'land Division W.I.A. Classes; 41 Mountford St., New Farm, Brisbane.

LOW HUM, LOW MICROPHONY, A.F. PENTODE on the Noval Base

The Mullard A.F. pentode, EF86, has been especially designed for use in resistance-coupled, audio frequency, voltage amplifier circuits. An essential requirement of such circuits, low hum and low microphony from the amplifying valve, is achieved with the EF86 by careful internal screening, rigid electrode structure and by the use of a bifilar heater.

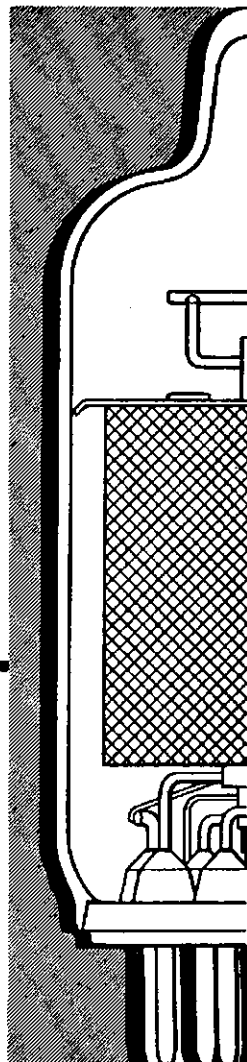
Whilst in normal circuitry the EF86 has the low hum figure of 5 micro-volts referred to the control grid, even this figure can be improved. As the control grid pin of the EF86 is placed equi-distant from its two heater pins, any hum induced from the heater pins may be virtually balanced out by providing the heater winding with an earthed centre-tap. Used in this way, the EF86 has a hum figure of the order of 1.5 micro-volts.



ACTUAL SIZE

EF86

Other important features of this voltage amplifying pentode include high gain, small size and single-ended construction. The EF86 is already widely accepted by Australian engineers —many thousands are in service in tape recorders, amplifying equipment and broadcast stations throughout the Commonwealth.



M5

ABRIDGED DATA

HEATER

V_h — — — 6.3 V
I_h — — — 0.2 A

CAPACITANCES

C_{out} — — — 5.5 pF
C_{in} — — — 4.0 pF
C_{a-gl} — — — 0.025 pF

CHARACTERISTICS

V_a — — — 250 V
V_{g2} — — — 140 V
I_a — — — 3 mA
I_{g2} — — — 0.6 mA
V_{g1} — — — -2 V
g_m — — — 1.8 mA/V
r_a — — — 2.5 MΩ

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B9A (Noval)

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simple to erect, has fairly broad-band characteristics, and only requires one wire to feed it.

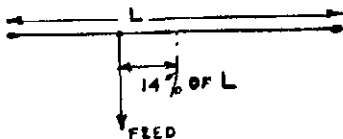


Fig. 2.—Wyndom Aerial.

It consists of a half wave dipole hung horizontally, as shown in Fig 2, and the feeder is joined at a point 14% back from the centre of the half wave. Simply join the end to the set and wind up the transmitter. I have used this aerial on a FS6 from Sydney and held reliable communication up to 1,500 miles day and night for months on end, using a frequency between 5 and 7 Mc.

L equals 467.4 divided by the frequency in megacycles. Answer is in feet.

TWISTED FED DOUBLET

This is another half wave dipole, horizontally suspended. The feeder consists of twisted rubber flex. The aerial is split in the centre with an insulator and one leg of the feeder is joined to each portion of the aerial. The other ends are taken either to a coupling link on the transmitter or to the A. and E. terminals on the receiver.

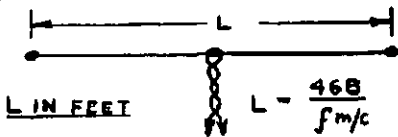


Fig. 3.—Twisted Fed Doublet

The impedance of this antenna is about 72 ohms at the point of junction to the aerial. Incidentally, this type makes a good receiving aerial as it has inherent noise reducing features by virtue of the fact that the feeder cancels out any pickup that it (the feeder) picks up and so reduces the noise.

CENTRE FED DIPOLE

Again we use a half wave dipole, only this time we use a 500 ohm open wire feeder. For the construction of this feeder refer to the Handbook tables as there are many combinations of twin wire that can equal 500 ohms.

The aerial is split in the middle with an insulator of about 4" long. Join the feeders one to each side as shown in Fig. 4.

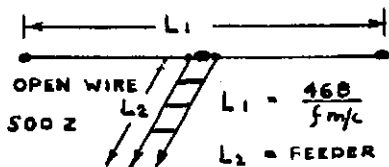


Fig. 4.—Centre Fed Dipole.

This type is perhaps the best aerial to start with. However, as the aerial must be tuned for correct impedance, a word or two will not go amiss. At the transmitter end of the feeders, the impedance varies from 75 to 5,000 ohms, to correctly match this aerial to the transmitter, it will be necessary to use series or parallel condensers (see Table 1).

A point is that if the feeders are reduced to an impedance of 300 ohms, it is possible to tune the aerial as a series fed aerial for all bands.

Its main feature is that it can be used on four bands, say 80, 40, 20 and 10 metres, and the same feeder can be used all the time.

Table 1 shows various combinations of length and the associate feed tuning.

Band	L1	L2	Tuning
Mc.	Feet	Feet	
3.5	136	68	Parallel
7.0	136	68	Parallel
14.0	136	68	Parallel
28.0	136	68	Parallel
7.0	68	100	Parallel
14.0	68	100	Parallel
28.0	68	100	Parallel
7.0	68	67	Series
14.0	68	67	Parallel
28.0	68	67	Parallel

Table 1.

FOLDED DIPOLE

This aerial consists of two wires kept apart by spacers as per dimensions quoted later in the article. The two wires are joined together at each end and one of the wires are split in the middle and an insulator joined in the opening.

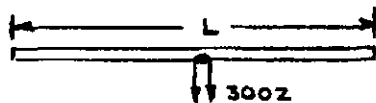


Fig. 5.—Folded Dipole.

The impedance is such that it shows about 300 ohms at the insulator, where you can feed it with 300 ohm ribbon. It can be used either horizontally or vertically, the latter being somewhat more noisier at reception than the former, but the vertical will transmit in all directions at the same time, hence it gives you all round coverage.

It is fairly broad in its tuning, in fact it will handle a band from one end to the other without retuning the feeders. It can also be used for frequencies up to and over 2 metres, which makes it very popular as a v.h.f. antenna.

Calculate the length of the dipole as before, viz.: 468 divided by the frequency equals answer in feet of a half wave aerial.

INVERTED VEE BEAM

One of the most simple beams known is the Inverted Vee. This is an aerial that exhibits definite beam characteristics in so far as the direction of propagation is in one direction only. There has not been much use of it amongst the Amateur fraternity, why I do not know. Its coverage is good. At the specified frequency it is cut for, it shows as much as 8 db gain over a single dipole whilst raising the frequency as much as two times (say 5 to 15 Mc.) it still can be worked and still shows a gain of 2 db over the original dipole.

It only needs one pole and can be set up by one man. From Fig. 6 you can see that it consists of a long wire run up to the top of a pole and then taken down to a terminating resistance

mounted at the end you wish to transmit to. The termination resistance has an impedance equal to the characteristic of the feed line. Constructional details are obvious from the sketch.

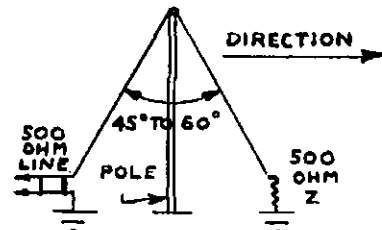


Fig. 6.—Inverted Vee Beam.

It might be of interest to you that it is being used, or has been used, by the chaps down in Antarctica. In an article in a recent issue of "A.M." such evidence stated that the aerial was an Inverted Vee. So if it is good enough for them down in the land of the deep freeze, it should be good enough for us.

STRAIGHT BEAM AERIALS

By this the author means rotary beams mounted on a tower or telegraph pole. First let us consider what we need for a beam. The first consideration is plenty of room. (No chimney pots in the way to be swept off, or such like article.) Next either a tower of about 30 to 40 feet high. The tower can be made of 2" x 2" hardwood, properly spaced and braced. It must be anchored at the base and it must have a "catwalk" or platform to stand on so that you can get up and tune the beam. Alternatively you can put up a pole, a 60 ft. one is ideal. But all this costs money. Besides there is the turning mechanism—a prop. pitch motor will do nicely. All in all quite a fair bit of cash and the newcomer has not always got it, not after building his rig.

For those loaded with the necessary and those who insist on a beam, the following tables will give him a good basis to start with. Mind you, chaps, the author is not against beams, he is all for them. They do improve your DXing and gain you some of those coveted QSLs to paste up on the walls of your shack. It is admitted that the chap with a four element beam has the edge on the one with say a folded vertical, but to gain certificates with the latter type of aerial, gives one a feeling that his rig must be good to get results like that.

The writer hopes you can derive some pleasure out of reading the articles over. He has enjoyed writing them and if they help any "new chum" to Amateur Radio and its genial fellowship, then he shall feel truly rewarded.

DATA FOR FEED MATCHING SYSTEMS

Average Dimensions

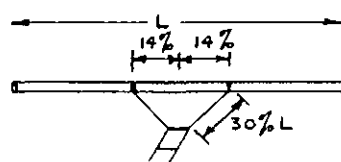


Fig. 7.—Delta Match.

Approximate match to air spaced 500 ohm line.

DATA FOR BEAM AERIAL CONSTRUCTION

Antenna Type	Driven Element Length	Reflector Length	Director Length			Spacing between Elements	Approx. Gain db	Rad. Resistance ohms
			1st Direct.	2nd Direct.	3rd Direct.			
2-element with reflector	462 Freq. (Mc.)	490 Freq. (Mc.)	—	—	—	0.15	5	30
2-element with director	462 Freq. (Mc.)	—	455 Freq. (Mc.)	—	—	0.1	5.5	15
3-element	468 Freq. (Mc.)	500 Freq. (Mc.)	445 Freq. (Mc.)	—	—	Dir. 0.1 Ref. 0.2	7	20
3-element	468 Freq. (Mc.)	495 Freq. (Mc.)	450 Freq. (Mc.)	—	—	0.25 D. & R.	8	50
4-element	468 Freq. (Mc.)	492 Freq. (Mc.)	442 Freq. (Mc.)	438 Freq. (Mc.)	—	0.2	9	13
5-element	468 Freq. (Mc.)	492 Freq. (Mc.)	442 Freq. (Mc.)	438 Freq. (Mc.)	434 Freq. (Mc.)	0.2	10	10

Table 2.—These measurements are only to act as a guide. Slight adjustments may or will have to be made for each individual circumstance.

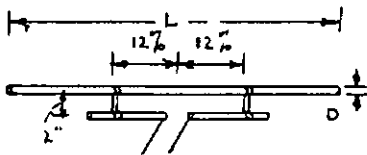


Fig. 8.—"T" Match. Element and "T" Match equal diameters. 800 ohm twin line.

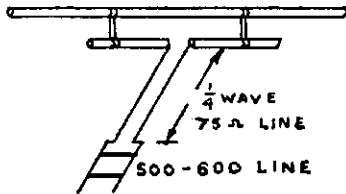


Fig. 9.—"T" Match with Transformer. Same L dimensions as Fig. 8.

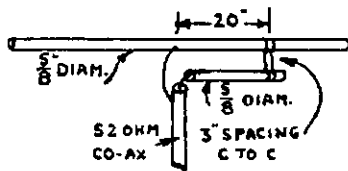


Fig. 10.—Gamma Match.

DATA FOR FOLDED ELEMENT MATCHING SYSTEMS

Method of Calculation

Multiply the Impedance Transformation Ratio given below by the Radiation Resistance on Chart for Beam Aerial Sizes (Table 2).



Fig. 11.—Folded Element Match.

Impedance Transformation Ratio—

$$\text{For } D_1 = D_2 \quad \frac{R. \text{ Feed}}{R. \text{ Resist.}} = 4$$

$$\text{For } D_1 = 1" \quad \frac{R. \text{ Feed}}{R. \text{ Resist.}} = 6.9$$

$$D_2 = 0.5" \quad S = 1.5"$$

$$\text{For } D_1 = 1" \quad \frac{R. \text{ Feed}}{R. \text{ Resist.}} = 10.5$$

$$D_2 = 0.25" \quad S = 1"$$

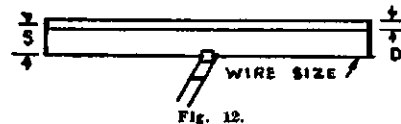


Fig. 12.

Impedance Transformation Ratio—

$$\text{For } D = 1" \quad \frac{R. \text{ Feed}}{R. \text{ Resist.}} = 11$$

$$S = 3" \quad \text{Wire: 12 gauge}$$

$$\text{For } D = 1" \quad \frac{R. \text{ Feed}}{R. \text{ Resist.}} = 14$$

$$S = 2" \quad \text{Wire: 12 gauge}$$

$$\text{For } D = 1" \quad \frac{R. \text{ Feed}}{R. \text{ Resist.}} = 18$$

$$S = 1.5" \quad \text{Wire: 12 gauge}$$

$$\text{For } D = 1" \quad \frac{R. \text{ Feed}}{R. \text{ Resist.}} = 24$$

$$S = 1" \quad \text{Wire: 8 gauge}$$

$$\text{For } D = 1" \quad \frac{R. \text{ Feed}}{R. \text{ Resist.}} = 32$$

$$S = 1" \quad \text{Wire: 12 gauge}$$

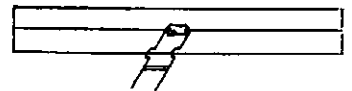


Fig. 13.

Impedance Transformation Ratio—

$$\frac{R. \text{ Feed}}{R. \text{ Resist.}} = 9$$



Fig. 14.

Impedance Transformation Ratio—

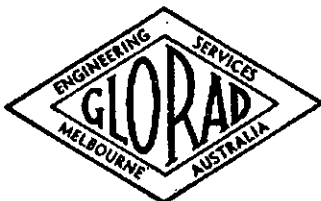
$$\frac{R. \text{ Feed}}{R. \text{ Resist.}} = \text{approx. } 25$$

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NEW OVERTONE OSCILLATOR CIRCUIT

BY J. C. DUNCAN,* VK3VZ

The overtone oscillator is now an accepted method of reaching high frequencies from a low frequency crystal with a minimum of stages, and quite good output can be obtained at the 3rd, 5th and higher odd harmonics of the crystal.

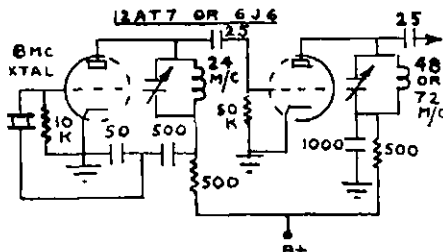
With an 8 Mc. crystal, the triode oscillator actually oscillates at 24 Mc., and if a twin triode is used, the second section can then double to 48 Mc. or triple to 72 Mc. Imagine stages needed with the conventional doubling system to get to 72 Mc., hence the popularity of overtone circuits.

Also with the overtone circuit in converters, we can reach our final crystal controlled frequency with a minimum number of stages, and a further important point is that harmonic radiations from the oscillator will cause spots through the spectrum at 24 Mc. intervals and not 8 Mc. intervals as would occur with conventional crystal oscillators. This helps a lot in converter design in eliminating spurious signals through our v.h.f. bands.

The circuits described in the A.R.R.L. Handbook use either a tapped coil to obtain feedback or a separate regeneration coil.

Regeneration is then adjusted so that as the plate tank condenser is tuned through the 3rd or higher harmonic of

the crystal, the stage regenerates, and listening to the output on a receiver at the harmonic frequency, the note should be crystal and only vary slightly with variations of the tank condenser. If too much regeneration is used, the stage will self oscillate at some settings of the condenser and at others will come under the control of the crystal.



Coupling should be reduced until, as the plate tank capacity is increased, we find firstly, crystal controlled oscillation, but with low output, and then gradually increasing output until the stage suddenly ceases to oscillate; very much like an ordinary crystal oscillator working at its fundamental frequency.

One of the difficulties has been to find a means of making fine adjustments to the feedback coil or tapped coil in the two most used circuits, and when a new circuit appeared in "QST" for September, 1953, most of the v.h.f. fra-

ternity sat up and took notice. Here was a circuit which didn't need tapped coils or feedback windings and depended on the proportion of two condensers for adjustment.

All who have tried this circuit are loud in its praises, not because of greater output, I found this was the same, but its ease of adjustment.

It will be seen that the crystal is brought back to the junction of the 50 and 500 pF. condensers which constitutes the feedback circuit. The 50 pF. value should be changed up or down to achieve output under crystal control only, as explained previously. The tank circuit is tuned to the frequency required. In my case the 50 pF. was increased to 100 pF., but was not very critical and operated correctly with all crystals used. This checks with others who have tried this circuit.

Raising the value of the 50 pF. condenser increases the regeneration. The 12AT7 and 6J6 twin triode work very well with the appropriate plate voltage applied.

If you are having trouble with your overtone oscillator, we can recommend this one. One further thought—with a 7 Mc. crystal, output could be obtained on 21 Mc. in one triode stage for use on that band, in driving the following amplifier tube.

DO NOT FORGET!

The closing date for copy for the January issue is 3rd December.

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N.S.W. HUNTER BRANCH FIELD DAY

The Hunter Branch Field Day was held at Blackhall's Park on Sunday, 3/10/54, with a total attendance of 70. Present were 18 Amateurs, 4 Associates and their families, including Ernie 2ASE and Chas 2AWQ, who both made the trip from Sydney to be at the Field Day, and their presence was much appreciated by the Branch. The others present were 2FP, 2PQ, 2AFA, 2AOR, 2AHA, 2XT, 2OT, 2KG, 2ARV, 2AUH, 2AGD, 2CS, 2SF, 2ADS, 2XY, 2WU, and Associates Gordon Sutherland, Dave Elsley, R. James and B. Bailey.

During the day the children were liberally supplied with ice cream and soft drinks and entertained with films.

The highlight of the Field Day was the Hidden Tx Hunt on 144 Mc. on foot,

blindfolded. Five receivers were available for use and the event was run off in heats. In the first heat, Frank 2AUH found the transmitting dipole in 13 minutes; Ernie 2FP, in the second heat, also logged 13 minutes; Charlie 2ARV, however, was the outright winner, taking only six and three-quarter minutes to find the dipole in the third heat.

The course was a 200 yard stretch studded with obstacles such as trees, cars, and a large tin shed; and the contestants had to make actual contact with the antenna with their body or their receiving apparatus. Each contestant had his group of advisers to prevent him making violent contact with obstacles and to give him misleading and contradictory advice.

After the Hunt had concluded, races were conducted for the children, OM's, and XYL's, also competitions such as "Guess the Frequency," won by 2FP; "Pick the Valves," 2AWQ; "Lucky Number," won by Joyce Whyte; "Nail Driving," ladies—Mrs. Swain, gents—2OT. Charlie 2AWV received a 2E26 for winning the Hunt. In the races, J. Gray won the Boys' Race, M. Bailey the Girls' Race, Athol Greenhalgh the OM Race, and Mrs. Fitton won the Ball Throwing.

Activities closed at 5.30 p.m. and all OMs dashed madly home to see what 20 mx DX had popped up during the VK-ZL Contest.—2AOR.

AMATEUR CALL SIGNS

FOR MONTH OF SEPTEMBER, 1954

ADDITIONS

- New South Wales**
 2DE—D. E. Lains, 16 Rose St., Chippindale.
 2KE—M. G. Datsen, 84 Ocean St., Woollahra.
 2KJ—K. G. Avery, No. 1 Basic Flying Training School, R.A.A.F. Uranquity.
 2LP—L. N. Page, 10 Tusculum St., Potts Point.
 2ADC—G. S. McLeod, 82 Stoney Creek Rd., Beverly Hills.
 2AHT—J. E. Thompson, 29 Light Parade, Bar Beach.
 2ASF—S. C. Fletcher, Malling St., Eden.
 2ZAG—J. B. Goodman, 29 Boolarong Rd., St. Ives.
 2ZAL—C. F. Luck, St. James Flats, 6 Stanley St., Sydney.

Victoria

- 3GT—G. E. Lewis, 10 Henderson St., West Brunswick.
 3VB—Mrs. C. M. Adams, 12 Jellicoe St., Box Hill South.
 3XU—A. G. Weynton, 30 Park St., West Brunswick, N.10.
 3AAK—C. S. Rann, 2 Georgiana St., Sandringham.
 3ZAD—R. C. Bowen, 8 Chatham Rd., Canterbury, E.7.
 3ZAK—E. R. Kelly, 14 View St., Highett, S.21.
 3ZAM—I. C. McKellar, "Carramar," May St., Elsternwick, S.4.

Queensland

- 4ZAD—D. L. Bates, 150 Lytton Rd., East Brisbane.
 4ZAM—I. C. Morrison, Avon Lodge, 171 Riding Rd., Hawthorne, N.E.1.
South Australia
 5GZ—Penfield Amateur Radio Club, C/o L.R.W. Hostel, Salisbury.
 5ZAH—R. G. Henderson, 14 James St., Southwark.
 5ZAO—E. M. O'Neill, 51 Nelson St., Harcourt Gardens.

Territories

- 9BS—R. A. Sutherland, Central Avenue, Rabaul, T.N.G.

ALTERATIONS

- New South Wales**
 2DZ—22 Ella Street, Adamstown, Newcastle.
 2XU—59 Hoiborow Street, Croydon.
 2AAC—35 Flavelle Street, Concord.
 2ACE—16 Bankasia Avenue, Leeton.
 2AIL—11 Westgarth Street, O'Connor, A.C.T.
 2A1L—42 Tindale Road, Artarmon.
 2ALI—6 Frenchman's Road, Randwick.
 2ALZ—Oriental Hotel, Tumut.
 2AQT—7 Griffith Flats, Canberra Ave., Canberra.
 2ARD—S.M.A. Camp, Island Bend, via Cooma.
 2ARJ—Jean Street, Coff's Harbour.
 2AWJ—Range Road, West Pennant Hills.

- Victoria**
 3NH—"Teangl," Wattle Avenue, Montmorency.
 3RV—23 Stewart Street, Bentleigh, S.E.14.
 3SE—39 York Street West, Ballarat.
 3SZ—23 Paget Avenue, Glenroy, W.9.
 3AHE—70 Moore Street, Traralgon.
 3AMU—Station: 15 Bowen Street, Hawthorn; Postal: Flat 6, 11 Loch Street, St. Kilda.
 3ANC—Gnauk Road, Camberdown.
 3AWJ—79 Wilson Street, North Carlton.
- Queensland**
 4GN—65 Hewzell Terrace, Green Slopes.
 4GP—76 Longman St., Coopers Plains, Brisbane.
 4MX—18 Lucy Street, Gaythorne, N.W.3.
 4WL—16 Rosedale St., Coopers Plains, Brisbane.
- South Australia**
 5BU—14 Woodworth Street, Blackwood.
 5WC—Station: Club Rooms, Baringa Street, Woomeera; Postal: C/o. Hon. Sec., Post Office, Woomeera.
 5WI—9 Holden Street, Hindmarsh.
 5WK—26 James Street, Plympton.
- Western Australia**
 6DH—99 Melville Beach Road, Applecross.
 6RE—C/o. Wynnes Electrical, Morawa.
- Territories**
 9DS—C/o. Department of Civil Aviation, Wewak, T.N.G.
 9WL—C/o. Radio Telecommunications Centre, Rabaul, T.N.G.

DX C.C. LISTING

PHONE

Call	No.	Ctr.	Call	No.	Ctr.
VK4HR	12	172	VK4RT	22	124
VK3BZ	3	168	VK4WJ	17	122
VK6RU	2	184	VK4DO	20	116
VK4FJ	21	184	VK4JP	8	114
VK3EE	10	183	VK5MS	24	109
VK3JD	1	155	VK4CB	28	109
VK4KS	9	152	VK3WM	29	109
VK6KW	4	150	VK3HO	25	103
VK3ATN	26	145	VK2ADT	13	102
VK3LN	11	141	VK2AHA	15	102
VK3AWW	14	140	VK6PJ	19	101
VK3JE	7	139	VK3IG	5	100
VK4WF	16	137	VK3GG	18	100
VK4RW	23	135	VK5LC	27	100
VK6DD	6	126	VK3AUP	30	100

C.W.

Call	No.	Ctr.	Call	No.	Ctr.
VK3BZ	6	214	VK5FH	31	134
VK3KB	10	200	VK4RF	11	125
VK4HR	8	195	VK3HT	37	124
VK3FH	15	191	VK3YD	27	123
VK4FJ	29	191	VK3EK	3	122
VK4EL	9	175	VK3J1	25	118
VK5BY	45	172	VK3PL	38	117
VK3CX	28	168	VK3UM	12	116
VK5RU	23	159	VK2OY	44	115
VK6RW	18	155	VK7LJ	24	114
VK2EO	2	152	VK4DA	7	113
VK3CN	1	151	VK7LZ	17	113
VK2GW	16	151	VK4RC	13	107
VK6SA	28	150	VK9XK	41	107
VK6BO	33	150	VK6KW	42	104
VK4QL	36	146	VK3RW	40	104
VK4DO	20	144	VK2YC	34	103
VK3XO	43	144	VK3PG	46	102
VK3VW	4	143	VK3AFA	14	101
VK2QL	5	142	VK3NC	19	101
VK3XK	30	138	VK2OA	32	101
VK3JE	21	137	VK7RK	22	100
VK3YL	39	135	VK2AEZ	35	100
			VK4RW	47	100

OPEN

Call	No.	Ctr.	Call	No.	Ctr.
VK3BZ	4	224	VK5LC	55	118
VK4HR	7	210	VK7LZ	23	116
VK4FJ	32	206	VK3VQ	46	116
VK6RU	8	199	VK2ASW	53	116
VK3JE	12	198	VK3JA	43	114
VK2NS	16	195	VK2ADT	14	113
VK3HG	3	181	VK3HO	38	111
VK4EL	10	175	VK3MM	49	111
VK6KW	13	171	VK4RC	21	110
VK2DI	2	170	VK3ZB	34	110
VK4DO	15	168	VK9XK	54	109
VK3XK	1	187	VK2ZC	75	108
VK4KS	24	187	VK3KR	56	107
VK3AWW	45	150	VK2YL	11	106
VK9GW	48	150	VK3AWN	38	106
VK4RW	52	145	VK6WT	58	105
VK3LN	29	144	VK2VN	18	104
VK5FL	26	143	VK4UL	27	104
VK4WF	40	141	VK6PJ	44	104
VK3HT	41	141	VK6PW	50	104
VK3MC	5	139	VK2HZ	17	103
VK3OP	19	137	VK7KB	30	103
VK6DK	42	137	VK2TI	37	103
VK6DD	22	136	VK3YS	57	103
VK2ADE	28	133	VK7RK	31	102
VK2AHA	9	128	VK4TY	35	102
VK2AHM	20	125	VK3HT	51	101
VK3PG	47	124	VK2ACK	6	100
VK3J1	33	119	VK2TG	39	100

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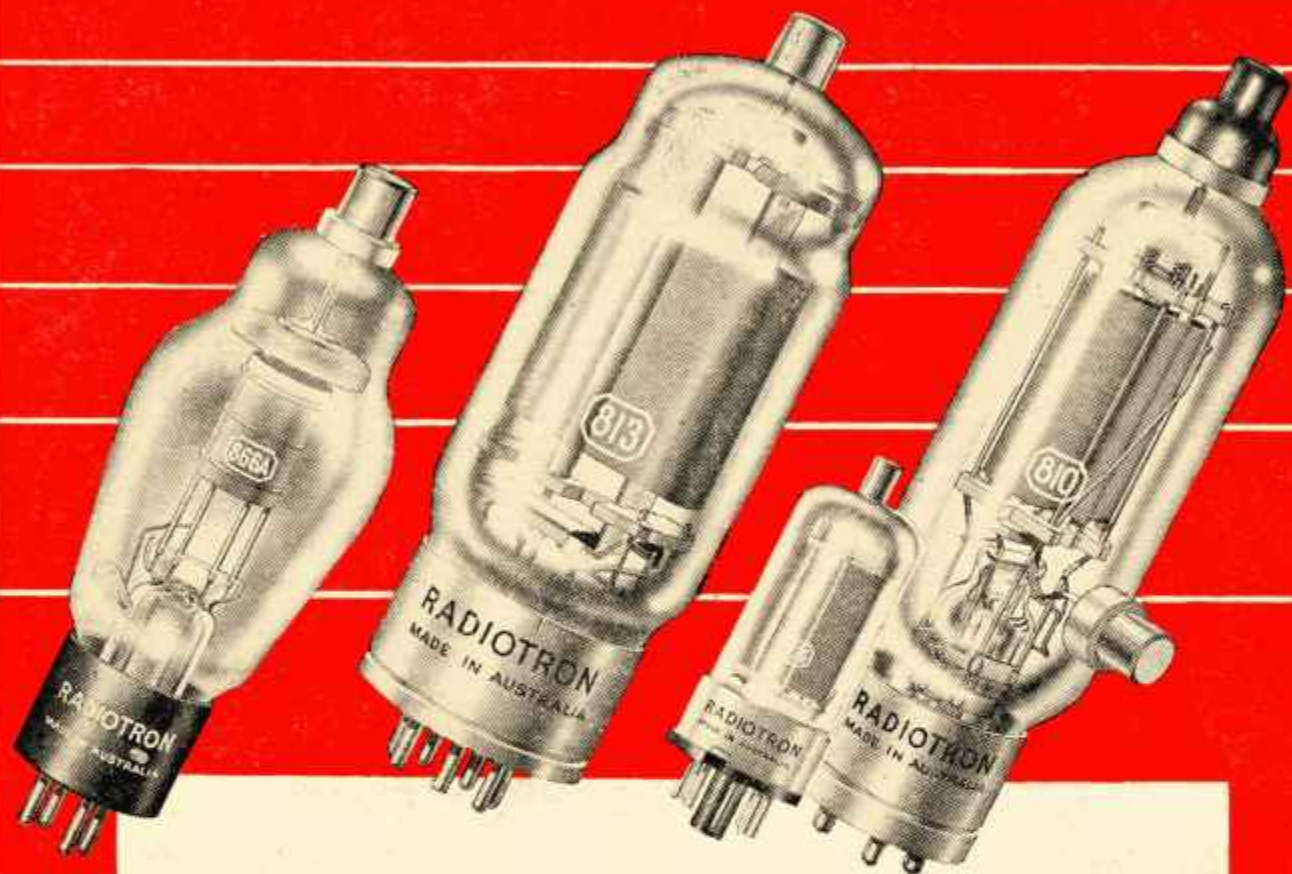
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DX ACTIVITY BY VK3AHH†

PROPAGATION REPORT

3.5 Mc.: During the month DX conditions were again relatively good. However, no African or South American break-throughs were reported or observed here. North America was reasonably well represented between about 1000z and 1200z. Erratic European conditions existed between 2000z and 2030z.

7 Mc.: This band still appears to be the most reliable band as far as overseas communication is concerned, as is to be expected for this period in the sunspot cycle. Europe was workable between 0600z and 0800z (long path) and 1930-2230z (short path) with erratic openings between 1400 and 1800z. North Africa came through around 0700z and also around 2130z, with East Africa between 2000 and 2130z. North America was represented over both the short and the long path (0600-1300z and 1900-2200z) and the Far East showed up around 0800-1300z. South America broke through between 0600z and 1100z.

14 Mc.: Here general band conditions may again be described as rather sporadic, although quite good openings occurred during the month. Central and South American conditions appeared to have been the most reliable ones between 0200 and 0630z with the South America again breaking through around 2200z. African conditions were quite good around 0530z to 0800z. European contacts were possible over both short and long route (1200-1800z, 0500-0800z). North American communication was somewhat unreliable in comparison with that during previous months, with occasional break-throughs between 2200 and 0700z.

21 Mc.: A slight improvement can be reported. Openings to W-land, South and Central America were reported between 2200 and 1300z with Pacific Islands until 0700z.

27-28 Mc.: Details of a possible opening to California are unfortunately not at hand.

NEWS AND NOTES

During September, VQ8AC was supposed to be on 14007 and 7003.4 Kc.

A highlight was another ZM7 representation on 7 Mc. by ZM6 stations, while ZM6AR has been issued with the call sign ZM7AA (see "A.R." 5/34). Another news flash points to more activity by Bari, VR2BZ, from there before the end of November.

KP6AK, Palmyra Island, is on 14220 Kc. VK1HM, Cocos Island, is now on the way back to the mainland.

CR8AB is supposed to be on 14024.5 Kc. on Sundays, but following overseas reports, you should "stohohnoow" down when you like to work him (4 w.p.m.!!).

FM7WN intends to operate as FG7 as soon as the licence for such operation is received.

ZD9AB is on 14100 and 14198. A3. VP8AZ, Graham Island, Antarctica, is on 14050 Kc., mainly around 1500z.

A request for 80 mx skeds was received from Jan Gunnar, SM5AQW, who wants to contact more VKs after his VK5KO QSO some time ago. Your scribe will try to do everything to satisfy him and in case others wish to join in: the best time in November will probably be around 1900z, from 1845z to 1945z for VK3, say, to be changed accordingly for other States. A sked between VK1AC and SM5AQW has been arranged and let's hope it is successful.

Readers will notice quite a few new correspondents this month, and it is our particular pleasure to welcome them, hoping that powers governing DX layers will continue to be kind to them and, for that matter, to all of us! A special welcome is extended to an old-timer in DXing, Jack 5KO, who returned to 80 mx DX during September. To those who may be unaware of it, VK5KO was the DX scribe, under the call sign JK3WL, more than twenty years ago! Also, Jack is well known for his consistent 80 mx DX results a few years back, in fact, we may safely say that there is hardly a VK call which is so well known all over Europe. There have been many VKs on 14-28 Mc., but only one gave Europeans their VK contact on 80 mx so consistently.

Following an official W.I.A. request, your scribe contacted various VK DXers during the month and asked for co-operation in listening for 7HTAS on 8364 Kc. This is a raft manned by one man on the way to Samoa or at least somewhere in this area. It is unfortunate that, so far, no success can be reported.

Reports, hear-say, and overheard QSOs, indicate that this column is read by a good per-

† Hans J. Albrecht, 10 Belgravla Ave., Box Hill North, E.12, Vic.

* Call signs and prefixes worked.

z—zero time—G.M.T.

centage of Amateurs and thus we may be able to hereby reach those concerned:

Please Remember the Gentlemen's Agreement!

3500 — 3550 Kc. c.w. only
7000 — 7500 Kc. c.w. only
14000 — 14100 Kc. c.w. only
21000 — 21100 Kc. c.w. only
28000 — 28100 Kc. c.w. only

Other frequencies within the bands are for both phone and c.w. The only exception to the above agreement is the operation of Civil Defence Emergency Networks.

Members of the world-wide DX fraternity seem to be a good bunch of fellows, don't they? Yes, sure, but they are still human beings and thus have good and also, unfortunately, bad qualities. Well, you know what I am driving at, so here is the reprint from the R.S.G.B. "Bulletin," August, 1954:

"J. Jamie.—The R.S.G.B. has been authoritatively informed by his employers that Mr. M. Jamie, the operator of Amateur Radio Station ST2UU, known to Radio Amateurs all over the world as J. Jamie, has not left Khartoum since April, 1953. Further, Mr. Jamie was not in Afghanistan in 1952. Contacts made when he was signing with any other call sign than ST2UU during this period, were therefore with his station in Khartoum and the use of such call signs as FB8UU, FL8UU, HZ1UU, MS4UU, 4W1UU, VQ8UU, VQ7UU, VQ9UU, and VS9UU, etc. were unauthorised. QSL cards sent out by Mr. Jamie for these call signs did not, in fact, confirm contacts with the countries indicated." No further comment!

There were no additions to our "black list" of Commercial stations in the Amateur bands. However, thanks are offered to Mr. John McKendrick, who wrote from London, N.W.8, England, and assisted by throwing some light on to b.c. stations on 7 Mc. mentioned as unidentifiable, by quoting a list of b.c. stations.

ACTIVITIES

3.5 Mc.: Frank 2QL starts off with DU7SV*, W2*, W7*, and Alan 8CX heard DU7SV, W2, and W6. Don 3AL heard VRZ on phone. Jack 5KO continues his 80 mx DXing with this f.b. list: G6CJ, E19J, G14UR*, G13HC*, DJ2BC*, G6ZQ*, W3*, W3*, W4*, W7*, W8*, HA5B*, OK3DG*, Doug 7DZ heard HF3FL on phone, while Pat 7PM worked VK9SP*, Eric BERS195 heard W2 and W7. He also at 3AHH we have DU7SV*, W1*, W3*, ZK1BI, W6, W4, SM5EHA, DL3KN.

7 Mc.: Chas 1AC: ZM6AI*, KL7*, VK1EG* (1254z), LA5U*, SM5AQW*, and a series of JAs*. 2QL: FA8BG*, ZM6AL/ZM7*, ZM6AI/ZM7*, VU2AL*, Gs*, and KP4YL, T12PZ, VP9KO, VP6KL, HB1MX/HE, F8ADA, EA9DF, Y1IML, CO8AQ, KP4CC, YV5BJ, YU, KC6, Z1B1V. Norm 2XZ: YV5DE* (1030z), KH6*, F3ML*, Gs*, JA* and CN6GB, Laurie 2AMB: VE2Z*, PA0VB*, KGAA*, Gs*, DU7SV*, and YV1CA (phone), YV5DE, YV5BJ, Neville 2APL: JA*, Phil 2AQO: VU2AL*, KV4AA*, KH6, JA*, KL7* and KC8, VS2, XE2, DU9, DU7, KR6, 3CX: PJ2CE*, Harry 8GU: JA*, Bill 3TX, Gs*, Ken 3AQJ: CN8HM*, JA*, Ken 7KM, VE3SF*, KV4AA*, Gs*, KM6*, CO8AQ*, KG6*, KL7*, KH6*, and VR2CG, HRIJZ, F8ABR, OAIAS, PY2YW, KP4CC, and short path Europeans, BERS195: CE3QQ (0800z), FA8VE, IIMV/Trieste, KC6, KG6, VR2, KZ5CR, SM8CND, Jim Hunt: JA, FUBAC, KC6, KH6, CTICL, SAHH: Gs*, VE3BLU* and VP6KL, HB9JZ, EA1AB, Y12AM.

14 Mc. c.w.: IAC: KR6*, OH*, JA*, KZ5HL*, ZCS5F*, VK1EG*, LU8DJX*, Pete 2PA: KA*, 2QL: HS1D*, VP6CJ*, AC4AB*, CRTLU*, Z1J1K*, FB8XX* and HRI, KC6, 2XZ: VP7NM*, F8A1J, LA*, EI*, G*, GM*, DL*, OH*, SM*, F*, YU*, and XZ2EM, AP5TM, C3AR, Noel 2AHH: VP6CJ*, HSI5V*, OD5LC*, 4X4GD*, F8ABM*, ON4*, YU*, PA0*, CR9AF*, YU*, LZ*, HA*, MP4BBL*, 3CX: FB8XX*, VS2*, VR3A*, Gs*, ZM6AL*, VK1DY*, EA*, ZC4RX*, YV5AE*, OE*, EA5*, Harry 3GU: F*, DL*, OH*, VS4HK*, VP6CJ*, SV1SP*, YU*, Allan 3HL: 4X4FW*, ZB1BU*, DL*, G*, JA*, Jack 3JA: VQ4EG*, JA*, 4S7*, VS6*, Don 8PV/3APV: KG61G*, FR7ZA* (0600z), VR3A*, ZM8AL*, OESAS*, and LU4AAN, ZESJF, VK1EG (0815z), FB8XX, KM8, ZS6AIP, 4X4FW, 4X4DX, ZC4PB, HB9, DL, Lance 3ZA: KT1UX*, Don 3ADI: DL*, DJ*, F*, SM*, JA*, ZC4PB*, Gs*, 457HK*, KZ5SX*. Bob 4RW: ON4*, DL*, YO3*, YU*, OZ7*, 457HK*, VS1*, OH*, G*, HA5*, OD5LC*, FK58BC*, F8ARJ*, OD5LJ*, ZM6AL*, KC6ZB*, John 5HI: ZC4JA*, VQ8CB*, ZD6BX*, VQ2IM*, ZESJF*, CR6CJ*, FB8XX*, VQ4EI*, VQ4EG*, OQ5HI*, Ray 5RK: JA*, BERS195: CR9AF, F, DM, F18AP, HL1TR, HS1D, KR6, KX6, XZ2EM, ZM6AL, ZS2K.

14 Mc. phone: 2PA: HC1LW*, 2XZ: ZM6AT*, HK3PC*, HK3PV*, T12DLM*, 2AHH: VP1GG*, T12CR*, HRI8G*, CP5EK*, VS1*, T12CG*, 4X4*, OD5AB*, HC1LW*, VR2*, KZ5WZ*,

ZSSJM*, KA/JA*, G*, HK4DF*, YV5CI*, VP6CJ*, T12RMA*, OA4CK*, I*, VS2*, AG2BC*, 2APL: ZE2KE*, VK1PG*, ZS5DE*, HK3PC*, HC1LW*, KH6*, 3JA: HC1LW*, T12*, Don 3PV/3APV: G, GM, OH, OE, VS1, VS2, HP1CC, YV5AB, HK3PC, HK5ER, HK3FV, HK3BN, CO2OS, CN8AA, ZEZKP, ZS5DE, OD5AB, HC1MB, Stan 3TE: T12CG*, KA/JA*, T12WZ*, G*, HK3PC*, HK3FV*, GM*, and YK1DX, 3ADI: KR6LW*, 4S7LB*, VU2HE*, JA*, VS2*, KC6ZB*, DU1GF*, XZ2OM*, 4X4DK*, T12CG*, T12RMA*, I*, OH*, DL*, PA0*, EA*, G*, ZM6AT*, HK3PC*, KZ5WZ*, ZS5DE*, ZS6AW*, ZSSMP*, HC1LW*, YV1CB*, OA3C*, HK2MG*, 3AQJ: DL*, DU6RG*, GM*, HK3PC*, HC3FV*, HRI8G*, KA/JA*, KA01J*, T12CG*, T12RMA*, VS2*, XE2KW*, ZM6AP*, VS5JM*, 4RW: HC1LW*, T12CG*, ZC5VR*, VS6CU*, G*, HK3PC*, 5HI: VQ4EI*, HS1D*, KJ6*, T12CG*, T12RMA*, T12HDV*, T12PP*, I*, ZS*, KA/JA*, VK1DY*, Bill 6DX: VS4HK*, VS2*, AG2AB*, G*, PA0*, SM*, GM*, LA*, OZ*, OH*, VS1*, CN8MM*, LA*, Pat 7PM: HK3PC*, HK3FV*, I*, HC1MB*, ZESJF*, T12CG*, VQ2DI*, BERS 195: HRI8G, VS2, ZC5JM, Jim Hunt: SV0WK/Crete, OH, I, DL, SM, GM, HZ1AB, T13LA, T12CG, T12CR, T12CHV, HK3PC, YV1CB, HC1LW, CA3Y, VS6CW, VS6BE, 4S7YL, VS1, VU2HE, ODSAB, ZC5VR, KP4ZM, ZM6AL, ZM6AT, KC6ZB, KA/JA, KL7, ZS.

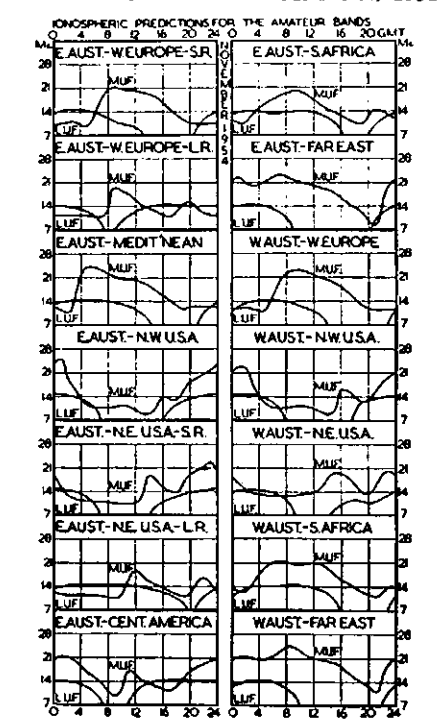
21 Mc.: Fred 2ID worked W6*, K0*, W61WJ/Mobile*, KH6* and heard HC1FX, JA, KG, DU7SV, 2AHH: spoke to 4S7YL*, Norm 2ALJ managed contacts with W7*, W5*, W6*, W8*, W0*, HC1FS*. Fred 3YS worked W5*, W6* and heard A13AO, 3YT worked W4*, W5*, W6*, W7*, KH6*, JA*, DU7SV*, W61WJ/Mobile*, W-MM stations* and heard 4S7, VS1, T12, XE1, Norm 3AXZ heard a long series of W-MM stations. Jim Hunt reports W-MM stations, W6, W8, KA/JA, KJ6, KR6OH, KC6ZB, 4S7YL, VS1FE.

27/28 Mc.: Consistent listening by 2ALJ and Jim Hunt, sked attempts (with DU7SV) by 6DX, and sporadic listening by 3AHH did not show any result. However, 3YT mentions three W6s, KH6 as heard no times or call signs given). Thanks for reports chaps:

Rare QSLs were received at 2QL: HC1LE (7 Mc.), ZK1BC (3.5 Mc.), 2XZ: KP4CC (7 Mc.), KZ5GH, KR6AA, CR9AF, 4S7LB, 2AHH: KR3AB, 4S7SS, 5HI: MP4BBL, ZE2JE, 4X4DH, BERS195: CP1BE, F18AY, SUIHS/MD5, VU7UJ/MP4, VR9BZ/ZM7, YV5AY, ZB1TD, ZE3JP, 3V8AN, 3AHH: DU7SV (3.5 Mc.).

Thanks to VKs 1AC, 2ID, 2PA, 2QL, 2XZ, 2AHH, 2ALJ, 2AMB, 2APL, 2AQH, 2AQO, 3CX, 3GU, 3HL, 3JA, 3PV/3APV, 3TE, 3TX, 3YS, 3YT, 3ZA, 3ADI, 3ALQ, 3AQJ, 3AXX, 4RW, 5HI, 5KO, 5RK, 6DX, 7DZ, 7KM, 7PM, and s.w.l's. BERS195 and Jim Hunt.

PREDICTION CHART FOR NOV., 1954



FIFTY MEGACYCLES AND ABOVE

SPRING FIELD DAY

The Spring Field Day (3rd October) was an outstanding success, the message was passed from VK2WI in three directions—to the North, to the West, and to the South. The link through to VK3 was made by the Western route and acknowledgment received back in Sydney via the same route. The message was successfully passed to the end of the Southern route, but although VK3 stations could be heard, no contact was made. Later the Southern end of the link was extended to Barrington Tops.

The Northern link was broken between Muswellbrook and Armidale, but the link into VK4 from Armidale was open.

A link through to VK5 was established between Sydney and Adelaide via the Western route late on Sunday night when the message was passed through and reply acknowledged.

There was a VK7 link between Launceston and Hobart—7LZ, 7PF and 7LE—but were unable to contact VK3.

The activities for the day enabled the greatest number of 2 mx stations ever to take part in a field day to make some outstanding contacts.

Owing to the increased interest, it was necessary to re-draft the procedure outlined in last month's notes, however these were distributed in time to enable full details to be known before the 3rd October.

Full details of all contacts are not yet known, however longest distance contact was between 2YR/P at Mt. Conobolas and 3UI/P at Mt. Stanley. Other good contacts were 2HO/P at Mt. Gibraltar to 2ATO/P at Barrington Tops; John 2ATO/P used a very small portable with 0.2 watt input. 2AOA/F at Gunning to 2ANF in Sydney, with 2WH at Forbes, 2AJO at Coolamon, 2ZAA/P at Kendall, 2LG/F at Mt. Tomah, 2AGY at Newcastle, 2ABO/M at Bathurst, and numerous Sydney stations made many good contacts. It is hoped that next month it will be possible to list all stations that took part.

Perhaps next year it will be possible to coordinate a complete link up between all States.

It was pleasing to note that the Australian Broadcasting Commission gave the achievements of the day mention in their news session at 7 p.m. on Tuesday, 5th October, stating that Amateurs taking part had proved that a v.h.f. link could operate and provide means for Interstate communication if required.

Another feature of the day was the fact that in passing the message through to VK5, there exists a two metre link between Sydney and Adelaide with only stations operating from their home locations, such a link could be 2ANF, 2WH, 2AJO, 3ATN, 5BC, 5HD. As it appears that these stations have regular contacts without actually forming a link, maybe there are other links of similar nature.

It is the intention of the VK2 V.h.f. Group to record the discussions on the Field Day at the v.h.f. meeting when some very interesting information should come to light. It is hoped the recording will be available for distribution to those interested.—2APQ.

NEW SOUTH WALES

The September meeting of the V.h.f. Group took place for the last time at Science House, as mentioned previously, the future meeting place of the Group will be at the Petersham Technical College, Crystal Street, Petersham. The lecture for the meeting was given by Dr. Bob Black, 2QZ, his subject being Variable Frequency Operation on Very High Frequencies and a Frequency Meter for 144 Mc. Bob had two very nice pieces of equipment on display and explained how by using a crystal oscillator and multipliers to 45 Mc. and mixing the output with a 3 Mc. variable oscillator, it was then possible to triple to 144 Mc. with excellent variable frequency stability. The frequency meter used similar principles and both were very nice pieces of equipment.

Due to the usual meeting night falling on the holiday week-end upon which the Spring Field Day was to be held, the October meeting was brought forward and members were given a very interesting lecture by Mr. Vic Cole, 2VL, on Problems met in the Manufacture of Various

Types of Condensers—a most interesting lecture dealing with construction methods of various types of condensers, difficulties met with in production, and inspection techniques. A follow-up to this lecture will be given at the November meeting, entitled Condensers and their use in V.h.f. Equipment.

During Sunday evening, 3rd October, the V.h.f. 2WI broadcast was originated from Mt. Gibraltar and was heard over a very large area. Reports were received from 2AGY Newcastle, 2ABO/M at Kurrajong, 2YR/P Mt. Conobolas, 2HL/P at Richlands, 2AOA/P near Canberra, as well as the Sydney stations. This was the largest coverage for the 2 mx broadcast yet. Activity around the shack has been mainly preparing for the Field Day with the result that several new pieces of equipment were constructed. Roy 2HO built a very efficient tx using an 832 final with a co-axial tank which gave excellent service during the Field Day. Cliff 2LG made alterations to his receiving equipment. Ted 2XX managed to have his new 50 ft. tower erected and a beam mounted enabling him to contact many of the distant portable stations.

Keith 2ZAA, who operated portable during the Field Day, was heard working several Sydney stations during his trip through to Newcastle. A new station welcomed to the band during the month was Barry 2ZAG.—2APQ.

VICTORIA

Some really exceptional nights have occurred for 2 mx DX in VK3, unfortunately they have only been a few hours duration and only those active on the band have been able to participate. However, we can record the first contact between Warrnambool and Birchip when 3ATN and 3ANQ made contact. 3CI has been running regular skeds with 2AJO at Coolamon and a number of excellent contacts have already eventuated. Ray 3ATN at Birchip has also worked two-way with 2AJO at Coolamon, the distance being approximately 260 miles. 3ACE at Birchip has had his first Melbourne QSO with Fred 3YS. The Melbourne gang had a considerable set back this month with severe illness to 3BH, 3UG and 3ANS, however all are reported well on the mend.

This month's Fox Hunt proved the fact that the hound cars are getting well used to the hunts and their experience has resulted this month in not one of the hound cars losing contact with the fox car for any length of time and all were hot on the trail practically the whole night. On the only occasions the fox car's signal was missed, Athol 3CP, who was acting as control station, did an excellent job in putting the hounds back on the track. On the first run, the 3VZ-3IE combination were the winners, on the second 3ADU followed by 3YS-3ABA and 3VZ-3IE. On the third run 3YS-3ABA was first with 3ADU second. The final post mortem and get together was held at the home of the V.h.f. President, Herb Stevens, 3JO, and we thank Herb and Edna for their hospitality.

The V.h.f. Group meeting this month was a general one. Jack 3VZ gave an excellent lecture on his 2 mx mobile gear. He has done a masterly job in getting the complete tx, a coaxial line rx, a modulator and 8 tubes in approx. 12 inches by 4. This was followed by a lecture by 3LN on a dual converter on the one chassis, one being a 6BQ7A cascade followed by a 6AK5 into a 6J6 mixer with all tuned circuits coaxial lines.

It was resolved at this meeting to start a VK3 DX Hour between 8 and 9 p.m. each Thursday evening. This has been arranged to give the country stations the assurance that there is a reasonable possibility of Melbourne stations listening out for them during that hour. It will take a month or so to get organised so we would appreciate any country stations on the band during that hour to give publicity to the DX session.

The first field day for the season did not draw as many portables out as was hoped, but 3ZAA and Norm Dench at Mt. Macedon had an excellent initiation to field day technique with a very excellent score of 34 contacts. The others known to be out were 3UI, 3CI, 3JK and 3AF at Mt. Stanley, 3LN at Mt. Dandenong, 3OJ at Kinnore, 3ALY at Pretty Sally, 3ADU at Mt. Gellibrand and 3FO, who broke down just before reaching his location, at Arthur's Seat. However, the relay signal was sent from 3UI direct to 3BQ in Melbourne, who passed it to 3WI and to 3FO. 3FO's breakdown was most unfortunate as from Arthur's Seat it is a reasonably certain contact to VK7 under normal conditions. The greatest disappointment was a low cloud base over Melbourne and the west, and with a falling barometer such stations as 3ZL at Ballarat dropped out of audibility and this is a very rare occurrence indeed. No Western District signals were heard in Melbourne.

The next Fox Hunt is to be a special one when (we hope) participation of Parliamentarians, the A.B.C. and the Press is expected. This is in anticipation of a State Bill which, in its present form, could seriously hamper our activities in Amateur Radio.

3ALY visited Adelaide during a week-end recently and took his 2 mx mobile with him. He had excellent fun with the VK5s who were very thrilled to get through to VK3 on 2 mx.—3LN.

SOUTH AUSTRALIA

Congratulations to the participants in the 144 Mc. relay. Success is very sweet isn't it chaps? The links to the VK5 President were 2WI, 2YR, 2WH, 2AJO, 3ATN, Hughie 5BC and his brother Bill 5HD; thence via telephone to my portly 1 mx expert, who sadly passed it on to the present President. Power was not the criterion of the relay stations, but well designed beams were well to the fore. 5LE at Galga was also to have been one of the VK5 links, but no word from Bill about his activity. Hughie's letter arrived in time to publicise the relay over 5WI on Sunday morning.

Hughie reports that both he and 5LE can work 3ATN anytime that they like to turn their beams on each other and 3ATN puts such a good signal into "Murray Valley Heights" that the signal is still S5 on the back of the beam! 3ACE at Birchip and 3ATR at Warracknabeal also worked S7-8, so maybe a signal will eventually reach Melbourne for the first VK5-Melbourne contact on 144 Mc. 3HG at Coleraine also gave 5BC RST 440—note the use of c.w. on this band chaps. These few items should be an inspiration to us all in VK5 as there is no doubt that there is plenty of 2 mx activity in Western Victoria and sufficiently close for good contacts.

Had a visit from Claude 5CH last month and he reported that the S.E. was active on 2 mx with SCR522 tx's in much evidence. Quite a deal of interest shown by potential Amateurs in the limited licence, and Claude hopes to report, inter, success by them in the coming examinations.

Whilst on the subject of 2 mx, G2MC has given some interesting details, in the August issue of "Wireless World," of a slot antenna reduced to a skeleton. The long long sides of the rectangular slot have been reduced to No. 8 s.w.g. wire, 37 inches long and these bolt into the two short 12 inch supports made from 3/4 to 1 inch diameter tube. Feed is made at the centres of the 37 inch sides by a quarter wave stub onto which any coaxial or open line can be matched. The polarisation is still the same as the complete slot antenna and the polar diagram shows a gain of 4 db over a simple dipole. Reflectors can be placed behind the structure and can be used to support the stub and the "skeleton;" an improvement of 2 db results. Slots can also be stacked above each other or laid side by side, or at 90 degrees around the centre feed pole, which can support the whole structure. Resulting omni-directional patterns of the latter arrangement show an increase of gain over a simple vertical dipole and should prove useful for a home base station in a Civil Defence Network.

Coming nearer home, on 50 Mc., Clem 5GL has been mobile with his previously described 636 rig and reports good success, but signals covered by generator noise. Charlie 5ON particularly noticed shadow effects from the steel car body. Glad to report that George 5GB has appeared on 6 mx again—getting the outfit fired up for the Ross Hull Contest George?

Ron 5MK well established on 6 mx and persevering with a 2 mx converter—eventually to become xtal controlled; Albert 5ZL also in the final stages of 2 mx tx and rx; as for my converter well, it's still a nice chassis clean! Keith 5MT and Col 5RO plough along steadily on 6 and 2 mx—what about all the 576 Meg. units chaps? Haven't heard a whisper from a soul this month either about 288 or 576 Mc., so just one final reminder of the Ross Hull Contest: The trophy is a nice hunk of masonry to have around.—5XU.

WESTERN AUSTRALIA

50 Mc.: Few changes to report in the population here but activity has been fairly consistent especially of a week-end. Probably within a few days of the appearance of this issue, the first Interstate contacts for the season will be made. For those who are interested in the possibility of that VK-ZS QSO mentioned last month, the ZS boys operate between 50.0 and 50.25 Mc. with several on 50.0 Mc.—this from ZS1SW/VK6GU via 14 Mc. phone. John also reports that ZS1SW intends going portable on the highest spot in the vicinity sometime between Xmas and New Year, using 100w. and all the trimmings with power from a 1 kw. alternator.

It appears that it is reasonable to burn out h.t. transformers at the moment 6GB and 6SJ were both greeted with that "dirty brown smell"

ROSS A. HULL MEMORIAL V.H.F. CONTEST, 1954-55

RULES

1. The Contest will take place in the 50-54 Mc. band and will commence at 0001 hours E.A.S.T. on 1st December, 1954, and will continue until 2359 hours E.A.S.T. 31st January, 1955.

2. Only one contact with any one station per twenty-four hours commencing midnight E.A.S.T. to count as a scoring point.

3. Exchange of a serial number will constitute a contact.

4. The serial number of five or six figures will be made up of the RS (telephony) or RST (telegraphy) report plus three figures which may commence with any number between 001 and 100 for the first contact and which must increase in value by one for each successive contact, e.g. if the number chosen for the first contact is 050, then the number for the second contact must be 051, for the third 052, and so on. If any contestant reaches 999, then he must start again 001 and continue as above.

5. Scoring.—Ten points for the first contact with any particular station, Interstate or overseas; 9 points for the second contact; 8 points for the third contact, and so on to the 10th contact for 1 point, after which no more scoring contacts with that particular station can be made for the duration of the Contest.

6. Logs shall contain the following information:—

Date, time (E.A.S.T.), call of station contacted, serial number sent, serial number received, points claimed for the contact, and at the foot of each page, total points claimed, and at the end—the grand total.

Logs shall be signed by the competitor, together with a declaration to the effect that the station was operated strictly in accordance with the rules and spirit of the Contest, and the decision of the Federal Contest Committee shall be final and binding.

Logs must be received by the Federal Contest Committee, Box 1234K, G.P.O., Adelaide, South Australia, not later than 1st March, 1955.

7. Entries will be accepted from all States of the Commonwealth and Districts of New Zealand. Check logs from other countries would be appreciated by the Contest Committee.

8. The regulations governing the control of Amateur Radio in each contestant's country must be observed.

9. Awards:—

(a) For the purpose of Awards, Northern Territory will count as a separate call area.

(b) The outright winner of the Contest within the Commonwealth of Australia will receive an appropriately inscribed Certificate and, in addition, if a financial member of the W.I.A., will hold the Ross A. Hull Memorial Trophy for a period.

(c) The highest scorer in each call area in Australia and New Zealand will be awarded a Certificate. In addition, the Federal Contest Committee will have the right to make any additional Awards.

10. The decision of the Federal Contest Committee will be final and binding upon all matters pertaining to this Contest.

SPECIAL ISSUES OF "A.R."

In the near future it is proposed to feature Special Issues of "Amateur Radio" for the v.h.f., mobile and other enthusiasts.

The Technical Editor will be pleased to receive such articles so that these Special Issues will be bumper ones.

STOP PRESS!

Sth. Australia Wins R.D. Contest

The Federal Contest Committee has finally determined the winner of the Remembrance Day Contest, the result being as follows:—

1st VK5 870.63 points
2nd VK6 848.35 points

They have been unable to determine the order of the other States as they are still awaiting information from N.S.W. and Victoria as to the official number of licensees in their States.

The Committee has been very careful in the checking of logs, because the margin between VK5 and VK6 was quite small—in fact logs from these States were checked twice to ensure that there would be no mistake in their decision.

The complete scores will be available for publication in the December issue with the Committee's comments.

within a few days of one another. 6BO is still plagued with severe power leak interference which has been blotting out Sunday morning checks with 6DW at Bruce Rock; it being necessary to revert to 3.5 Mc. I don't suppose even the new crystal controlled converter will improve things, eh Rol? 6EL paid a visit to the "Big Smoke" recently and was immediately pounced on by 6FB and 6BO as a possible convert for 50 or 144 Mc. Seriously though, the approx. 500 mile path along the coast to Geraldton should provide some interesting openings, as 6FM will confirm by D.C.A.'s. v.h.f. results with aircraft, operating on that route. So what about it Ernie?

6FB talking about mobile transceivers on 288 Mc., but at present putting out a good signal from his 3 cl. beam resurrected from previous activities in Mullawa. 6GU has given away the idea of putting the p.p. 807s on 6 mx, but that won't reduce the activity I trust. 6GB has been quite active once more, despite power supply mishaps aforementioned. 6CE has been doing some interesting experiments with two haloes stacked half-wave apart. Results so far are very promising, comparing well with a four el. beam, and what is more important, the array is completely omni-directional. 6WJ experimenting with 50 Mc. mobile operation. A 6M5 screen mod. with a vibrator supply and quarter wave whip has been supplying the signal; the rx has yet to be built. Last month's par re 6FM's antenna was cut down in print to a mere four over four! It should have been a four over four over four on 50 Mc., and should be in operation very shortly.

144 Mc. Despite the issue of the limited licence only two of the Z calls have appeared on the band to date—6ZAZ and 6ZAA. Cec 6ZAZ has had his 815 working as a power tripler, but was unlucky to strike a faulty 815. I believe a flock of L.A.O.C.P. candidates were successful at the July exam., so maybe that augurs well for a host of new calls to be heard shortly.

6AW pottering about with the 1143, but is proposing to press some 832s into service to improve p.a. efficiency. 6BS not heard of for some time, but should have his 522 going by now for checks with Mannanng—distance about 100 miles. 6JT still among the regulars on Sunday evening at 2000, and even 6RU put in an appearance a short time ago—shocked in to activity by the appearance of 6AW! A new-old call heard was 6HC out at North Beach with a fine S9 signal at 6HK.

288 Mc. and Up: Things are very stagnant there though 6BO has spoken about trying a grounded grid "high tensionless" doubler to 288/576 using an 8012 as per "Short Wave" magazine. Time alone will tell if this is a success. Saw 6MK's very neat little tx for 288 Mc. recently. It's about time that thing came in for an airing Tom—and at least the b.c.l. might not be so troublesome.—6HK.

TASMANIA

Interest in v.h.f. continues to increase in Tasmania. 7WN at Tarrareah now has a cascade converter working and is receiving 7MY at Sandford—a distance of 85 miles over rugged country on 144 Mc.; present 7WJ is constructing a tx. 7AB has also staged a comeback and has an efficient tx working on this band. The line-up is as follows: 6V6 c.o., 6M5 tripler, 6M5 doubler, 2E26 tripler, 832 buffer and a QQE06/40 p.a. The input is approx. 60 watts and the antenna a 5 over 5. Doug's frequency is 145.3 Mc. This set-up should provide the Tasmanian end for VK3/VK7 contacts in the near future, being situated right on Bass Strait.

Hobart stations now have an excellent chance of gauging conditions for 144 Mc. DX as the tx's now in use on Mt. Barrow (152 Mc.) are being heard consistently in the South.

The Tasmanian stations active for "Operation Centipede" were 7LZ Launceston, 7PF Evandale, 7AB Devonport and 7LE Mt. Wellington, although as yet all reports are not to hand it appears as though the distance to VK3 was too great. Here in Tasmania the Launceston-Hobart link was established through 7LZ, 7PF and 7LE. Neither 7LZ or 7PF heard any signals from VK3 and as no schedules had been arranged previously, this was considered to be the weak link as we may have been calling when the VK3 beams were in the wrong direction and vice versa. If any Victorian stations are wanting to test the Tasmanian-Arthur's Seat link at any future date, I would suggest they contact me previously so that schedules can be arranged and Tasmanian stations notified.

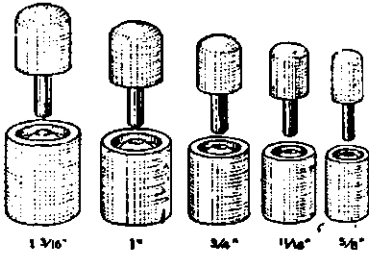
Although 7LZ was not heard by 7LE on Mt. Wellington or by 7AB at Devonport, 7LE heard 7AB calling 7LZ at 1010 hours. Although no contact was made, this should be easily rectified in future and this would make an excellent contact, the distance being 125 miles.

It is also expected that several new Tasmanian stations will be operating in the Ross Hull Contest this year.—7LZ.

50 Mc. W.A.S.

Call	Certificate Number	Additional Countries
VK2WJ	13	4
VK3PG	5	3
VK2VW	9	3
VK4RY	2	2
VK4HR	4	2
VK5LC	1	1
VK6DW	3	1
VK3RR	6	1
VK3HT	7	1
VK2AEZ	10	1
VK3XA	11	1
VK3GM	12	1
VK3ACL	14	1
VK3ZD	16	1
VK2HO	17	1
VK2ABC	5	5
VK2WH	15	5

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7/8" "	26/8	1-3/8" "	35/-	2-1/2" "	74/2
1" "	31/8	1-1/2" "	35/-	1" Square	47/11

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Type	Audio Watts	R.F. Input Watts	Max. Sec. Current	Price (inc. S.T.)
UM1	30	60	120 Ma.	£6/10/0
UM2	60	120	200 Ma.	£9/17/3
UM3	120	240	250 Ma.	£12/2/6
UM4	250	500	400 Ma.	£28/10/0

For complete details of Impedance Matching available with "Woden" Multimatch Modulation Transformers, refer to page 98 of the "Aust. Radio Amateur Call Book."

AERIAL EQUIPMENT

14 Gauge Hard Drawn Copper Wire 6d. yd.
Belling & Lee L333 "T" Ceramic Dipole Centre Insulator, 7/6 ea.
Porcelain Egg Insulators (Guying use) 5d. ea.
Eddystone Cat. No. 906 Fyrex End or Centre Insulator 3/3 ea.
Eddystone Cat. No. 946 Porc. and Glass Lead-Thru Insulator, 8/7 ea.
Eddystone Cat. No. 766 Co-axial "T" Dipole Insulator, £1/17/6
Eddystone Cat. No. 767 Co-axial "T" Dipole Insulator, £1/17/6
Eddystone Cat. No. 1090 Frequentite 2½ inch former for Aerial Tuning Unit 18/8
Eddystone Cat. No. 1091 Frequentite Sub-Base for above 20/10
Eddystone Cat. No. 1092 Frequentite Base for above 17/6
Belling & Lee L688 Semi-Air Spaced 72 ohm Co-axial Cable, 3/3 yd.
Belling & Lee L1221 Twin Screened 72 ohm Co-axial Cable, 2/1 yd.
Belling & Lee L600 Solid Dielectric 72 ohm Co-axial Cable, 1/11 yd.
Belling & Lee L809 Solid Dielectric 50 ohm Co-axial Cable, 1/11 yd.
Belling & Lee L336 Unscreened 72 ohm Twin Line Cable, 10d. yd.
Belling & Lee L692 Unscreened 300 ohm Twin Line Cable, 1/3 yd.
Belling & Lee L376 Lightning Arrester for Balanced Feeders, 15/9 ea.
Belling & Lee L350 Light. Arrester for Single Wire Aerials, 16/9 ea.
Belling & Lee L733P and L733S Plug and Socket for L336 (above) Cable Plug 1/6, Socket 9d.
Belling & Lee L677P and L677J Line Plug and Socket for L692 (above) Cable Plug 1/4, Socket 1/5
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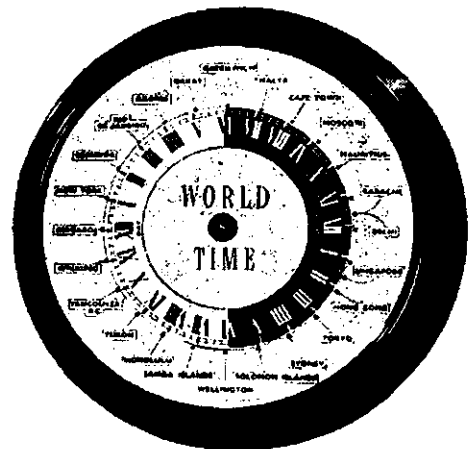
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FEDERAL

CHANGES IN FEDERAL EXECUTIVE

A recent amendment to the Federal Constitution has resulted in some change of duties of members.

Mr. George Glover, VK3AG, who previously held the position of Publicity Officer, has now become Federal Co-ordinator of Civil Defence Emergency Networks.

Mr. Max Hull, VK3ZS, is now Public Relations Officer, the position previously referred to as Publicity Officer.

Major Bill Mitchell, VK3UM, has taken over the duties of Business Manager.

If present indications are any criterion, these gentlemen will have quite a busy time in the near future.

In passing, it is pleasant to welcome Major Bill Mitchell back to Federal Executive. All will remember his sterling efforts as Federal Secretary some 4-5 years ago and how he helped in the early development of the Remembrance Day Contest.

MODULATION

The vexed question of reporting modulation quality has, in the past, been subjected to many variations and systems. Region 1 has made an attempt, which appears to have much to commend it.

Proposed RSM Code

The Lausanne I.A.R.U. Region 1 Conference in Plenary Session adopted a recommendation of its Technical Committee that A-3 transmissions shall be given quality ratings in terms of the RSM Code: R standing for Readability, S for Signal Strength, and M for Modulation Quality. The Committee recommended that the M rating shall comprise the following five steps:

- M-1—Unintelligible modulation.
- M-2—Defective modulation due to spurious or parasitic oscillations or to causes unknown.
- M-3—Defective modulation due to frequency modulation of the carrier.
- M-4—Defective modulation due to over-modulation.
- M-5—Good modulation, not exceeding 100%.

The International Committee of the Region 1 Division adopted an agreement that any recommendation of the Division having world-wide interest be made a formal Proposal to Union Headquarters by one of the Societies in Region 1, and R.S.G.B. has therefore agreed to sponsor this proposal.

REGION 1 DIVISION

The following summary of the first International Amateur Radio Union (Region 1) Conference, held at Lausanne, Switzerland, in May, 1953, has now been submitted through courtesy of the R.S.G.B.

Both the Administrative and Technical Committees drew up a number of recommendations which were later adopted by the Plenary Assembly.

Administrative Committee

1. Issue of a questionnaire to all Region 1 in order to obtain detailed information concerning license conditions.
2. Appointment of permanent Liaison Officers as a contact between the Region 1 Bureau and each National Society.
3. Issue of a standard form of log sheet for recording details of persistent intruders in exclusive Amateur bands.
4. Inauguration of a Region 1 National Field Day.
5. A request to I.A.R.U. Headquarters to approach the Universal Postal Union with a view to a decision being reached that all QSL cards sent in bulk be carried at the "Commercial Paper" rate.
6. Notification of the establishment of Region 1 Amateur Radio Camps.
7. Consideration to be given to the number of International DX Contests with a view to a reduction being effected.
8. The collection of QSL cards by non-members of a National Society.
9. A request to R.S.G.B. to continue to act as the Region 1 Bureau Society.
10. The setting up of an International Region 1 Committee.
11. The establishment of a fund to enable the Bureau to continue to function effectively.
12. The establishment of a fund to enable members of the International Committee to attend meetings of that Committee.
13. The establishment of a fund to enable the Societies in Region 1 to send a delegation to the next I.T.U. Radio Administrative Conference.

In connection with Recommendations 11, 12 and 13, it was agreed that the amounts to be

paid annually by each Society should be based on a percentage of the total number of licenses in force in each country.

Technical Committee

1. Avoidance of local contacts on the DX bands.
 2. Introduction of the RSM Code.
 3. Recommendations relating to FSK, FM, NBFM, SSB, Remote Control of Models, and Amateur Television.
 4. Recommendations relating to TVI.
 5. Appointment of VHF Officers.
- A Constitution for Region 1 Division has been drawn up by the International Committee consisting of the following: Chairman: Capt. Per-Anders Kinnmann, SM2ZD; Vice-Chairman: W. J. Daljmln, PA0DD; Hon. Secretary: Arthur O. Milne, G2MI; Members: John Clarricoats, G6CL, Reg. H. Hammans, G2IG, Harry Laett, HB9GA.

FED. CONTEST COMMITTEE

The Contest Committee meets on the last Tuesday of the month and to date has been putting in a deal of good work in quite a number of directions. The meeting this month discussed the R.D. Contest in the light of the logs received, and had a general discussion on the methods adopted in checking and the allotting of points. The members co-opted for the purpose of checking have been informed of the decisions of the Committee on the methods to be adopted in marking the logs and it is felt that the final result will be satisfactory to all those who took part.

The members who have been checking the logs are Brian 5CA, Reg 5RR, Jim 5FQ, Frank 5KQ, Bruce 5OR, John 5WY, Joe 5JO, Jim 5PM, Reg 5QR, Rex 5DC, Jack 5JD and Gordon 5XU, who is the Chairman of the Contest Committee.

It will be seen from this imposing list that we have not lacked helpers and when you see that between them they have had seven meeting nights, two of over four hours duration, and all a total of 29 hours on the job, then I think that we owe them a debt of gratitude that cannot be expressed in words alone. Jim and Reg made the checking easier for the boys by putting in a lot of preliminary work and I can say without fear of argument that both of these chaps have done a sterling job for VK5.

The result of the Contest is, at the moment of writing, still up in the air between VK6 and VK5, and another couple of nights will have to be spent yet before the result is definite. I can say now, that whichever State wins, it will only be by the odd few points, in fact, so close is the finish, it means that a careful re-check will have to be made of the logs to decide the winner.

I am not going to apologise for the extra time taken to announce the winner, because never before has it been so close as this year. Anyway, enough for now because the Contest Manager will be making his report on the Contest and I don't want to steal his thunder. If I had not seen the logs I would not have believed that it was possible to see so many mistakes on paper as I saw during the checking. I could go on all night telling about the foolish things that were written on the logs, all unintentional, but all making it harder for the checkers.

As an example, one contestant had over 100 contacts, yet he only put on paper one contact for each State and let the rest go to pot. This, of course, meant that all the contacts not logged were out of order, although it was obvious from the other logs that he had had the contacts. I don't think that I am giving any secrets away when I say that the Committee agreed that it was only fair to count all of his contacts as it would be unfair to penalise the unfortunate contestants that he left out. In fact this was the guiding rule for the checking, when any doubt arose, give the benefit to the station that sent the definite set of numbers.

I say without hesitation that the Contest was handled by the Committee from the viewpoint of the principle behind the Contest and the true spirit of Amateur Radio, and after all that is as it should be.

By the time this splurge sees the light of day in the magazine you should have seen the rules for the Ross Hull Memorial Contest, and they are submitted as an honest attempt to promote a Contest that will appeal to the majority. We make no excuses for it, in fact if anybody is not satisfied with them, then all we say is, have a go yourself, and if you don't want to do that, then pull your head in. If, however, you have any concrete suggestions, send them along to us and we will give them all the consideration that they deserve. We are here to do a job and

will appreciate your assistance, but unless you are prepared to give us constructive, and not destructive, criticism, then we are not interested. The boys are not giving up hours of their spare time to attend meetings only to be shot at, and I think that you will agree with this outlook. See you in the next Contest!

—SPS, on behalf of Fed. Contest Committee.

FEDERAL QSL BUREAU

RAY JONES, VK3RJ, MANAGER

An interesting illustrated brochure, describing the birth and growth of the Australian Flying Doctor Service, accompanies the QSL of VK4CV, Charleville.

To the moment of writing, I have had no response to last month's par. requesting the whereabouts of OA2RB, R. E. Beljon, who was located at Lithgow around 1925-1927. The information is urgently required.

One of the most interesting QSLs ever handled at this Bureau, is one from KF3AB, located on Fletcher Ice Island, T3 in the Arctic, confirming a QSO with Chas of VK1AC on Masquarie Island. In a letter accompanying the QSL, the writer, Lloyd Hull, claims that the QSO is a record as no other pole to pole contacts have previously been made. While the Ice Island was near the North Pole, the occupants had some visitors in the shape of Russian airmen who flew over several times at a height of fifty feet.

VS2DV, the QSL Manager for Malaya, is going on leave to the U.K. and the duties will be undertaken by VS2DQ, J. Pershouse, and the Bureau address will remain as Box 600, Penang. OM Pershouse is ex-ZC1AL. He mentions that many Malayan Amateurs are commenting on the lack of cards from Australia. He personally has sent 150 to VK and to 22nd September had received only 24 in return. He cites that the percentage of returns with ZS is 94 per cent. VK does not show up too well in these statistics and comparison. He mentions further that VK1HM/ZC2 will be permanently QRT about end of October. The Malayan gang are endeavouring to persuade him to take a trip to Malaya. An invitation is extended by VS2DQ to all VK Amateur servicemen in or visiting Malaya to drop in and see him, writing first to J. C. Pershouse VS2DQ, Baling Estate, Kuala Ketil, Kedah, Malaya. His XYL will be glad to offer hospitality to any such visitors.

A fair sized package of cards has just been received from the LU Bureau. Practically all of the cards refer to QSOs from 1950 to 1952. Just where have they lain during this period?

Geoff Warner, VK9GW, who has been touring in the U.K. for some months, forwarded a bundle of cards for VK9, which had pursued him to London. Geoff popped in a note to say he is returning to VK2 in October. He adds that he is well and having a fine holiday and has seen quite a few countries that he couldn't work.

Fears expressed in a par. last month that the lack of cards would soon put me out of a job were short lived, as cards trebled during September. With DX band openings already enjoyed during early October, plus the VK-ZL

MY XYL SAYS!

WHY is it that there appears to be so many twins operating an Amateur Station these days?

My XYL says that they must be twins because they say on the air, "We are using this," and "We are using that," or "We will QSL," in fact it is We, We, We, all the time, yet only one name appears on the QSL card.

My XYL says that she always feels sad for the other half of the twin who never gets a chance to sign his name.

Of course my XYL is ignorant of the finer points of Amateur Radio and can be forgiven, if not silenced!

—OIGLE.

Contest, it looks as if the QSL Manager has weathered the "depression."

Treb, BERS195, who, despite strenuous assertions to the contrary, appears to embrace opportunities to go roaming, is relieving in Launceston until the end of October. Treb, who has never missed a VK-ZL Contest since their inception, will not be a participant this year as the location where he is living does not permit of such pleasures. Eric, in an attempt to play down my FW8AB QSL, says without fear of contradiction that he has the only VR2BZ/ZM7 card issued to Australia. States it is a nice pictorial effort by Bari showing the party leaving the shore for final time en route to the flying boat. Bari stated he did not work any VK stations from Tokelau and this disposed of various claims to having worked him. Bari also states that he may go there again before the end of November—he retires from the Air Force early next year and will don civilian garb for good.

Treb also gloats over two other QSLs recently received, FO8AJ/MM—the ship, not the island—and G3JFF/MM. The latter is Leading Tel. Mike Matthews aboard aircraft carrier H.M.S. Triumph. Mike's picture QSL is a fine effort. He uses 150 watts on 7 and 14 Mc. to a long wire. Treb heard him on 7 Mc. with ship near VP6 and on 14 Mc. with vessel off St. Lucia.

Henry Smith, CP1BK, a real globe trotter, who was until recently very active in La Paz, Bolivia, has now returned to the U.S.A., and is located at 1035 Circle Drive, Las Cruces, New Mexico. He would welcome outstanding cards, both for his CP1AA, CP1BK and D4ADS operations. Pre-war, Henry was CT2BK, and from Portugal contacted many VK stations under that call.

Ted Jones, G3DIY, of Penzance, Cornwall, in a QSL to a little known listener in Melbourne, says he visited Melbourne in 1924 as a W/T operator on H.M.S. Hood and well remembers seeing Seymour Hicks in "The Man in Dress Clothes" at the Princess Theatre, also a visit to a small village, as he puts it, on the outskirts of Melbourne. No, he does not refer to "Box Hill," he means Warburton.

David Boffin, well known to VK DX men as AP5B and VU2HS, and more recently as SU1HS/MD5, is a passenger on the new liner Iberia, due in Melbourne late October. His itinerary is not known as yet.

Well known DX station 4S7XG has returned to England and asks VK and ZL friends to look out for him under the call sign G3HVQ.

A very interesting QSL also received by the abovementioned obscure Melbourne listener is from the Dutch ocean station vessel "Cirrus," operating on the Amateur bands as P1LS. The vessel is anchored in the Atlantic Ocean at 58 North by 23 East. QSLs should go to the Training Section, Communications Dept. of Netherlands, Aeronautical Service, 3 Kansaalweg, Gravenhage, Holland.

NEW SOUTH WALES

The general meeting of the N.S.W. Division of the W.I.A. was held on 24th September before a disappointing audience, who, incidentally, had a very good evening due to the efforts of the Council and Frank 2QL. The meeting was opened by the President, Jim 2YC, who welcomed the visitors to the meeting—ZL WW and 2XN. The minutes were read by the Secretary, no business arising out of their reading.

It was announced by 2YC from the chair that we can look forward to the Woy Woy Convention which is being held this year at Woy Woy on 21st November with the headquarters at the Masonic Hall which is placed close to the railway station. Registration will commence at 10 a.m. and a full programme has been arranged by the committee which will adequately cater for the OM, XYL and kiddies, or YL, so keep the date clear and set your course for the Watery Wonderland, a good road and plenty of trains are available.

Mention was made of the efforts that the S.W. Zone members are making to pioneer a link on 144 Mc. with VK3, VK4, VK5 and VK7; the very fine work which has been performed in this zone received the commendation of all at the meeting.

Perce Healey made an announcement that all future meetings of the V.h.f. Section will be held at the Crystal Street Technical College, Petersham, very handy to transport by train, tram or bus; these meetings taking place on the first Friday of each month. Interesting lectures have been arranged for the future.

The two notices of motion, details of which appeared in the Bulletin, were placed before the meeting and were passed with little comment. Only two volunteers came forward to debate the question of higher power and the matter was therefore shelved for the present and Council would like to hear from all those interested in this question.

Frank 2QL, at short notice, arranged to fill in what time would have been devoted to the

debate with some fine films which were very well received by those present; a vote of thanks being afforded to Frank.

Mr. Corbin pleaded from the chair for members of the Division to supply technical articles for publication in "Amateur Radio," all such articles must be sent in via your Divisional Sub-Editor to ensure their correct routing and avoid any undue delay in their publication.

The question of slow morse transmissions on 144 Mc. was discussed and on this matter Council would like your views, no doubt limited licence holders would appreciate such transmissions.

The annual Hamfest of this Division will be held in January on a date to be fixed, so watch this column as by next month more definite details will be known.

The next meeting of the Division will be held on 22nd October, Science House, Gloucester St., the venue, so roll up for an informative evening and meet some of the chaps you talk to on the air.

SYDNEY SUBURBS

2FA is recovering from his illness and can still get through to Europe occasionally; made a fine effort in the VK-ZL Contest despite putrid conditions. 2AKV, a little out of town, has his troubles: a sore finger—held it under a drum of petrol, cranky modulator, and a beam which seized up, forcing him to put up the vee beam again. 2NO heard on occasionally and methinks will break into the v.h.f. region soon. 2APT putting out one of the largest sigs heard this side of the black stump. 2AEK and 2NJ—tape recorders. 2OQ is back again with a beam 12 feet off the ground, gets over to OH on phone quite nicely.

2AJK has deserted Sydney for Bathurst, so we may get some notes from the West yet. 2ATW still gets around with the assistance of the beam and the ground plane; is always good for a yarn when you can catch him. 2ID now has a 2 el. on 14 Mc. and 3 el. on 21 Mc. and is looking for contacts on that band; trained for the recent contest on one oyster! 2AQH heard quite frequently from Blacktown, nice transmission Noel. 2ACI is on antenna number 174, that one not much good either; put up a beam Hec. 2ACD had a party at Frog Hollow recently when the telescopic beam support went up, ably assisted by the gang—2YI, 2FM, 2OQ and last but not least 2APT, who was watching the peach blossom. 2AGW getting through to Europe occasionally, nice work Bert.

2AZN is still building that rx and making a good job of it too by all accounts. 2HK heard rarely, busy with other things. 2AWN heard on again, hope the health is OK. Vic. 2VG left recently for JA land, not heard of since; will also visit VS8 later. 2ASU is experimenting with antenna and is putting out a better signal. 2DA heard late at night usually, has other activities such as business. 2JP not received the car as yet, is enjoying his retirement doing some of the things he has always planned to do; like 2QR, heard only occasionally. 2BG quite inactive. 2AAH moving soon, still in same suburb though. 2AEA will soon be heard with new call with the numeral 1 from Mawson; will be looking for contacts with you Bob. Advancing years take the toll of even an Amateur, Alex 2FM has had a try out on bows recently, may yet chase kity instead of DX. 2AGU heard again, was afraid his D104 may have dissolved, anyway VS8BE is not a bad comeback.

NORTH COAST AND TABLELANDS

Zone Officer has been very busy of late with little time for the local net, so news is rather scarce this month. Had a few goes at the contest, but apart from having visitors suffered from the ravage of conditions. Noel had one good afternoon on 20 mx recently, worked 28 countries in 180 minutes. 2APS visited Kempsey in new car, APS-000, not bad. Another visitor, 2AVG, en route to Port Macquarie to visit 2PA who is working his share of DX. Pete was in Sydney on business and visited 2FH. 2RK had visit from 2JZ, 2ADT and family camped at Urunga at "Do-Me" for school holidays, worked portable on 80/40 mx. 2ALM at the Port started up on 80 mx again after many years. 2RK having modulator trouble and is playing with SCR552. 2VK at Tweed Heads did a very fine job of demonstration of Amateur Radio to the local R.S.L. using Type 3 Mk. II. on 80 mx, nice work OM. 2ZY active on 144 Mc. from Burwillumbah, had QSO with 4EA and 4AB; Bill had 150 contacts in R.D. contest. 2ALF is at Mullumbimby these days; hope to hear you on soon when you have shaken the dust of Sydney off the feet. 2AHH now at Ballina, moved from Dorrigo. 2AHH has received a letter of thanks from N.S.W. Police Department in recognition of the excellent work he did in the recent flood emergency.

SOUTH WESTERN ZONE

News is scarce this month (appears to be the case in all areas), maybe the boys are cooking up something. Keith 2KJ is a new call at

Wagga; hope to work you soon OM and welcome to the zone from us all. Activity on 144 Mc. in this zone seems to be increasing with 2BQ, 2PN, 2ZAA, 2RS, 2BW, 2AJO, 2APZ—the latter in the process of getting going. Ray 2APZ is building a lattice tower to support 144 Mc. beam at about 50 ft. Things are well in hand for the South Western Zone Convention at Tumut on 30th-31st October. Programmes have gone out to most Amateurs and we hope to have a good roll up. We also have in hand some very good trophies for the events at the Convention.

HUNTER BRANCH

Twenty-two members were present at the September meeting of the Hunter Branch, and among the visitors were Dave 2EO and Mr. Middlehurst, Principal of the Tighes Hill Technical College, where this meeting was held. Three films were shown and after Branch business was concluded, Max 2OT lectured on "T.V. Receivers," and used a t.v. receiver and photostat copies of waveforms to illustrate various points of his lecture. Max also gave a demonstration of some forms of t.v. interference and gave some hints on its eradication and the t.v. proofing of tx's. This lecture has only wetted the appetite of members for more lectures on this subject and the Branch Committee is endeavouring to arrange more lectures of this type.

A letter from Lionel 2CS, expressing his intention of resigning from the Presidency, was read to the meeting. After considering and discussing the reasons given, the meeting passed a motion of confidence and support for Lionel. At a later meeting called on 22/9/54, held at 2XT's establishment, which Lionel was unable to attend owing to illness, a further vote of confidence was passed with a request that Lionel be contacted by telephone. He expressed his willingness to withdraw the letter of resignation, so the Branch will again see Lionel in the chair at meetings. Councillors Bill 2YB and Charlie 2AWQ arrived before the meeting closed and during discussion small differences between Council and the Hunter Branch were successfully ironed out.

The next meeting of the Hunter Branch will be held at the Tighes Hill Technical College at 8 p.m. on 12/11/54. Films and a lecture for the education of members have been arranged. Listen for the Branch hook-up each Monday at 8 p.m. on 7093 Kc. with 2AWX as the control station.

VICTORIA

The major Division held their monthly meeting at the usual place on Wednesday, 8th October. About 80 members and friends were present, 75 of whom were interested in the official activities of the evening. The other five held a separate meeting at the back of the hall. These persons, never having read "The Amateur's Code," are not aware that they are expected to act as gentlemen; they certainly "used the air for their own amusement in such a way as to lessen the pleasure of others." If any of the five reads this, don't think this is my personal view only, quite a number of those there expressed similar sentiments after the meeting. In fact you were given several strong hints to "pipe down" during the evening, but it took two hours to sink in. Let us hope we see you again when something of interest to you is on the agenda, but in the meantime, if you want to hold a discussion among yourselves, for Pete's sake, forget your DX for a night and put a little life in to one of our bands, and give everybody something to listen to.

The 75 heard a series of hints and kinks from 3AHH, 3LN, 3AG, 3ZS, 3YS, 3GU and several others without calls. I shall not outline any of their ideas here as we are hoping to coax them to put them on paper so they can be published in the magazine.

Council has decided to remove the "Philo-scope" from the restricted list and this piece of equipment is now available to members for use in their own shacks on payment of a deposit of £2. Various reports were given to those present and, all in all, everything seems to be satisfactory. There may be one exception, that is the lack of agenda items for the Convention. If you have anything you would like to have discussed, drop a line to the Secretary for inclusion. Do it now!

We acquired four new members during the month, one full and three associates, but as the local QRm prevented me catching all the names, I cannot list them. Anyhow, the usual welcome follows.

If the VK5 scribe is in any doubt about the major States getting television, suggest he listen to them discussing ideas for their new t.v. proof rigs. Real progress over here "Mogobogumbi." Whilst addressing you, M.M., I did not add the footnote to your notes last month, your Oompos-Boompus backfired. Ha-ha-ha. Laugh that off Parsons!

Amongst the visitors during the month was George 3AHH and his 2nd op. George is build-

ing gear to go in the Land Rover and hopes to be all set to go at the Convention, although the main idea is to have equipment for C.D.E.N.—most commendable. About time 3AHC tried the Type 3 in the Customline—wot about it Harold? Have a nasty feeling I may be wrong about the Hon. Fed. Sec. Heard him on twice during the month. Sir, are you neglecting your duties?

We were all very sorry to learn that Ron 3ARV suffered the loss of his father during the month. We extend our sympathies on this sad occasion.

Very happy to report that Charlie 3BH is back in circulation after his spell in hospital and is now as chirpy as of yore. We have in the Listeners' Group two young fellows who are students at the School for the Blind. These lads are as keen as mustard and very badly want to find an "S" meter that they can use. If anybody has any clues on such a device, would they please contact Ron 3RN, or myself, and steps will be taken to put such a device into their receivers.

These Tx Hunts are becoming a farce and I suggest that 3ADU and 3VZ be handicapped to give 3IN and the rest a go. What about having them change at least two wheels between starting and finishing. (How am I doing Len?) I'm only joking fellows, so put away the guns, but I'd sure like to know what secret system they have found that has eluded everybody else.

The next meeting will be held on 3rd November, when the members of the V.h.f. Group will give a series of lectures, presumably on v.h.f. equipment—elementary my dear Watson—and it is anticipated that a super roll-up will take place. The 288 Mc. gang in particular are invited (excluding 3FS) as their doings would be liked to be known. (No charge for this plug Len.) Now for some news of—

LISTENERS' GROUP

On Tuesday, 28th September, at 2000 hours, the members of the VK3 S.W.I. Group met in the Clubrooms, 191 Queen Street. Meeting opened with President, Len Poynter, in the chair and 38 members residing. Also at the meeting were Arthur 3AHD, Ron 3OM and Col 3FO. We would like to welcome the following new members to the Group. They are Tom Osborne, Peter Neilson, Mike Ide, Raymond Bedson, Jeff Morris, Arnold Hoist and a friend from Dunolly, Victorio Arthur Crouch. Good listening chaps and 73 to you Arthur. Hope to receive some fine logs from Dunolly some time in the future.

It was decided to form a Contest Committee comprising Jim Ferguson, Bill Williams, Len Poynter and John Wilson. Any member or interested Amateur who has any ideas regarding suitable contests for s.w.i.s., please send them to any of the Committee, via the Institute, or to me.

At the conclusion of the general business, Ross Macrae, of Burwood, demonstrated his 4 tube rx which he brought along for all to hear and see. The rx has 4 tubes and is a t.r.f. set comprising 1852 r.f., 6S7J det., 7C5 audio and 7Y4 rectifier. Both appearance and operation of the rx were of excellent quality. Many thanks for bringing this set along Ross. On looking through my Index system, I see that Ross has a 13 tube super covering all bands and he is very interested in 20, 40 and 80 mc. Hope to have some fine reports from you soon Ross.

At 2130 hrs. 3WI was put on the air with Arthur 3AHD at the controls. After much confusion, the rig was warmed up and ready for sigs. Col 3FO gathered together three or four of the boys and took them down to the car and went mobile on 6 mc. Ron 3OM did likewise on 40 mc and the fun was on. The boys received a kick out of speaking over the mike, especially while mobile. At 2245, the boys departed home very happy and excited after having made their very first Amateur contact. Hope that there will be a lot more sessions to come boys.

News on the Bands

Broadcast Band.—Dave Rankin states that 1YZ Rotorua, New Zealand, is audible on 800 Kc. at 0930 G.M.T., but a VK5 b.c. station is on the same frequency and this makes copy difficult. 2YA Wellington, N.Z., is on 570 Kc. at sunset and is quite strong. No QRN etc. This station QSLs, as also do 3GL, 3SH, 3HA, 3MA, 3YB, 2QN, 3GZ, 2DU and 4BC. Inclusion of return postage makes sure of a quick reply.

Broadcast S.W. Bands.—From the Canadian Broadcasting Corporation I have just received their latest programme schedule and frequencies. Included in this is the information that at 0845-0945 G.M.T., with beams turned on Australia and New Zealand, English programmes to listeners in the South West Pacific area are transmitted on Sundays and Wednesdays only by CKLO on 9.63 Mc. (31.15 mc) and CKNA on 5.97 Mc. (50.25 mc).

Stations and frequencies are as follows:—					
	Mc.	Metre		Mc.	Metre
CKNC	17.82	16.84	CKLO	9.63	31.15
CKCS	15.32	19.58	CHLS	9.61	31.22
CKCY	15.19	19.75	CKLP	9.585	31.30
CKLY	15.09	19.88	CKRZ	6.06	49.50
CKEY	11.90	25.21	CKNA	5.97	50.25
CKOL	11.72	25.60			

Amateur Bands, 15 Mx.—Only a couple of locals heard during the VK-ZL Contest.

20 Mx.—This band comes good at times. Dave Rankin heard T12AKL (P.O. Box 133, San Jose, Costa Rica), T12DLM, ZL3WH, HK3CP (Post Office Box 3418, Bogota, Colombia), KA2AK, YV1CB, HC1LW, T12GC, KJ6AZ, KZ5GH, ZS5DE, ZS15W, HC4MB, KA01J, 1ICQV, JA3BB, JAAAF. I heard at my location a couple of T12RC, T12NA, KAZNY, KA2KM and a few ZLs. From Gerard I received the following list of 20 mx signals heard. They are W6JCY, ZM6ART, KH6WB, KH6AFJ, KA2FC, KR6SU, KA2HA, OH2RE, VS2EB, VK9SF.

40 Mx.—Heard a very interesting round table of Ws on s.s.c. Call signs were W0VQ, W6NAG, and W6NTV. Also heard on this band were WIATE, DUIGF (P.O. Box 356, Manila), JA1AAW, ZL2HT, ZL2QN, ZL2AU—all on phone. J. Garnet reports the following: 3AIX, 3LG, 5WC, 3AFL, 3BC, 3ALK, 3JR, and 3RB. John listens on the domestic b.c. set; good listening John.

80 Mx.—This band has quite a few locals and ZLs, but on some nights noise becomes high.

I would like to thank the following chaps for forwarding me their log sheets: Dave Rankin, Gerard Lane, John Garnet. So chaps keep your logs coming in for I must have them by 28th of each month. Please forward them to me, John A. Wilson, 37 Rayment St., Alphington, N.20, Vic.

Any Amateur who is willing to demonstrate his gear, give lectures or talks or arrange a visit to his shack, please contact me at the above address or phone JW 5685. Your services would be greatly appreciated. So until next month, good listening chaps.

The next meeting of the Group will be held on Tuesday, 30th November, at 8 p.m. in the Clubrooms, 191 Queen Street

CENTRAL WESTERN ZONE

The notes this month will be abbreviated due to your Secretary being in a near flat spin at present, organising our Convention, which is only two days off. Byron 3TA is now sporting a 16 el. on 2 mx and has had some good contacts over a long distance. Even Syd 3CK puts in a good signal, which is quite remarkable considering the type of intervening terrain, not to mention the 200 odd miles. Dick 3RR last seen heading up Sunraysia way to compete in a reliability trial.

Wednesday's hook-up included eight stations. Keep this up chaps and hope you will give the new incoming Secretary all your support for the next 12 months. I would like to thank you one and all for your assistance during my term as Secretary.—3AFO.

NORTH EASTERN ZONE

We congratulate Doug 3J on his appointment to a position at Hobart Airport and hope to hear Doug from time to time as we now hear from Rex 3UR since he has settled in Bendigo; Rex keeps abreast of personal interests in Benalla by working with Ken 3KR. During the mast-raising operations at Mangalore, one of the masts fell on 3CI with, fortunately, only superficial bruising, but in the resultant confusion the party overlooked Ken 3JC, pinned to the ground by the mast lying on his arm; however, except for bruising, all ended well. Doug was able to lower the masts with the same help without incident. Peter 3AFF and Alan 3UI were in on the mast lowering job also.

Lex 3AIL is keeping active and Vic 3ABX also is using the ether. It is understood that the party went to Mt. Stanley, as mentioned last month, and Jim 3FK was reported working mobile. Chas 3ACW was seen but not contacted recently, and Des 3CO is also about, having recently returned from annual leave. Jack 3FF, Hugh 3AHE, and Murray 3HZ have not been heard of lately, however Les 3ALE is back on the air after a month in hospital, as is Des 3BP after modifying his rig.

Alex 3AT regretted that he could not join the September hook-up, and it is understood that Howard 3YV is not so well; we therefore wish him a speedy relief from his affliction. Jack 3AKC has changed his field of endeavour in Wangaratta, and quite a little has been heard from some of Henry's 3HP keen followers up round Springhurst. Col 3WQ was coaching Associate Vern hard for the A.O.C.P. exams, but nothing has been heard of Associate Clarry, and the recent opportunity of hearing of Associate Jim at Miepoll was missed.

Stan 3AGT is like Tom 3TS and George 3GD being not obvious, but probably a listen on the air at the right time and frequency would bring them into the news. It is reasonable to assume that Frank 3ZU has not settled in at Yarrowonga

yet, and Ron 3AQQ has not been in evidence either. It is understood that some of the activities of Johnny 3ACK were not correctly reported recently, but Johnny must be sticking to his photography as he has not been heard recently.

QUEENSLAND

This month I offer congratulations, and I know each of you in the Division join me, to one Tom Athey on his attaining at last his call sign 4UT. Tom has striven hard to get it and one must admire him for his tenaciousness. This alone must be an inspiration to those of the fraternity who have given up hope with the battle only half won as it must be high on seven years since Tom first sat for an exam, and many since, each time being bogged down by the old boggy of many morse codes. On that, Tom, w.c. of this Division, and maybe all of the W.I.A., welcome you to the ranks of transmitting members, and say good luck.

Another bright spot was the improvement in conditions for the DX Contest phone section, when paths opened up to all continents and gave participants a chance to get some sort of a score. By my observations, it seems as if the honours for Queensland could be between Jack 4SF and Keith 4KS, as they were putting up a rare battle towards the end. Some southern competition was very strong.

It was a surprise to many when that phony sounding call sign XINP card arrived as most were sure he was a pirate. Frank 4ZM was most surprised as he received two cards. At least it must have given Jack 4JF a lift as he has been bemoaning the scarcity of cards over the last few months, coming through the Bureau.

Our September meeting saw Bill 4YA take over the duty of Secretary as Ernie Moore's health forced him out of the job. I think Bill will have all complaints cleared up ere this is out. Vince 4VJ gave an interesting lecture on game fishing, expounding the differences between catching the biggies on 24 or 48 strands, and had much difficulty in keeping the hands at a reasonable distance apart. After landing Clive 4CC on a 20 lb. line, it looks as if he has landed a few more converts to the game, though the 20 lb. shark who wouldn't go away makes one wonder.

Amongst those present was 4DG from Quipie, who blushed at the thought of being termed a visitor. John 4FT seems to have all the luck, by winning the call book raffle. The ballot for the ATS/AR9 went to Rod 4TF of Boonah.

Clive 4CC requests that anyone who has news of interest—past, present, or in the future—forward same to him for tabulation and compilation of a record of Amateur doings. Clive has also been chasing morse tape machines and in future hopes to have slow morse on 4WI for beginners.

Brisbane Amateurs have been taking things quite lately and except for a few like Al 4SS and Frank 4ZM, 14 Mc. is dead; have heard Jack 4JF, John 4FT on 3.5 Mc., while Jim 4OB is in the middle of building a rig for 144 Mc. Jim 4PR, of course, has put dishes first seeing as there has been no DX. Bill 4YA is still looking for a few more pieces for his beam.

No news from Ipswich, but Gvmple informs me things are quite up there. Barry 4LN not heard on air, and is still thinking of putting up a 7 Mc. antenna until he gets a pole up for his 14 Mc. beam; he is trying to dispose of the battery version DR106. Col 4CR has fixed his bias pack, but shortage of operators at the local b.c. station has him hopping, filling in, and with a new high power rig on its way, leaves Col little time for Amateur Radio. With the eight Amateurs in the Downs hook-up, there seems to be quite a lot of interest in 50 and 144 Mc., but have heard of no skeds or such. Looks as if 144 Mc. and higher might get a nudge in Gvmple as a s.w.l. up there has ideas on the limited ticket and thereby enthralling the others. Rumour has it Jim 4HZ is in a spot with his grid dipper as his rx doesn't agree with his wavemeter on its calibration, though the 52 Mc. tx checks OK. Now Jim is airing out his problem on the air and looking for the answer, so watch the wax if Jim gets you in a QSO. Maybe it's spurious signals in the rx Jim.

Well this is all for now chaps, would sure like to see you at the general meetings sometimes. As for a thought for the month, would refer you to the opening paragraph.

SOUTH AUSTRALIA

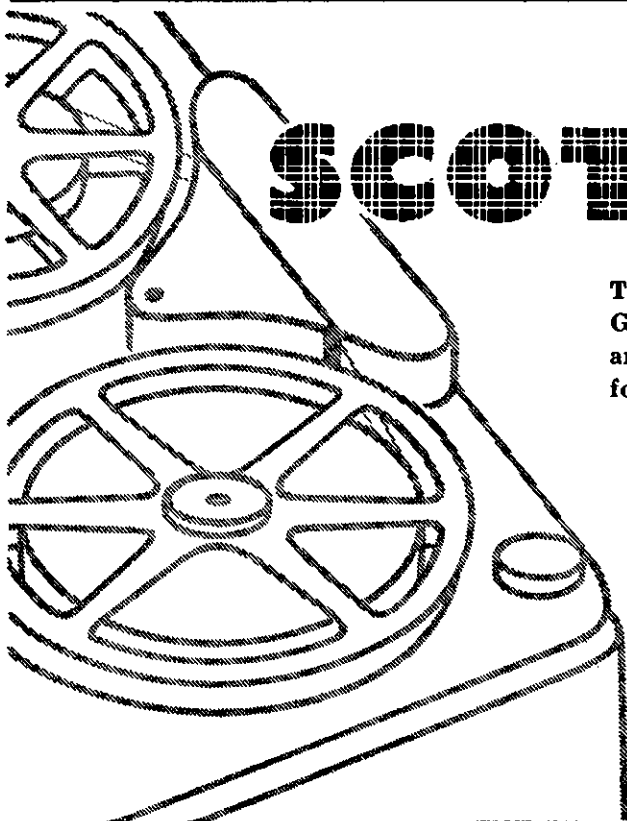
The monthly general meeting of the VK5 Division was held in the club rooms to the usual representative gathering of members and visitors. The guest speakers for the night were Mr. Clem Tillbrook, 5GL, and Mr. Kempster (an ex-G) and their subjects were crystals and ceramics respectively. Clem discussed in his

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usual entertaining and instructive manner the general methods of cutting and collecting the crystal wafers, etc., and also discussed at length the method adopted in checking the ultimate frequency of the crystal. He covered his subject extensively and with a wealth of detail which was indicated in no uncertain manner by the number and intelligent nature of the questions asked by members at the conclusion of his talk.

Mr. Kempster then took over and gave a general history of porcelain and ceramics from the viewpoint of insulation of radio parts, and illustrated his talk with a comprehensive collection of radio parts made from the subject of his lecture. Again the lecturer did a splendid job and the questions asked by members at the conclusion of the talk should have amply rewarded him for the undoubted time that he spent on the preparation of such an interesting subject.

Brian 5CA proposed the usual vote of thanks which was enthusiastically received by all present. Among the welcome visitors were D. Harkin, 3ADJ; "Mac," 5CE; D. Good, A. West, M. Rohrlach, A. Wood, and C. Carmody. We extend a hearty welcome to these gentlemen and hope to see you all again some day.

An unexpected member to attend was Frank 5MZ, complete with plaster cast and all that went with it, and he was welcomed by the President who said that all present were pleased to see him up and about again after his accident. Frank thanked all members who had visited him during his compulsory lay-up and spoke feelingly of the Amateur spirit displayed toward him by members and non-members alike. It is unnecessary to add that the means of transporting Frank to the meeting was arranged by Joe 5JO because any acts of this nature always seem to be performed by Joe.

The President, more in sorrow than in anger, referred to the fact that several members had forgotten to send in their R.D. logs and by this had robbed VK5 of a good chance of winning the contest this year, which possibly has its bright side, because I feel that across the border a certain person would not have hesitated to coin the slogan, "Join the Contest Committee and win the R.D. Contest for your Division." However, it was a pity, because from what I have heard, this year was the easiest contest for us to win, for some as yet unexplained reason.

The question of the annual picnic was brought up and it was decided that it would be held again on the January public holiday at Eldwood Oval. The oval and the buses have been booked and I trust you may think that we are a little previous in discussing the picnic that will not be held until next year. I would remind you that some of us are a little thick in the "scone" and only constant and repeated bashing on the cranium will finally force the matter home. Even then a few will come along after the picnic and say in a moaning voice, "Why doesn't somebody tell us about these things. I never heard anything about a picnic." Wouldn't it?

The meeting closed at the wishing time of 11.15 p.m. and members scamped to catch their last trams homeward to their couch of virtue, ahem! Oh, I almost forgot, an apology was acknowledged by the President from none other than that hardworking bundle of energy, Warwick 5PS, who regretted his inability to attend the meeting owing to pressure of business, and not monkey business either!

The gentle reader of the VK5 notes, and I trust that there is at least one, will have noticed from time to time the name of Ralph 5TR is mentioned. He will also notice that when this name is mentioned, it usually refers to some rise in position, some new job, or something of distinction that has been performed by the holder of that call sign. Once again I include the name of Ralph in these notes and this time I write with a tinge of envy, because I have just read in the daily paper that in his capacity of Inspector of Public Entertainments, he will probably have the job of vetting the Gypsy Rose Lee strip teas act before it will be allowed to be presented to the general public. I suggested to him that my grey hair and venerable appearance, although I could not guarantee a pair of golden spectacles, would make me an ideal assistant to him in his coming ordeal, but his rude gestures, together with his apparent suspicion as to my motives has deeply wounded me.

SOUTH EAST AREAS

5TW has had a fairly quiet month and apparently is living on his results in the R.D. Contest, which satisfied Tom that all is working well in his shack. 5CH is still trying to finish the building of his shack, but as it is only a spare time project, he is finding the going fairly tough. Claude called into the b.b.s.s. this month when he was on a hurried trip to the city. I believe that the trip was a sudden one, he decided to leave during his lunch and was on the road in less than an hour. That's

what you can do when you have plenty of the filthy look—looc—lewc—well you know what I mean.

5KU has been fairly quiet this month, but rather suspect that with the coming of the finer weather, the dust will be blown off the glider and Erg will be up in the air instead of on the air. 5FD is another one who has had little or no activity to report since the R.D. Contest, but John is well satisfied with his performance during the Contest, all things being taken into consideration. 6MS has had another modulation transformer "give up the ghost," but is installing another at the moment of writing. I am not a betting man, as normal, but would anybody care for a slight wager as to whether Stuart will be the winner, for the second time in concession, of the VK5 individual trophy for the R.D. Contest?

5JA never gives me any cause to complain, as a matter of fact I just put the name of John in the carriage of the typewriter and its starts off automatically and types, "Nothing to report." Oh yes, I have a typewriter, and one day if I am a good boy and don't annoy the V.I.P.s on the Executive, they are going to give me a filing cabinet! What am I saying? 5CJ is on his well earned holidays, that's what he told me, the well earned is his expression, and Col. hopes to clean up quite a number of jobs that have accumulated around the house whilst he was well earning the time to clean them up. Silly isn't it?

You know what, now and again the average Amateur gets a little tired of his hobby and loses interest for a while, and then he manages to have a contact with someone whom he perhaps hasn't seen for some time, and when the contact is finished he finds that all of his enthusiasm has returned, and how! I had a couple of such unexpected contacts this month and the nostalgia that they created have made me an enthusiastic member of the 40 mx gang again. The first one was with Charlie 3BH whom I hadn't heard for several years and the other was with Rupert 7RM (ex-5RM) whom I have not seen since I was a sound projectionist in the city circuit and he was the Western Electric representative. Both these chaps and I exchanged reminiscences and re-lived the old days in Amateur Radio, and after both contacts I could not help but think how close was the friendships formed on the air by what is now termed, respectfully I hope, "the old-timers." Try it some day!

Now having written that much, it suddenly strikes me, what do we do for those old timers who, having been a member of the W.I.A. for many years, find that they have only a pension or superannuation to see them through the declining years and therefore have not the necessary to keep up their subscription to their Division? I don't suppose that there are as yet very many old-timers who have reached that age, but surely we could recognise their loyalty to the W.I.A. by granting them full privileges in the W.I.A. for their remaining years on the air as Amateurs. Think what the magazine would mean to them, for example, and surely the few bob that it would cost would be as a drop in the ocean compared to the gesture of appreciation and its consequent morale building to the recipient. We have in VK5 an unofficial understanding that should a member strike a rough patch, he only has to let us know and he remains a member until he has passed through his troubles, but I don't know just how this understanding applies to an old-timer who is active on the air and has been a member for years. I must check up on this. Anyway, give it some thought, just because you are in the dough today, doesn't mean that you may be in it twenty years from now, and don't forget I will always be around to haunt you. Gr—rrr—rrr. I'll haunt Pincott first!

Talking of Mr. (Knife-in-the-back) Pincott, reminds me that I am hot on a clue as to the identity of the so-and-so that sent him a copy of the "Advertiser" from which he secured the basis for his slanderous statement of a couple of months ago. A statement on the affair will be made at a time and place suitable to its importance!!

UPPER MURRAY AREAS

The monthly meeting of the Upper Murray boys was something of a compromise because Hughie 5BC and Fred 5MA were on holidays, or had been, Alex 5XO and Murray 5CF were not available, and that only left Hurtle 5RE, Harry 5KW and Tom 5TL. Then Harry found his house full of visitors which left only two members for the meeting—reminds me of the ten little nigger boys. The outcome of the whole thing was that Tom and his family had to eat pasties for days and days, Tom insultingly remarks that he could have done with my assistance on the said pasties, but I will treat this remark with ignore.

Fred 5MA had a pleasant holiday from the cares of the world this month, although that statement is something of a misnomer because

his modulator chose this time to have an attack of the noises or vapours or something and if this wouldn't cause worry, what would? Hurtle 5RE has recovered from his attack of pneumonia, but is taking things easy. Hughie 5BC has been on holidays and has nothing of importance to report. Murray 5CF has been absent on holidays in Adelaide and thus can be classed as inactive as far as these notes are concerned. Alex 5XO is still unheard from the wilds of Loxton, but I heard a VK4 say that Alex is often heard up there, so he must still be in the land of the living.

Tom 5TL had to miss out on the slow morse session one night this month owing to being indisposed, although the visitation was of short duration. He also has been having noises in his modulator, in fact he describes them as "awful noises," although are there any other types of noises? Tom confirms in his monthly letter the rumour that has been floating around the city, to wit, that he will shortly be transferred from Renmark to Alice Springs. This means that he will no longer be the scribe from that area, although I hope that he will continue to send down his usual welcome monthly letter on the doings of the boys at Alice.

This will mean of course that he will have to adopt a new literary style to fit in with the new location, although I think that we will be lucky if we get too many "plurries" past the compilation department. Anyway Tom, best of luck at the new location and the grateful thanks of the leading Division of the W.I.A. for all your hard work in the past for Amateur Radio, to say nothing of my sincere thanks for all your help in these notes over the period that you have been in Renmark. They have been a plurry good help! What about it Fred? Feel like taking over again? You used to do a plurry good job? Mine tinkit that good Alice Springs talk, Thomas, and deserves a witchety grub.

One of my spies was up at Gawler recently and he reports that Les 5AX swears by his 100W. grid dip meter, he reckons that it makes a useful standby rig, to say nothing of its value as a neighbour annoyer. Oh that such wickedness should be. Compton 5EF is about to raise his new 20 mx beam. Ron 5FY whose name will always be synonymous with the Woomera Radio Club, is again the Secretary of the Club and is as keen as ever he was. He called into the b.b.s.s. the other day whilst on a brief visit to the city and gave me all the news of the boys at Woomera. Ron is an ex-VK3, but I don't hold that against him, after all one Pincott doesn't make a winter. I hope!

My paragraph about my XYL reading the VK3 notes before she read mine, in last month's magazine, received a somewhat lukewarm reception from the lady concerned when she read it, which was not improved by Doc 5MD ringing her up on the phone and pulling her leg about it. It appears that she took exception to my saying that she "lifted me up and kissed me" upon my arrival home from work. She was quite annoyed with this statement and said that everybody would think that she was some sort of an Amazon woman or something, being able to lift me up to kiss me. Anyway it finished up all right after I bought her a couple of expensive frocks and hats as a square off, in fact she was so pleased when she opened the parcels and saw what was inside, that she picked me up and kissed me twice! For heaven's sake, what am I saying. Jeeves, get me my sackcloth and ashes!

WOOMERA RADIO CLUB

The Woomera Radio Club has been having somewhat of a quiet time since their excellent showing in the R.D. Contest and when it is remembered that the club is just one year old, and though a number of the interested members have dropped off, the results of that contest will show that the remaining members are certainly as keen today as they were a year ago. Ray 5FF apparently well satisfied that he has secured the long coveted call sign is turning his attention to woodworking and it is rumoured that he will shortly have an infernal machine at his QTH which will do weird and wonderful things to any piece of unsuspecting timber that should be so foolish as to come near it. Ray is busy in knocking up a QRP rig for portable work when he goes away next Xmas.

Len 5OC, the ex-President of the Club, expects to be residing back in civilisation very soon and probably will be along to one of our general meetings to give us first hand news of the Club and the boys. John Glynas is applying for his limited ticket and is filling in time waiting for it by hammering the c.w., which is his stumbling block at the moment for the full ticket. Stick to it John, you are not an orphan with that stumbling block. Ted ex-5JE appears occasionally on the key at the club rooms, apparently to keep his hand in. Ted is only an ex-VK5 until he leaves the area, which if all is to be believed will be never, seeing how well he likes it up there.

Just as I was about to put the cover on the typewriter for this month I happened to see that the Editor, bless his heart and—well whatever else he has in need of blessing, joined forces with Mr. Pincott in last month's magazine to tell me that the said Mr. Pincott was an ex-VK5. As if I didn't know, why as soon as I read the first notes that he ever wrote, I said to myself, "I'll bet this up and coming young man is an ex-VK5, only an ex-VK5 could write such pearls of wisdom, such splendid and straight to the point sentences, such contagious humour, such satire, and such truths. My palsy-waisy Pincy is without doubt a Journalist of note, and don't take any notice of the by-play that has been going on between us for some time, we were only fooling around, just like a couple of bosom friends, weren't we Pincy, old scout, old top, old fellow VK5!!!"

WESTERN AUSTRALIA

At the September meeting of the Institute the evening's entertainment was provided by Jim 6RU who spoke on "Trends in Modern Communication Receiver Design." With his own fine home-built double conversion superhet as an example, Jim dealt with many points of interest to those anxious to get the utmost from their receiving gear. One important thing necessarily before one can go into the subject as Jim has done, is plenty of patience; and he certainly possesses plenty.

Fred 6RT also provided a few moments of interest by producing large scale graphs of the trend in the m.u.f.s. for paths Perth-London, San Francisco and Johannesburg since 1949. This information was culled from the monthly predictions published in "A.R." and the summary certainly shows in no uncertain manner how conditions have deteriorated on 21 and 28 Mc. over that period.

Received some inside information on the doings of quite a number of the country gang during the month from Bernie 6KJ, of Albany, and very welcome too! Bernie has recently enjoyed a round trip from Albany, Kalgoorlie, Norseman, Esperance and Ravensthorpe and in so doing met in person some of the boys resident en route. 6RT, of Narenbeen, is reported as having a fine set-up considering d.c. mains, but shortage of space means his halfwave 80 mx antenna has had to be bent down and tied to the front fence. Mal 6MU, of Merredin, has a fine collection of useful disposals gear, but has the advantage of being right on the spot for those recent disposal sales at No. 10 S.D. 6LC is very busy figuring out a two mile remote control set-up for his Flying Doctor Service rx's. How's the 50 Mc. gear Lee? 6DX shows evidence of past DX activities (what about the present Bill?) Rx's seem to be the specialty here (with an AR88, H.R.O. and Commander available. The main worry at the moment, however, is a so and so dust precipitator at a nearby mine running at something like 100,000 volts!

6CM though inactive, still very keen and one day when 10 mx comes good, maybe Bill will be back. Another Bill, of Kalgoorlie, 6WM, is also inactive. 'Tis rumoured the last time he disturbed the ether was R.D. before last. When the QTH was last sighted the antenna feedline was dangling down in the middle of the back yard, but one day it may run across to the shack again.

6TK turned on the Norseman hospitality and Bernie reports he spent a most enjoyable overnight stay with Terry. Apparently that 20 mx beam in the Kelly back yard is a landmark of Norseman. I believe some v.h.f. activity is plotted from here before very long too. 6KJ has been spending a considerable amount of time making a MN26 really work as a Q5'er. He has found that the i.f. traps in the r.f. stage cathodes can be used as additional lightly coupled i.f. tuned circuits prior to the 1st i.f. transformer with excellent results. If all the tuned circuits are put "on the nose," selectivity of the order of a crystal filter can be obtained, or alternatively stagger tuning gives a "flat top" response with sharp skirt rejection. 6RU has also tried this one with similar degree of success, although Jim has found that his i.f. strip of two stages at 50 Kc. is still sharper—and I suppose it should be!

6FT has been working the Europeans on 21 Mc. with his 3 el. beam. 6GU was heard going hammer and tongs on 21 Mc. during the VK-ZL phone test and must have just about carried the day for the VK6 top score I should imagine. 6WS has recently taken delivery of a new "Panda" bandswitching table top tx. Skipper states that anybody is welcome to come and inspect same providing he is contacted per telephone beforehand. 6MK's 32V3 has yet to arrive, but these two rigs should provide an interesting comparison. 6LU last heard of enquiring about 50 Mc. activity with a view to getting on himself again, but nothing heard of him since on any band. 6TR was last seen grasping some 886As and muttering about a new

high power rig. 6TP has been on the sick list recently, but is another rumoured to be rebuilding. 6KU, an ex-Treasurer, has recently taken unto himself a wife—please accept our heartiest best wishes for the future Ray! May you not be absent from the air for long!

JANUARY ISSUE

This time every year a plea is made to Advertisers and Contributors to forward copy early for the January issue.

To explain once again—as the printers close down for annual holidays from just before Xmas until the middle of January, it is necessary, if the magazine is to be posted to you on the 1st of January, for the magazine to be printed before Xmas.

Therefore it is requested that material for the January issue must reach 191 Queen Street, by the THIRD OF DECEMBER.

Your co-operation in this matter will be appreciated.—Editor.

TASMANIA

The October meeting was held as usual on the first Wednesday in the month at the club rooms with about 25 members present. Business for the evening was kept short and occupied the first half hour of the meeting. Lecture for the evening was given by Major E. C. A. Brown, who was in charge of long line communication in the Papua-New Guinea areas during the war. Major Brown's subject was "Communications in the Papua-New Guinea Area 1939-54" and covered the development of the linking of the vast areas of New Guinea by radio and lines. This was another in the series of lectures organised by the lecture committee and was very well received, as have all the lectures recently organised. Visitor at the meeting was Jim Millway, from Tarraleah—nice to see you Jim.

Bob 7AF has been very busy recently putting the finishing touches on a new signal generator, audio oscillator and v.t.v.m. combination, but still no sound from the new QTH. Bert 7BC, at Stanley, assures me that now accommodation is available a rig will soon be on the way—a 50 Mc. rx is almost complete. Some excellent opportunities for DX on v.h.f. there Bert, so what about a 2 mx rig and some shreds with the Northern and Southern gang. Harry 7BR, at Queenstown, having all sorts of bad luck one way and another. While demonstrating the rig to me recently the Eddystone wavemeter fell with an expensive crash from the top of the cabinet, busting the meter case; then a tree blew down on the aerial, or was the destruction of the tree to discourage the old wireless bird Brak?

Listening on 80 mx the other night I heard TMY at Sandford as "happy as a dog with a tin tail," the occasion being the hearing of Alan's 2 mx signals by TWN at Tarraleah, quite good strength too; nice work boys. Incidentally, a mild panic was caused at this time at the Tarraleah power station when about 5 megawatts suddenly dropped off the station load coinciding with Alan switching off his rig—well?

A moderately successful outing was had by TOM and myself on Sunday, 3rd. 2 mx gear was taken to the top of Mt. Wellington with the intention of taking part in the "Operation Centipede" organised by the VK2 V.h.f. Group, the object being to pass a message from VK2 to VK3, 4, 5, and 7 on 2 mx. First station worked was TMY with a 9 plus signal, which stayed that way even when the beam fell down! 7PF at Western Junction heard and worked at strength 5 was next on the list, and at 10.10 a.m. 7AM at Devonport was heard calling 7PF or 7LZ at about strength 3. Much furious calling on phone and m.c.w. failed to raise Doug, who was heard again on two later occasions calling CQ. Although the mainland was not heard, the outing was well worth the trouble and it is felt that if the 2 mx band was more thickly populated, DX would become more or less commonplace.

A field day of a different kind was held recently in conjunction with the Wireless Branch—the object being to track down some of the QRN which has been causing great trouble

around Hobart. Those taking part were TRM, 7RX, 7OM and Harry Milling, of the Wireless Branch, and three sources of bad interference were found and reported to the Hydro Authorities. Even the frightful din in the 7LE area has been fixed or at least it hasn't been heard since.

Max 7MY has caught the bug again and is building a very compact all-band rig for use in the living room. Athol 7AJ now has the mobile 7 Mc. rig working and gave it a good trout on a recent trip to the East and North of the State. Tom 7FM off to the North again soon, and FCA going to Mt. Arthur for a spell on v.h.f. work—170 Mc. stuff. Joe 7BJ now has audio parasites in the 2 mx rx—will that thing ever work Joe?

CORRESPONDENCE

The opinions expressed in these letters are the individual opinions of the writer, and do not necessarily coincide with those of the publishers.

CONTESTS

Editor "A.R.," Dear Sir,
I refer to comments on the above by Bill Barber, VK6DX (see October "A.R."). In reply to Bill's query "What is gained by Contests," I furnish the opinion that in any sport or hobby, proficiency is attained only at the expense of diligent training. What better training can be envisaged for Radio Amateur working than the hurly burly of a DX Contest, when signals good, bad or indifferent must be copied through QRM and QRN?

Readers might note that the Russian Amateurs hold "within the Iron Curtain," 7 Mc. c.w. Contests almost every week-end and a monitor of same, even at this distance, soon convinces one that the operators taking part have attained a high degree of proficient operating.

Regarding the suggestion by VK6DX that our Contest periods should be limited to 12 consecutive hours of operating at any one time, I would like to state that experience over a long period of Contest participation has convinced me that four week-ends, each of 12 hours, is far more easy to endure than two week-ends each of 24 hours. However, I do not agree with Bill when he suggests that to stay awake for 24 hours straight borders on insanity on the part of the individual concerned. (Just prior to writing this letter, I saw over 300 persons commence a 30 hours non-stop Redex Car Trial in VK7 and they all appeared sane and hopeful to me.)

Finally, I endorse Bill's suggestion that each Division debate the question of Contest time generally, and submit views to F.E. because, as I said before, there is merit in Bill's suggestion.

—ERIC TREBILCOCK, BERS195.

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AT5-AR8 Aerial Coupling Units, contain one 0.5 Ma. meter ext. thermo couple, single gang variable condenser, keying relay, aerial change-over d.p.d.t. 12v. 48 ohm relay, etc. Ideal for wrecking £2

Audio Filter FL8A, peaked at 1,000 c.p.s. Contained in metal case with input and output phone plugs. Ideal for c.w. reception. A Gift at 25/- each

Aust. Wavemeter Type AWB1, high freq. 145 to 165 Mc. approx. Valve line up: 958 diode connected into two type 1N5 valves cascade connected d.c. amp. Complete with spare set of valves and 3" 0.1 Ma. meter. Circuit enclosed. Contained in flat grey metal carrying case. Packed ready for rail, £6/5/-

Bendix RA1B Power Supplies, 240 volt AC, 24v. at 1 amp. output 250v. HT, £5 each.
American I.F.F. Units, complete with Valves, less Genemotor £4/17/6 each

Genemotor Power Supply, new, SCR522, 24v. input, 150v. and 300v. output at 300 Ma. Includes relay, voltage regulator, etc. A gift at 35/- Too heavy for postage.

2.5v. Filament Transformers 15/-

4v. Filament Transformers 15/-

English Carbon Mike Transformers, new, 5/-
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12K8	10/-
100TH	45/-
829B	£5
834, R.C.A.	£1
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955 American	10/-
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EF50	10/-

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1A3	10/-	6U7	10/-
1A5	10/-	6V6	10/-
1K5	7/6	7A6	10/-
1K7	7/6	7A8	10/-
1L4	10/-	7C5	10/-
1S5	10/-	7C7	10/-
2A3	10/-	7F7	10/-
2X2	10/-	7G7	10/-
3A4	10/-	7N7	10/-
3Q5	10/-	7W7	10/-
6A3	10/-	7Y4	10/-
6AC7	10/-	12A6	10/-
6AG5	15/-	12AH7	10/-
6BE6	15/-	12C8	10/-
6C4	12/6	12J5	10/-
6C6	7/6	12SG7	10/-
6C8	10/-	12SK7	10/-
6F5	10/-	12SQ7	10/-
6F6	10/-	12SR7	10/-
6F8	10/-	807	10/-
6H6	5/-	809	50/-
6J5GT	10/-	813	60/-
6J6	15/-	815	50/-
6K6	10/-	832	50/-
6K7G	7/6	866	20/-
6L7	10/-	956	10/-
6N7	10/-	1625	15/-
6N8	15/-	1626	10/-
6R7	10/-	1629	10/-
6SA7	10/-	2051	10/-
6SH7	5/-	7193	5/-
6SH7GT	4/-	9002	10/-
6SJ7	10/-	9003	10/-
6SK7	10/-	9004	10/-
6SL7	15/-	EF50	7/6
6SN7	10/-	OA4	10/-
		VR150	15/-
		VR65A	2/6

BC733D Crystal Locked Receiver. Tuning range 108 to 120 Mc. I.F. freq. 6.9 Mc. Valve line up: three 717A, two 12SG7, one 12SH7, two 12SR7, one 12SQ7, one 12A6. Also contains six miniature relays. Packed ready for rail. One Price £7/10/- each

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Command Receivers, 3 to 6 Mc., and 6 to 9 Mc. less genemotor; air tested £7/10/-

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2075 Kc.	7012 Kc.	7118 Kc.	8318 Kc.
2716 Kc.	7013 Kc.	7121 Kc.	8320 Kc.
3482.5 Kc.	7020 Kc.	7125 Kc.	8488 Kc.
3503 Kc.	7021 Kc.	7126 Kc.	8500 Kc.
3509 Kc.	7022 Kc.	7130 Kc.	9125 Kc.
3511 Kc.	7023 Kc.	7134 Kc.	10 Mc.
3512 Kc.	7031 Kc.	7145 Kc.	10.511 Mc.
3515 Kc.	7032 Kc.	7156 Kc.	10.524 Mc.
3516 Kc.	7032.6 Kc.	7163 Kc.	10.530 Mc.
3528 Kc.	7048 Kc.	7174 Kc.	10.536 Mc.
3532 Kc.	7052 Kc.	7179 Kc.	10.544 Mc.
3539.3 Kc.	7062 Kc.	7202.3 Kc.	10.546 Mc.
3634 Kc.	7063 Kc.	8000 Kc.	10.563 Mc.
3640 Kc.	7064 Kc.	8017.5 Kc.	11 Mc.
3675 Kc.	7068 Kc.	8027 Kc.	12.803 Mc.
4285 Kc.	7072 Kc.	8028.5 Kc.	11.020 Mc.
4600 Kc.	7089 Kc.	8092 Kc.	14.105 Mc.
5000 Kc.	7090 Kc.	8155.71 Kc.	14.325 Mc.
	7093 Kc.	8171.250 Kc.	14.322 Mc.

We extend to our Clients A Merry Christmas and A Happy New Year

AMATEUR RADIO

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WI BROADCASTS

All Amateurs are urged to keep these frequencies clear during, and for a period of 15 minutes after, the official Broadcasts.

VK2WI: Sundays, 1100 hours EST, 7146 Kc. and 2000 hours EST 50 and 144 Mc. No frequency checks available from VK2WI. Intrastate working frequency, 7125 Kc.

VK3WI: Sundays, 1130 hours EST, simultaneously on 3573 and 7146 Kc., 51.018 and 144.25 Mc. Intrastate working frequency 7125 Kc. Individual frequency checks of Amateur Stations given when VK3WI is on the air.

VK4WI: Sundays, 0900 hours EST, simultaneously on 3580 and 14342 Kc. 3580 Kc. channel is used from 0915 hours to 1015 hours each Sunday for the W.I.A. Country hook-up. No frequency checks available.

VK5WI: Sundays, 1000 hours SAST, on 7146 Kc. Frequency checks are given by VK5MD and VK5WI by arrangements on all bands to 50 Mc.

VK6WI: Sundays, 0930 hours WAST, on 7146 Kc. No frequency checks available.

VK7WI: Sundays, at 1000 hours EST, on 7146 Kc. and 144.5 Mc. No frequency checks are available.

EDITORIAL



CHRISTMAS GOODWILL

Winter has barely passed us by before we have the annual catch-cry—only another 63 days to Christmas! The popular cry is taken up on all sides and once again—all too soon—Christmas is upon us with all its hurly-burly rush and tear, the two days' work that must be crammed into one, the last minute hustle for Christmas cards and presents, and perhaps the preparation for those long-awaited holidays.

Inevitably, however, the age-old sentiment and tradition of Yuletide retains its meaning in spite of the strain imposed.

We Amateurs, with only some 23 days to go, have a special interest in the goodwill of the season. Although many other institutions of a similar nature to our own also undeniably express their sentiments in the appropriate way, our own peculiar method is unique—the ability to communicate. For communication in whatever form it might take, broadens the outlook and breeds tolerance.

It is unfortunate that in this present era, "full" communication between all peoples of the world is, in some directions at least, taboo. Although at one time we could truthfully say "we Amateurs all batted in the one team," this is not strictly correct at present; and we feel in consequence that Amateur Radio is suffering momentarily from an International relapse.

We can, however, carry on that Amateur Spirit within our own sphere and promote the Amateur's fourth commandment—"The Amateur is Friendly." This arises not from the use of one's christian name—it goes much deeper—it is that leveller of all Amateur relations, the goodwill engendered by the welcome to the home of the mighty, the homely welcome to the shack of the humblest—the hand of friendship and goodwill that we literally radiate.

We might be thought quarrelsome by the outsider who did not know better, but when all is said and done, it is the relative few who often condemn the majority by not following the remainder of the Amateur's commandments. Such rebels and grouches are few, and it is these people who are not typical of the thousands of others who go about their hobby in a quiet and unobtrusive manner.

To the unfortunate few we say, may the spirit and goodwill of this festive season permeate your Scrooge-like feelings and join with the majority in deriving and striving for a little extra friendliness and goodwill in the season of Christmas that lies ahead.

CHRISTMAS GREETINGS AND
A PROSPEROUS NEW YEAR TO
AMATEURS EVERYWHERE.

FEDERAL EXECUTIVE.

THE CONTENTS

An Electronic Keyer	2	1954 R.D. Contest Results	11
Ladies Beware! The Tale of the Purloined Teastrainer	3	Amateur Call Signs	12
DX C.C. Certificates	3	N.S.W. South Western Zone Convention	12
AT5 Rebuilt and Modified	5	Fifty Megacycles and Above	14
The Complete Amateur—System for Monitoring Your Outfit	7	DX Activity by VK3AHH	15
Hints and Kinks—		Prediction Chart for December	15
Testing Condensers	9	Short Wave Listeners' Section	16
Operating AC Relays	9	Federal, QSL, and Divisional Notes	17
Small Filament Transformers	9	Index to Volume 22—1954	24
Stable V.F.O. Operation at 144 Mc.	10		

AN ELECTRONIC KEYS

BY E. A. MARSTELLA,* VK2AEZ

SINCE the war, electronics have achieved considerable success in many different spheres and the Radio Amateur has benefitted by some of these achievements. The one that we are interested in is the Electronic Keyer.

Good operators were very much in the fore before the war, but these days Amateurs are not very much interested in c.w., preferring the use of phone as a medium, no doubt due to lack of practice or ability or both. Use of the hand key is a somewhat tedious task if used for a long time, taking quite a lot of practice and time to be versatile in speed and precision, and usually finishing up with a glass arm. The bug key overcame a lot of the tediousness of the hand key, but precision was usually at fault by using incorrect dot to dash ratio or visa versa.

The Electronic Keyer will fulfill or even surpass the difficulties found by other manual means of keying, but, of course, you must be its "master." Gone will be the days of sorry "missed this" or "missed that" and gone will be the "QLF" attitude from other operators. This Electronic Keyer is simplicity in itself, and being modified from an overseas design, is easy to build and get going and the components readily available.

CIRCUIT Referring to Fig. 1, it will be seen that it is simple and one of its main features is that the h.t. positive is earthed which, of course, grounds the paddle of the key (other keyers have their paddles at h.t. above earth) which is a good safety angle. Only one relay is used as compared with two or more with other keyers and the relay is not very critical provided it is reasonably sensitive to current changes.

V1 is the audio oscillator of which R2, R3, R4, L1, C1 from the oscillatory circuit. R5 is the key up plate load to give a smoother keying and is shunted by either portion of R1 when paddle has made the dash or dot contact. It is known that when the h.t. potential to an oscillator has been changed a different frequency will be the result, so by this means we can get two frequencies from the audio oscillator. If the potentiometer R1 is set in such a position and the paddle is in the dot position an audio frequency oscillation of some time interval will result, and when the paddle is in the dash position a lower frequency oscillation will result. By this we can see that the potentiometer setting of R1 is set to one side of centre causing h.t. potential on the plate of V1 to differ for a dash and a dot. This control is called the **dot-dash ratio control** and once its correct position has been found it is never further adjusted.

Having now obtained audio oscillations at two different frequencies from the audio oscillator to correspond to a dot and a dash, we now need the means of varying the rate of these two frequencies. Referring to Fig. 1, if R2 were

to be made variable we could alter the time constant of the oscillatory circuit and therefore the speed could be altered. This control is called the **speed control**.

The inductance used in the oscillator at this station is a 10,000 ohm plate to plate speaker transformer, but anything push-pull audio should do provided it has sufficient inductance. The altering of either C1 or R4 will alter the time constant of the circuit, the larger the C or R, the slower the speed of the keyer. If bigger range of speed is needed, the speed control R2 could be increased to 1.5-2 megohms and C1 reduced. The speed of the writer's keyer has a range of 6-35 w.p.m.

There now appears on the cathode of V1 an a.c. pulse for either a dot or a dash and these pulses are used to trigger the first section of V2 or the relay tube.

type, is about 2½" high, and the other known as P.M.G. type 600, or **minor** type, which is about half the size of the 3000 type, are the best known. The more contact springs on the relay the less sensitive will be the relay. The relay only requires one set of contact springs "normally open" or "make." The coil resistance is not very critical as the adjustment of the mark to space control can compensate for different values of coil resistance. Any relay with a coil resistance of from 1000 ohms to 5000 ohms should be found satisfactory, on higher values of coil resistance the value of the **mark to space control** R5 may need to be increased in value. Although only one set of "make" contacts are required, any relay having a different set-up of spring contact assembly can be used provided

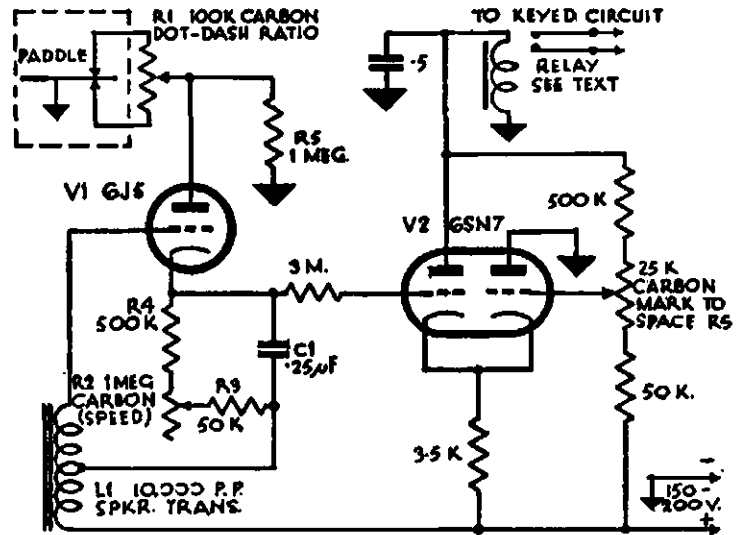


Fig. 1.—Circuit of Electronic Keyer.

The second section of V2 functions as a control tube for the first section by controlling the bias of that section, the response from the audio oscillator makes this necessary and the correct operation of the relay tube can be maintained by adjustment of R5. This control is called the **mark to space control** and together with the negative potential to the relay, smoother operation of the relay will result.

With unequal response from V1 the adjustment may be necessary when the speed control R2 is altered to a different speed by any great amount, otherwise dots and dashes may either sound clipped or made too long. Actually R5 needs very little adjustment at all speeds.

RELAY The most important component in the keyer is the relay and the final result will depend on this item. A large number of different types of relays are available in various types of disposal equipment and can be bought ex stock. P.M.G. type 3000, or **major**

the relay is sensitive enough; the faster the keying speed, the more sensitive the relay has to be.

The dash character has to be three times that of the dot character for any given speed, consequently the armature of the relay does not travel as far for a dot as it does for a dash. The travel of the armature is adjusted by using the residual screw on the top of the armature or by bending the armature by trial and error until the contacts "make" dots on all speeds. Some relays have fitted buffer springs or buffer blocks or both and the return to normal of the relay armature is readily obtained. The relay used at this station is a type 600 of the older series, being neither fitted with buffer springs or buffer block, so the relay was mounted on a piece of aluminium bent into a right angle and the relay mounted in such a way as to be fitted inside of an MN26 i.f. can and screwed to the can, making it dust-proof, and a piece of sponge rubber was glued to the piece of aluminium bracket

* 64 Railway Street, Gosford, N.S.W.

behind the relay contacts which had the effect of cushioning the contacts, preventing excessive rubbing of the contacts which caused a metallic type of keying.

Ordinary contacts of a relay take approximately 150 Ma. for a single contact to 300 Ma. for the double contact type. The usual key click filter will, of course, be still needed. The capacitor across the relay is to by-pass the a.c. component, otherwise the relay will chatter.

PADDLE The next important part of the keyer is the paddle and can be mounted on the chassis or be a separate part of the keyer and mounted on the operating bench. If you have a bug key, it will be an easy matter to modify. Remove the spring dot contact on the bug and substitute a contact similar to that of the dash contact. The vibrating arm of the bug is made fast by screwing the adjusting screw at the end of the vibrating arm towards the arm so as to make it immovable.

A means of returning the paddle to its central position will be needed, but this will depend on the type of bug you have. Make sure that the dot and dash contacts of the paddle are insulated from each other and to the paddle, otherwise a continual dot or dash will result. If the paddle is "made" to the dot contact and held in that position, a series of dots will result until the paddle is released and the same will be the result if the dash contact is "made," except a series of dashes will be made. Avoid the use of bugs that have two paddles (one for the dot and one for the dash) as you may find that you can press both paddles together and the result will be a dash.

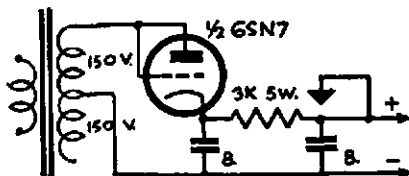
The system used by the writer is a piece of $\frac{1}{2}$ " x $\frac{1}{4}$ " brass pivoted in the same manner as a bug arm is pivoted and mounted on a piece of bakelite or similar insulated material. On each side of the pivoted arm, a piece of $\frac{3}{8}$ " round brass is mounted at about $\frac{1}{2}$ " or so from the pivoted arm centre and to the rear of the pivot. The $\frac{3}{8}$ " brass is drilled and tapped to take a small screw at the correct height so as to give a dot contact on one side and a dash contact on the other side. Springs can be fitted over the small contact screw and insulated from the moveable paddle arm to prevent shorting the dot or dash contact, a nut on the contact screw to give the best spring tension and to bring the paddle to centre each time it is released is behind the spring. It will probably be necessary to use nuts to lock the both contact springs, otherwise they might loosen up.

Instead of the springs, a piece of flat spring could be attached to the end of the paddle to give the same effect as the springs and fastened to the bakelite base; the size of the spring will depend on the tension required. It should not be very hard to devise some scheme when you have the idea. A couple of pieces of bakelite can be fitted to the operating end of the paddle as in the case of the bug key and a reversing switch can be used if needed for the use of left handed operators.

POWER SUPPLIES For the power supply two types have been used at this station with equal success. In the half wave supply (Fig. 2) the 6J5 audio oscillator valve was replaced with a 6SN7 valve and one section was used as the audio oscillator valve and the other section was used as the rectifier.

In the full wave supply (Fig. 3) the 6J5 remained and a 6X5 valve was used as the rectifier valve.

The transformer used was a small 150-0-150 v. at 30 Ma. Make sure that the electrolytics are insulated from the chassis, otherwise you will have a short circuit. The first electrolytic may not be necessary, depending on the type of transformer used. Output voltage of about 170-200 volts is all that is necessary for operation of the keyer. Perhaps there is an old "B" eliminator lying about which could be used.

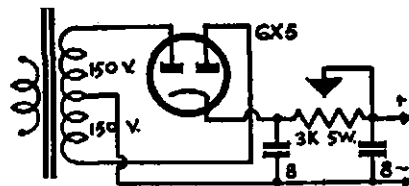


HALF WAVE POWER SUPPLY

Fig. 2.

The complete unit with power supply was built on a chassis $8\frac{1}{2}$ " x 5" with a front panel 8 " x $5\frac{1}{2}$ ". On the front panel was mounted h.t. centre tap switch, speed control, mark to space control and the dot-dash ratio control. The dot-dash ratio control has the shaft cut off and a slot made for a screwdriver as this control, once its correct position has been found, is never altered unless circuit change has been made; if you care, it can be mounted inside the unit.

On the back of the chassis a terminal strip or a socket is mounted to take three leads from the paddle and two leads to the keying circuit in the transmitter, making five leads in all.



FULL WAVE POWER SUPPLY

Fig. 3.

CONCLUSION Having completed the keyer, the only adjustment needed is to get the dot-dash ratio correct in conjunction with the mark to space setting. Set the speed control about halfway and the dot-dash ratio control at about one-third of its travel; now depress the paddle into the dot position and adjust the mark to space control through its range until the relay operates, now move the paddle over to the dash position, it could be possible that the keyer is giving the reverse procedure, that is dashes instead of dots, and if this is the case reverse the dot and dash leads to the paddle. It should

not be very difficult to get correct dot-dash ratio by ear or by using an ohm meter across the relay contacts.

All that is required is some practice by starting at a slow speed on an oscillator. Don't brag about sending at 30 w.p.m. if you cannot send at even 15 w.p.m. This electronic keyer is an acquisition to any shack. Here's hoping to see you all electronic keying on the bands one day.

LADIES BEWARE! THE TALE OF THE PURLOINED TEASTRAINER

When the writer decided that the quality provided by a G.P.O. carbon microphone was not all that it might be, a crystal insert was obtained. Then began the search for a suitable container.

At teatime, while idly watching the XYL pour out the cup that cheers, the idea of using a teastrainer for the job was born. Later, when the coast was clear, the article in question was stealthily removed from the cupboard and taken into the shack. It was just the right size to carry the crystal insert.

A piece of aluminium the size of the circular rim of the teastrainer was cut to provide a back. The insert was then fitted into the strainer facing outwards, a piece of rubber placed on its back and the aluminium back plate pressed on and fixed in position with self-tapping screws. Ordinary television coaxial cable, brought out through a rubber grommet, was used for the microphone lead and bound to the handle.

Some days later, after an exhaustive search had failed to locate the missing strainer, the lady of the house saw it in the shack. Then the OM really learnt the names his parents had forgotten to give him! However, a visit to the local emporium secured another for sixpence, but unfortunately the bunch of flowers and the box of chocolates bought to "soothe the savage breast" made the whole job rather more expensive than expected!

The moral for anyone who contemplates using a similar gadget for their crystal insert is—go and buy one; it will be cheaper in the long run!

—R.S.G.B. "Bulletin," June, 1954.

DX C.C. CERTIFICATES

It has been brought to the notice of Federal Executive that the DX C.C. Certificate will need to be reprinted in the near future, as stocks of the present one are now very low.

As this is a most sought-after award, it is imperative that the Certificate is worthy of its place of honour. Keeping this in mind, Federal Executive feels that a new design might be of interest to members and would be willing to print another now that this is due.

In order to encourage interest and competition for a suitable design, the Federal Executive will award a prize of Two Guineas to the entry which they consider most satisfactory for the Certificate.

Entries should be sent to the Federal Secretary of the W.I.A., Box 2611W, G.P.O., Melbourne.

ZEPHYR MICROPHONES

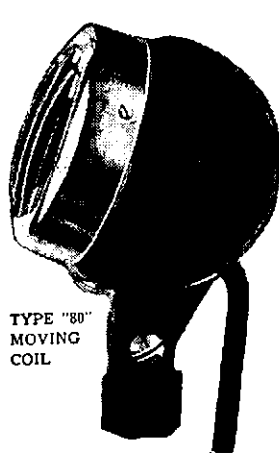


"THE MICROPHONE THAT SPEAKS FOR ITSELF"

TYPE "80"

A high quality Moving Coil Microphone of striking appearance and fidelity.

- Ideal for transmission of voice or music.
- Good appearance.
- Solid cast case, finished in stoved black enamel, full tilting head.

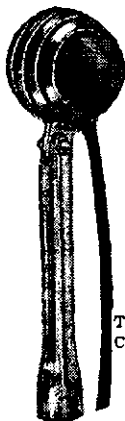


TYPE "80"
MOVING
COIL

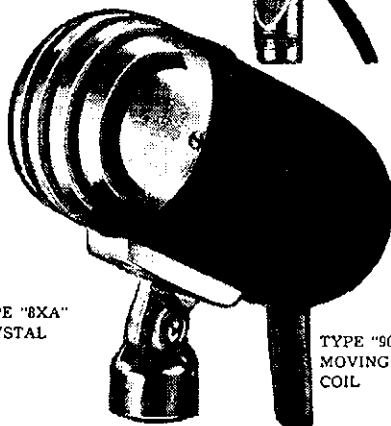
TYPE "8XA"

A quality Crystal Insert with "Zephyrfil" filter.

- Durable chrome steel cage.
- Hand or stand pattern.
- Good high frequency response.
- Full tilting head.



TYPE "8XA"
CRYSTAL

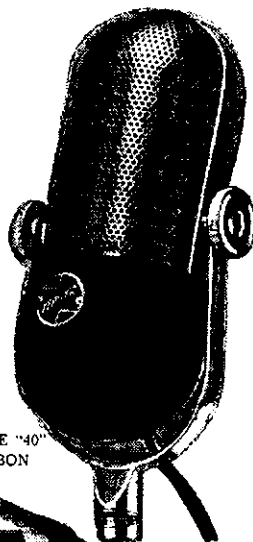


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THE COMPLETE AMATEUR

PART TWO

BY TOM ATHEY,* VK4UT, A.I.R.E. (Aust.)

SECTION FIVE

System for Monitoring Your Outfit

As this article will complete the series, I feel that it would be inadequate if an article on the monitoring of your rig was left out, so here are my suggestions to you.

For the c.w. man his requirements are fairly simple. To monitor the output it is necessary to feed part of your output back into your phones or speaker so that any chirps or birdies can be checked and eliminated. To do this, feed back a small portion of your output to a small battery receiver—a one valve will suffice. Build up a simple regenerative receiver using say a 1T4 as a triode. Coupling to the final may be obtained by using a pick-up loop located near your tank coil. Note.—As your tank coil has high r.f. voltage on it, care must be exercised to avoid accidents in coming in contact with it. This r.f. loop picks up the signal transmitted and allows you to hear what you are sending. The receiver can also be used as a means of monitoring your speech output, however it is not a very good method of checking a.m. to your final as no indication is given to distortion other than what you can hear.

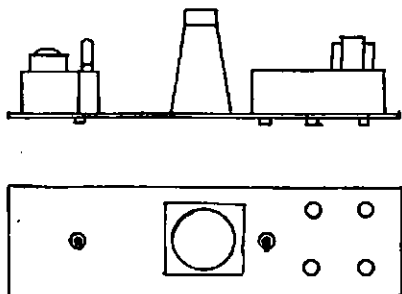


Fig. 1.—The front panel and location of main components.

For the amplitude modulations boys I suggest they build up a c.r.o. because it will not only give you a visual pattern of your output, but has many other uses around the shack. The system I intend to describe is a very small one, requiring very few parts and is intended to be mounted right into the rack. Thus by using the small audio oscillator described in a previous article, you can adjust your rig for maximum output free of distortion, or in other words 100 per cent. modulation.

By using the negative peak high level filter shown in this series' modulator, you can boost up the positive peaks and by using a clipper circuit in the speech amplifier you can flatten out those peaks with the result that you can improve your transmitter output power without increasing your input to the final. However, as far as the newcomer is con-

cerned I think he should stick to the conventional method of obtaining 100 per cent. modulation.

The c.r.o. about to be described here will give—

- An indication of the percentage level of his modulation.
- A visual pattern of the waveform of his output.
- The instantaneous peaks, both positive and negative, which contribute so much to splatter.
- Whether he is over modulating or under modulating.
- The cost of the unit will be quite reasonable for the results he will obtain.

Before going on to the actual description of the c.r.o., a word in passing on another method of obtaining level indications. This unit is known as a modulation monitor with a flasher level indicator. This is the type used by most of the broadcasting companies and can be calibrated to show instantly whether the peaks are in excess of a predetermined level. However these units are much beyond the pocket of Amateurs.

The c.r.o. in this article is a 2" type. A 2AP1 will do nicely, or a 1 inch type will do if you mount it behind a magnifying glass. The rack size of the panel is 19" x 5½" (see Fig. 1).

Referring to Fig. 2, it will be seen that the c.r.o. tube requires about 800 volts to make it operate. To get this voltage an ordinary replacement type transformer is used, the two windings of the secondary being used as a half wave rectifier. The valve used is a 2X2, fairly easily obtained from the various valve stores or from the advertisers in "A.R." The sweep voltage is obtained by using a small audio transformer having a turns ratio of 1:1.

Other points to note are that the panel is used to mount the components to, a small sub-chassis is used to house the wiring of the power pack and the sweep circuit controls are also housed in another sub-chassis attached to the other end of the panel. The c.r.o. tube is mounted in the centre of the panel and its socket is free and is over the pins like a speaker plug.

To support the tube get a mu-metal shield to fit the tube, solder retaining brackets to the wide end and bolt it to

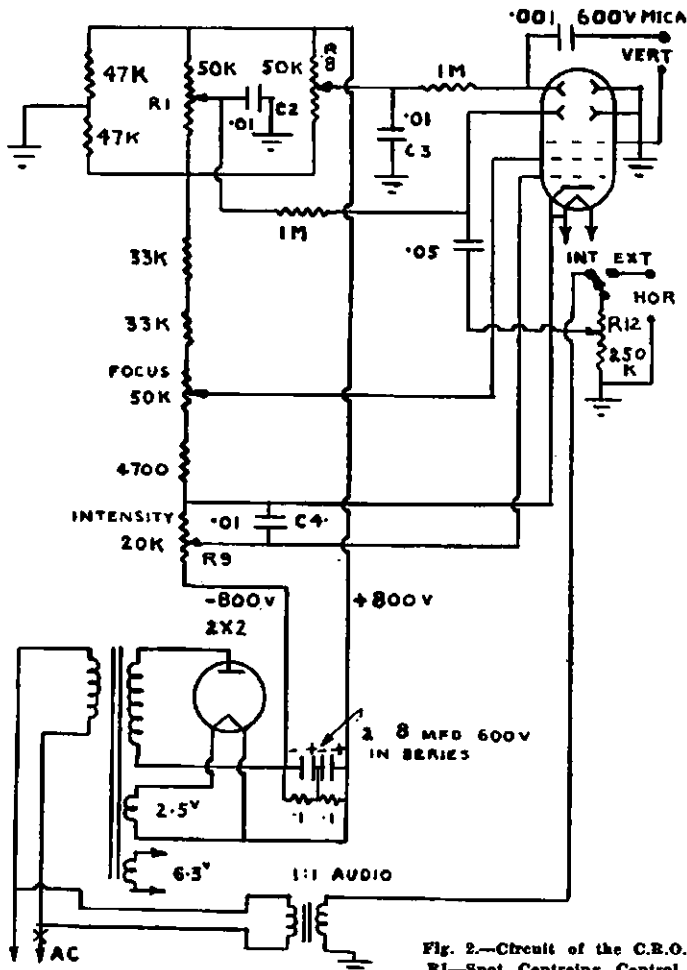


Fig. 2.—Circuit of the C.R.O.
R1—Spot Centring Control.

* Ex-Instructor Q'land Division W.I.A. Classes; 41 Mountford St., New Farm, Brisbane.

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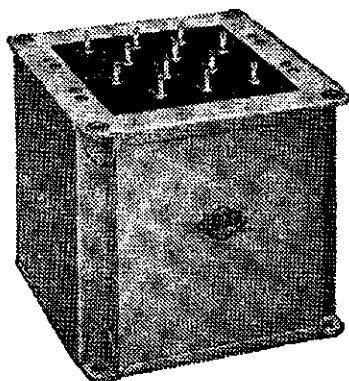
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UM3	120	240	250 Ma.	5 1/4"	5 3/4"	5 1/4"	14 8	£12/2/5
UM4	250	500	400 Ma.	10 1/4"	6 3/4"	8 3/4"	41 0	on application

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TESTING CONDENSERS

After building sundry pieces of apparatus with varying degrees of success, I found that most of my trouble was due to faulty condensers, so I decided to "Megger" each condenser and resistor prior to putting it to use. I was surprised to find half of the Condensers used in one article useless, even some of the new ones being faulty.

I then tested all the Condensers in the junk box, both paper and mica (many of my stock were taken from disposals apparatus), and found 40% were bad, so discarded them.

I used a 500 volt constant voltage "Megger" and any Condenser reading below 10 Megs. was considered unfit for most jobs (even the 10 Meg. ones were treated with caution). Many had resistances as low as 60,000 ohms, some 600 volt working being as low as this.

Admittedly the test voltage (500) was high, but when it is considered that many paper Condensers designed for a working voltage of 250 are tested with 600 volts DC, the "Megger" test is not quite so severe.

Since adopting the "Megger" test, most of the pieces of apparatus I build work first try.—VK5CH.

OPERATING A.C. RELAYS

A means of operating a.c. solenoids and relays from a lower voltage is to use a series resonant circuit. Resonance may be found by connecting the circuit to a very low voltage with a volt meter across the coil and adding capacity, at the same time opening and closing the armature by hand and noting the voltage reading. When resonance has been obtained, the capacity should be adjusted until resonance occurs when the armature is approximately three-quarters closed.

For an example, if a 415 volt coil is to be used on 240v. 50 cycles, a capacity of between 2 and 4uF. may be required with a voltage rating of at least 600 volts. A convenient voltage for testing is about 50v. When the circuit is put into service, the armature should close smartly passing through resonance and coming to rest with the correct operating voltage across the coil. Relays particularly suitable are direct-on-line contactors, which are often used for small motors.

SMALL FILAMENT TRANSFORMERS

A convenient and economical source of small filament transformers is output transformers. For an example, an impedance ratio of 5,000:3.7 will give a step-down of 240 volts to 6 volts. The current drain is limited though, to the diameter of the wire.

—R. K. Wilson, Burnie, Tas.

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pattern to twice the width of the unmodulated pattern, you have obtained 100 per cent. modulation as shown in Fig. 3d. Figs. 3c and 3e represent under and over modulation.

If you feed your audio oscillator into the microphone input use the highest frequency that it has—3,000 cycles. Remember that the modulation percentage is based on the highest frequency being used as the frequency excursions will control the peak voltage developed. As Amateurs' voices rarely exceed 3,000 cycles, adjust your modulation for 100 per cent. at that frequency and all will be well. Connections to the c.r.o. are shown in Fig. 4a.

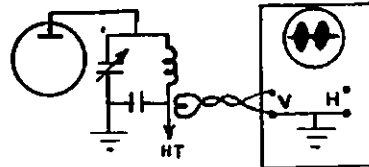


Fig. 4a—Connections for Wave Envelope Pattern.

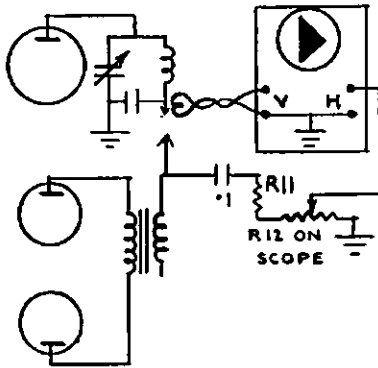


Fig. 4b—Connections for Trapezoid Pattern.

Trapezoid Pattern.—To obtain this pattern refer to Fig. 4b. Here you will see that audio from the modulator is required. The scope sweep switch is moved to external sweep position and the audio is fed to the horizontal terminals. When the two frequencies are placed on the scope plates, you get a triangular pattern on the scope screen. These patterns are shown alongside the wave envelope patterns (Fig. 3) and in a similar position to indicate the correct modulation percentage.

Warning.—It is necessary to use a resistor R11 between the horizontal input terminal and the coupling condenser from the modulator. The value of this resistor is arbitrary, but if the horizontal control potentiometer is of 250,000 ohms, the resistor should bring up the total resistor value to 250,000 ohms for every 150 volts of modulation output.

For example, if the modulating voltage is 600 volts, the total resistance should be 600/150 times 250,000 ohms. This equals four times quarter megohm or a total of one megohm. Therefore the fixed resistor would be 750,000 ohms.

The blocking condenser should be 0.1 uF. or more, rated to carry the voltage safely. The rest of the set-up is obvious and with this set-up you should be able to control your modulation in such a way that you will avoid the pitfalls of "splatter."

the panel. If these directions are followed, you will obtain a pleasing panel appearance and have a modulation monitor well worth having.

The circuitry is easy to follow and should present no difficulty to any Amateur. The condensers C2, C3, C4 are connected directly to their respective potentiometer rotor arms R1, R8, R9. These by-pass condensers are used to control and eliminate the a.c. component from the d.c. control circuits in the sweep circuits.

As stated before, the socket is not fastened to any of the structural parts of the chassis, but is used as a plug. The socket pins are covered by a metal shield with two holes cut into the sides to permit entry of the leads for filament and the d.c. leads. The latter is a shielded cable as are all terminal leads.

Both of the transformers are mounted externally to their respective sub-chassis. The four potentiometer controls and the sweep switch are mounted together and enclosed in a metal shield. Wiring of the power unit is also enclosed in its sub-chassis. Care in wiring the circuit should result in no mistakes as the circuit is very simple. Make sure that you get linear taper potentiometers for the four controls. I.R.C. make them, but you may have to order them as they are not a normal stock item.

USING THE SCOPE

To obtain patterns, it is possible to use the scope in two ways:—

1. To show a wave envelope modulation pattern, or
2. To show a trapezoid or wedge shape pattern.

Connections to obtain either of the patterns are shown in Fig. 4.

Wave Envelope Pattern.—Place a small pick-up loop in close proximity to the final tank coil and vary its position until you get a pattern as shown in Fig. 3b. When you speak into the microphone you will get a rapidly varying pattern envelope. When the peaks swing the

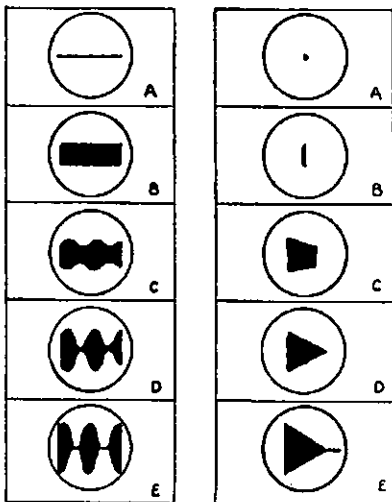


Fig. 3.—Left: Wave Envelope Patterns. Right: Trapezoid Patterns.
A—No Carrier.
B—Carrier.
C—Under Modulated.
D—100 per cent. Modulated.
E—Over Modulated.

STABLE V.F.O. OPERATION AT 144 Mc.

BY DR. ROBERT H. BLACK,* VK2QZ

THE frequency determining device for the great majority of stable 144 Mc. transmitters is a quartz crystal oscillator operating at its fundamental frequency of 8 Mc. or on an odd overtone. V.f.o.'s. at 8 Mc. are not inherently stable and the fundamental frequency of oscillation must be lowered to 4 Mc. or even 2 Mc. to secure stability. This means that the frequency must be multiplied 36 or 72 times for output at 144 Mc. and any drift in the oscillator is multiplied 36 or 72 times at the output frequency. In addition, a special frequency range is required for the v.f.o. which differs from the range used for the usual high frequency Amateur bands.

The method described in this article for v.f.o. operation at 144 Mc. allows the use of output from a v.f.o. at about 3 Mc. and there is only a threefold multiplication of this signal frequency. This should give better stability at 144 Mc. than is obtained with the same v.f.o. at 14 Mc.

Briefly, the procedure in the experimental set-up was to use a crystal oscillator and multiplier to take the signal frequency to 45 Mc. and then output from the v.f.o. at 3 Mc. was fed into the system. The added signal frequency was then 48 Mc. which, when multiplied three times, gave output at 144 Mc. Fig. 1 illustrates this procedure.

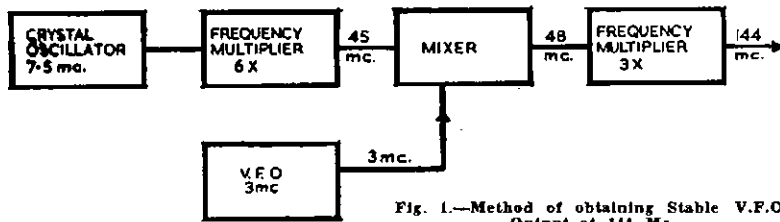


Fig. 1.—Method of obtaining Stable V.F.O. Output at 144 Mc.

The crystal oscillator and frequency multiplier stages are standard and require no detailed description; sufficient output for the purpose was obtained from a single 6J6 overtone oscillator

* "The Chalet," 2 Yerton Ave., Hunter's Hill, New South Wales.

and doubler. The v.f.o. in the experimental set-up was a Type 19 transmitter operating at reduced voltage—similar output would be obtained from a 6V6 in the output stage of a v.f.o.

The mixer stage was derived from the balanced modulator of single side-band technique. The circuit diagram (Fig. 2) shows the method of feeding the input signals at 45 Mc. and 3 Mc. into a single 6C4 which acts as a mixer. The output circuit of this tube is tuned to 48 Mc.

Obviously there are signals at frequencies, other than the one at 48 Mc., appearing as the result of mixing the two signals of frequencies 45 and 3 Mc., as well as the possible harmonics of these frequencies, so that some means of filtering out the unwanted signals is necessary.

In addition, the output at 48 Mc. is relatively small. These two features both contribute to the desirability of isolation-amplifier stages following the 6C4 mixer. Link coupling from the 6C4 to the next stage should reduce the harmonic content of the signal.

In the experimental set-up the two stages following the 6C4 used a 6AG5 and a 6AQ5. Sufficient output was available from the 6AQ5 for the use of a 5763 as the frequency multiplier for output at 144 Mc.

The use of a grid dip oscillator aided the identification of the various signals encountered in tuning.

Output from the 5763 is adequate to drive an 832 or it can be fed direct into the antenna as it was in the set-up described here.

COMMENT

The method presented is by no means new; it has been used locally by McMahan (1951) for a frequency meter and has been described for v.f.o. operation at v.h.f. by French Amateurs (in a journal of the R.E.F., which is not available to the writer for reference).

The use of a v.f.o. eliminates the rather difficult task of locating a suitable 8 Mc. crystal.

With suitable v.f.o. output frequency, the crystal frequency can depend on the crystals in stock. The v.f.o. used for lower frequency operation with output at 3.5 Mc. could be used with a crystal at about 7.4 Mc.

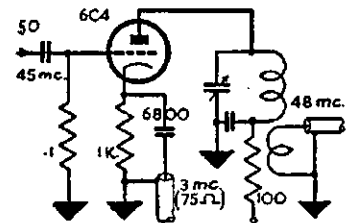


Fig. 2.—6C4 Mixer with grid injection of Crystal controlled signal at 45 Mc. and cathode injection of v.f.o. signal at 3 Mc.

The v.f.o. can be subjected to frequency modulation, using a diode, as reported by Taylor (1953).

During operation, the v.f.o. can be kept running continuously as it does not interfere with the received signal.

Netting is not a critical operation as it would be if the frequency of the v.f.o. were being multiplied 36 or 72 times.

The technique could also be employed for the construction of a heterodyne frequency meter for the 144 Mc. band; there would be adequate third harmonic output from the 6C4 mixer for this purpose.

This brief account is put forward for further development by interested v.h.f. enthusiasts, but the system as described provides very stable output at 144 Mc.

REFERENCES

- McMahon, L. H., 1951. "Simple Frequency Meter for Amateur Bands." "Amateur Radio," Vol. 19, No. 6, p.3.
Taylor, A. F., 1953. "Diode F.M." "Amateur Radio," Vol. 21, No. 1, p.5.

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WIN FOR SOUTH AUSTRALIA

Congratulations to the South Australian Division for winning the Remembrance Day Contest for 1954 by a narrow margin from Western Australia.

Despite the rules which appear to favour the smaller States, the Contest continues to maintain its popularity. This year a total of 457 logs was submitted; there were also four listeners' logs. Many logs were not submitted and the number is estimated at 200, a shadow on what was otherwise one of the finest contests which we have had.

It was noted that stations in T.N.G., Papua, Admiralty, Macquarie, Heard and Cocos Islands participated and again these stations in the Territories gave the Contest added spice. Logs from Macquarie and Heard Islands were transmitted by radio to VK5JT and VK5MS respectively, and as was the case last year, all concerned must be congratulated on the effort they made in getting the logs to the Contest Committee in time for checking.

Propagation conditions prevented bands higher in frequency than 14 Mc. being used (a few contacts on 21 Mc. were made). For those who followed the prediction charts, the estimated times for the opening and closing of the bands was borne out in operating.

Although the number of logs did not vary from the previous year, the top logs generally showed a marked increase in the number of contacts and some scores were very close to 900. This year the rules provided for awards to the top phone, open and c.w. scorers in each Division. In addition, the Committee made awards to the top scorers in VK1 and VK9 call areas; and to the two listeners who submitted very large logs. This change in the awards considerably increased the time required for checking; for you will see on perusing the scores that the winners of the c.w. section did not come usually in the top six logs.

As received, the logs showed that Western Australia and South Australia had practically the same points. It was therefore necessary to make a complete check of all logs of these two Divisions to decide the winner. A really formidable task! A full check of logs of all contenders for individual awards was made and between 8,000 to 10,000 individual entries on logs were checked!

A very gratifying feature of the log checking was the effort by the contestants to make their logs easily read and assessed. The use of the standard log sheets assisted materially towards that end. The Councils of the various Divisions should also be pleased to note that the country members were well to the fore in the honours list.

The Committee desires me to record its appreciation of the efforts of the members in VK5 Division who freely gave of their time in the same spirit that the Contest was played. Those members, too, appreciated the very able way that the Contest Manager, Jim Vivian, VK5FO, organised their time to the best advantage. Our thanks also go to the South Australian Hon. Secretary, Reg. Harris, VK5RR, who received the

logs from the post and got them ready for the Contest Manager.

And now it remains for me to thank you for what I consider was a really fine contest. Truly I can now say that the spirit of unselfishness and love which gave birth to the idea of the contest will stay alive.

*"By your acts of grace,
They shall so live."*

G. M. BOWEN, Chairman Contest Com.

THE TOP SCORERS

South Australia		
VK5MS	895	Average Score .. 731.50
5RG	835	Licenseses in State 347
5EN	782	Logs
5WC	673	66
5FO	602	Total Points
5WO	602	870.63

Western Australia		
VK6FL	773	Average Score .. 629.83
6RU	740	Licenseses in State 196
6GU	642	Logs
6DX	634	68
6MK	513	Total Points
6TK	477	848.35

Tasmania		
VK7DZ	631	Average Score .. 515.50
7AI	612	Licenseses in State 107
7PM	583	Logs
7WN	501	43
7SF	421	Total Points
7LJ	345	722.66

Victoria		
VK3ATN	897	Average Score .. 609.17
3ADW	667	Licenseses in State 949
3FH	606	Logs
3HG	552	122
3ALQ	489	Total Points
3XK	444	687.48

Queensland		
VK4SF	699	Average Score .. 560.17
4PQ	590	Licenseses in State 318
4FP	548	Logs
4AB	531	49
4EC	510	Total Points
4TN	483	646.48

New South Wales		
VK2AMR	613	Average Score .. 559.00
2JU	588	Licens. in State 1030
2AHH	575	Logs
2RS	536	80
2GW	535	Total Points
2AKV	507	602.42

AWARDS

Open

VK1AC	996	VK5RG	835
2AHH	575	6FL	773
3ATN	897	7OM	313
4SF	699	9DB	531

Phone

VK2AMR	613	VK6DX	634
3ACE	426	7DZ	631
4PQ	590	9FN	531
5MS	895		

C.W.

VK1GA	246	VK5KU	352
2XZ	325	6EZ	141
3ZO	201	7LJ	345
4WH	211	9WZ	105

Listeners

F. H. Price, 656; N. G. Clarke, 585.

State	Claimed	Allowed
VK2	3508	3354
VK3	3736	3655
VK4	3450	3361
VK5	4554	4389
VK6	3980	3779
VK7	3155	3097

OTHER LOGS

TERRITORIES

VK1AC	996	VK9DB	531	VK9WZ	105
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2XZ	325	2QS	125	2VN	33
2AJO	295	2AAJ	121	2BW	32
2VU	293	2IC	99	2ADL	31
2OE	258	2VW	91	2ACN	30
2EL	252	2FM	89	2AGJ	30
2ASA	246	2AJS	81	2OA	30
2XQ	238	2JY	80	2EI	26
2APP	231	2YB	78	2AOQ	25
2OT	215	2AUP	77	2RA	25
2AWQ	208	2ASE	76	2AUA	25
2QL	205	2ATA	75	2AWG	24
2AYS	191	2AGI	70	2ZQ	23
2ABE	188	2FM	67	2APQ	20
2SR	178	2IF	35	2BG	20
2AHP	174	2PU	45	2QZ	20
2FA	174	2AJJ	41	2PL	18
2OY	166	2AWN	41	2WI	14
2AHM	164	2AFL	40	2AXZ	13
2PN	155	2FZ	39	2ADT	12
2ACD	147	2JA	39	2CF	10
2PV	145			2AVG	9

Victoria

VK3ADI	431	VK3WM	106	VK3ACJ	38
3ACE	426	3LV	105	3FA	35
3AFO	426	3AJP	102	3DG	35
3XB	425	3AWB	98	3RH	35
3JI	355	3ALK	98	3TO	34
3ZA	354	3AHF	97	3ACX	31
3OM	346	3YS	88	3TB	31
3ATR	325	3SX	88	3SS	31
3UR	303	3GG	87	3VQ	29
3AJJ	272	3TX	83	3LR	28
3KC	263	3ALY	82	3TF	27
3QK	249	3JE	75	3ARJ	26
3AKO	249	3OZ	75	3ALI	26
3ALP	239	3AFA	74	3FD	24
3ACN	239	3VQ	73	3WY	24
3WQ	229	3ARL	71	3AM	23
3AGD	218	3AEH	70	3PG	23
3ZO	201	3KR	69	3ANJ	22
3DU	197	3AVS	69	3AHK	22
3DY	186	3ALE	69	3QU	22
3JC	196	3AXR	68	3AFP	21
3ANO	189	3ARV	68	3QZ	21
3YV	173	3ADU	66	3II	20
3MC	171	3PL	63	3XH	20
3CX	171	3ABH	60	3BQ	19
3AJJ	163	3VZ	59	3IE	18
3AZW	156	3AFF	57	3HK	17
3PR	155	3AKW	53	3AID	17
3RN	154	3SK	50	3CE	16
3PA	147	3AMT	47	3AM	15
3AGV	143	3DQ	45	3ZM	14
3ZV	138	3AXX	45	3AFP	13
3GE	137	3ID	44	3JO	13
3HE	128	3NF	43	3AAP	12
3RV	128	3ZU	43	3ABA	12
3ZS	124	3ZC	42	3OJ	12
3ATK	124	3ALD	40	3IK	10
3RJ	108	3AGP	40	3XJ	10
3AHH	108			3AVM	7

Queensland

VK4FU	479	VK4JD	93	VK4AW	24
4DI	438	4OR	81	4PA	24
4ZB	379	4GG	79	4ZL	22
4TY	361	4HZ	52	4HM	21
4HG	354	4AO	48	4XL	20
4RT	330	4DO	46	4ZM	17
4CC	275	4RW	44	4KS	15
4ZP	221	4YA	34	4XG	14
4WH	211	4LE	31	4FT	11
4JE	122	4NJ	29	4IC	10
4JF	115	4XY	29	4ZZ	9
4VJ	108	4CJ	28	4BG	7
4FB	103	4YS	27	4MT	6
4PT	105	4RE	25	4BY	6
		4NG	25		

(Continued on Page 12)

AMATEUR CALL SIGNS

FOR MONTH OF OCTOBER, 1954

ADDITIONS

- VK—New South Wales
 2WK—A. J. B. Kelso, Wambrook Radio Station, R.M.B. 6A, Adaminaby Road, Cooma.
 2AAV—A. I. Dunningill, 69 Duff St., Broken Hill South.
 2ADI—D. E. Sidler, 498 William St., Broken Hill.
 2AIR—A. J. Smith, 19 Blenheim St., Croydon Park, Sydney.
 2ANZ—J. P. Shortall, Station: 21 Orwell St., Potts Point, Sydney; Postal: P.O. Box 3408, Sydney.
 2ASG—E. K. Broadbridge, C/o. Radio Station 2GF, Grafton.
 2AWE—R. M. Weston, 273 Anzac Pde., Kingsford.
 2AWM—T. S. Mayne, 15 Marguerette St., Ewington.
 2AWR—W. A. Rowse, 28 Central St., Broken Hill South.
 2AZB—J. K. W. Bork, 42 Queenscliff Rd., Manly.
 2AZD—J. W. M. Dods, 179 St. James Rd., New Lambton.
 2ZAB—W. T. Boon, Bunnerong Rd. and Franklin St., Matraville.
 2ZAC—W. R. Cox, 44 Park Rd., Hurstville.
 2ZAH—W. H. Harder, Flat No. 6, Royal Building, Argent St., Broken Hill.
 2ZAK—D. B. Garlick, 70 Cavendish St., Stanmore.
 2ZAR—R. A. Riddle, 10 Curtin Ave., Abbotsford, Sydney.
- Victoria
 3AD—W. A. S. Butement, 5a Barry St., Kew.
 3AIN—I. Grant, R.A.S., R.A.A.F., "Froggnall," via Canterbury.

R.D. CONTEST RESULTS

(Continued from Page 11)

South Australia					
VK5JN	552	VK5BZ	158	VK5CJ	37
5HI	452	5PM	151	5XU	35
5GW	439	5FQ	140	5UD	33
5KE	374	5BY	123	5DF	27
5AX	357	5JH	117	5TD	26
5KU	352	5RK	106	5EA	23
5LD	328	5BG	103	5RI	23
5LQ	256	5TL	101	5SL	22
5JT	254	5FD	100	5XA	20
5EF	248	5FJ	97	5CH	20
5DK	228	5AV	95	5UX	19
5OK	197	5PB	76	5CY	19
5ON	183	5HM	73	5JO	18
5LB	182	5KF	70	5CA	18
5FM	182	5WI	63	5LL	17
5AP	180	5ZL	53	5RR	18
5KO	172	5TJ	40	5TW	15
5MZ	169	5KY	40	5WM	15
5KW	165	5OR	39	5CR	13
5CE	163	5JG	38	5MA	9

Western Australia					
VK6KJ	349	VK6TB	29	VK6WI	16
6NF	247	6AG	28	6GM	16
6JC	146	6BS	28	6WT	15
6EZ	141	6BO	27	6SR	15
6FD	108	6MO	26	6FT	15
6LU	108	6SF	24	6GA	14
6TY	109	6AW	23	6EH	14
6LJ	98	6XG	23	6VM	14
6MB	84	6WG	23	6GH	14
6WJ	74	6LM	23	6HR	14
6WZ	74	6ZI	22	6FR	13
6GY	66	6EC	21	6JS	13
6ZZ	54	6HS	20	6KU	13
6WV	47	6RO	20	6OR	12
6BC	39	6ST	20	6JK	11
6RS	34	6JP	19	6XF	10
6FB	34	6JW	18	6SK	10
6RT	34	6AP	18	6PW	9
6RW	32	6KW	18	6LL	8
6CC	32	6MR	17	6BG	7
6UF	30			6HC	7

Tasmania					
VK7GM	316	VK7RX	98	VK7XW	34
7JO	314	7HB	89	7NB	29
7OM	313	7CA	79	7FD	18
7DW	284	7RY	73	7CF	17
7WA	286	7RM	62	7HF	17
7DR	224	7AG	59	7GR	17
7TY	176	7BR	55	7AB	14
7YL	165	7AL	51	7LL	13
7LZ	143	7BJ	44	7WI	13
7SD	140	7RK	43	7SR	11
7JP	140	7LE	42	7BH	10
7DY	99	7RT	40	7AX	8
7DS	98	7KM	39		

LISTENERS' LOGS

F. H. Price	656	D. Rankine	178
N. G. Clarke	585	E. W. Trebilcock	58

- 3ARI—R. M. Tutton, 65 Humfray St., Ballarat.
 3ATS—K. E. Semmler, Station: "Wyuna," Murtoa; Postal: Box 26, Murtoa.
 3ZAL—R. A. Foot, 43 Munro St., Ascot Vale.
 3ZAX—R. McPherson, 43 Ballarat Rd., Footscray, W.11.
 3ZAY—D. F. Cooper, St. Mary's Vicarage, Glen Eira Rd., Caulfield.
 3ZAZ—A. W. D. Wilson, "Bundorant," Glen-thompson.

Queensland

- 4EN—E. D. Neale, 38 Felix St., Wooloowin, N.3, Brisbane.
 4SO—J. S. O'Rourke, 41 Robertson Ave., Margate Beach.
 4ZAR—N. A. Roberts, 41 Kent St., Rockhampton.

South Australia

- 5RL—R. L. Larsson, Gorge Rd., Athelstone.
 5TS—Dept. of Civil Aviation Technicians Training School, Adelaide.
 5ZAC—E. L. Murray, 55 Dover St., Unley.
 5ZAE—A. E. R. Wood, 9 Edwin Ter., Gilberton, Adelaide.

Western Australia

- 6ZAB—H. Iflla, 32 Boulder Rd., Kalgoorlie.
 6ZAD—A. R. Deverell, 20 Streatley Rd., River-
 vale.
 6ZAE—L. K. Earp, 85 Railway Rd., Kalamunda.
 6ZAK—D. J. Knox, Station: Railway Cottage, Subiaco; Postal: P.O. Box 13, Subiaco.
 6ZAT—L. N. Tate, 28 Kitchener Ave., Bayswater.

Tasmania

- 7ZAD—R. D. Nicholls, 30 Pearl St., Wivenhoe.
 7ZAM—J. R. Milway, Cottage 68, Hazelraah.

Territories

- 9BP—B. P. O'Connor, Station: Third St., Bar-
 oko, Port Moresby; Postal: C/o. P.O.
 Box 38, Port Moresby.
 9CR—C. W. H. Rasmussen, C/o. Australian
 M.A.F. Building, Wewak.
 9ZAL—R. F. Lloyd, Dept. of Works, Single
 Men's Quarters, Paga Hill, Moresby.

ALTERATIONS

New South Wales

- 2CG—476 President Ave., Kirrawee, via Suth-
 erland.
 2DZ—28 Ella Street, Adamstown, Newcastle.
 2MA—228 Homebush Road, Enfield.
 2TS—S.S. "Iron Derby," C/o. B.H.P. Ltd.,
 Newcastle.
 2VC—99 Flora Street, Sutherland.
 2AEI—Station: King St., Narrandera; Postal:
 P.O. Box 118, Narrandera.
 2AFX—15 Harris Street, Maryville.
 2ASL—369 Sydney Road, Balgowlah.
 2AWP—Wirrielpa, Hernani, via Armidale.

Victoria

- 3EZ—252 Waiora Road, Macleod.
 3IR—10 McLean Street, Yarrowonga.
 3NO—27 Munro Street, Macleod.
 3AKC—31 Irving Street, Wangaratta.
 3APN—Holdings Rd., North Hazelwood, via
 Morwell.
 3AWN—302a Park Street, South Melbourne
 3ZAF—164 Middleborough Road, Blackburn.

Queensland

- 4DG—Portable: 18 Griffiths Street, New Farm.

South Australia

- 5CX—51 Murray Street, Lower Mitcham.
 5DT—Main South Road, Reynella.
 5FN—1 Ponthill Court, North Salisbury.
 5GK—134 Ninth Street, Salisbury.

Western Australia

- 6GK—161 Wylam Road, Cheetara, Collie.
 6LL—228 Withnell Street, East Victoria Park.

Tasmania

- 7WI—Station: 147 Liverpool St., Hobart; Postal:
 G.P.O., Box 371B, Hobart.

DELETIONS (September)

New South Wales: VKs 2NB (now operating
 under VK2LP), 2OZ (now operating under
 VK2ADC), 2ANB, 2APG, 2AVH (now operating
 under VK3VB), 2AXU (now operating under
 VK3XU).

Victoria: VKs 3QK, 3AWD,
 Queensland: VKs 4MI, 4WP,
 South Australia: VKs 5AW, 5BI, 5OU,
 Western Australia: VK6HW,
 Territories: VK9AD.

DELETIONS (October)

New South Wales: VKs 2RI (now operating
 under VK3ARI), 2WB, 2ABK, 2AIW, 2AQL.
 Queensland: VK4MTU,
 South Australia: VKs 5DE (now operating
 under VK2ADI), 5PC,
 Territories: VK9YY (now operating under
 VK2AIR).

N.S.W. SOUTH WESTERN ZONE CONVENTION

TUMUT, OCTOBER 30-31

This Zone Convention was very well attended and good weather was experienced; a good time was had by all and the Committee of the Zone would like to extend their thanks to all who made the trip, with a special mention for the Newcastle boys accompanied by 2EO.

On Saturday afternoon we got away to a good start with an organised tour of the beauty spots of Tumut, the visitors being most impressed with the beauty spots of the district and the splendid panorama. The evening programme was also a success, starting off with the opening of the Convention by the President of the N.S.W. Division, Jim 2YC, who officially welcomed all visitors. Films were shown by Alf 2BW, from Wagga. Next we had the novelty events such as Pick a Voice, Pick a Tune, and Pick a Box for which Geoff 2BQ did a good job as compere. Further films were shown by 2BW, at the conclusion of which we were shown some really fine slides of the Snowy River Scheme and views of Tumut and district by Mr. Dick Leck, Fire Officer of the Forestry Dept. stationed at Tumut. A very enjoyable evening was concluded with a fine supper, all then adjourned to hotels and homes a little tired after the day's activity.

Sunday commenced with a 144 Mc. Tx Hunt; 2ZAA operated the hidden Tx. Much to the surprise of everyone, the Hunt was won by 2AJO (beam operator) and 2AQE (driver), who just managed to find the elusive tx just as 2ZAA announced that he was closing down. Other contestants found the going tough in the Tumut Hills, but perhaps we can call the win "beginners' luck." The next event held was the Scramble, which resulted in a win for 2EO and his Hunter Branch assistants.

The Convention concluded with afternoon tea and a general rag chew, many and varied being the conversations. Special mention must be made of the work of the ladies for their effort in serving the refreshments and thus our thanks go out to Mesdames Weeden, Savage and Misses Jean Piper and Rosalind Weeden.

Those present at the Convention were as follows: 2BW, Wagga; 2RS, 2EU, Albury; 2YC, 2EO, 2VC, 2YB, 2LQ, 2MI, 2GT, 2IQ, Sydney; 2OT, 2XT, 2AOR, Newcastle; 2PL, 2AXD, Griffith; 2AJO, 2AQE, Coolamon; 2BQ, 2PN, 2ZAA, Tumut; 2ARD and Andy Kelso, Cooma. Associates present were Stan Albey, Coolamon; E. Savage, B. Fleck, J. Lovell, J. Smith, L. Ashton, G. Harriman, K. Wilson, all from Griffith; and Ces Cronin, Sydney. Mesdames Moye, Corbin, Weeden, Savage, Harriman, Cahill (Snr.), Phipps, Haberacht, Miss Piper and Miss Weeden.

Results of competitions: Pick a Tune 2ZAA, Pick a Tone Cec Cronin, Pick a Voice 2PL, 144 Mc. Hunt 2AJO/2AQE, Scramble 2EO and the Hunter Branch boys, winners of the Blindfold Contest, 2IQ 6 mins., 2YB 4 mins.

Finally we must congratulate Geoff 2BQ and Ross 2PN on a really fine job of organising this Convention, thanks from us all.



radiotron

I heard the bells on Christmas Day,
Their old familiar carols play,
And wild and sweet
The words repeat,
Of peace on earth,
Goodwill to men.

Longfellow.

With the Season's compliments from



AMALGAMATED WIRELESS VALVE COMPANY PTY. LTD.

FIFTY MEGACYCLES AND ABOVE

NEW SOUTH WALES

The October meeting of the V.h.f. Group was attended by 47 members and visitors. The main interest of the evening was a resume of the Spring Field Day activities held on October 3. Bob 20A mapped out the various routes and locations of all stations taking part in the relay, while John 2ANF gave a word picture of the proceedings for the day giving details of times taken to pass the message through to VK3WI and VK5, together with other points of interest which had been conveyed to him from 2WH and other country stations.

The Divisional President, Jim 2YC, then read the news item that the A.B.C. had included in their news bulletin. This was followed by recording on tape a brief description by each station operator present, who had taken part in the hook-up, of their gear used, location, contacts made, stations heard, weather conditions, and other points of interest.

The Chairman of the V.h.f. Group, Percy 2APQ, read and presented the Divisional President, Jim 2YC, with an official record of the event. The remaining portion of the tape was devoted to comments from those who did not actually take part in the hook-up. A re-play of the tape has since been heard by members who agree that it is a very good recording which will be sent to any zone or group who would be interested.

A visitor to the meeting was Ian 2JI, who gave details of the Trafalgar Day celebrations to be held at Garden Island. Bob 20A agreed to take his 2 mx gear down to give an additional frequency for 2ZAN to operate on in the radio section of the display. The result was very pleasing, contacts with a number of 2 mx home, portable and, as Ted 2ABO classed himself, "mobile marine" while operating on a launch cruising around the harbour. Appreciation has been received from the Navy for the co-operation which members gave.

On Sunday night, 24th October, a one-hour 144 Mc. Scramble was held and resulted in 24 stations taking part. The results were 2AJZ, 2ANF (21); 2JX, 2XX, 2CE (20); 2HE, 2APQ (19); 20A (18); 2LG, 2ALO (17); 2ALJ, 2WJ, 2ABO (15); 2HO, 2AZK (14); 2FF, 2AK (13). This was a very good effort as Hugo 2WH, at Forbes, and Doug 2ASA, at Wyong, joined in. Maybe we will be soon able to hold a State wide Scramble.

On Sunday, 31st October, a 2 mx link was established between Sydney and Tumut where the South Western Zone were holding their Convention. This proved that a reliable link can be established from Sydney to Forbes, to Tumut and return without any difficulty.

With the increased activity in country areas, those operating in Sydney and near Sydney areas are reminded of the gentleman's agreement to keep the portion of the band from 144 to 144.1 Mc. free for country stations who wish to contact Sydney, as a strong local station would blanket a weak signal and might prevent some of the country stations from making a long awaited contact. Country stations operating regularly on this portion of the band are 2WH at Forbes, 2AGY Newcastle, 2GU Canberra.

50 Mc. has become a little more active. Ted 2XX now has his 6 mx beam on top of his new tower and is renewing old contacts, while 2HO, 2HE, 2JH, 2ABH, and 2ANF are now operating on the band.

Here is a note from Adrian 2HE who suggests that in view of the fact that a considerable number of stations throughout Australia and New Zealand operate only on 6 and 2 mx, a plea is made to fully exploit the 6 mx band openings before and after the Ross Hull Contest so that an opportunity is afforded for Interstate exchange of ideas and discussion on the year's activities on the v.h.f. band.

In regard to further long-distance 2 mx links, the V.h.f. Group would like to hear from stations who would take part in a northern link through to VK4. So what about it Newcastle and points north? Maybe we will be able to put a link into Yurrango similar to the one to Tumut.

We hear from Hugo that 2ALX at Bathurst is getting gear together for 2 mx and should be on soon, while 2EI from Parkes is moving his QTH to Sydney. A new station welcomed to the band is Bob 2ZAR; he is located at Abbotsford and is using phase modulation, his frequency is approx. 144.5 Mc. We also hear that Bert 2CI and Stan 2EZ are interested in 2 mx mobile and will soon be taking part in field events.

Sid 2AVK at Katoomba has his 2 mx beam and rx in operation and is working on his 100w. tx. We will be pleased to hear Sid back on the band. I would like to have more news from the country districts for inclusion in these notes, so what about it chaps?—2APQ.

VICTORIA

The highlight of the v.h.f. activity in Victoria was the special Fox Hunt arranged for members of both Upper and Lower State Houses. Four members, together with representatives of the Press and the A.B.C., participated. Several flashlight photographs were taken at the start and several of the gang were interviewed by the A.B.C. reporter. Two short hunts were arranged for this occasion with our visitors disbursed between the fox car 3LN and the hound cars of 3VZ and 3YS. The Parliamentarians changed positions for the second hunt so they could have the opportunity to view the hunt from both the hound and the fox point of view. On the first run 3ZAA was successful, followed by 3ALY and the 3YS-3ABA combination. Jack 3VZ, with the members aboard, was the last to come in, however on the second run he made amends and was first to catch the fox, followed by 3YS. The final location was at the home of Russell 3SX who demonstrated some d.c. activity. The evening concluded with a very excellent supper and the charming hospitality of Mrs. Bradshaw and her two daughters made the evening a very enjoyable one for those present. The members in their reply of thanks congratulated the Institute and stressed its value to the State.

A DX session is now held within the State every Thursday evening between 8 and 9 p.m. This is gradually gaining favour and twenty-six stations were logged during that hour one week. The v.h.f. meeting this month took the form of a lecture by Graeme 3ZAA and Norm Dench, who demonstrated their mobile gear by working 3ALY mobile. A point of interest was the fact that Norm had placed the fields in parallel on an 18 volt l.f.f. generator working on the 12v. car system and found that it produced 25 per cent. more voltage when wired in that way. It had run for 10 hours continuously during the last field day with no material damage to the generator.

3BQ has made several contacts with 7LE during the month. With rising temperatures and a big influx of stacked beams and 60w. finals installed during the winter, VK3 Group anticipate some really excellent DX on the band during the coming summer season. Nineteen stations are active in the Western District and some forty-eight in Melbourne so a great deal of activity seems to be assured.

The V.h.f. Group gave the lecture at the general meeting in November. 3LN started the night with reception of mobile station 3YS, then followed a demonstration of a small one tube converter into an ART, this was described by Berry 3APB. Next a crystal locked converter was described by Jack 3AIK, then Jack 3VZ and Norm Dench described their mobile equipment. 3LN wound up the evening with a demonstration of beam antennae using a microammeter projected on to a screen. The many inquiries to the exhibitors showed the interest of the members.

The Group is planning a series of field days for the coming season, the exact dates will be notified in the 3WI Sunday broadcasts. These field days make an excellent chance for real DX working and have the additional advantage that you may please yourself when you go portable on the band. Being able to do so is very much appreciated, and if the authority to do the same on the lower frequency bands was granted, the use of the full range of frequencies would give more opportunities for portable operation. It is very nice to be able to make arrangements at the last minute. It is hoped to have the co-operation of the VKTs during our field days this season and they have promised to put stations out if VKTs place their portables in a favourable position for them.

The Z calls have now reached a total of sixteen and this has given a great lift to activity on 2 mx. Beams at 3BW, 3BQ and 3CI are being prepared for the 50 Mc. activity during the Ross Hull Contest.—3LN.

SOUTH AUSTRALIA

By the time you receive these notes, the Ross Hull V.h.f. Contest will be under way. I hope that those who do participate in the Contest will forward their logs, even if for checking purposes only. The Certificates are well worthwhile having, so into the fray chaps and win your spurs.

Now that the limited licenses are being issued, it may be pertinent to have some sort of a Federal Contest which would cater for those chaps who are confined to the frequencies above 144 Mc. Any ideas regarding that will be welcomed. It may be possible perhaps to run it concurrently with the Ross Hull since that does not include the bands above 54 Mc.

VK5 is to have an active v.h.f. operator at Alice Springs with the shift of Tom 5TL from Renmark to that domicile. That opens the question of the Northern Territory as one of

the necessary contacts for 6 mx W.A.S. and no doubt Tom will be almost morally obliged to put a signal on 6 mx (beamed to VK5 of course!). I can hear Tom's reply now. "Give me the gear and I'll work anybody!" Well you never know Tom!

My shaft about 576 Mc. fell to earth and Bruce 5OR phoned me some details of his modifications to the coax line oscillators and made a plea for somebody to come on to the band and work him. Brian 5CA has had them working, Bob 5PU also, so surely someone can push a signal into Prospect!! Bruce modified one as a super-regen rx by unearthing the grid connection and connecting a 2 meg. resistor straight from the grid to the container which forms the plate line. A 50 pF. mica condenser bypasses across the resistor in the usual super-regen way. The h.t. is controlled by the potentiometer method and the audio output via an audio transformer is fed to a two stage a.f. amplifier. This amplifier becomes the modulator for transmitting. The tx grid leak is earthed and a separate unit has been modified for that purpose. The best value of grid leak appears to be between 4K and 5K, with a couple of hundred volts h.t. supply. A push-pull speaker transformer feeds modulator and tx supply in the usual balanced arrangement that Doc 5MD described earlier. A seven element Yagi completes Bruce's set-up.

Heard Ron 5MK and Clem 5GL working cross band with Ron testing out his new 2 mx converter. Must be working fairly well Ron as you seemed to cover town easily.

The VK3 Z calls are steadily mounting and I am hoping to welcome Carl Sappiatza to the ranks if the powers do the right thing—we all hope Carl OM that the c.w. went all right too. Another keen one is Ray Tuck's brother—a little coaching in the right direction can bring good results. Ray 5BT has been busy lately with that side of life which brings in the bacon so has not too much to report.

It has been suggested that one of the general meeting nights be set aside for a display of members' gear. As I shall soon have to be thinking about next year's programme I would welcome some constructive ideas. For myself, I gain much from the study of v.h.f. equipment, where there is plenty of room for individuality. One thing comes to mind. I had not fully realised the value of neutralising an r.f. stage to reduce the noise until I saw the way it was done and the simplicity of it all and had heard the remarkable difference that it made on the signal-noise ratio. Anyhow, what do you think about that idea?—5XU.

WESTERN AUSTRALIA

50 Mc.: Not the least of the attractions of 50 Mc. of late has been quite a burst of mobile activity. Both 6TR and 6WJ have gone into business in this line with excellent results. Quite a lot of midnight oil has been burnt on the project and I seem to remember hearing about work carrying on till 0430 hours one morning! There's a stayer for you—and no names, no pack drill! Tx's in use both employ 6MSs in the p.a.; plate and screen and clamp tube modulation respectively. 6TR is using a xtal controlled converter in front of his car radio, tuning from 550-1600 Kc. to cover approx. 50-51 Mc. Works out really well too—a spot of car-to-car mobile work should be possible shortly when Warren gets a rx going.

Jack 6GB has been joining in the mobile tests and has been trying out a very high grade xtal microphone. 6SJ has been very silent of late, but Sid is busy with shift work, etc., and can often only be available at unusual hours, i.e. 2200-0200 and the like. A trip to VK5 for Sid should be coming off shortly, so maybe the v.h.f. fraternity in Adelaide will have a visitor. 6BO has been tied up with matters other than Amateur Radio, but come December and I bet Rolo will be in the thick of it once again. He has been threatening a new tower to elevate the 144 Mc. and 288 Mc. beams, and this may well materialise 'ere the end of the summer holidays.

Nothing heard yet of 6NF on the band though Norm has been close to emitting a signal for some time now. 6FB having converter troubles

(Continued on Page 16)

STOP PRESS!

EXPLOSION AT LOXTON

The Manager of the Loxton Co-operative Winery and Distillery Ltd., Alexander Wainwright Kelly, VK5XO, 42, married, was killed and two men injured, one seriously, when a 14,000 gallon vat containing 8,500 gallons of overproof spirit exploded about 2.45 p.m. on 16th November.

The blast, believed to have been touched off by a spark from a welding outfit, blew the top off the 15 ft. high vat, and hurled VK5XO about 60 ft. to the ground, killing him instantly. VK5XO was standing on top of the vat, supervising the work.

DX ACTIVITY BY VK3AHH†

PROPAGATION REPORT

3.5 Mc.: During October conditions were reasonably fair in North America (0730-1300z) with break-throughs from Central and South America (0830-1030z), Europe (1915-2000z), and the Far East (0800-1100z).

7 Mc.: Again this band demonstrated its usefulness as a reliable DX band. European conditions were likely between 1400 and 2100z and again around 0630-0900z. North Africa was reported around 0700-0800z and also 2100-2200z, with East Africa from 1900 to 2130z. Central and South America were workable between 0600 and 1400z, with the Far East and the Pacific Islands from about 0800 to 1400z.

14 Mc.: Conditions appeared to be improving during the month with European break-throughs between 1000z and 1500z and also around 0500-0800z. Antarctica came through between 0200 and 0800z, but rather sporadically. South America was relatively well represented during the period 0400-0800z. African and North American were very erratic throughout the month and no definite periods were indicated.

21 Mc.: This also showed some improvement. The American Continents and Pacific Islands as well as the Far East were likely to come through between 2100 and 0400z, with Europe around 0800-1000z.

27-28 Mc.: A sporadic European opening has been reported on 20/10/54 at 1110z.

NEWS AND NOTES

G2RO expects to operate from Cocos Island after visiting VK-land. Here his arrival is scheduled for 17th November, '54, in Sydney.

The prefix JA0 does not indicate Iwo Jima. Stations there operate as KA0.

ZC4JA, John Hunt, ex-G2FSR, VS4JH, VS5JH, VS6JH, is looking for his friends in VK-land.

Bill VK1EG has been quite active from Mawson on both 7 and 14 Mc. c.w.

ZS2BC is regularly on 7014 Mc. c.w. Wait, G3DCU, ex-VK2AWU, wants to be remembered to his friends in VK-land.

Referring to an item in last month's notes, the one-man raft has, in the meantime, as is well known by now, arrived at Samoa. Around the world. Amateurs were listening for 7HTAS and our congratulations are offered to Doug ZK1AB, who was successful in picking up the raft's signal after its arrival in Samoan waters. In this world, where mankind endeavours to conquer nature by means of all sorts of machinery, the excellent results of Mr. William Willis as the one-man skipper are outstanding and second to none. Admittedly, many of us have, during past years, seen hard and turbulent times with the skeleton of Death as company, and thus have become a bit indifferent to adventurous achievements of this kind! But the fact remains that this indeed is a performance worthy of taking off one's hat to the man who did it!

As is well known among DXers, the results of the "CQ" DX Contest, 1953, were not published at the usual place in a manner satisfactory to contest participants. Here now are the official VK scores, by courtesy of W9VW:

All Band C.W.	7 Mc. C.W.
VK2GW ... 84332	VK2GW ... 4853
VK4EL ... 49197	VK3AHH ... 3432
VK3XK ... 33887	VK3XK ... 3294
VK2PV ... 29420	VK4EL ... 2353
VK3AHH ... 25666	VK3AZW ... 1978
VK3FO ... 19240	VK3FO ... 1551
VK3AZW ... 17464	VK2PV ... 1334
VK3ANJ ... 7602	VK3ANJ ... 1065

14 Mc. C.W.	21 Mc. C.W.
VK2GW ... 17343	VK4HR ... 11319
VK3AWW ... 12596	VK4FJ ... 9883
VK2PV ... 9741	VK2GW ... 5421
VK4EL ... 9692	VK4EL ... 4388
VK3HL ... 8006	VK3XK ... 4028
VK3XK ... 7880	VK2PV ... 800
VK3AZW ... 7850	VK3AHH ... 558

All Band Phone	14 Mc. Phone
VK4EL ... 2024	VK5XN ... 9350
VK2GW ... 1973	VK3AMR ... 7548
	VK3AWW ... 3168
	VK5CE ... 3045
	VK4WF ... 2044
	VK4EL ... 924

21 Mc. Phone
VK4EE ... 238

The distribution of certificates was not done in accordance with the rules for the 1953 Contest. Hans J. Albrecht, 10 Belgravia Ave., Box Hill North, E.12, Vic.
* Call signs and prefixes worked.
z—zero time—G.M.T.

test, but followed a certain line of thought determined by the Awards Committee of the International DX Club, which sponsored the 1953 Contest. W9VW assures us that this time the Committee promises to stick to its rules, and asks that all entries for the 1954 Contest be posted before 15th December.

This is the present state of our black list of non-amateurs stations operating in Amateur bands:—

- 7008 Kc.—Radio Pakistan.
- 7015 Kc.—ETA 40 (c.w.).
- 14150 Kc.—Japanese telephony station.

QTHs OF INTEREST

VQ6LQ—Box 11, Hargelsa, British Somaliland.
FHBX—Box 25, Saigon, French Indo China.
HK3PC—Pio Casares, Box 3418, Bogota, Columbia.

VQ4EG—Box 4383, Westlands, Nairobi, Kenya.
KC4AB—Via W4QCW, J. R. Eshelman, Parkview, Harrisonburg.

T12WZZ—Box 3387, San Jose, Costa Rica.
ZD3BCF—P.O. Box 285, Bathurst, Gambia.
JY1US—Jim Davis, C/o. American Embassy, Amman, Jordan.

T12CHV—P.O. Box 584, San Jose, Costa Rica.

ACTIVITIES

3.5 Mc.: Frank 2QL starts off with W2*, K6*, W8* and CF3AG, KH6, followed by Neil 3HG with KH6MG*, W2*. Fred 3YS reports W6* and W2. ZK1BG*, and Bob 5ZP adds W6*, VE4RO*. 3AHH listed a series of Ws* in districts 2, 3, 4, 6, 7, 8, 9, 0. KH6MG* and KP4KD, KL7AWB, VE4RO, VE4XO, JA1AS, DL3KN.

7 Mc.: 2QL: JA*, ZC4IP*, YU*, CE3AG* and VQ6LQ, LX1AS, SUIWV, CE3WQ, FB2Z, Y12AM, 3VRCM, ZC7AM, EA9DF, 4X4RE, Norm 2XZ: CN8GB*, FA8DA*, HRIJZ*, YV1AD*, VP6GT*, VP6KL*, CO8AQ*, KP4QA*, VS8CQ*, LA*, OZ*, ON4*, Gs*, JAs*, and TI2ZF, Laurie 2AMB: VK1FG*, JAs*, VE3*, KL7*, ON4*, Gs*, DL*, KP4CC*, KP4KD*, ZC4IP*, EA8GA*, and SM, HRIJB, CN8GB, PA0JJ. On phone Col 3WQ heard PY1AC and Don 3ALQ mentioned HK, YN, CO, Bob 70M: G*. Eric BERS195: ODSLX, OE1WH, EA7EW, ZC4IP, 4X4DE, 4X4RE. Norman Clarke: KR6AA, JA1AF on phone. 3AHH: VQ4EG*, Gs*, EA*, ON4* and LU4WJ, 4X4RE, ODSLX.

14 Mc. C.W.: 2QL: F18BC*, CR9AF*, OD5AV*, FB8XX*, XE1BS*, YV5ES*, LU8*, VK1EG*, ZSs*, CN8MM* and BV1US, VS4HK, MP4QA, MP4BBL, VP8AA, VP8AO, AP5TM, AG2GY, VQ8BC, YK1AH, ET3S, PY2BB, 2XZ: MP4BBL*, ZK1*, ZSs*, FO8AC*, XZ20M*, HRIAT*, KV4AA*, YV5AE*, LU6FA*, VP6KL*, KZ5*, FA3OA*, CT*, OE*, HB9*, I*, Gs*, SM*, OH* and AG2GY, MP4QA, CE, PY, Noel 2AHH: HS1D*, PA0*, DL/DJ*, OZ*, LU6DJX*, G*, SM*, JA*, OH*, SM*, ON4M*, GI*, OE*, Gw*, F*, HRIAT*, LA*, HB1MX/HE*, FA*, HB9*, F12AN*, VR3A*, VQ8G*, YV5*, GM*, EI*, GC2FZC*, KZ5*, VP4LW*, ZC4JW*, and ET2XK, 2AMB: ZM6*, VK1PG*, VS1*, ZS* and IS1, SV1AB, Neville 2APL: JAs*, Alan 3CX: VP8AO*, YV5AE*, CR7LU, HRIAH*, VP6GT*, CO2*, PY7AN*, FR7ZA*, ZSs*, VQ6LQ*, FA3OA*, HB9*, VR3*, OE*, LU*, Bert 3BE: OH*, DL*, 3HG: YV5EU*, OH*, 457LB*, VS6*, MP4BBL*, DU*, Alf 3KB: VSSKU*, VS4HK*, VQ6LQ*, VK1EG*, ZS7C*. Ken 3KR: VK1EG*, I*, VS1*, MP4BBL*, OH*, G*, VP8BE*, PY8BN*, LU*, VP3AA*, VK1DY*, ZC4PB*, VQ6LQ*, CE3RE*, SM*, PA0*, ZSs*, DU*, 457KH*, ZB1BU*, C3AR*, Bill 3TX: OH*, Lee 3XO: PY*, DU*, DL*, FB8XX*, VK1EG*, OD5*, Y1*, ZS*, VQ4*, FB8ZZ*, TI*, FA*, VR3A*, G*, OZ*, SM*, LA*, KZ*, KV4*, VP8*, PA0*, HS*, VS6*, ZM6*, ZK1*, Bob 4RW: OH*, YU*, HC1EP*, DJ*, G*, SM*, AP2K*, KC6*, HB1MX/HE*, MB9BJ, VS4DK*, CQ8RE*, John 6H: ST2N*, VP8CJ*, FA8AN*, C3AR*, VQ6LQ*, FB8XX*, Ray 5RK: JA*, VU2*, KA*, Austin 5WO: F18BA*, SM*, VS6*, G1*, Brian 6ZL: I*, ST2NC*, G1*, OE*, DL*, ZS*, SM*, BERS195: VQ6LQ.

14 Mc. Phone: 2XZ: OA3C*, HC1LW*, KZ*, T12GC*, VS2*, 2AHH: VS2*, PA0*, HK*, HR*, OH*, G*, SM*, F*, P11J*, I*, ZSs*, 4X4*, TI*, OA3C*, HC*, YV*, CP5AB*, KZ5*, OA4ED*, PY8HF*, CT*, I*, CN8MM*, FO8AC*, VS1*, 457*, PY8BR*, PY2AHS*, 3HG: VS2*, 457YL*, VQ4ERR*, EA*, CN8MM*, VK1PG*, 3KR: ZM6*, 457YL*, T12RMA*, JAs*, VS2*, HK3PC*, Percy 3FA: HK3FC*, CO*, Stan 3TE: 457LB*, 457SY*, 4X4DK*, CT*, Gs*, HC2JR*, F18AK*, DL/DJ*, GM*, KA/JA*, I*, LA*, MP4BBL*, OH*, PA0*, SM*, VS2*, VU2*, John 3AGD: VS1*, I*, and 457, ON4, 4X4, Bill 8AJU: ZS*, 3ALQ: VS2*, KA/JA*, GM*, HK3FV*, YN4CB*, CO2BL*, Ray 3ARO: ON4*, G*, 4RW: XZ20M*, F08AC*, PY1MK*, T12JV*, T12JG*, HB1MX/HE*, VS4DK*, 5BH: ZB1AJX*, 4X4GB*, OA4BT*, PY4PI*, PY2AHS*, PY1MK*, LU7BO*, T13JT*, ZE1JX*, HC1EP*, HC2JF*, ZK1*, HK3PC*,

YV5EU*, HC2JR*, HC1MB*, T12WZZ*, CO*, HK4DF*, HK3FV*, KA/JA*, 5WO: ZSs*, ZM6*, YV1LB*, HC1LW*, OA3C*, T12GC*, T12WZZ*, F*, PY2AHS*, LU4DMG*, LU3FAQ*, I*, DL*, 4X4DK*, YV5EU*, HC1MB*, KTIWX*, CO*, HC2JR*, HK3PC*, ZE2JE*, KZ5*, VS2*, DU*, 457YL*, OE*, OH*, G*, LA*, F*, IS1*, 457GV*, VU2*, VS1*, Norman Clarke: VS6*, VS2*, Jim Hunt: HK3FC, HC1LW, YV1CB, YV5AE, OA3C, HC2JR, T12GC, T12RMA, ZS, KTIWX, CO, CN8MM, YV4BN, I, PA0, OE, SM, MP4KA, MP4QA, MP4BBL, LA, FI, HB1MX/HE, GM, F, IS1, F18AZ, H16EC, 4X4DK, VU2, 4X4RE, 457YL, EA, DL, VS6, G.

21 Mc.: 2AHH: KA*, K6*, KR6*, Norm 2ALJ: Ws*, KH6*, JAs*, KG*, J*, HC1FS*, VS1*, Noel 2AQH: HC1*, Ws*, JA*, VS1*, 457*, 3FA: Ws*, HC1FS*, KH6*, KJ6*, KC6*, VS1*, HC1LW*, DU7SV*, VR2*, JA*, and AP2K, 3YT: Ws*, KH6*, KR6*, VS1*, KC6*, VR2*, VS6*, HS1VR*, PA0*, G*, ON4*, DL*, HB9*, KC6*, KA/JA* and HC1, 457, VR5, AP2, F18, 4X4, 5WO: KH6*, VS1*, Ws*, 457YL*, G*, Jim Hunt: Ws, KH6, KC6, KR6, 457YL, VS1FE, DU7SV.

27-28 Mc.: Despite much listening, Jim Hunt did not hear any DX station during the month. 3YT reports hearing a G3 on phone (no call sign reported) at 1110z on 20/10/54.

QSLs received: 2QL: F08AJ, LU4ZL, LU8ABL, 2XZ: HRIJZ, KP4QA, 2AHH: KF3AB, KV4AA, AG2BC, VQ4EL, 2AMB: PA0UW, SM5AQV (both 7 Mc.), BERS195: CE4BX, CX2LC, EA9DF/Rio di Oro, F18AZ, XW8AA, HPIJF, F08AJ/MM.

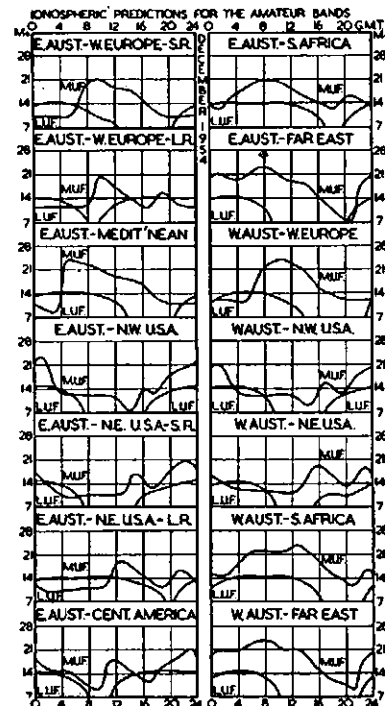
Thanks to Northern California and Southern California DX Clubs, VR2RO, W6TRN, W9VW, VKs 2QL, 2XZ, 2AHH, 2ALJ, 2AMB, 2APL, 2AQH, 3CX, 3HE, 3HG, 3KB, 3KR, 3FA, 3TE, 3TX, 3WQ, 3XO, 3YS, 3YT, 3ZP, 3AGD, 3AJU, 3ALQ, 3ARQ, 4RW, 5H1, 5RK, 5VK, 5WO, 6ZL, 70M and s.w.i.s. BERS195, Norman Clarke, and Jim Hunt.

The month of December brings us Christians our festive season—Christmas. May it be a merry one!

CHANGE OF ADDRESS

W.I.A. members are requested to promptly notify any change of address to their Divisional Secretary, not direct to "Amateur Radio."

PREDICTION CHART FOR DEC., 1954



SHORT WAVE LISTENERS' SECTION*

FIFTY MC. AND ABOVE

(Continued from Page 14)

Australian Short Wave Listeners! Are you interested in making this section of the magazine really worth while? If you do, forward your reports to the person responsible for the compilation of these notes.—Editor.

News on the Bands.—First of all I would like to welcome two new reporters for this column and they are both from VK2. First of all a 12-year-old budding Amateur, Stewart Little, of Belmont, N.S.W. Thanks for the reports Stewart and do hope to receive more from you in the future. Stewart's rx is a Bendix MN26C with a 3-tube converter ahead of it. It has a 6AK5 r.f., 6BE6 mixer and 8C4 osc. The antenna in use is two half waves in phase on 20 mx and seems to favour mid Pacific and JA land.

Our second VK2 correspondent is Gordon J. S. Hepburn, of Punchbowl, N.S.W. Gordon has been an s.w.l. since 1928 and his first QSL card was from VK4LW (C. R. Morris) of Rosedale, Brisbane, dated 30th June, 1930. Gordon's rx is a commercial 5 valve dual wave with a captain unit as the antenna. Well good listening to both Stewart and Gordon, and hope to receive regular reports from you both.

20 mx: From Stewart Little the following were heard in VK2 at good level: KA01J, JA4BE, ZL, WOKOK, VK1AC, KA7JM, KH6AF, VS8CV, GM3, VK9s, WIATE, G3ISN, W1RYV, ICEI, E1S1, OE3WD, OZ7BC, KW6BB, VK6MK (very unusual to hear VK6s at Belmont, N.S.W.), G6FS, VK6MG, KH6AF, KH6AVF, KH6KS (on s.s.c.), KA2LK, OE13WD, EI2W, G2BLT, LA5YE, G3GJF, VE5, VS5. From Gerry Lane the following: VK8AB, KG6SB, LU8CG, VK6GS. From my location, I heard the following: DL3AP, W6AMI, KA2IM, KA6BS, ZK6BX, KA2LG, EA2JB, KA01J, KC6DB, KR6AA, VR2CK, LU5DL, KA2YA, LU7AA, KC6ZB, KF2FM, ZM6AI, ZL1HY, VS6BZ, KA7JM, KA3MD, KR6AS, DL4UF, W6BZ, ZL3OP, JA2NA, CO2BL, K4AIL, PY3PZ, W8WXG, ZS3P, KR6AZ, W2BCU.

40 mx: From Gerry HP3FL (R5, S8); here have heard W2, 3, 6, 0 on phone.

80 mx: Quite a few ZLs including the ZL broadcast.

From Edwin Wilson, of Alphington, I received the following information from Radio Japan: 0900-1000 G.M.T., programme beamed to Australia and New Zealand, on tx JOAS, JOB4, JOA6. Frequency of tx's: JOA3 9695 Kc. (30.94

* John Wilson, 37 Rayment St., Alphington, Vic.

metres); JOB4 11780 Kc. (24.47 metres); JOA6 15135 Kc. (19.82 metres); JOB2 7180 Kc. (41.78 metres). All reports should be sent to International Broadcasting Department, Nippon, Hoso Kyokul, Japan.

From Graeme Hutchins, of Radio Australia, I received the following: The Voice of the United Nations Command tx's are at Korea using 2500 watts in conjunction with a 500 watt tx at Seoul on 560 Kc. They are on the air between 1100-1800 and 1800-2200 hours. Stations on from 1100-1800 hours are JBD 5005 Kc., JBD2 950 Kc., these are known as the "A" network. The "V" network relay on 890 Kc., 830 Kc., 870 Kc., 1000 Kc., 1050 Kc. and 1330 Kc. between 1435-1500 G.M.T. From 1505-1635 G.M.T., the "C" network operate on 560 Kc., 890 Kc., 830 Kc. and 4780 Kc. JBD2 is on the air throughout the 1100-2200 hours broadcast. Keorian Broadcasting System relay the Voice of the United Nations Command Service between 1330-1500 G.M.T. We thank Graeme, of Radio Australia, for the above information.

A last minute schedule was received from Bob Citroen, of Holland. Bob is now resident in VK3 land and he sent along the following schedule for PCJ, the Happy Station in the Netherlands. PCJ is situated in Hilversum, Holland, and operates on 16.88, 19.45, 19.71 and 25.58 metres. They broadcast to Australia between 1030-1200 G.M.T. on Sundays only. The English programmes to Australia on week-days are between 0945-1025 G.M.T. on 16.88, 19.45 and 19.71 metres. The above programme is effective from November, 1954, to April, 1955. Bob states that PCJ will probably be operating on higher power, 100kw, either late in December, or early in the new year. PCJ verifies by QSL card and is one worth having. Their address is Edward Startz Radio PCJ, The Happy Station, Wireldomeop, Box 137, Hilversum, Holland. Thanks Bob for the above schedule and hope you receive good signals from home.

Indonesia broadcasts to Australia in both English and Dutch on 17860 Kc. between 1100-1200 G.M.T. So chaps, that concludes this month's loggings. Many thanks to those chaps who sent in reports for last month.

On Tuesday, October 26, members of the VK3 Division of the S.W.I. Group met in the club-rooms at 191 Queen St. In the chair was President Len Poynter, Secretary Gerrard Lane, Col 3FC and Arthur SAHD.

The VK3 Division welcomes to the Group Aussie Thompson. I would like to wish you all the best and good listening Aussie. At the conclusion of general business, Gerry Lane gave a short talk on QSLing and the correct way for s.w.l.'s. to do it.

and is engaged in a re-build there. 6AW has been eyeing his AR301 type rx with a view to a conversion job for six mx., but to date no progress. For Denis' activities, see the two mx column! 6CC now sports a new plate and screen modulator, which is a considerable improvement over the old clamp tube job, even if it only allows Frank to back off the 600 or so volts on the 815! 6DW in Bruce Rock has been on again and putting his usual good signal over the 120 miles to Perth. 6HK does not now have to rush outside armed with footprints and spanner to turn the beam around—just the flick of a switch.

144 Mc.: Quite a deal of interest being shown in this band of late and calls active at various times include 6AW, 6AG, 6BO, 6JT, 6OR, 6RU, 6WT, 6KW, 6HC, 6HK, 6ZAA and 6ZAZ. In an interesting series of tests with 6AW at 6HK's QTH, the advantage of using a narrow passband in the i.f. channel was clearly demonstrated. Using a two mx rx with 30 Mc. i.f. strip, signals were not able to be copied due to high noise level of both hiss and ignition variety. However on feeding the 30 Mc. output into a communications rx with an i.f. of 175 Kc. the signal to noise ratio was so improved that the signals "stuck out like a sore thumb" and were easily read. So it looks as if these AR301 jobs may be suspected as the reason for disappointing results achieved by some of the boys to date.

6ZAZ has been having more strife with the 815, but at the last time of QSO had it behaving very nicely as a straight p.a. 6AW has changed his beam to 3-el. close spaced and altered the matching system with greatly improved results. Denis has since heard 6ZAA and 6ZAZ, neither being audible before the alteration. 6OR has been heard on the band again with a fine signal from Mosman Park. 6ZAA is working on a new xtal controlled converter, but has not got same working to his satisfaction yet. Conditions to 6DW provided a best-ever phone QSO recently with signals peaking 5-7 over the 120 miles. On this occasion conditions provided better signals on peaks than 50 Mc. at the same time, although QSB was more severe at the higher frequency.—6HK.

TASMANIA

The highlight of v.h.f. activity in Tasmania this month was the visit of 7LE to Mt. Arthur. Len, together with 7CA and 7ML, was working on the Tasmanian end of the VK3/VK7 radio telephone link. Len decided to instal his 144 Mc. gear on the site with the idea of working into VK3, consequently within three hours of arriving at location, 7LE had contacted 7LZ in Launceston, this was followed by an excellent contact with 7AB at Devonport—a distance of 50 miles.

On 20th October, 7LE contacted 7AB at 2015 hours and at 2104 hours contact was made with 3BQ on A1, signals were R5 S3 at both ends. 7LE then heard 3BW but could not make contact, possibly because Len's frequency was 146.5 Mc. 3BQ contacted 3BW and at 2141 hours, 3BW contacted 7LE. 3BW used A3 and was received by 7LE at R5 S7, whilst 7LE used A1 and was R5 S5 at Portarlington. These contacts were approx. 270 miles and 280 miles respectively.

7LE's tx had an input of 12w. and his antenna was a 4-el. beam 25 ft. high, the location, was 1750 ft. a.s.l.

The following week Len was scheduled to make a two-day trip to Flinders Island, however bad weather interrupted air transport and Len was only able to operate for one night from the island. For this trip he used his "portable" portable rig with an input of 5w. and left the Mt. Arthur gear in the capable hands of 7CA and 7ML. Transmitting from a site 400 ft. high and under extremely adverse conditions, contact was made with Mt. Arthur with signals S6 both ends on A3, a distance of 82 miles. This was the first v.h.f. contact between the Bass Strait Islands and Tasmania and it is hoped that now 7AK, who is postmaster on Flinders Island, has seen what can be done here might at last get started; if so, it would give a tremendous impetus to v.h.f. activity both here and on the mainland.

Actual operating on the VK3/VK7 v.h.f. telephone link has shown that the best chance for a VK3/VK7 144 Mc. contact is at 2000 hours, whilst the worst period is around 1400 hours.

No details have been received here in respect to the stations which will be operating on 50 Mc. this season, in Launceston 7BQ and 7LZ both expect to be active, whilst 7XW is also a likely starter. It is hoped that Chris will be able to give several mainland stations a new VK7 contact. As the season should be well under way before these notes are read, nothing more can be done other than to wish all stations "good hunting."—7LZ.



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FEDERAL, QSL, and DIVISIONAL NOTES



FEDERAL

Fed. President: L. R. Gronow, VK3WG.
 Fed. Secretary: W. D. Bowie, VK3DU, Box 2611W, G.P.O., Melbourne.
 QSL Bureau: R. E. Jones, VK3RJ, 23 Landale Street, Box Hill, E.11, Vic.
 DX C.C. Manager: G. I. Morris, VK3BZ, 80 Eighth Street, Parkdale, Vic.

NEW SOUTH WALES

President: Jim Corbin, VK2YC.
 Secretary: Harry Hickin, VK2ACH, Box 1734 G.P.O., Sydney.
 Meeting Night: Fourth Friday of each month at Science House, Gloucester Street, Sydney.
 Divisional Sub-Editor: Ted Whiting, VK2ACD, 16 Loudon Street, Five Dock.
 QSL Bureau: J. E. Corbin, VK2YK, 78 Maloney St., Eastlake, Sydney (Inwards and Outwards).
 Zone Correspondents: North Coast and Tablelands: Noel Hanson, VK2AHH, Ryan Ave., West Kempsey; Newcastle: Ron McD., Stuart, VK2ASJ, 95 Dunbar St., Stockton; Cealfields and Lakes: Harry Hawkins, VK2YL, 27 Comfort Ave., Cessnock; Western: W. H. Stitt, VK2WH, Cambajova, Forbes; South Coast and Southern: Eric Fisher, VK2DY, 2 Oxlade St., Warrawong; South Western: J. W. S. Edge, VK2AJJ, Wallace St., Coolamon; St. George: Chas. Coyle, VK2YK, 84 Carlton Cres., Kogarah; Western Suburbs: Barry White, VK2AAB, 33 Flavelle St., Concord.

VICTORIA

President: G. Dennis, VK3TF.
 Secretary: C. Gibson, VK3FO.
 Administrative Secretary: Mrs. G. Pickering, Law Court Chambers, 191 Queen St., Melbourne.
 Meeting Night: First Wednesday of each month at the Radio School, Melbourne Technical College.
 Divisional Sub-Editor: K. E. Pincott, VK3AFJ, 14 Dunscombe Ave., Ashburton, S.E.11.
 QSL Bureau: Inwards—Graham Roper, VK3ZB, 28 Lucas St., South Caulfield, Vic. Outwards—Frank O'Dwyer, VK3OF, 180 Thomas St., Hampton, S.7, Vic.
 Zone Correspondents: Central Western: W. J. Kinsella, VK3AKW, Magdala, Lubeck; South Western: W. Wines, 11 Bedford St., Warrnambool, and E. Giddings, VK3ANG, 8 Nelson St., Warrnambool; North Eastern: A. D. Buchanan, VK3FD, "Boorcondal", Währing; Far North Western: M. Folle, VK3GZ, 101 Lemon Ave., Mildura; Eastern: C. J. Arnold, VK3AJA, McAllister St., Stratford; North Western: C. Case, VK3ACE, Cumming Ave., Birchip; S.W.L. Group: John Wilson, 37 Rayment St., Alphington, N.20.

QUEENSLAND

President: Harold Murphy, VK4HM.
 Secretary: W. A. Young, VK4YA, Box 838J, G.P.O., Brisbane.
 Meeting Night: First Friday in each month at the Royal Geographical Society Rooms, Ann Street, City.
 Divisional Sub-Editor: J. T. Hope, VK4XL, Royal Parade, St. John's Wood, Ashgrove.
 QSL Bureau: Inwards—J. Files, VK4JF, Wanda St., Buranda; Outwards—Miss Clair O'Brien, 93 Jardine St., Stafford.

SOUTH AUSTRALIA

President: G. M. Bowen, VK3XU.
 Secretary: R. G. Harris, VK3RR, Box 1234K, G.P.O., Adelaide. Telephone: J 1151.
 Meeting Night: Second Tuesday of each month at 17 Waymouth St., Adelaide.
 Divisional Sub-Editor: W. W. Parsons, VK5PS, 10 Victoria Avenue, Rose Park.
 QSL Bureau: Geo Luxton, VK5RX, 8 Brook St., West Mitcham, South Aus. (Inwards and Outwards).

WESTERN AUSTRALIA

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 Secretary: J. Mead, VK6LJ, Box NI002, G.P.O. Perth.
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 Meeting Night: Third Tuesday of the month.
 Divisional Sub-Editor: D. E. Graham, VK6HK, 110 Edinboro St., Mt. Hawthorn.
 QSL Bureau: Jim Rumble, VK6RU, Box F319, Perth, West Aus. (Inwards and Outwards).

TASMANIA

President: L. E. Edwards, VK7LE.
 Secretary: W. G. Tait, Box 371B, G.P.O. Hobart.
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FEDERAL

A.O.C.P. AND MORSE CODE

For some time Federal Executive has been making an investigation into the examination set by the Amateur Administration for the Amateur Operator's Certificate of Proficiency. This has necessitated a good deal of research and the checking of various results. In this particular phase of the work, the Amateur Administration has given splendid co-operation, in supplying details and summaries on which the following findings have been based.

The Morse Section, both receiving and sending, presents the greatest difficulty to candidates. It is generally thought that receiving is the difficulty, but it is worthy of note that sending is often well below pass standard.

Regulations are, for the most part, of satisfactory standard, while the Theory presents only moderate difficulty.

Executive suggests, therefore, that those who are engaged in the instruction of candidates for the A.O.C.P. should give some consideration to allotting more time to Code Practice, both Sending and Receiving, and that students be encouraged to do more at home, utilising the transmissions to be heard on the s.w. bands.

IT PAYS TO ADVERTISE!

Following an advertisement in "A.R." seeking the services of an Actuary, Federal Executive is happy to announce that Mr. W. Falconer, VK3AWF, has offered his assistance. Bill's onerous task will be to analyse the results of the R.D. Contest of the past, and develop a new approach, such as will promote more activity in the Contest and give all States an equal chance of winning.

It is interesting to note that Bill is one of sixteen actuaries in Melbourne, and probably the only one with a knowledge and understanding of band conditions. Members will recollect that the call VK3AWF was frequently heard on the bands some twelve months ago before Bill left for a trip abroad.

FED. CONTEST COMMITTEE

The Contest Committee met this month at the QTH of the Chairman, Gordon 3XU, and set about the job of tidying up the loose ends of the R.D. Contest, including correspondence. Opportunity is taken here to point out that the Contest Committee, being a Federal one, all correspondence between it and any Division should come from the Federal Councillor for that Division, although it welcomes correspondence from individual members of the Institute concerning contest matters.

A long discussion took place regarding the Ross Hull Memorial Contest and the present rules with a view to further improving same before next year's contest.

The National Field Day was discussed; because Federal policy dictates that alterations to rules must be notified to all Divisions three months before the contest, insufficient time remains to make any alterations this year. However, Federal Council's directive in this regard will receive attention during the forthcoming year.

General discussion then took place and it was agreed to comply with the request of the old Committee and handle the few remaining 1953 VK-ZL Contest Certificates, and it was also decided that the matter of all certificates for any past contests would be straightened out. Should any Amateur still be in the position of not having received a certificate to which he is entitled, would he contact either his Division or the Contest Committee direct.

A statistical summary of the R.D. Contests by Major Mitchell, VK3UM, was received and handed over to Contest Manager, Jim 5FO, who is employed in the Statistical Department of the S.A. Government. He will report back to the Committee at the next meeting.

The matter of publicity for W.I.A. Contests and the lack of information available to the Committee regarding overseas contests was discussed at length, and was decided to take this matter up with F.E.

(F.E. Comment)—The newly constituted Federal Contest Committee has done a sterling job considering all the handicaps it has had to overcome. Taking over honorary office in any nation-wide organisation such as the Institute inevitably leads to some confusion and misunderstanding. F.E., at the behest of Federal Council, produced a Manual for the Guidance of Federal Councillors to overcome a similar problem to that with which the Contest Committee is now confronted. A manual is now being prepared for the guidance of Contest Committee in which many suggestions of the present Committee will be incorporated. The introduction of a coherent and straight forward "Terms of Reference" and Constitution, complete with "Calendar" and procedure should eliminate any misunderstandings in the future. In the meantime we sympathise with the members of the present Committee and applaud them for their strenuous efforts to make this year's contests a real success.

FEDERAL QSL BUREAU

RAT JONES, VK3RJ, MANAGER

Referring to a par. in these notes in the November issue, additional information on Fletcher Island, Ice Island T3, has come to hand. This floating ice island was discovered in 1950 and found to be large enough for human habitation. Although the island was constantly moving, its approximate position was about 80 miles from the geographical North Pole. The first personnel landed there in March, 1952, and the island was abandoned by the Ameri-

cans on 22nd May, 1954. Life on T3 was not pleasant. Seldom was the sky free of dreary fog and haze. Gale force winds and extremely low temperatures had to be battled by those who had to venture outdoors.

Geoff Warner, ex-VK9GW, who has been abroad for some months, duly arrived back in VK on schedule and after a brief stay in VK3 will settle down in VK2 and be heard from that location.

Jim HS1D, ex-TA3FAS, is leaving Bangkok, Siam, shortly on return to U.S.A. He does not know whether his successor is an Amateur or not. Jim expects to depart on 1st February.

G3GUV has a special card for stations to whom he has sent a previous QSL and not had any reply. The repeat card is printed on a special kind of filmy paper, which has one side rough and the other smooth. The paper is perforated at each end, apparently for tearing from a roll. One end bears the maker's inscription, "Sprim's Gernicide."

One of the many Amateurs engaged in missionary work throughout the world is the Rev. Walter Sandman, CB4BX. He is a Roman Catholic priest stationed at Molina in Chile and he is active on both 7 and 14 Mc. c.w. and seeks VK contacts. He uses a 400w. tx, SX71 rx and a full wave Hertz.

A natty QSL card from EA9DF, located in Rio de Oro. It depicts camels and palm trees. The operator is Cesar Yague, ex-EA8BI. He modestly says he is a first-class telegraphist and seldom transmits at less than 30 w.p.m.

Treb. states he recently received the largest QSL card ever. It is that of W2APF and measures 10 x 8 inches. I am very happy that guy QSLs direct. The card is only slightly smaller than the renowned effort of "Radio Andorra." The latter effort is a modest 9 x 7 inches.

Len Schooley, of Wheatland, Okla., U.S.A., recently received his novice ticket and call of WN5EGW at the ripe old age of 73 years.

The calendar reminds me that it is once again time to include a Xmas Greeting in these notes. For the 25th time it gives me great pleasure to wish all my QSL Bureau colleagues a Happy Xmas and a healthful 1955. May the new year see no unclaimed cards left on hand! This goes for all Amateurs too.

NEW SOUTH WALES

The general meeting of the N.S.W. Division was held under the chairmanship of the President on October 22 before a good attendance. After the necessary formalities had been dispensed with, the meeting was handed over to the lecturer, Mr. C. Bardwell, 2IR, of the Marconi School of Wireless, who gave a most informative lecture on "The Importance of Fundamentals to Amateur Operators." During the course of the lecture, Mr. Bardwell traced the operation of a 100w. tx through its several stages and pointed out the desirable features

"ACOS" CRYSTAL MICROPHONES and MICROPHONE INSERTS

A Complete Range For Every Purpose

MIC 36

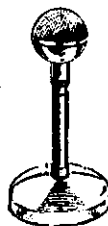


£6/18/6

Housed in attractive plastic case, this Microphone is ideal for home recording and public address, etc. Response unexcelled for its size and price. The performance is not affected by vibration, shock or low frequency wind noise. Omni-directional frequency response substantially flat from 30 to 7000 c.p.s. Recommended load resistance not less than 1 megohm dependent on low frequency response. Can be supplied complete with switch and floor stand adaptor as required at a small extra cost.

This omni-directional Microphone is robust in construction, with a pleasing appearance. Vibration, shock or low frequency wind noise will not affect the performance. The low frequency cut-off is dependent on the load resistance. The cut-off is given by the quotation, $F = 80 \div R$, where $F =$ c.p.s., $R =$ megohms. An adaptor (floor mounting) is available at low extra cost.

MIC 22



£9/18/6

SPECIFICATION

Output level = -50 db ref. 1 volt/dyne/cm².
Output impedance—equivalent to approximately 0.002 uF. (0.8 megohm at 100 cycles).
Frequency response—substantially flat from 40 to 6000 c.p.s.
Recommended load resistance—not less than 1 megohm, dependent on low frequency response.

Designed to meet even the most exacting requirements, this Microphone incorporates the world famous floating crystal sound cell construction. Its special characteristics are that its fine performance is not affected by vibration or shock. The fidelity is not impaired by low frequency wind noise.

SPECIFICATION

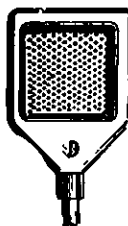
Recommended load resistance—not less than 1 megohm.
Output level -85 db ref. 1 volt/dyne/cm².
Frequency response—substantially flat from 30 c.p.s. to 10,000 c.p.s.
Directivity—non-directional.
Size—2½" spherical diameter.
Connector—Standard international 3-pin.

MIC 16



£24/19/6

MIC 28



£5/19/6

Designed to give freedom of movement, this Microphone is small and non-directional. Housed in a soft moulded rubber case, which gives protection against shock, it is provided with a pin at the rear of the case for pinning to the lapel.

SPECIFICATION

Output level—approx. -55 db ref. 1 volt/dyne/cm².
Recommended load resistance—5 megohms.
Frequency response—level throughout the whole of the audible spectrum.
Capacity—0.0015 uF. at 1000 c.p.s.
Impedance—100,000 ohms at 1000 c.p.s.
Cord—6 ft. shielded cable.
Size—1-9/16" wide x 2¼" long x ¾" thick.

MIC 35



£2/15/-

substantially flat response from 50 to 5000 c.p.s.

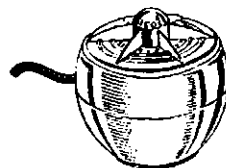
SPECIFICATION

Output level: -55 db ref. 1 volt/dyne/cm².
Cable—approx. 4 ft. of co-axial supplied.
Weight—6 ozs. unpacked, 7 ozs. packed.
Dimensions—microphone only 2¼" x 2¼" x ¾"

The MIC 35, undoubtedly the best value ever offered, is ideal for amateur transmitters, public address, etc. Housed in an attractive die-cast case, it features a high sensitivity and substantially flat characteristics. Provided with a built-in shunt resistance of 2 megohms, it will, when connected to the grid of the input valve, give a

This Microphone has been designed for the high quality public address and home recording field. High sensitivity and flat characteristics are obtained by a specially designed acoustic filter. Housed in an attractive plastic case with an unexcelled response for its size and price. Unaffected by vibration, shock or low frequency wind noise. Omni-directional frequency response substantially flat from 30 to 7000 c.p.s.

MIC 33



£6/18/6

MICROPHONE INSERTS

CRYSTAL MICROPHONE INSERTS



(MIC 32 illustrated)

These inserts are available in varying sizes ranging from as small as 15/16" square to 1-13/16" round, with various thicknesses from 7/32" to 9/16". Suitable for every purpose such as hearing aids, public address, tape recording, amateur broadcasting, etc., they have responses from 2250 c.p.s. to 3500 c.p.s. at 5 db to 30 db. Insert can be supplied with or without 10 meg. resistor as required.

MIC 32 insert, £2/15/6; all others, £1/19/6.

MICROPHONE INSERTS



(MIC 23 illustrated)

AMPLION (A'SIA) PTY. LTD.

EXCLUSIVE AGENTS:

SYDNEY, AUSTRALIA

which should be incorporated in any tx, explaining the reasons for the inclusion of such features, and generally dealing with all aspects of design. The attentive audience were informed also of the methods they should adopt in the operation of their tx's. The vote of thanks to Mr. Bardwell was moved by 2IQ, who praised the lecturer and thanked him for the lecture, further stressing the point that the fundamentals in radio, as in other studies, are of the utmost importance. Nominations were called later to form a committee to organise the Xmas Party, and the following volunteered: 2AGO, 2AOJ, 2IQ, 2ARW and Mr. Reedy.

The meeting closed near the 11th hour, so as usual it was finalised on the steps outside the building by the usual group who gather there.

TRAFALGAR DAY

A fine display by the Royal Australian Navy was held at Garden Island, Sydney, on Trafalgar Day, October 26, which was attended in indifferent weather by many thousands of people. There was much to see and the displays set up by Naval personnel were of an interesting nature to young and old alike. A feature of the display was the setting up of an Amateur Radio demonstration (organised by Lieut-Commander G. Thrum, with the assistance of Ian 2J) and a fine 144 Mc. demonstration by 2OA, who, despite difficulties at the beginning, made many contacts on that band. Operating difficulties were many, owing to power requirements of other exhibits, but by adopting a roster of operation, a fine demonstration of Amateur Radio was given to the large crowds who passed the stand.

It was noticed that there was considerable interest displayed by the younger members of the crowd and questions were answered with regularity. Other Amateurs seen at the exhibit were 2KS, 2ACD, 2BF, 2AQO, all of whom at one time or another were heard from one of the stations. Operation was on 40, 20 and 2 mx and despite interference the contacts made were all 100 per cent. A feature of the 144 Mc. contacts was with 2ABO/MM who was braving the elements of the Harbour in a launch. The thanks of all are extended to Lieut-Commander Thrum, who will be remembered for his work at VK2ZAN at Sydney Showground last Easter, and we all wish his station more power and plenty of contacts under the new call sign recently assigned. —2ANP.

URUNGA 1955

All are reminded that the North Coast Convention will be held at Urunga next Easter week-end, April 9-10-11, 1955. All are welcome and the organisers wish to receive bookings for accommodation as soon as possible, so contact Zone Officer 2AHH, Organiser 2AVG, 2XO or 2TG to book your accommodation. New and novel features are being arranged, details of which will be given in the near future, including a programme for the ladies and children. Don't miss this year's bigger and better Urunga.

SYDNEY AREA

Notes as usual are few and far between from the Sydney suburbs and all we can glean are as follows, followed by some acceptable notes from Don 2NO. 2APT has had trouble with hum, but now has the right combination; fine signal Jack. 2FA strikes a bit of trouble at times, but still manages to make a few contacts. 2ID, as I write, is doing a bit on 21 Mc.; this band is improving rapidly. 2AAB has taken over the N.S.W. Division Library and is busy therewith. 2ACD making good with the new beam. 2AJL has moved location a few miles, will be heard on again soon. 2ACN is now heard two nights a week these days. Bill 2SV is now back at work. 2FM still getting those good reports from all directions.

2OQ has the new beam in the air with the assistance of the gang. 2AYH has now decided to turn the beam in the right direction; they call him "wrong way Howie." A new call is 2GE, Max is putting out a nice signal and will soon have a beam in the air. 2AQH and 2AKV are only heard occasionally from the near mountain area. 2CE still plugging along and will be getting ready for his 144 Mc. mobile. 2AGU is getting more active. 2ZF has a nice beam I see from a distance. Very busy on s.s.s.b. these days is 2AEX.

EASTERN SUBURBS

Owing to a patch of perverse health, this correspondent had to miss a period of notes, but hopes to oblige again. Even so, it is necessary to stress that nary a soul has evinced any interest in notes from this region, so your guess is as good as mine. Ivan 2TN has moved to Randwick. 2SA is heard on 40, 20 15 and 2 mx from a southern direction, using a 21 Mc. Lazy H array on all the bands; it resonates nicely and gets out too. On Sunday, 5th Sept., much mobile activity was shown on 7 Mc., prominent being "Berry" 3APB, ex-2ABB, who had a splendid signal from a Command tx

(7½w.) and centre loaded whip. Bill 2BT showed up in this area, using call 2AIV; gear was a converted FS6 used for bushfire work and aerial a centre loaded whip; Bill was en route to locate 2ASE.

In Maroubra, ex-2SB, now 2ASS, active on 40 and 20 mx, running 50w. to p.p. 807s and zepp. Les Page, ex-2YQ, has acquired 2LP and in a space of time will be leaving the King's Cross flat for a state of matrimony and a new QTH at St. Ives; he intends keeping in touch with the Coast by means of v.h.f.s.

Bill Boone, Matraville, is now 2ZAB; he is working on the gear for 2 mx and should be on by the time this chatter reaches print. This scribe has put in an appearance on 2 mx and is agreeably surprised at the ease with which a puny signal can collect QSOs. The present gear (which will be used by 2MY) is tritet 6V8G (8 Mc. xtal), 6V8G to 48 Mc., VT501 tripler to 144 Mc. and a 676 p.a. with all of 2w. thereon. Encouraged by SS-9 reports from all over Sydney, suburbs, and Blue Mountains, Don set to and re-rigged his rotary water pipe—added a reflector to make the ribbon radiator a 2-el. beam, and now talks about a 3-el. Yagi. Rx set-up is a 676 s.e.o. converter into a Command 3-4 Mc. rx. 2PU, Rose Bay, puts out a nice 2 mx phone signal over these Eastern Suburbs. 2ZQ might be persuaded to try out his 522, even though he thinks the QTH hopeless for 2 mx; try it Fred, you'll be surprised.

Was just about to put the "baby to sleep" when Ernest 2ASE came to light obligingly with a little gear. Says that 2AVQ, Maroubra, is heard quite a lot on 40 mx; Bob has commenced with low power, but has worked nearly all States. Ern says the old Amateur spirit isn't dead or dying. Another one heard of around Bondi is Roy 2TH who is only too happy to help get the gear going for a puzzled tyro. Heard that a new VK2Z will soon be on the air on 2 mx in the Bondi area, and it is about time anyhow that Ern 2ASE put some r.f. into that three over three beam at North Bondi. Understand that his XYL threatens to buy him an electric train to play with instead of radio if he doesn't get a move on. 2ASE has a nice quota of gear for 2 mx with a tx finishing up with an 815, and one of those famous G2IQ converters employing push pull 676s throughout. With the latter, Ern has heard 119 2 mx stations including Forbes, Canberra, Young and Newcastle, and by no stretch of imagination can Bondi be considered a cracker v.h.f. DX location. Ask Alf 2CE just what he thinks about it! 2ATA is heard back from Lord Howe Island, in his Randwick locale, and using a modest 10w.

NORTH COAST AND TABLELANDS ZONE

Zone Officer Noel Hanson is waiting to get any bookings for the Convention next Easter, and is meanwhile deploring the lack of notes from this large area. Noel did a little operating in the recent Contests, but results were not so bright owing to conditions. In a tour around, Noel gleans that it is possible 2XO will soon be located at Coff's Harbour; ex-2JK looks likely to take out his call again in the future. 2AFB still coming up again, but busy with other things at present. A visit was made to 2AWG at Boambee while on tour.

The Eight Hour Week-end Convention was held at Urunga, quite an unofficial affair, but much of interest was discussed in regard to the coming Convention next Easter. Those present were 2ACU, 2AVG, 2IC, 2ADT, 2ZX, 2AHH and Norm Moody from Coonamble. Much rain has been falling in the North Coast region of late, and we hope that no trouble has been experienced. Conditions have been poor and so, in the absence of correspondents, it is difficult to get notes through. See what you can do fellows.

HUNTER BRANCH

The lecturer for the evening at the October Hunter Branch meeting was Len McMahon, 2AC, and his subject was "Crystal Filters." The 27 members and visitors present were shown by circuits and demonstration equipment the manner in which to produce efficient crystal filters, so if any member present has no now got an efficient crystal filter he has only himself to blame. The congratulations of the Branch were extended by the President Lionel 2CS to Jim 2ZC on his being the eighth VK to obtain the Worked All SM Award. This award has only come to two VK2 stations, both of which are members of the Hunter Branch. Keith 2DG was the other W.A.S.M. winner.

During the week-end October 30-31, three Hunter Branch members made the trip to Tumut, these being 2OT, 2XT and 2AOR. Bill and Les travelled by car to Sydney and joined 2OT and 2EO, in whose jalopy the journey to Tumut was completed. During the Saturday night entertainment, Max won the Pick a Box competition, a gallon jar labelled "worcestershire sauce," but alleged to contain furniture polish, but on sampling the contents it was

found to be a very palatable liquid. No success was had by the Branch gang in the Hidden 144 Mc. Tx Hunt held on the Sunday morning due entirely to the signal not being heard on the rx's in use by the participants, however on the Sunday afternoon, using 2EO's call and power supply, Bill's tx and Max's rx and the vee beam used by the Hunter Branch team in the last National Field Day, they were successful in winning the Scramble with a total of 13 stations worked, 12 of them DX in six countries on 14 Mc. c.w. After presentation of prizes, the Hunt on 144 Mc. was held. Dave, Max and Bill, with Les, left Tumut at 5.50 p.m. on Sunday night and arrived back in Newcastle at 4 a.m. Monday.

Jim Thompson, 2AHT, is the newest recruit to the Hunter Branch, having only received his license during the last month. Jim has been busy knocking over the DX on 20 mx c.w. Taree Bill 2AEY has been holidaying with Syd Daniels for three weeks and Bill picked up from 2ASJ the gear which was out of operation, soon to be fixed by 2XY. Leo 2QB is making an absorption type wavemeter-monitor and is only awaiting a germanium diode to complete same.

There will be no Hunter Branch meeting in December. The Branch Social and Xmas Party being held in lieu of the meeting. This Social will be held at the Charlestown Institute at 8 p.m. and all Amateurs and Associates and their families are invited to attend. Don't forget the date and the location.

VICTORIA

The Senior Division held their meeting on 3rd October at the usual place. The chair was occupied by the President, Gordon Dennis, who very smartly moved through the official business for the evening. The Federal Councillor was talked out of giving his report by a piece of hanky-panky which will be mentioned later. Everybody appeared most anxious to let the v.h.f. boys have a go, so they could learn what all the bits and pieces of gear were for. But still Fred had not given his report. In the absence of the Treasurer, the Secretary read his report for him. Sufficient to say the Division is in a healthy financial position. We still had not heard Fred's report. This obviously called for drastic action, so nothing daunted, Len 3LN decided to show these Federal types a thing or two. Advancing bodily to his mobile 144 Mc. gear, which was set up in the hall, he called 3YS mobile, finishing the call with the remark, "You don't want to make a report do you Fred?" Fred's voice from the back of the hall with "Alright, I can take a hint" or something similar was too much for Len. He collapsed heavily into the nearest chair. Loud and long were the laughs.

Eventually order was restored and the meeting handed to Herb 3JO who described the demonstration planned. He made apologies for only having 144 Mc. gear on show, but blamed it onto the habits of the other bands for not co-operating. Herb, I hang my head in shame, but here I must speak for those of the 288 Mc. gang who were present. Not one of us has at present, any complete gear for the band. However, if it is any solace to you, we have found similar effects with mobile equipment, that you fellows get on 144 Mc. We can also tell you how to overcome some of those troubles, but it might spoil your fun.

Although everybody enjoyed the demonstration with the mobile and fixed equipment, 3LN (that man again) stole the show with his beam construction display. This was something that could quite easily have taken up a whole night. This was something on which I would have enjoyed asking questions (having spent many hours doing the same experiments in the backyard), but an attack of larynj-larry—well I'd lost my voice, kept me silent. This loss of voice gave my friends (???) much amusement and they will be suitably dealt with later.

The Happy Wanderer, Bud Pouncett, now 2AIQ, was with us for the evening, as were 2QJ and 3AIS. These gentlemen were given a welcome as only VK3 can do. You don't believe me? Well ask 3PS.

Amongst the new members we have 3EQ, 3AIN, as full member, and Messrs. Ackland, Lane, Morris, Thomas and Poynter. Welcome all, and apologies to the gentlemen omitted, but I can't read my own writing.

It was announced during the evening that Bob Duncan, operator at 3RI, had passed away earlier in the day. His many friends on the higher frequencies will sadly miss him.

In the past, the practice here has been to leave these notes to the last minute, and do just enough to fill up any odd corner left after the scribe from the sub-branch over the border had a go. Well VK5 gets the R.D. Trophy and in accordance with the threat, they also get the "blue pencil." Come what may, this month I'm having three and one half columns and Pansy gets whatever is left over. Alright Ron,

you can put the s.w.l. notes in with mine! That gives us four columns. Whacko!

Once again there is a moan about QSL cards not being available. I'm not taking sides in this affair, but I would like to remind those who are complaining that the Bureau is manned by voluntary workers and there is a terrific amount of work involved. If for some reason or another these fellows cannot get in to a meeting with the cards, what about offering them some assistance. Possibly if they had to spend less time sorting the things, they could then find time to come to the meeting, or if they can't, maybe one of you would like to bring the pasteboards in for them. The ball is now in your corner. May I suggest you start by reading the Federal Contest Committee Notes on page 18 of November issue.

I hate having to refer you to the writings of my "Bosom Friend" (Bosom Friend—there must be some tie up between that expression and the advert that went with the notes he had in the press, but for the moment it eludes me), but it contains some darned good advice. Ouch! That sure hurt. Now Pansy is in this discussion, it is to be hoped that the VK5 Council can see through his diabolical scheme to avoid paying his subs. Bet he had himself in mind when he wrote about the oldtimers last month. Whilst I'm in a betting mood, I've a pair of dud 807s (and they sure are dud! He's off the air now—Ed.) that say he won't name the source of my copy of the "Advertiser" in the first fifty he selects.

I hear there is keen rivalry between 3SX and 3AHC in the shack-painting contest. Russell favours a different colour for each wall, whilst Harold settled for all walls green and a yellow ceiling; or is it other way round? Personally, I like "cement sheet grey" edged with "spider-web white" for the walls, and "bare iron blue" for the ceiling. In other words, "what use is a shack if you can't make a mess in it?"

The Technical Editor has saved up his salary from "A.R." for the last three months and invested in a shiny, new vehicle. Surely Sir, you do not intend to mount loops, beams, etc., on this shiny piece of "chicken bait." Anent the note in last month's issue (Pansy is now busy looking up "anent") the Hon. Fed. Sec. asked permission to go on the air this month. When I granted his request, I forgot he would be taking time off this month for the Dinner and the Convention. Federal matters will, therefore, be held in abeyance until December. What's that Doug? You're going on six weeks holiday then. Remind me to get on the school teaching racket some time.

That hard working body whose names are listed on page one, never seem to blow their own trumpet so I'm taking it on my own shoulders to do a bit of blowing for them. On my calculations they devote something like 130 manhours per month of their own time in getting the magazine out. More often than not they work until well after midnight on the job, and at present they are flat out looking for ways and means of improving the mag. If anybody has any suggestions to make, drop a note to the Editor. I can assure you it will be acknowledged, even if I have to do it myself. Even more important is the flow of technical articles, without which there can be no mag. at all. In this regard, I would especially draw attention to the piece on page 17 of last month's copy concerning special issues. What about it fellows?

80 METRE TRANSMITTER HUNT

The 80 mx Tx Hunt held on Sunday, 17th October was a most interesting one. It certainly had the boys well and truly baffled. Only one competitor, Reg 3ZAD arrived on the location without opening his sealed envelope. A fairly weak signal came on the air at 2.30 p.m. and this fooled all the competitors into thinking that the tx must be hidden quite some distance out from the city, and saw most of them setting off in various directions heading well away from Melbourne. However, to everyone's surprise the tx, which was hidden by Eric 3ADU, was located in the Fitzroy Gardens in East Melbourne.

After about three-quarters of an hour the somewhat crestfallen competitors started to turn up at the Gardens with opened envelopes, but were informed that the tx had not yet been found and so then the fun started. Eric then let the wives and non-competitors into the secret. He had hidden the tx in a pram, complete with cushion, shawl and storm cover and had a most sedate married couple wheeling the pram around the gardens. The aerial was wound around inside the pram and this accounted for the weak signal at the start. As can be imagined, the boys' field strength meters were giving very unusual signals as the pram was wheeled up and down the Gardens, at times making a complete circle around them. It was at least an hour later before Laurie 3ALY picked up enough courage to ask to see the baby.

OBITUARY

BOB DUNCAN

Members of the Victorian Division of the W.I.A. were shocked to learn of the sudden passing at a Private Hospital in East Melbourne of Bob Duncan, of Murrumbidgee, on 2nd November, 1964, at the age of 69 years.

Bob was the Secretary of the Victorian Railways Institute Radio Club, VK3RI, for the past ten years and a most energetic worker in the interests of the Club and Amateur Radio.

Although Bob was not a licensed Amateur, his untiring efforts are reflected in his Club activities, and his cheery voice from VK3RI was a tradition on 50 Mc. and latterly on the 288 Mc. bands.

He leaves a wife, three daughters and one son to mourn the loss of a husband and father. We extend to them our deepest sympathies in their sad loss. A large number of friends attended the funeral at the Springvale Crematorium.

In private life, Bob was a Class "A" Signaller in the Victorian Railways, a prominent Freemason, and a First World War veteran.

However, it was one of the funniest Tx Hunts ever experienced by the onlookers, as they watched the amazed expressions on the boys' faces as the meters gave what seemed to be very screwy signals when the pram passed within a few feet of them and it also caused great amusement to the onlookers to see the boys stepping most politely out of the way of the pram. The Hunt was attended by 46 of the gang, most of whom had a picnic tea together by the river at Studley Park after the Hunt had concluded. Congratulations to Eric for a most enjoyable afternoon and also congratulations to the married couple who wheeled the pram and who, somehow, managed to keep a straight face during the whole of the afternoon; they didn't give a thing away. Thanks Phyl.

Our heroes, the 3VZ/3IE combine, really fell down. They actually had to open their maps to find the location. To get there they covered something like 25 miles, all the time vowing and declaring the tx was not on. Anyhow, they eventually reached the Gardens and unloaded field strength meters and other highly secret devices they use. Extremely strong signals were present, but had a bad habit of moving around, now here, now there. Jack, always the gentleman, kept politely stepping out of the way of the lady with the pram, who always seemed to be barging into him just as the signal was becoming stronger, thus upsetting his carefully compiled calculations. After 30 minutes of this he decided to get in the lady's good graces, by asking if he could see the baby. That baby showed more signs of radio activity than Rum Jungle. It was also a very rum baby, consisting of a Type 3 and battery.

The next meeting will be held on Wednesday, 1st December, at the usual place. A film night has been arranged and you are asked to bring along the XYL or YL (not sure that the phrasing is correct, but you know what I mean) and make a night of it.

CENTRAL WESTERN ZONE CONVENTION

It is my endeavour to carry on the good job that has been done by our predecessors in this field. Our Annual Convention was held on 10th October at Reed's Lookout in the Gramplains and it was a great show. A number of visitors were welcomed from neighbouring zones; those present were Lyn 3ARL, Melbourne; Bob 3IC, Geelong; Bill 3AJU, Red Cliffs; John 3AGD, Dunkeld; Kevin 3AKR, Westmere; Neil 3HG, Coleraine; Ray 3ATN, Birchip. Locals included 3AFO, 3NN, 3DP, 3TA, 3ARM, 3ATR, 3EF, 3XC, 3AGR, 3AKP, 3AKV, XYLS, YLs, junior ops, and two s.w.l.'s Geoff Oaks and Vic Maddern.

After a picnic lunch a Scramble was held resulting in John 3AGD and Neil 3HG sharing the prize. The 2 mx activities were not very successful as no signals were heard and the power pack of the tx decided to take the afternoon off.

The meeting resulted in the following office-bearers being elected: President, Mr. Trev. Rodda, 3ATR; Vice-President, Mr. James Farrer, 3DP; Secretary and Treasurer, Mr. W. J. Kinsella, 3AKW. We were sorry that Alan 3HL was unable to be present, as he had not quite recovered following his rather serious accident some months ago; anyway we wish you to be 100 per cent again.

In future the zone hook-ups will begin about 2000 hours in the 80 mx band.

NORTH EASTERN ZONE

Chas 3ACW was unfortunate in having to take part in operations connected with the tragic

aircraft accident at Mangalore on 31st October. Doug 3IJ left Mangalore on 8th October to take up his new appointment after some leave. Incidentally, we are pleased to hear from Rex 3UR from time to time. Keith 3JC is understood to be devoting his spare time to house building now, as Stan 3AGT was some time ago. Alan 3UI is on the v.h.s., but Ken 3KR is working the DX on 20 mx. Des 3EP is thinking of v.h.f. and also trying for some DX on 20 mx. Opportunity has not offered a contact with Peter 3APF lately, neither have Les 3ALE, Johnny 3ACK, nor Alex 3AT been heard and reliable information has it that Murray's (3HZ) many other interests keep him busy. Jim 3JK is not down in the notes this month. B.c.l. cramps the style of Howard 3YV on 80 mx. Steps will have to be taken to ascertain what Jack 3AKC does in the way of Amateur Radio now. 3XU was noted in the list of changed addresses in last month's call sign amendments.

Lex 3AIL was heard on 80 mx one afternoon recently, but Jack 3PF and Vic 3ABX have not been noted, and, although a little has been heard of his principal "off-sider," nothing is available of Hugh 3AHF himself or his radio

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activities. Syd 3CI was noted one day sitting on the door-step of his shop. Col 3WQ is busy, as usual. Henry 3HP was heard some time ago, but it is not known how Ron 3AQQ is getting on nowadays. The time and frequency to get on to Tom 3TS and George 3GD has not been discovered yet, and some way will just have to be found to contact Des 3CO now. Frank 3ZU keeps in touch with Amateur Radio, but it is understood that he is not on the air again yet. It has not yet been advertised how Associate Fern got on with his A.O.C.P. exams, and Associate Clarry regrets that he cannot give Amateur Radio very much thought, also it is regretted that again it has not been possible to hear of Associate Jim.

EASTERN ZONE

The Eastern Zone Convention was held at the home of Graham 3QZ at Traralgon on 6th and 7th November. About 23 members, XYLs, junior ops., and visitors were present. Alf Mackrell is the new Zone President, whilst David 3DY remains as Secretary.

On Sunday a visit was made to the A.P.M. at Maryvale where a most interesting inspection of the pulp and paper making industry was made, thanks to the work of Graham 3QZ, Doug 3DE and members of A.P.M.

There is not a great deal of activity around these parts, although some members are starting to take an interest in 144 Mc. Stan 3ZAB is already on that band. Ossie 3AHK and David 3DY are showing off new jalopies to all and sundry. The November meeting is scheduled to be held at Bairnsdale, where a film night will probably be held.

QUEENSLAND

Are you, as a member of the VK4 Division, satisfied with the way this Division is functioning? Do you think the Council is conducting the affairs of this Division as it should? Could you as a member suggest how it could improve the activities of the Division? If you, as a contributor of your annual subscriptions to the Division, have any doubts on these matters, we of the Council should very much like to hear of them, and there is no better place than at the general meetings.

The Council, mostly a hard bitten lot, after years and years of service, would willingly step down and let a more able and virile Council take over. As you must agree, after lengthy terms in office one gets stale and lacking in ideas. Fresh faces means fresh ideas, and fresh ideas means more interests and activities for you. It must seem apparent to the casual observer, by the gradual dwindling attendances at our meetings, that you either have tremendous faith in your Council, and how it runs your affairs, or you are in such a state of lethargy you couldn't care less. If it is a case of couldn't care less, why? If it's the Council, it is in your hands to do something about it. If it's a case of lack of interest in Amateur Radio, remember we have a duty to all Amateurs to keep the bands active, and as has been noted how our inactivity has, and will, give an excuse to commercial interests to move in and eventually crowd us out as is happening in the 7 Mc. band at the present time.

It comes to my ears many times, how often one will call CQ and no answer, but let a flicker of DX appear and the dog piles begin. Maybe that chap calling CQ would like a check on his gear or some information that you, as a fellow Amateur, would be able to put him on the right path with. Is it in the Amateur spirit to sit idly tuning the knob waiting for the elusive DX, which you have probably worked before, and ignore the local chap from whom a friendship may develop to your mutual benefit, and to stay away from the meetings of your Division and criticise it for its shortcomings? Remember an active Amateur is a bulwark against the inroads into our bands, and an active member in your organisation means a stronger organisation, and a stronger organisation means a louder voice in the affairs of Amateur Radio and International band allocations.

We as a fraternity must strengthen our organisation, we owe it to those who have fought to retain the bands we have and we owe it to those who may follow us to protect our bands from the inroads of commercialism. So be active, help the other fellow, attend your meetings, and give your support to where it is so badly needed in the ranks of the Amateurs.

We of the Council would like to hear and see you at the meetings, otherwise our energy and time has gone for nought and we might as well take up tidlywinks.

Our October meeting was so poorly attended that it was a waste of money hiring the hall, though some good ideas were put forward. One of these is an innovation for the Christmas "Do," which we hope to hold a week or so before Christmas, so keep it in mind. Another was the formation of a listeners' group, and a

further idea was on the admittance of limited license holders to full membership.

Contrary to what I've said previously, our membership continues to grow, and a visitor to our meeting, Paul 4UJ, submitted an application for membership. The tape recording on grid dip oscillators over 4WI was very well received and we have quite a few letters from country Amateurs on their appreciation of it. We hope to be able to put on quite a few when we are able to get our recording facilities going properly. Some of these subjects should be enlightening and of interest, as we have available some good lecturers and a wealth of subjects at our disposal.

Talking of disposals, seems as if what is being offered for sale these days is of no use to the Amateur or the prices are so ridiculous it would be uneconomical to purchase anything.

Reverting to the Xmas "Do" again, Bill 4YA has donated £1/1/- for prizes to participants in a contest we will be running that night.

Conditions show that the short path to Europe has been open for quite a while at nights, but not too many VK4s are heard working. Heard Chilla 4SD on c.w. getting amongst them and Vince 4VJ on phone. Frank 4ZM and Bill 4YA always ready for a local matter, and are there most nights.

Congratulations to the VK5 Division on bringing the R.D. Trophy back from the West. I guess the VK5 scribe, "Pansy," is feeling very smug about it all. I only hope we, here in VK4, can do the same, it takes a little support from all and it's about time the VK4 letters were inscribed on it. So as a thought—

Many a man's endeavours have gone for nought For lack of his fellow man's support.

SOUTH AUSTRALIA

The monthly meeting for October of the VK5 Division (known as the "Division of the year!") was held in the clubrooms to the usual good attendance of members and took the form of a "buy and sell night." Dougal 5BY was the master of ceremonies, as Ross 5DW was unexpectedly absent. These buy and sell nights are held four times a year and therefore it is becoming increasingly difficult to write anything that is new or interesting about them. They still seem to be as popular as ever, they still manage to bring good prices for what to some of us seems like a lot of junk, and best of all they still manage to swell the Divisional funds by quite a respectable amount, which, after all, is only another way of saying that the members secure the benefits of the buy and sell nights eventually, so what more can be said.

Very little general business was transacted although Luke 5LL did bring up a little discussion when he queried certain statements made over the Divisional Sunday morning broadcasts concerning the earlier scores of the Remembrance Day Contest. The outcome of the discussion was that no individual VK5 scores in any contest were in the future to be broadcast over the official station 5WI. Incidentally, the operator of this station, Charles 5ON, only broadcasts what he is told to broadcast, and naturally no reflection on him was intended by the discussion. The writer of these notes, and in fact any member of Council, only perform their duties at the direction of Council, the members of which must accept the responsibility at all times. It goes without saying that at times statements or broadcasts might seem like sticking one's neck out, but you can take it from me (probably the worst offender) that the matter has been before at least a majority of Council. Should any member of Council act on his own initiative, and put his foot in it, then he would not know what hit him until he heard the whistle. Believe me, I know from experience!

Among the welcome visitors were Wally 5DF from Port Lincoln, Reg 3MZ minus his hand-bell, Horrie 2BP ex-5WB, H. Gillard, R. Gillard, and G. Taylor. There were several names in the visitors' book which could not be deciphered. However, to all these gentlemen we say welcome and come again, we like you to visit us, because the visitor of tonight is the member of tomorrow—we hope! Incidentally, I wasn't very happy with the laugh that Reg 3MZ greeted me when he heard my call sign at the introduction. Could it be that a certain ex-VK5 in VK3 is disrespectful? I am in the process of thinking it over.

As mentioned earlier, Wally 5DF was at the meeting and he gave me a slight resume of conditions and the activities of the members over at Port Lincoln. He himself has little to report regarding his activities on the air on account of the prevailing poor conditions, but he manages to listen to the 5WI session each Sunday morning despite the fact that they are received mostly with difficulty. It was good to see Wally at the meeting and he seemed to be enjoying himself renewing acquaintances with the boys that he used to contact when he was at Kadina. Hope to see you again soon OM.

5VJ has been very busy in his new business at Port Lincoln, so busy in fact that he has not had time to keep his schedules with 5DF. 5LT is now well settled in his new home and when I asked Wally what had become of the beam that hit the headlines some time ago, he said that it was still lying down against the fence awaiting a favourable opportunity to be erected. A couple of chaps in Port Lincoln, Joe and Don, are always interested in having a listen to the VK5 Divisional tapes when they arrive, but that is as far as they have got toward Amateur Radio. It is a pity that conditions are so bad over there at the moment, as even the listeners are giving it away, and we can't expect to interest them in our hobby if they can't even hear anything of value. Never mind, it won't always be as bad as it is at the moment, I hope!

Notice that Roy 5AC is bobbing up occasionally at the meetings and he is always more than welcome. The call sign will indicate just how much of an oldtimer he is, and we point to him with pride in VK5 because he is one of the few oldtimers who have retained his membership in the W.I.A., although not as active as we would like him to be on the air.

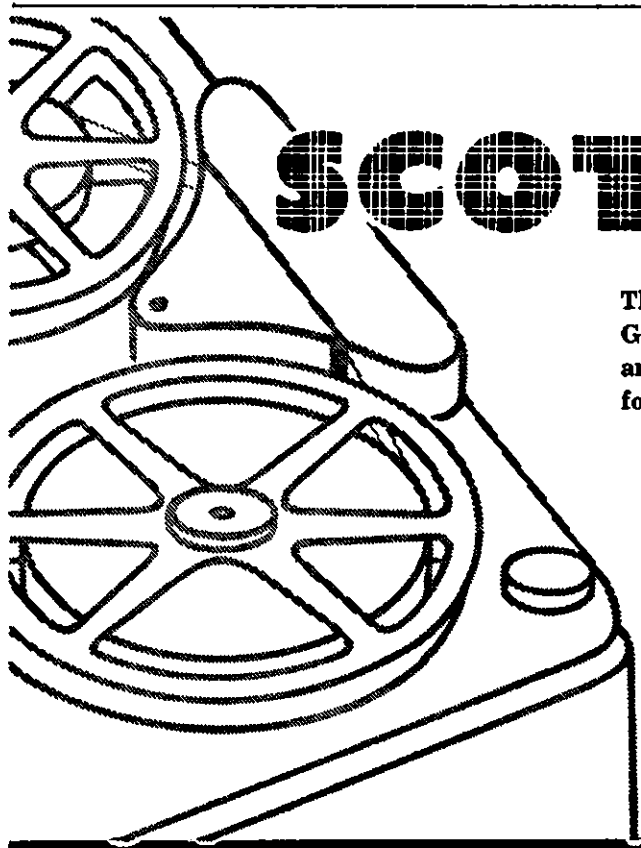
Received a short note from Frank 5MZ who surprisingly enough has just returned from VK3 after having had a splendid week with the Preston gang. Jim 3LM took good care of Frank, leg in plaster notwithstanding, and quite a convention was held in the foyer of the "Victoria" on the Saturday morning with Jim 3LM, Russ 3AIX, Reg 3MZ, Chris 3JR, and Frank 5MZ. Russ held the floor with his stories of flying saucers although if all is to be believed, everybody did their share of talking. It was rather strange that Frank decided to pay Reg 3MZ a surprise visit, and Reg decided to pay Frank the same thing, which meant that they passed each other at Kaniva, each unaware that the other was so close. Anyway they all had a perfect contact on the air, Frank 5MZ from 3LM, 3MZ from 5JO, and 3AIX from 3MZ, excuse me my head is spinning like a top, anyway you get the idea.

Frank asked me to thank the Preston gang for the wonderful time that they gave him, particularly Jim 3LM who provided the transport, carried the luggage, etc., and apparently took good care of Frank's plaster leg, to say nothing of the joint effort in repairing his microphone which his XYL accidentally knocked over. All this only goes to prove that the true Amateur spirit still exists and makes our hobby so worthwhile, to say nothing of proving that State boundaries disappear under its mellowing influence. Long may it reign.

Under ordinary circumstances this month, I would have made myself quite obnoxious by now in these notes concerning VK5 winning the R.D. Contest, but to tell the truth, in common with the rest of VK5, I am somewhat stunned with surprise at the news. So long have we been saying that our chances of ever winning the contest were remote, that we have accepted it as a foregone conclusion. We all realised that our top six competitors had done a wonderful job, although apparently we did not fully realise just how wonderful it was. VK6 and VK5 were so close together throughout the checking, that even after the re-check, and the re-check of the re-check, we still could not see our beating VK6. However, we have won, and we are very pleased and proud. We thank all the other States for helping us to achieve the honour of winning, we hope that next year we may be able to help another State to win, and last but not least, we are proud to be the winners of a contest that has for its object the honouring of our fellow Amateurs who paid the supreme sacrifice. Pardon me whilst I retire and straighten my halo. Tricked you all, didn't I?

Jim 5FO, who holds the imposing office of Contest Manager in VK5, was reported this month as heading north with his false beard flowing in the wind. He also had many copies of contest logs strapped to his back and was noticed to flinch whenever anybody mentioned Remembrance Day Contest. Never mind Jim, you can always be assured of a contact in VK5 at least. Seriously though, he did an excellent job and can share with Reg 5RR the praise which always goes to those who take on a difficult job and do it well, and I don't mean any disrespect to the other able members of the Contest Committee.

"QST" for September carried a photo of five of the leading members of the VK5 Division, and I include the name of the late Hal 5AW in this respect because his name is still fresh in the minds of VK5 as a leader. This photo shows to what depths Doc 5MD will stoop to get his own back on me. He sent this photo to "QST" and told them that the Aga Khan was the name of the celebrity in the middle. Apparently everybody in VK5 thought the same way, judging by the remarks passed to me. I told Rita, I am sorry, I told my XYL of Doc's peridy, and she said, "Never mind, Petals, don't take



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any notice of it. I still love every bit of your 4 foot 6 inches," and she lifted me up and kissed me on the brow. By the way, did you cop the sour look on the face of Gordon 5XU, that's what he looked like when he was Treasurer of the VK5 Division and the books wouldn't balance for a half-penny. Now you know why they called him "Shylock." To those of the fair sex who desire a copy of the photo, I can oblige upon payment of £3, or an autographed copy for £10. You can always use it to frighten the children off to bed!

WOOMERA RADIO CLUB

The Woomera Radio Club is embarking upon a series of weekly lectures for the unlicensed members of the club, which started on the 2nd November and have been held every Tuesday since then. Once a month the lecture will be of general interest and will include some of the following: "A look at meteorology," "Hongkong and the East," "Police work in the outback," "Industrial Radiography," and the "Automatic Telephone Exchange." This is a good start for the club and it is hoped that the good attendance of members will continue.

Some strange noises have been heard from the QTH of Ray 5FF and it is believed that the infernal machine referred to in last month's notes is being warmed up for business. John Guyas is delving into the midst of an R155 and word has it that when he is really going to town on it the odd pieces overflow out of his room on to the open spaces of Woomera. Ted, ex-5JE (temporarily) has taken a rest from radio and converted his sun lobby into a workshop, much to his XYL's concern. If he is running true to form there are more wires in that workshop than in the b.b.s.s. and that's saying something. George Trotter, the worthy Secretary, is seen occasionally wandering around stroking his magnificent upper lip fungus and muttering some wild and weird formulae into his beard.

Ron 5FY has little to report on his radio activities this month, but also agrees that this is mostly due to the poor conditions existing on Sunday mornings, this apparently being the time at Woomera when most activity is noticeable at the clubrooms, but he tells me that the re-broadcast of the 5WI session by Reg 5RR on 80 mx has been heard although the local QRM is pretty bad at times. The boys are hoping that 40 mx will open again as good as it did last year about this time, when so many pleasant contacts were had with the Adelaide boys. Thanks for the notes Ron.

Had a short chat with Tom 5TD the other evening, he passes my front door on his way home from toil, and he tells me that he will be spending a month or so living in a caravan in his backyard whilst his QTH is being rebuilt following the earthquake. I gathered from his remarks that the said earthquake was certainly felt by he and his XYL and the damage runs into five or six hundred pounds, which is sufficient indication of the extent of the damage. Tom, as usual, is taking it all in his well known philosophical manner.

ANNUAL PICNIC

Don't forget the Annual Picnic fellows, it will be held on the January public holiday at the Birdwood Oval and a good time is assured for all. This Picnic is intended primarily for the XYL and the children. It is the one time in the year that the OM takes a back seat, and this is sufficient reason for you all to come along. Off the record, very few of the OMs took a back seat at the last Picnic, but it is a good idea to push the members of the family to the front, even if only theoretically. If you are interested and want any particulars, see Joe 5JO who will oblige.

SOUTH EAST AREAS

The monthly meeting of the S.E. boys was held to a good attendance again this month and the main item for the night was the two Divisional tapes on Radio-Sonde and Super-Refraction respectively. The usual round table discussions were held to the mutual benefit of all present, and the mass attack on the goodies at the conclusion of the meeting would have done credit to any flock of grass-hoppers. This monthly get-together scheme is taking on real well and is doing much for the S.E. boys of the W.I.A. Long may it continue.

5TW is at the moment of writing on his annual holidays and it goes without saying that Tom will be cleaning up all the jobs around the place, including a few radio ones at that. 5CH is still in the process of building, although Claude always finds time to keep his schedules on a certain band that I will not mention for fears of reprisals from the v.h.f. correspondent. 5FD has been heard on 40 mx occasionally, but John finds that the prevailing conditions on all bands too much for him. 5KV was a starter in the VK-ZL Contest and gave the c.w. a hiding, but Erg. should be soon forsaking his hobby of radio for that of gliding before long.

5MS has installed a new 100w. modulation transformer and Stuart was another one who entered the VK-ZL Contest. He again was the top scorer for VK5 in the R.D. Contest and thus wins the VK5 trophy, donated by Philips Industries Pty. Ltd. We would like Stuart to attend the Xmas Social this year to give us an opportunity to present the trophy to him, and also to meet him personally. What about it OM? Could you manage it? Incidentally, is it Stuart or Stewart, it seems to change each month! 5JA is a regular attendant at the monthly meetings and from this fact I deduce that the interest must still be there. Am I right John? 5CJ has been away on annual holidays and managed to get right away from radio, both Amateur and Professional, which is a good idea Col. Hope the family are in the pink OM.

ANNUAL CHRISTMAS SOCIAL

Preliminary arrangements are in hand for the Annual Xmas Social which always takes place on the December monthly meeting night. Quite a number of the members have been asked if they have any ideas to improve this social night, but aside from a couple of minor things, they all seem satisfied with the present set-up. Council are always anxious to improve any of the annual functions, but cannot do much in this direction if they do not get a lead from the membership. Anyway, don't forget the Social, bring along what is usually known as a basket, and the rest of the usual amenities will be provided. It is a good chance to meet the boys and have a chat on conditions, your new rig, or any of the hundred and one things that you like to chat about, but the main thing to remember is that it is a Social and you are there for a good time. What about it OM?

Received a letter card from Les 5UX all the way from Cook, to inform me that the Sept. copy of "QST" turned out to be a Royal edition, with Prince Abdullah Fezal, HZ1AF, on page 60 and overleaf the photo of Aga Khan in the middle of a group of VK5 personalities. He asks me was it taken just before I weighed myself against my weight in Rochelle or Epsom Salts, and also suggests that I will be getting amps. (r.f.) in my pants from all and sundry who see the photo. He also suggests that "Shylock" in the photo looks like as if someone has stolen his pound of flesh. You fatter him Les he has not got that much flesh! Anyway, you know what you can do OM, and I hope that there is no water in the lake when you do it!! Reg 5RR tells me that he will read out at the meeting next week a letter of congratulation to VK5, on winning the R.D. Contest, from VK6. This is a gesture that will be well received by the members and goes to show that the VK6 Division are good sports as well as good losers, and will do much to cement the already good relations existing between the two Divisions. We thanxyou.

Some are born to greatness, some have greatness thrust upon them, and some, such as myself, are caught up in the throes of greatness, much to their dismay. I refer to my unexpected promotion to the position of Federal correspondent to the Contest Committee, and what is more, placed in a position of seniority above my old "Vive la Barbier" fellow scribe. I find the promotion something of a hindrance in view of my instructions from Council that on such a page there must be no "Oompos-Boompos" on my part. I suspect it as a trick of the compilation department to damp my natural style. Oh well, get out my elastic sided boots and quill. I can take it!

WESTERN AUSTRALIA

As a change from Amateur Radio those present at the October meeting of the Division were entertained by a selection of films. The main feature was "Redex Trial 1954," kindly loaned by the Dunlop Rubber Co., with "Standing Waves on Transmission Lines" and "Measurements" as supports; the latter dealing with the standards section of the National Physical Laboratory. A very interesting programme, and as far as the Redex Trial is concerned, the type of country shown is hardly the sort to take the portable gear through! Our thanks to John Watson who operated the projector, and to those responsible for obtaining the films.

The 40 Scramble was held as scheduled on 24th October, but activity was very low compared with previous years. Conditions were not very favorable either, rendering middle-distance signals inaudible during the afternoon session. Those who were on made up for their lack of numbers with their enthusiasm, and quite a deal of excitement was caused by the antics of one or two who engaged in super QRP for the day. Who mentioned Bendix frequency meters or a Class C wavemeter? 6HK, yours truly, carried the day with 23 points closely followed by 6TY with 22 points.

6KJ paid a visit to the big smoke recently and dropped into the shacks of 6WJ and 6HK.

Warren treated Bernie to a demonstration of closed circuit i.v. per flying spot scanner, etc., as a change from describing the usual run of station gear. 6WT took time off and pounded brass for the Scramble. A surprise signal on 7 Mc. was "a real thumper" from 6MK. Should be hearing more of you there Tom now the 32V3 has arrived or do we wait till the T2FD is up and working?

6LM has made quite a comeback after a period of enforced inactivity due to house building. Lionel has been contacted on bands 3.5 to 21 Mc. in the past few weeks. A 3-cl. 21 Mc. beam three feet off the ground produced a good report from VK4, so look out when it goes up in the air. 6RT from Narembeen was another signal in the Scramble but not heard since. 6BS heard quite often in Perth working the DX on 21 Mc. 100 mile signals are all wrong for this frequency—must be reflected skip. Basil. 6FL has been getting amongst them on 14 Mc. with the SX24. Conditions on this band must have been really good lately for 6RW has been around! Long time no hear Bob!

6WZ was another country visitor and managed to attend the October meeting. Harry then made a flying visit to Albany—arrived by train at about 1015 hours and was scheduled to depart early in the evening. Busy day OM? Our President, 6FT, was due to make a visit to Port Augusta early in November on business connected with the electronics side of the W.A.G.R. How about filling an item on the lecture programme when you get back Fred? Remember Blake Horrocks, ex-6GS? Blake paid a hurried visit to Perth a few weeks back and dropped in to say cheerio before he returned to Melbourne. It looks as if it will be a long time before the West sees anything of him again. Best of luck OM!

TASMANIA

I am reporting this month's (November) general meeting from information supplied by 7OM who was in the chair by the way, as I was unable to attend. For the excuse refer to 7AF who was unable to attend for the same reason, the said reason being dressmaking examinations, not for us of course, but for the respective XYLs. I pass the 7AF sweet shop quite often during my daily grind and it is a common sight to see Bob going through the motions of taking measurements for a frock or skirt or something. You have my sympathy Bob, I'm just the same way.

But to get on with the business, there was quite a good attendance at the meeting and business was as usual kept short as possible. Main item was the forming of a committee to investigate the various sources of interference on the Amateur bands—man-made interference of course. As reported recently, several sources of noise were located and some rectified due to the efforts of a few and the co-operation of the Wireless Branch, and now the forming of a committee to locate these noise sources seems to be an excellent move. The committee consists of 7OM, 7LJ, 7RX, 7RT and one or two others whose names are not known at the moment, and anybody who is troubled by noise interference is asked to contact 7OM or any member of the committee so that the noise may be traced to its source—once located the Wireless Branch will exert the necessary pressure to rectify the trouble.

After the business portion of the meeting a picture show arranged by the lecture committee and by courtesy of the Shell Co. was enjoyed by all. I sincerely hope that the permission of 7AF was obtained before the Shell Co. was approached.

The rest of the news this month takes the form of a number of small items which may or may not be a source of interest and which I have been able to glean by fair means and foul. First of all, congratulations to "Brack" 7BR on another addition to the junior op. ranks—yes it was another son! "Brack" and Len 7LS are keen to get 2 mx gear working so that an attempt may be made to contact Reg 7WN at Tarraleak from the ridge near Gormanston. This should not be too much trouble as the outlook from this particular place is very good, the only obstacles being the King William Range which is 20 odd miles away.

R.D. Contest results show that congratulations are in order for VK5—nice work. VK7 awards go to VK7DZ phone award with 631 points, VK7LJ c.w. award with 345 points, and VK7OM open award with 313 points—congrats boys.

7RM very quiet lately due to much activity of the local and northern theatres installing new wide screen equipment. 7ML and 7CA returned from Mt. Arthur and are now banished to Stanley and Robb's Island for a few weeks. After that they expect to visit Flinders Island—no rest for the wicket! And talking of Flinders Island, Bill 7AK has caught the v.h.f. bug and is building a rig for 144 Mc. Whenever Bill needs a few crystals he just makes an expedition to the hills and catches them raw.

INDEX TO VOLUME 22-1954

The 7JD rig is slowly nearing completion, recently Tiny borrowed an audio oscillator to check the bandpass of the modulator to see that it cuts off at 3 Kc.—it shouldn't be long now. Neville 7NC seen recently demonstrating a c.r.o. watch timing machine at a local jewellers show—a most intriguing device, too. Congratulations (or should it be condolences) to Peter 7FF who recently got married. Anyway, very best wishes to you both and I hope it doesn't mean a shutting down of v.h.f. activities Peter; the new QTH should be the goods for DX.

NORTHERN ZONE

With the advent of finer weather 7XW is busily brushing the cobwebs from the 2 mx tx for field days, actually Chris has lately built up his own xtal controlled job for the purpose. Last month 7LE, together with 7ML and 7CA, spent a few nights up on Mt. Arthur whilst installing some v.h.f. gear. Almost nightly contacts were made with Launceston, some of them almost went into the hours of the morning. Two VK3 stations were worked by 7LE as well as some of the coastal gang and Flinders Island.

7FM is baby sitting up in Launceston again and has a tx at his disposal to while away the hours. 7LZ had some trouble sorting things out for a while, especially when he was listening on 2 mx. 7AM is still waiting for that new car! What with British dockers' strikes and now Australian wharves adding to it! 7PF has taken unto himself an XYL. 7LZ went along to represent the fraternity. 7TE has a new rack and power supply so Les 7AM will have to wire in those transformer taps again to keep his rig to the fore in that area.

A very interesting evening was spent in a joint I.R.E./W.I.A. inspection of D.C.A.'s, D.M.E. and radio installations. To many of us it filled a long felt want to be able to actually see it in operation—that is D.M.E. and not just reading about it. 7PF as usual ably conducted us around the installations. D.C.A., by the way, now has a carrier on the air on 151 Mc. with 1 Kc. mod., so it will be a very useful marker for the Interstate v.h.f. band gang.

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AERIALS

Long Wire Antenna	Aug. p.8
Skeleton Slots	Feb. p.2
The Complete Amateur—	
Aerial and Feed Lines	Jul. p.2
Aerial Tuning Unit	May p.7
Newcomers' Introduction to	
Aerials	Nov. p.7

AUDIO FREQUENCY EQUIPMENT AND DESIGN

An Easily-Built Frequency Meter for the Audio Range	May p.13
A New Type Modulator for the Type 3	Aug. p.3
Author's Reply Re Screen Modulation	Oct. p.7
Screen Modulation	Sep. p.7
The Complete Amateur—	
Speech Amplifier and Modulator	Jun. p.3
The New Look in Frequency Modulation, Part One—The Transmitter	Oct. p.2

CONTEST RESULTS

National Field Day 1954 Results	Jun. p.9
Ross A. Hull Memorial V.h.f. Contest 1953-54 Results	May p.15
VK-ZL Contest Correction	Jun. p.9
1953 VK-ZL DX Contest Results	Apr. p.9
1954 R.D. Contest Results	Dec. p.11

MEASUREMENTS AND TEST EQUIPMENT

The Complete Amateur—	
A Small Efficient Audio Oscillator	Nov. p.7
Frequency Meter	Oct. p.5
System for Monitoring Your Outfit	Dec. p.7

MISCELLANEOUS

A Great Circle Nomogram	Jun. p.4
Antarctica	Feb. p.10
Amateur Bands Available	Mar. p.15
A Simple and Effective "S" Meter	Mar. p.11
A Treatise on Practical Modern Recording Tape—	
Part One	Feb. p.9
Part Two	Mar. p.5
DX Countries of the World	Jan. p.12
Hints and Kinks—	
Binding Magazines	May p.11
Capacity Check	May p.11
Cleaning and Keeping the Iron Clean	May p.11
Drilling Glass	May p.11
Matching Low Impedance Phones	May p.11
Operating AC Relays	Dec. p.9
Overtone Crystals	May p.11
Re Power Supply for the BC221 Frequency Meter	May p.11
Small Filament Transformers	Dec. p.9
Soldering Miniature Components	Jan. p.9
Stick Solder	May p.11
Suppression of Generator Whine	May p.11
Testing Condensers	Dec. p.9
To Prevent Metal Fatigue in Beam Elements due to Wind Vibration	May p.11

Ladies Beware! The tale of the Purlained Teastrainer	Dec. p.3
Let's Listen	Feb. p.5
"Radio Ham Can Help Save Life"	Mar. p.3
Trade Review—	
Edystone "700" Communications Receiver	Feb. p.11
Geloso Signal Shifter	Jun. p.11
Tube Type Designation Systems	Aug. p.6
W.I.A. Federal President's Report for 1953-54	Oct. p.8

RECEIVING

A One Metre Superhetrodyne, Conversion of the ASB4 Receiver	Mar. p.2
A Simple and Effective "S" Meter	Mar. p.11
Countryman's Double Conversion Receiver	Jan. p.9
Getting The Most Out Of Your Receiver	Jun. p.7
Hetrofil	Jul. p.12
Modifying the Bendix RA-10-FA Receiver	Jan. p.4
Selectivity and Phone Reception	Jul. p.5
Short Wave Receiver Selectivity Problems and the Double Crystal Filter as the Answer—	
Part One	Apr. p.4
Part Two	May p.2
Simple Converter for Two Metres	Jan. p.3
The Complete Amateur—	
The I.F. Channel	Sep. p.5
The Receiver	Aug. p.2
The New Look in Frequency Modulation, Part Two—The Receiver	Nov. p.2
21 Mc. on the BC348 Receiver	May p.9

TRANSMITTING

An Electronic Keyer	Dec. p.2
A New Type Modulator for the Type 3	Aug. p.8
A Transmitter with AC/DC Power Supply	Jul. p.9
AT5 Rebuilt and Modified	Dec. p.5
New Overtone Oscillator Circuit	Nov. p.11
Stable V.F.O. Operation at 144 Mc.	Dec. p.10
"Sure Fire" Crystal Oscillator-Multiplier	Aug. p.5
The Complete Amateur—	
Aerial Tuning Unit and Power Packs	May p.7
Crystal Oscillator and Multipliers	Mar. p.9
Final Tank Circuit	Apr. p.3
Function and Master Switch Panel, Rack Details, Aerial and Feed Lines	Jul. p.2
System for Monitoring Your Outfit	Dec. p.7
Speech Amplifier and Modulator	Jun. p.3
The V.F.O.	Feb. p.6
The New Look in Frequency Modulation, Part One—The Transmitter	Oct. p.2
Transmitter Control	Sep. p.2

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